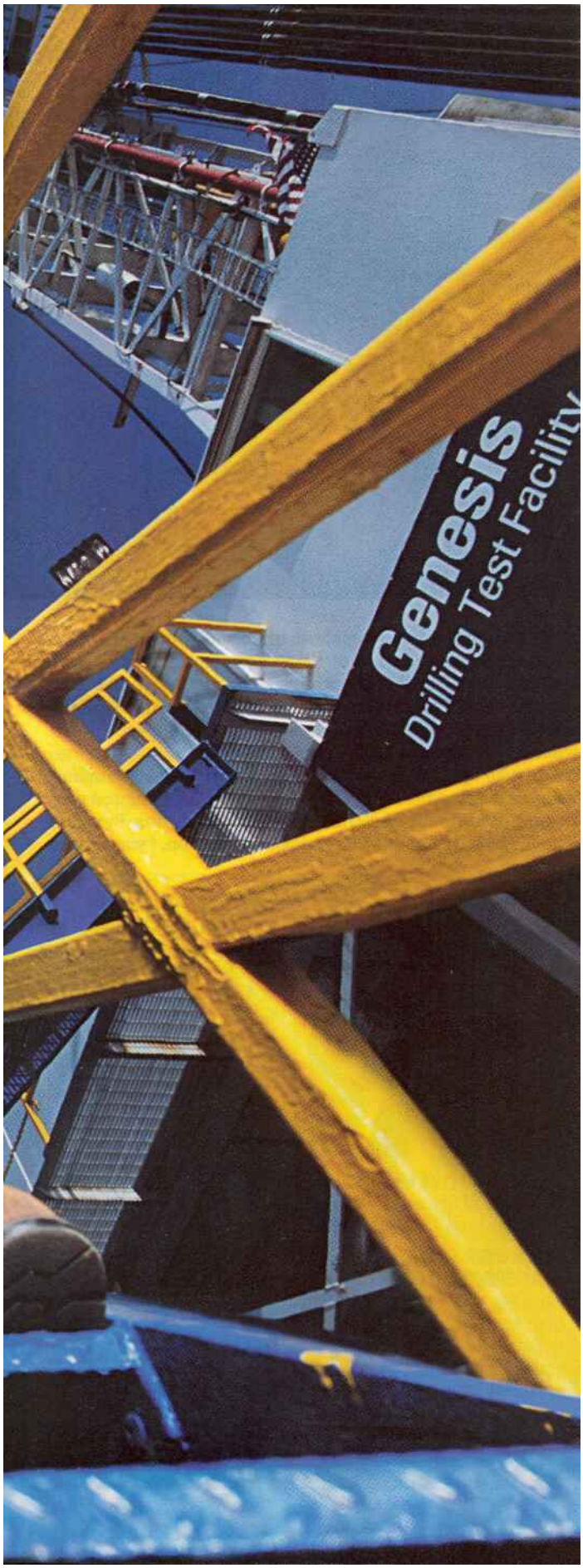
How to recruit, train, and hold on to great people. What works, what doesn't.

STAR SEARCH

BUSY TEXAN Bartz, 33, manages a Schlumberger crew of more than 70



BY NANETTE BYRNES

WITH OIL DANCING CLOSE TO $66 A barrel on the open market, companies are now exploring the remote spots that hold most of the world's untapped supply. After several years of record profits, the energy giants -have plenty of cash to finance the dig. The main thing holding them back is a resource scarcer than crude: engineering talent. Because of layoffs in down times and opportunities in sexier fields of technology, fewer petroleum engineers are graduating from U.S. schools. A mere 1,500 are enrolled this year, down 85% since 1982—back when *Dallas* was the hit TV show.

This crisis is sparking a war for talent in the industry. Oil-field services giant Schlumberger Ltd., for example, recently lost a deepwater drilling expert to a client who tripled his salary. And that was before Hurricane Katrina slammed into the Gulf Coast. "The people shortage was extremely acute before Katrina and is now far worse," says Matthew R. Simmons, chairman of energy investment bank Simmons & Co., based in Houston, Tex. "The major oil companies are now poaching trained people from the service industry and no service company has better trained people than Schlumberger."

So is Stephanie Cox, Schlumberger's director of personnel for North and South America, sweating? Hardly. Through lean years and fat, her company has consistently focused on cultivating great people, and its bench is deep. Seated in the company's small outpost in Victoria, Tex., on a baking day in July—amid rice, corn, and oil fields—she demonstrates how easy it is for human resources executives at the company to pinpoint hot talent using an online system called PeopleMatch.

