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Are You a 'Vigilant Leader'?

Are You a ‘Vigilant Leader’?

When Dutch drugmaker Organon International Inc. was conducting clinical trials for a new antihistamine, the secretary in charge of registering the trial volunteers for their medical checkups noticed something: Some volunteers were unusually cheerful. An extraneous observation, perhaps, but one she felt was worth sharing with the managers running the trial. They dug deeper, only to discover that all of the giddy participants were in the group taking the drug. Ultimately, the drug proved unsuccessful as an allergy-fighter. But by then the managers knew what they had on their hands: a highly effective treatment for depression. Marketed as Tolvon, the drug turned out to be very successful.¹ That product never would have materialized if not for an employee who was trained to pay close attention to details and trust what she saw, and managers who were receptive to hearing a colleague’s input and taking it seriously.

Modeling such vigilance is a leadership skill most valued in its absence. The words no board or investor wants to hear about a company’s leaders are “they ignored the warning signs” or “they missed the boat.” On the positive side, vigilant leaders can spot opportunities and threats before rivals. Boards don’t expect prescience, but they do rely on the leadership team to sense and act on early warning signs of trouble, or opportunity.

But slow-dawning awareness is the norm. For example, Monsanto Co.’s leadership was slow to see the rising tide of public opposition to genetically modified foods. The recent subprime mortgage meltdown had been foreshadowed by several years of warnings that were ignored or downplayed by most investment banks, mortgage brokers and rating agencies.² Problems with Chinese-made exports, leading to recalls of tainted pet foods, lead-painted toys and defective diabetes tests, were preceded by years of concerns about long and murky supply chains and systematic reductions in quality.³ In a survey of 140 corporate strategists, two-thirds admitted that their organizations had been surprised by as many as three high-impact competitive events during the previous five years. Moreover, 97% of respondents said their companies lacked any early warning system to prevent such future surprises.⁴ Lack of vigilance can be a career killer: A study examining why CEOs were fired found that 23% were terminated for “denying reality.”⁵

To avoid such pitfalls of narrow vision, leaders need vigilance — that is, a heightened state of awareness, characterized by curiosity, alertness and a

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More than ever, CEOs must develop their peripheral vision, scanning for faint — but vital — signals that will help them give their companies an edge.

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willingness to act on incomplete information. The Latin root *vigilans* highlights one type of vigilance, being aware and watchful. But leaders also need a broader type of vigilance: looking for weak and unexpected signals. This type of vigilance is crucial in recognizing new opportunities for growth or anticipating serious threats before they become too serious. It should be an integral part of a company's strategic risk management system.

Leaders greatly influence their organizations' capacity for vigilance. Our study of 119 global companies identified leadership as the most important driver of organizational vigilance and peripheral vision. (See "About the Research.") Vigilant leaders nurture a supportive climate for gathering and sharing information from diverse sources, both inside and outside the boundaries of the company. They devote substantial resources to monitoring the periphery of the business and create incentives to encourage the front line to keep them informed. The planning processes used by vigilant leaders are wide-ranging

and flexible to meet the critical need for imaginative and timely interpretation of weak signals.

Succeeding in a "Butterfly" Environment

There is a growing awareness among leaders and organizations about the need for vigilance in a world of increasing complexity and rapid change, in which significant new developments often come from out of left field. As chairman of the board at Intel Corp., Andy Grove urged the entire organization to be attentive to subtle but significant signs of change, particularly early indications of "strategic inflection points" that could require a fundamental shift in strategy.⁶ Grove likened the subtle warning signs from the periphery to snow in spring, which melts first around the edges because it is most exposed there. Former General Electric Co. CEO Jack Welch notes in his book *Winning* that leaders need to ask, "What is around the corner?" Vigilance includes looking at how the playing field is changing and what one or two things a competitor might do that will cause harm.

We work in a "butterfly effect" environment, the notion from chaos theory that the flapping of a butterfly's wings in, say, China might cause a hurricane on the other side of the world. In our interconnected world, every Infosys Technologies Ltd. or Lenovo Group Ltd. that appears in Asia can transform industries on the other side of the globe. A breakthrough in a remote lab can remake a product category, or a posting on a blog can end the career of a powerful politician or erode a company's profits. In this world, small signals often foreshadow significant changes. Pharmaceutical executives have been surprised by the growing unpopularity of their industry, manufacturers have been disrupted by low-cost rivals from China and India and many Internet service providers failed to see the potential of online search engines until Google Inc. outflanked them. What first may appear to be a small ripple at the periphery quickly can become a central vortex. Of course, leaders cannot chase the flapping of every butterfly's wing — but neither should they wait for a Category 3 hurricane before paying attention.