Cox sets a formidable, if hypothetical, challenge for herself: finding a country manager for Brazil. This is an employee who must be mobile, can speak Portuguese, and be "high potential"—meaning the candidate is judged capable of moving up two grade-level positions. (Currently, about 10% of Schlumberger staffers meet this standard.) Cox, a 36-year-old mother of two who radiates an aura of calm efficiency, enters Schlumberger's human resources intranet site and starts filling in a series of boxes, selecting those personal characteristics much as somebody might choose a hotel on an online travel site like Travelocity. Although the search may seem like a long shot, 31 names pop up within a minute.

Getting Personal

WHAT COX SEES ARE NOT mere resumes. Through Schlumberger's intranet, she has logged on to a database that marries human resources information concerning people's past job performance and salary with each worker's own curriculum vitae. Those resumes—which the company calls Career Networking Profiles—are far more fun and informative than typical corporate bios. All employees write their own, generally covering their career goals, family, past assignments, professional affiliations, publications, patents granted, and hobbies. Instead of the mug shots that populate most in-house directories, people often send personal photos. One man holds up a fish caught on vacation.

This is no off-the-shelf software. Schlumberger built the sys-

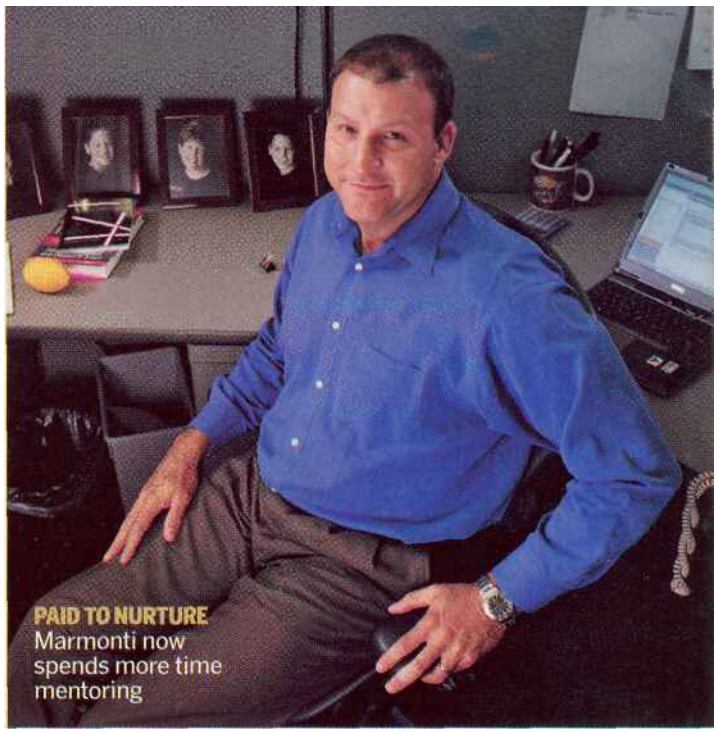
tem itself. And what Cox did can be done at hundreds of offices in 80 countries, from the arctic tundra of Alaska to the arid desert of Abu Dhabi. "The capacity to develop talent from anywhere in the world is one of our key strengths," says Chief Executive Officer Andrew Gould, himself a 30-year veteran of the company.

Plenty of CEOs preach the importance of talent, but Gould leads a congregation of true believers. Schlumberger is a rare company that has turned its human resources department into a strategic asset rather than an employee-irritating nuisance. Other standouts include midsize financial services firm Jefferson Wells International (page 78), IBM (page 72), Johnson & Johnson (page 76), and Dell (page 71).

Calling All Supernovas

THESE COMPANIES ARE all in different industries. They are different ages, sizes, and have their own growth strategies. But at bottom, all recognize that the secret of every high-performing company is great people—and that there aren't enough stars to go around. Consider the 20 companies that made Hewitt Associates' 2005 list of great places for leaders. All but two have beaten the Standard & Poor's 500-stock index companies' 156% total return to shareholders over the past decade. Some, like Capital One Financial (887%) and Dell (2,859%) have surpassed it by a mile. "Talent should be a weapon and should be used as a weapon," says Marc Effron, Hewitt's longtime leadership expert, now vice-president for talent management at Avon Products. "But it's amazing how little attention companies put into this."

No kidding. Despite years of rhetoric about talent—and stacks of annual reports insisting that people are a company's biggest asset—most companies still don't get it. Instead of making a long-term investment in their employees, corporate chieftains during the bubble years too often went for the easier short-term payoffs to be found in accounting games. And instead of devoting their own time to talent management, CEOs have often



PAID TO NURTURE Marmonti now spends more time mentoring

punted to outsiders who come with marketing software systems, executive coaching, and an endless array of overhyped turnkey solutions. Who hasn't gone through some form of this torture? The 360-degree review that is never followed up, or 150 question-long employee satisfaction surveys, or emotional intelligence evaluations that lead to exactly nothing.

Add it all up, and companies will probably spend $50 billion on talent development this year, according to Jay Conger, a professor at Claremont McKenna College and London Business School. Nevertheless, says Avon Products' Effron, "you tend to

TALENT OVER TIME

Trying to get the workforce right has led to more than a century of innovations—and fads

1881 BUSINESS GOES TO COLLEGE Joseph Wharton, co-founder of Bethlehem Steel, finds training workers himself too expensive. He persuades the University of Pennsylvania to launch an undergraduate business education program.

1900 MBAs Dartmouth opens the first graduate business school. Ten years later, Harvard graduates its first class—of eight. By 2002, there were 120,875 MBAs awarded in the U.S., and many schools have opened overseas.

1911 TAYLORISM Frederick Winslow Taylor publishes *The Principles of Scientific Management.* The antithesis of touchy-feely management theory, it argues that there is only one objectively correct way to perform industrial jobs.

1943 EXECUTIVE MBAs University of Chicago offers the first MBA for working managers.

1950s OHIO STATE LEADERSHIP STUDIES Business theoreticians shift their focus from the factory floor to the executive suite. No longer concerned solely with efficiency, university researchers begin evaluating softer issues, such as how considerate, friendly, and supportive a leader is.

1956 CORPORATE CLASSROOMS Leadership development goes in-house at General Electric when the company opens its own management "school" in Ossining, N.Y. In the 1990s, CEO Jack Welch grooms generations of top managers in its bowl-shaped auditorium dubbed "the pit." It's so successful that GE becomes a "leadership academy" supplying CEOs for Boeing, HomeDepot, and elsewhere.

1959 HELLO, "KNOWLEDGE WORKERS" In his book *Landmarks of Tomorrow,* management guru **Peter Drucker** describes the declining importance of manual labor—and coins a term describing a new type of employee.

(TOP) PHOTOGRAPHS BY WYATT McSPADDEN; (BOTTOM, L TO R) TOPICAL PRESS AGENCY/GETTY IMAGES; GRANGER COLLECTION, NEW YORK; LEE CELANO/*THE NEW YORK TIMES*; JUSTIN SULLIVAN/GETTY IMAGES; (BUSH) KEVIN LAMARQUE/REUTERS

HOME SCHOOLED BY THE BRASS

Dell

As a member of the first classes of managers to go through Dell Inc.'s new Leadership Edge program, David Marmonti spent 10 days last September in Austin networking with 17 other fast-track executives, including three days of strategy talks with Chairman Michael S. Dell and CEO Kevin B. Rollins. Like many of the hypergrowth companies that shot up so quickly during the tech revolution, Dell had long relied on sheer momentum to keep managers like Marmonti challenged and the company humming. As it went from startup to powerhouse at lightning speed, Dell could ignore the niceties of human resources development. People were dying to work at such a dynamic company. Stock options were making millionaires of mid-level managers.

But as Dell, now with $49 billion in sales, charges toward its $80 billion goal, growth is getting harder—and more of it will come far from its Austin (Tex.) roots. Dell and Rollins realized three years ago that the company's once magic combination of high-quality goods, low prices, and super-lean efficiency would no longer suffice; they had to figure out talent management as well. They ordered up a new training program, designed in-house, and taught primarily by Dell's own top managers, including themselves. The two chiefs submitted to 360-degree assessments in the hope of inspiring their executives to do the same. Pay is now determined in part by how well a manager does at nurturing people.

As a result, Marmonti has rearranged the way he does his job. He now spends 30% to 35% of his time on people, more than in the past, and personally mentors many more managers. "Once we understood the type of leaders and numbers we would need, we looked inside our business and said, 'Do we have what we need to get there?' " says Marmonti. He continues to have a coach and get regular feedback on his own performance, part of the long-term component of Leadership Edge.