While the importance of vigilance has been recognized by some leaders, practicing vigilance is all too rare. In our study, only 23% of companies had leaders with a vigilant and curious attitude toward the periphery.⁷ Vigilance also has received scant attention in management writings, where the predominant emphasis has been on focus, change and execution.⁸

About the Research

This article builds on survey data collected from senior managers in 119 global companies to examine their need and capacity for peripheral vision. We drew upon many sources when designing this survey, including our own work on assessing organizational capabilities and managing uncertainty.¹ The second part of our survey focused on the organization's overall capacity for vigilance in terms of five components: (1) leadership orientation, (2) knowledge management, (3) approach to strategy formulation, (4) organizational design or configuration and (5) organizational climate and culture. We posed three to six questions within each of these components to tap their multiple facets.

Of the total of 20 questions, four were strongly related ($p < .05$) to overall capacity as based on a multiple regression equation with an R^2 of 0.69. While "sharing of information across functions" had the highest direct correlation with vigilance, the data exhibited considerable multi-collinearity. To uncover the underlying pattern, we used a combination of principal components factor analyses and stepwise regression. For example, the variable measuring the effectiveness of early warning systems was the first variable entered into the stepwise regression equations, with an R^2 of 0.39, with the second variable entered being the attitude of leaders toward the periphery. In turn, the primary correlates of the leaders' attitude were resources devoted to scanning ($t = 4.09$) and flexibility of the strategy process ($t = 3.03$). In sum, "attitude of leaders toward the periphery" showed the greatest direct and indirect effects through its influence on both resources devoted to scanning and the flexibility of the planning process.

This article builds on these statistical analyses as well as insights from an extensive literature review so as to better understand the qualities of leadership that most contribute to organizational vigilance and strong peripheral vision.

i. For the complete survey as well as specific citations to other relevant literatures, see G.S. Day and P.J.H. Schoemaker, "Peripheral Vision: Detecting the Weak Signals That Will Make or Break Your Company" (Boston: Harvard Business School Press, 2006), 191-205.

One reason for a lack of vigilance among leaders is their focus on operational execution. A single-minded focus on managing current operations narrows the field of vision of the management team and deters frontline employees from sharing concerns about troubling or promising signals on the horizon. As operationally focused managers are promoted to leadership positions, their old habits may cause them to be blindsided because they lack sufficient vigilance. Deep down, they may prefer the known comfort zone of the operational sphere to the vast uncertainties of the world at large. Vigilant leaders make sure that they have a clear view of the big picture.

Qualities of Vigilant Leaders

Steen Riisgaard, president and CEO of Novozymes A/S, a Denmark-based global leader in industrial enzymes, exemplifies the profile of a vigilant leader. He exudes an eclectic curiosity, reflecting his background as a biology research scientist, and routinely travels outside Denmark — whether sampling the wares at ancient Chinese tea houses, studying the latest microbes in the Amazon or traveling through remote parts of India. He has developed deep and wide networks in the industry and beyond and remains very open to new ideas from inside his organization. He is a very patient listener, probes deeply and is comfortable with ambiguity, encouraging people to put conflicting ideas on the table. Riisgaard projects a quiet confidence and expresses himself with the paradoxical

combination of deep inner conviction and manifest humility that business consultant and author Jim Collins has identified as a distinctive characteristic of Level V leadership.⁹

Riisgaard is a study in contrasts: focused on near-term results as well as long-term vision; having a deep sense of history and culture and also a boundless optimism about future possibilities; possessing a keen interest in changes near and far while remaining steadfast to core principles and values. This curiosity is encouraged throughout the organization. As the company states on its Web site: “We nurture creativity and courage because the greatest ideas are always unexpected and we must be ready to act, when opportunities turn up. We are curious, fast and enterprising, making us able to see things in a new perspective, step out of the routine and rid ourselves of limitation.”

Three primary qualities distinguish vigilant leaders from those striving primarily for operational excellence. A vigilant leader:

- focuses externally and stays open to diverse perspectives,
- applies strategic foresight and probes deeply for second-order effects and
- encourages others to explore widely by creating a culture of discovery.

In contrast, operationally focused leaders concentrate on the task at hand, engage in traditional strategic planning and budget-

ing and encourage a culture of superb execution. Operational leaders run like thoroughbreds, wearing blinders to keep them focused on the track and the finish line. Vigilant leaders look to the left and right for new paths and opportunities as well as for threats that impede their forward progress. (See “Distinguishing Vigilant From Operational Leaders.”)

A study by General Electric on the attributes of leaders of superior-growth companies also found a strikingly similar set of traits. (See “Growth Traits of GE Leaders,” p. 48.) This parallel suggests a close relationship between vigilance and the ability to recognize growth opportunities.

Organizations need both vigilance and operational excellence, but it is usually vigilance that is in shorter supply. Managers typically are promoted to leadership positions based on their ability to deliver results, so most leaders are adept at operational excellence. Few are prepared for the broader challenges of being vigilant and fostering vigilance in their organizations once they reach the top or serve on the board. This problem is especially challenging for COOs who are promoted to the CEO position.

To gain a deeper understanding of these three qualities of vigilance — focusing externally, applying strategic foresight and encouraging exploration — we examine each in more detail. How can we recognize these three qualities in action? Who are some leaders who demonstrate them? And how can leaders develop them?

External Focus: Openness to Diverse Perspectives

The first trait of vigilant leaders is a deep sense of curiosity and a focus beyond the immediate. Vigilant leaders surround themselves with a smart, dynamic executive team that is always on the lookout for new opportunities. Novozymes’ Steen Riisgaard has developed a leadership team that continually searches for new ways to use industrial enzymes. For example, the distinctive appearance of stone-washed jeans traditionally was created by washing the fabric with pumice stones, a time-consuming and rather punishing process. By working with industry partners in 1986, Novozymes was able to substitute a few grams of enzymes for loads of pumice. Today, few garment producers use anything but enzymes for abrasion.

Novozymes has looked across a broad array of unrelated industries for other novel ways to use enzymes. The company was one of the first to refine enzymes for laundry detergents to allow consumers

Distinguishing Vigilant From Operational Leaders

While our stark distinctions between vigilant and operational leaders help to highlight the qualities of vigilant leaders, most managers act at various points along the continua between the extremes listed, depending on the specific challenges or decisions they are addressing.

	Vigilant Leaders	Operational Leaders
Focus	External, active and curious	Internal, narrow and focused
Market Orientation	Outside-in	Inside-out
Scanning/ Listening to Others	Open Seeks diverse perspectives Listens to a wide array of sources	Very focused Limited interest in outliers
Networking	Broad social and professional networks	Limits networks to familiar and relevant settings
Strategic Orientation	Strategic foresight Imaginative Probes for second-order effects Good instincts	Predictable thinker Focused on task at hand Tied to past experience
Attitude Toward Uncertainty	Embracing Navigating	Avoiding Controlling
Willingness to Challenge Assumptions	Open to new thinking Learns from experiments	More defensive Sees failure as errors
Time Horizon	Long-term	Short-term
Enabling Exploration	Enabler Coach Visionary Creates slack for exploration of the periphery	Controller Emphasis on efficiency Permits little slack

to run their washing machine at lower temperatures — a boon to those concerned about energy costs and interested in energy conservation. It also has created a new process for developing corn-based fuel that promises to outperform the conventional process.

Novozymes’ leaders continue to search externally for innovations in industrial biotechnology, food (such as baked goods) and animal feed. They have created more than 700 different products in over 40 industries covering 130 countries. This broad focus on applications is the company’s main driver of growth. In 2007, it posted 14% growth in earnings, as sales topped 7.4 billion Danish kroner with healthy profit margins. All of this was accomplished at a time of rising raw material cost, adverse exchange-rate shifts in key export markets (like the United States) and an incipient weakening of the global economy. The company now is benefiting from a rising

interest in biofuels, in which enzymes can play a big role. Catching the biofuel wave clearly was more than luck for Novozymes.

As organizations move away from a companycentric approach to strategy and operations toward a network-based view, external networks increasingly will be used to enhance their peripheral vision. Vigilant leaders tend to be more open, to seek diverse perspectives, to listen to a wide array of sources, to foster broad social and professional networks and to look for new ideas constantly. They tend to have wide internal as well as external networks, and to operate in multiple spheres. British entrepreneur Sir Richard Branson, Virgin Group Ltd.'s founder and chairman, is a prime example of this leadership profile, exploiting opportunities as quickly as he can spot them. A truly vigilant organization is able to both mind a broad periphery and mine the weak signals for relevance and meaning. But this can only happen if leaders create mindsets, incentives and cultures that can indeed mind and mine the periphery.¹⁰

Vigilant leaders scan for signals about the external world inside the organization as well, eliminating or challenging the silos in their organizations, and are open to information from the edges. One way to identify significant threats and capture “faint stirrings” in the environment is to designate one executive to “collect the paranoia.” That person should be senior enough to gain a hearing in the organization, ensuring that negative and possibly damaging information will be taken seriously. Another approach for capturing and acting on faint stirrings is to form “search parties” of two or three people from different departments. These groups should consider such questions as, What is the worst thing that could happen to our new product line this year? Once these threats are identified, the groups can draw up a list of warning signs. After looking at the potential for disaster, they also can consider, What is the best thing that could happen to the company? This will make the organization more attentive to the faint stirrings and allow managers to connect the dots more quickly.