Although not enough time has passed yet to know for sure if the broader program is working, Marmonti's group is doing well on the measurements that are available. Its score on Dell's employee satisfaction survey has jumped 20% in the last 15 months. The real test will be if Dell retains those employees and turns them into the next generation of leaders.

see people glomming on to the latest fad or thing they heard about in a conference. But the more you rely on consultants, the more likely you are to fail."

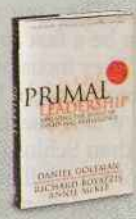
Nowhere is talent mismanagement more starkly in evidence than in the corner office. Hewitt found that 85% of its good companies promoted their current chief executive from within company ranks, but only 68% of the rest did. The worst-off have to go outside over and over. Dial, for example, has looked outside for each of its past three CEOs, all while competing against the renowned talent experts at Colgate-Palmolive and Procter & Gamble. Kasper Rorsted, vice-president of HR for Henkel Corporation, which bought Dial in 2004 and gets 95% of its leaders internally, says, "I would be very disappointed if the next CEO [of Dial] came from outside the company." Meanwhile, Coca-Cola Co. has screwed up in a completely different way—by picking the wrong insiders. In the past seven years, the company has had three different CEOs, and each of those Coke veterans has struggled and failed to renew the company's marketing zest. In the past decade, Coke has returned only 58% to shareholders, while rival PepsiCo Inc., a model of

1980 JOB SATISFACTION Does it matter if workers are happy? In their 1980 book *Work Redesign*, Richard Hackman and Greg Oldham argue that workers need meaning and responsibility in their work to perform well.

LATE 1980s 360° FEEDBACK Managers are suddenly exposed to critiques from those below them in the hierarchy. Conducting these assessments becomes a big business for consultants such as the Center for Creative Leadership.

1990 PAY FOR PERFORMANCE Investors rebel after the economic slump of the late 1980s cuts everyone's paycheck—except the CEO's. The solution: "Pay for performance." The idea backfires when incentive pay such as stock options give execs like **Larry Ellison**, who collected $781 million from 2000 to 2002, excessive windfalls.

MID-1990s EXECUTIVE COACHING Who can tell CEOs the things that everybody else is afraid to say? Executive coaches. Practitioners like Marshall Goldsmith, who charges more than $150,000 a year per client, have reached iconic status.

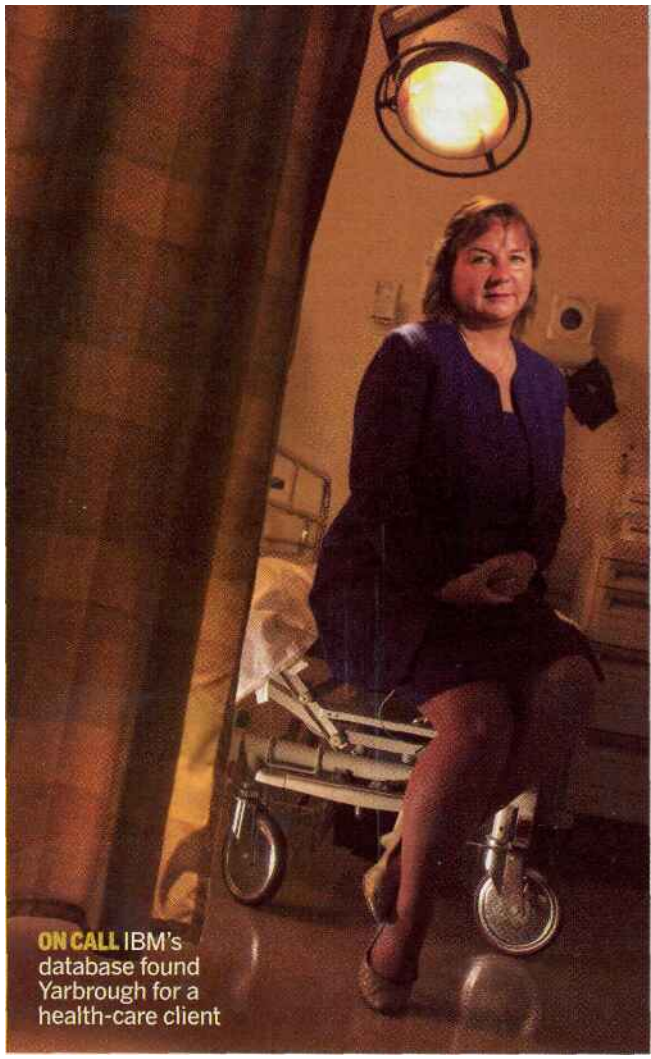


1997 EMOTIONAL I.Q. Daniel Goleman's best-seller, ***Primal Leadership: Realizing the Power of Emotional Intelligence***, launches an industry. Spin-offs include his consulting business (Emotional Intelligence Services), a workplace-satisfaction survey, and an online tool to help managers figure out what all that feedback means.