Strategic Foresight: Probing for Second-Order Effects The second quality of vigilant leadership is strategic foresight. When Microsoft Corp.'s Bill Gates was looking at Google's Web site several years ago, he noticed that the company was posting job de-

scriptions for software engineers that didn't fit its usual business model. The postings looked more like the kinds of staff profiles Microsoft was pursuing. To assess its deeper meaning, Gates sent an e-mail to his colleagues about this observation. He was looking for second-order effects. Even though he sensed an early warning signal about Google's move into the desktop search, it was not sufficiently explored by others at Microsoft.

Vigilant leaders are imaginative in recognizing the implications of new signals from the periphery. For example, when one CEO learned of China's victorious bid to host the 2008 Olympic Games in Beijing, he immediately began to consider what impact this could have on steel and cement supplies for his own business in the years ahead. To achieve such strategic foresight, vigilant leaders take a longer time horizon and employ a more flexible approach to strategy, incorporating diverse inputs and tools such as scenario planning, real-options thinking and dynamic monitoring.¹¹ Importantly, they tend to have an outside-in approach to strategic planning that starts with the outside world, as opposed to an inside-out process that starts with growth targets and other financial performance measures.

To encourage foresight among its leaders team, Johnson & Johnson created a strategy process called FrameworkS to scan the volatile periphery of health care.¹² J&J managers needed to pay attention not only to markets and shifting technology but also to changing health care regulations, insurance coverage and formularies, as well as to competitive moves in businesses ranging from retail products such as adhesive bandages and painkillers to disposable contact lenses and ethical pharmaceuticals. As part of its FrameworkS process, the Executive Committee and members of the strategy task force asked themselves such questions as: What will the demographic picture be in 2010? What might customer profiles look like in 20 years? How will a typical doctor's office or hospital operate? What role will government play? What will technology look like in 2010? What will the role and power of the payers be? These questions encouraged a deep curiosity and vigilance, leading the organization to consider radically different scenarios and new opportunities. Doing this well requires a high tolerance for ambiguity and even a willingness to embrace paradox.

Leaders also can encourage deeper thinking through initiatives that challenge business managers to generate new opportunities and explore their implications. The Procter & Gamble Co.'s “Discontinuity Boot Camp” takes managers out of their day-to-day work and challenges them to create a new and discontinuous business model that would make a significant contribution to the company.¹³ They create rapid prototypes for ideas, including a television advertisement to start making the idea tangible, and explore its implications in a very visceral way. They try to find out quickly if this is a business with power and traction. The boot camp allows leaders to broadly explore the implications of their new ideas.

Most leaders are adept at operational excellence. But few are prepared for the broader challenges they confront once they reach the top.

Enabling Exploration: Creating a Culture of Discovery Finally, vigilant leaders develop a culture of discovery throughout the organization. When Texas Instruments Inc.'s chairman, president and CEO, Jerry Junkins, began reinventing the company in the 1990s, he encouraged the company's "lunatic fringe" to be on the lookout for new ideas among the company's engineers, as well as among original thinkers in small startups, academia or anywhere else in the world.¹⁴ The company held a "Sea of Ideas" meeting each week to recognize emerging needs and innovations at the fringes. In 2003, a group of engineers recognized the need for power-management chips for mobile phones to meet the demand for digital photos, television, gaming and other power-consuming applications. They set a goal to create a chip that would cut power consumption a thousandfold by the end of 2004, working on their own time to design it. The resulting technology has helped make TI a leader in mobile phone technology.

Vigilant leaders create the slack that employees need to explore areas outside of their main focus. Like Junkins, they encourage mavericks to bring fresh perspectives to their organizations. But while vigilance at the top of the organization is vital, it is needed at all levels. Although we often think of leadership as

flowing from the top down, Michael Useem has emphasized the importance of "leading up" as well as sideways.¹⁵ Such leadership is particularly important when monitoring the periphery: Employees deep down in the organization may be closer to the signals at the edge of the business. Their insight must receive a fair hearing in order for the organization to benefit from it.

Fostering a culture of creativity is vital in encouraging vigilance. Unfortunately, many corporate cultures remain risk averse and conservative, with limited flexibility to scope and scan widely. Nonetheless, an organization's leaders can provide a counterweight to this inertia by encouraging the type of curiosity that leads to increased vigilance.¹⁶

Too often, however, an organization's culture actually limits its vigilance. For example, the culture at the *New York Times* for two years was shaped by the leadership of executive editor Howell Raines, described by leadership guru Warren Bennis as someone who "loathed hearing unwanted truth."¹⁷ While Raines' single-minded focus helped the newspaper win a record seven Pulitzer Prizes in one year, that culture also contributed to the scandal surrounding the plagiarism and fabrications of reporter Jayson Blair. The increasingly strong messages from the periphery that there were problems with Blair's reporting were dismissed by Raines, who resigned when the scandal broke in June 2003.

Leaders should ask whether there are significant structural holes in their information ecologies.¹⁸ Are some parts of the organization not receiving key information because of gaps in the social networks? If certain parts of the organization are too isolated from relevant others, such as research or sales, structural holes may form that fail to detect, enhance and act on peripheral information relevant to the enterprise. Similarly, leaders might ask if their organization suffers from black holes, areas in the organization where information gets stuck. Akin to black holes in astrophysics, these are clusters (i.e., people, groups, departments or functions) from which little light emanates; these units pull in a lot of information but seldom share it. When a weak signal traverses its convoluted path from faint stirring to actionable information, encountering a black hole can stop it dead in its tracks.

Leaders can foster vigilance by hiring for it, promoting "mavericks" or others who are naturally more vigilant and broadly focused.¹⁹ When hiring new staff, specific questions can be posed to assess a person's ability to scan the periphery without taking his or her eye off the main focus. When designing performance reviews, leaders should evaluate how frequently and successfully employees picked up weak signals from the periphery and were rewarded for it. Vigilant leaders may have to educate employees in critical and innovative thinking skills, scenario planning, dynamic monitoring and weak signal detection. Importantly, employees need to be aware of various mental traps — from frame blindness and filtering to rationalization — that commonly interfere with the recognition and interpretation of signals.²⁰

Growth Traits of GE Leaders

While we were studying vigilant leaders, GE was asking a similar question using a different lens. They studied the management of 15 companies with stellar organic growth records to learn what additional leadership traits they needed to nurture a shift from a culture of productivity toward one of growth.ⁱ They found that growth leaders shared five traits:

1. Creates an external focus that defines success in market/industry terms.
2. Is a clear thinker who can simplify strategy into specific actions, makes decisions and communicates priorities.
3. Has imagination and courage to take risks on both people and ideas. Bold thinking to imagine a better way and the courage to make it a reality.
4. Can energize teams through inclusiveness and connection with people ... builds loyalty and commitment.
5. Develops expertise in a function or domain, using depth of knowledge as a source of confidence to drive change.

The only notable difference between our qualities of vigilant leaders and the GE growth leader traits concerns item 5. We assumed that depth of knowledge would be embedded within our three qualities. One implicit reason vigilant leaders are smart, secure and able to infuse their teams with confidence is their mastery of the details and of the environment's complexities.

i. J. Immelt, "Growth as a Process: The HBR Interview," *Harvard Business Review* (June 2006): 60-70.

The Central Intelligence Agency has been actively trying to create an ecology of warning, encouraging its people to pay attention to the implications of warning signals, even if these signals are not related to their current task. In another realm, a firefighter who goes into the home of an elderly person might be given training and incentives to recognize that clutter in the house increases the risk of a hip fracture. The firefighter then would alert the person's relatives or insurance provider to take steps to prevent such an accident. Whereas normally the firefighter would focus on just responding to the fire call, within a fully developed ecology of warning he or she could prevent future accidents as well. Business organizations, likewise, need to look for ways to encourage their existing networks to share information about early signals that might be important to other parts of the organization. This ecology of warning can be strengthened through incentives and training.

To remain vigilant, leaders must ask deeper and broader questions to encourage others to exhibit a similar level of curiosity about the internal and external environment, without sacrificing operational excellence. If leaders cultivate a habit of asking novel questions — What happened last month that was unusual? What surprised you? What puzzles you? — that can lead to unexpected results and an environment that promotes vigilance and discovery.

Fostering Vigilance

Aside from having a CEO who is a role model, how else can organizations foster vigilant leadership? First, it may be wise to bring in new leaders who offer a different view of the company and its environment. Second, vigilance can be built through systematically developing initiatives within the organization. Recent changes at The Coca-Cola Co. and General Electric illustrate these two different approaches.

For many years, Coca-Cola's celebrated CEO, Robert Goizueta, personally ensured vigilance for the organization — rigorously monitoring competition, regulations, new markets and other factors that were shaping its future environment. Because vigilance was concentrated in the CEO's office, the rest of the organization focused primarily on execution. Goizueta's unexpected death from lung cancer in 1997 created a vigilance void that remained unfilled by his first two successors, who were both operationally oriented. A lack of vigilance contributed to the company's slow response to unexpected challenges such as the contamination of soft drinks at a plant in Belgium and to emerging opportunities created by the development of new beverages in categories such as coffee, health drinks and water. Although Jack Stahl, head of Coca-Cola in the United States, urged

Increasing Your Vigilance

What are some specific steps leaders can take to heighten their own vigilance and that of their organizations?

On Your Own

- Assess your own vigilance (see "Distinguishing Vigilant From Operational Leaders")
- Rekindle your innate curiosity (through travel, reading, etc.)
- Seek diverse viewpoints
- Build deep and wide networks outside and within the organization
- Take the long view on key issues
- Tolerate a "lunatic fringe" inside
- Create slack for dialogue and probes
- Foster an ecology of warning
- Ask questions about the edge
- Increase resources to foster vigilance

With Others

- Appoint "paranoia" collectors
- Create planning approaches focused on foresight
- Organize search parties to seek new ideas
- Form discontinuity "boot camps"
- Hold "sea of ideas" meetings
- Reward leading up
- Identify gaps in organizational networks
- Promote mavericks
- Study past blind spots
- Use technology to create dashboard and monitors.
- Design training programs

then-CEO Doug Daft to collaborate with Starbucks Corp. in distributing and marketing products such as its ready-to-drink Frappuccino, Coca-Cola did not pursue it. This allowed rival Pepsi Bottling Group Inc. to cut a distribution deal with Starbucks according to insiders.

At the time, the world was changing in fundamental ways with the rise of new products and channels and increased public scrutiny of beverage companies. The company needed to raise the level of its vigilance. With the appointment of E. Neville Isdell as CEO in 2004, Coca-Cola began to rise to this challenge. Although he had a strong background as an operational leader, Isdell recognized the urgent need to institutionalize the kind of vigilance that Goizueta had embodied. Isdell, who had worked in South Africa during apartheid, knew firsthand the power of public opinion and the need to build bridges with opposition groups. He started to develop broader and deeper support for vigilance across the organization, something Goizueta, for all his strengths, had failed to do.

In 2006, when the company's soft drinks were blocked from some Indian markets after they tested far above limits for pesticide contamination, Isdell brought in external perspectives. He hired Jeff Seabright, former executive director of the White House Task Force on Climate Change during the Clinton administration, to head up Coca-Cola's environmental policy. Seabright made deeper connections to external networks, gaining the backing of environmental activist organization Greenpeace International to make vending machines more environmentally friendly, funding fresh water proj-

ects with the World Wildlife Fund, and cofounding the Global Water Challenge to improve access to drinking water and sanitation in the developing world.

Exercising foresight, Isdell recognized that the problems in India were not an isolated incident.²¹ He began to look more deeply at environmental, labor and other practices across the company and its markets. The company audited more than 1,000 bottling plants on water usage and audited its supply chain to ensure adherence to international safety and social responsibility norms. Coca-Cola invited the International Labor Organization, a United Nations agency, to investigate its labor practices. To address rising public concerns about the contribution of soft drinks to rising rates of childhood obesity in the United States, Coke restricted sales in school vending machines and supported school exercise programs.

The company's initiatives helped to encourage openness to new ideas, making it more likely that employees across the organization would recognize emerging problems and bring them to the attention of the company's leaders. With these and other actions, Coca-Cola corrected weaknesses in vigilance that had attracted public opposition in India and other parts of the world. Even the most vigilant leaders will sometimes miss important signals from the environment, but the best leaders learn from such mistakes to heighten their vigilance in the future.

General Electric: A Systematic Program Companies can develop training and development programs to encourage vigilant leadership. General Electric, for example, recently created a course for cultivating leaders who can promote growth and innovation. The Leadership Innovation and Growth program is designed to develop qualities (as noted in "Growth Traits of GE Leaders") that are very similar to our qualities of vigilant leaders. Among the key principles of GE's approach are the following:

Educate for a broader focus. The LIG program uses two proven tools for transferring knowledge: executive education and "work-out" (GE's term for an intensive approach to team problem solving) to encourage creative thinking and action. While GE traditionally has excelled at finding opportunities in its core businesses and markets, this laserlike focus sometimes has kept managers from seeing,

Leaders must ask deeper and broader questions to encourage others to exhibit a high level of curiosity about the internal and external environment.

understanding and acting on opportunities at the periphery. The new program pushes leaders to look beyond the core to emerging markets, technologies and channels. (Over 50% of GE's revenues now come from outside the United States.)

Use teamwork to build strategic foresight. While GE has long had strengths in developing individual leaders (such as its legendary corporate training center in Crotonville, New York), the focus of the new program is on teams. Intact management teams of about 15 people each are exposed to internal and external ideas about growth and innovation. Over 50 management teams attended the LIG program in 2006. GE recognizes the need to move beyond individual vigilance and make it a "team sport." This emphasis draws upon team members' diverse perspectives and ensures that vigilant leadership is built deeply into the fabric and culture of the organization. During the program, each team is asked to consider the implications of new ideas for their own business. They then draft a letter to CEO Jeff Immelt outlining their key insights and next steps. Each business unit also develops a "growth playbook."

Focus on quick hits as well as on building a broader culture. Some of these insights are "quick hit" growth initiatives, while others address broader culture and capabilities, such as increasing the team's willingness to experiment or spending more time with customers. This twin focus ensures that teams think broadly without becoming lost in star gazing, and balance current actions with building the culture and capability to encourage vigilance throughout the organization.

Ensure team accountability. Immelt follows up on the LIG meeting with a review session in which he holds each business team accountable for the activities in its growth playbook. During this follow-up, he probes deeper, asking such questions as: "What is the biggest impediment to achieving your growth plan? Is there a competitor who does it better than you? Why can't we be like them?"

The impact of the LIG program already is stimulating innovations in technology and globalization in the company's \$1 billion Automation and Embedded Systems division, as well as driving innovative uses of the Internet at NBC Universal (of which GE owns a majority stake). As Immelt noted in GE's 2006 Annual Report, this training to increase vigilance will help teams see diverse opportunities more quickly, from reaching emerging global markets to developing novel treatments for diseases. He writes: "Our teams will see it first. They are the architects of the future. They sit in the front seat of history."²² While GE is especially focusing on growth opportunities, vigilance also will help the organization see threats more quickly.

Setting the Tone at the Top

Vigilance, as we have emphasized, is about the ability to see and act upon signals earlier. The tone at the top of the organization affects which voices are heard and acted upon. Leaders are the filters of their organizations' perceptions. Some Coca-Cola managers had recognized impending health and environmental problems as well

as opportunities from new beverages, but their proposals were not acted upon by leaders who were focused on current operations. Even if a talented leader such as Goizueta plays the role of watchman for an organization, allowing it to perform brilliantly for a time, the organization still is vulnerable. As Coca-Cola and GE have recognized, organizations need broad strength in vigilance and thus need teams that can work together.

The periphery has few champions, since by its very nature it is a murky, high-risk area. Few will scout there unless the senior command clearly endorses and rewards such excursions. Leadership is, above all, about taking the long view, seeing reality as it is, rising above partisan concerns and having the courage to take risks that could result in losing one's job.

As shown by companies such as GE, Coca-Cola, Novozymes and Johnson & Johnson, leaders can foster vigilance throughout the organization. They can take steps to increase their own vigilance by cultivating three qualities: external focus, strategic foresight and a culture of discovery. (See "Increasing Your Vigilance," p. 49.) Vigilance is crucial to recognizing opportunities for growth and innovation and to finding the hidden dangers in a world of breathtaking change and complexity. If leaders don't set the example, who will?

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REFERENCES

1. This accidental discovery was told to us by Dr. Hans Vemer when he was president of Organon International, which then was part of Akzo Nobel N.V. (Organon has since been sold to Schering-Plough Corp.) The pharmaceutical industry is replete with such accidental discoveries, from penicillin to Viagra; see M.A. Morton, "Happy Accidents: Serendipity in Modern Medical Breakthroughs" (New York: Arcade Publishing, 2007).
2. N.D. Schwartz and V. Bajaj, "Credit Time Bomb Ticked, but Few Heard," *New York Times*, Aug. 19, 2007, pp. 1, 23.
3. P. Midler, "Quality Fade: China's Great Business Challenge," July 25, 2007, <http://knowledge.wharton.upenn.edu/>.
4. The survey was conducted by the Fuld-Gilad-Herring Academy of Competitive Intelligence, a management training company in Cambridge, Massachusetts; L. Fuld, "Be Prepared," *Harvard Business Review* 81 (November 2003): 20-21.
5. J. Hempel, "Why the Boss Really Had to Say Goodbye," *BusinessWeek*, July 4, 2005.
6. A.S. Grove, "Only the Paranoid Survive: How to Exploit the Crisis Points That Challenge Every Company" (New York: Currency, 1999).
7. In the section of the survey that asked about the orientation of the leadership, we asked about the attitude toward the periphery. One pole of the question was "active and curious: systematic monitoring of periphery," which was chosen by 23% of respondents (a score of 6 or 7). The other pole was "limited and myopic: few people care," and a score of 1 or 2 was picked by 25%. The rest of the sample was between these two poles. See G.S. Day and P.J.H. Schoemaker, "Peripheral Vision: Detecting the Weak Signals That Can Make or Break Your Company" (Boston: Harvard Business School Press, 2006), 191-205.
8. Our survey of literature on leadership found that vigilance has received scant attention from researchers as well. One possible exception is the emerging notion of "mindfulness," which is seen as a process that enables organizations to minimize errors, remain vigilant and respond effectively to unexpected events. See, for example, D. Levinthal and C. Rerup, "Crossing an Apparent Chasm: Bridging Mindful and Less-Mindful Perspectives on Organizational Learning," *Organization Science* 17, no. 4 (2006): 502-513. Their perspective on mindfulness draws on C.M. Fiol and E.J. O'Connor, "Waking Up! Mindfulness in the Face of Bandwagons," *Academy of Management Review* 28, no. 1 (2003): 54-70; and K. Weick and K. Sutcliffe, "Managing the Unexpected" (San Francisco: Jossey-Bass, 2001).
9. J. Collins, "Good to Great: Why Some Companies Make the Leap . . . and Others Don't" (New York: HarperBusiness, 2001).
10. G.S. Day, P.J.H. Schoemaker and S.A. Snyder, "Extended Intelligence Networks: Minding and Mining the Periphery," in "Wharton on Network-Based Strategies and Competencies," ed. P. Kleindorfer and J. Wind, in press).
11. For descriptions of these and related tools, see P.J. H. Schoemaker, "Profiting from Uncertainty: Strategies for Succeeding No Matter What the Future Brings" (New York: Free Press, 2002). Appendix B.
12. R. Foster and S. Kaplan, "Creative Destruction: Why Companies That Are Built to Last Underperform the Market — and How to Successfully Transform Them" (New York: Currency, 2001).
13. L. Huston, "Mining the Periphery for New Products," *Long Range Planning* 37 (2004), 191-196; also see L. Huston and N. Sakkab, "Connect and Develop: Inside Procter & Gamble's New Model for Innovation," *Harvard Business Review* 84 (March 2006): 58-66.
14. P. Lewis, "Texas Instruments' Lunatic Fringe," *Fortune*, Nov. 14, 2006, 121.
15. M. Useem, "Leading Up: How to Lead Your Boss So You Both Win" (New York: Crown Business, 2001).
16. For insights about organizational culture, see G. Hofstede, "Culture's Consequences: International Differences in Work-Related Values" (Newbury Park, California: Sage Publications, 1980); R.J. House, P.J. Hanges, M. Javidan, P.W. Dorfman and V. Gupta, eds., "Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies" (Beverly Hills, California: Sage Publications, 2004); and C. Hampden-Turner and F. Trompenaars, "Building Cross-Cultural Competence: How to Create Wealth From Conflicting Values" (New Haven: Yale University Press, 2000).
17. W. Bennis, "It's the Culture," *Fast Company*, August 2003, 35.
18. R.S. Burt, "Structural Holes and Good Ideas," *American Journal of Sociology* 110, no. 2 (2004): 349-399; and R.S. Burt, "Structural Holes: The Social Structure of Competition" (Cambridge: Harvard University Press, 1992).
19. Some hallmarks of these mavericks are that they were right in the past when everyone else was wrong; they tend to be independently minded; they hang out with different groups (or even live on a "different planet"); they read and digest different books, movies and magazines than their peers; and they play unusual sports or have eccentric hobbies. For more on mavericks, see M.K. Pratt, "Spotting a Maverick," *Computerworld*, Feb. 13, 2006; and W.C. Taylor and P.G. LaBarre, "Mavericks at Work: Why the Most Original Minds in Business Win" (New York: William Morrow, 2006).
20. J.E. Russo and P.J.H. Schoemaker, "Winning Decisions: Getting It Right the First Time" (New York: Currency, 2001).
21. A. Gentleman, "For 2 Giants of Soft Drinks, a Crisis in a Crucial Market," *New York Times*, Aug. 23, 2006.
22. J. Immelt, "Letter to Investors," GE 2006 Annual Report, Feb. 9, 2007.

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