1999 JOB JUMPING Online job search hits the big time when **Monster.com** pays $1.6 million for a 30-second Super Bowl ad (above) that becomes a cultural phenomenon. Combined with the increasing heft of executive search firms like Heidrick & Struggles and Spencer Stuart, Web-based job boards have become a lubricant for an already disloyal workforce.

2001 THE OVAL CORNER OFFICE The first President to hold an MBA, **George W. Bush** is sworn into office.

2005 ACTION LEARNING Not to be confused with Outward Bound type team-building, this growing training practice is based on the premise that it makes more sense to put promising people to work on real business problems than to bore them with theoretical campus learning. They get trained and the company gets a problem solved. Adherents include J&J, IBM, and General Electric.



ON CALL IBM's database found Yarbrough for a health-care client

PINPOINTING INSIDE UP-AND-COMERS

IBM

Nestled within its forested corporate campus in Armonk, N.Y., an easy stroll from the CEO's office, is IBM's stone-and-glass leadership training center. Big Blue is one of those companies—along with General Electric Co. and Procter & Gamble Co.—that are often cited as the gold standard for talent management. But if the Armonk school is a window on IBM's human-resources history, its future is a technology-powered staff-deployment tool the company is calling its Workforce Management Initiative. Think of the system as a sort of in-house version of Monster.com, the online job site. Built on a database of 33,000 résumés, it lets managers search for employees with the precise skills they'll need for particular projects.

The Initiative, which applies what the company learned about logistics over its decades as a computer hardware manufacturer to its human assets, has already become much more efficient, saving IBM $500 million. It has also improved productivity. In February, for example, a health-care client needed a consultant with a clinical background. The system almost instantly targeted Lynn Yarbrough, a former registered nurse—a search that would have taken more than a week in the old days.

But the Initiative's greatest impact may be its ability to help managers analyze what skills staffers possess and how those talents match up to the business outlook. The goal is to train people ahead of anticipated changes. This year IBM will spend $400 million of its $750 million employee-education budget on instructing people in the skills it thinks will be hot in the future.

management consistency, has delivered close to four times that.

So failure is costly. And it is only going to become more so—because talent is growing far scarcer. According to consultant RHR International Co., the country's 500 biggest companies anticipate losing half their senior management in the next five to six years. There are too few bodies to replace them. As the 77 million U.S. baby boomers begin to retire, Generation X, now 24 to 40 years old, makes a paltry successor, with 46 million people. That demographic gulch has been dug deeper by the efficiency purges of the early 1990s, which wiped out middle management and taught kid-off workers that there was little reward for loyalty. The result? "There are very few companies that feel they have an excess of talent," says Paul Rogers, a partner at consulting firm Bain & Co.

40%

–plus of companies don't have a CEO succession plan in place

Data: Hewitt Associates

At the same time, business has gotten tougher, and companies are counting on their people to be flexible enough to move at today's accelerated pace, yet creative enough to excite consumers around the world—a tall order for a group that is already doing more than ever. Increasingly, profits come from overseas, with the global economy growing at twice the pace of the U.S. And growth in developed markets is often in people-intensive industries such as technology, information, and communications. Last year this segment, although making up only 4% of the U.S. economy, accounted for 13% of its growth, according to the Bureau of Economic Analysis. In today's world, "the judgment of the employee has value," says Marcus Buckingham, a longtime Gallup consultant on HR.

Common Traits

SO WHAT IS A COMPANY TO DO? Is there a magic formula? The truth is that there is no template that works across all companies in all industries. But the standouts do have some traits in common. They all customize their own solutions with modest help from the outside. They put good people in human resources—in fact, it can be a fast route to the top at companies that care about talent. They focus on their best performers. And their commitment comes straight from the corner office.

For a close look at how all these themes weave together, there's hardly a better model than Schlumberger. The company, which had net sales in 2004 of $11.5 billion and net income of $1.2 billion, gets a premium for good management. T. Rowe Price analyst Tim Parker says good people and technology have traditionally garnered the company a value 20% to 25% above peers such as Baker Hughes. (T. Rowe Price is a major shareholder of both companies.) Those skills have helped the company overcome missteps, including large investments in technology outside the oil

ANN STATES

patch, to return 241% to shareholders over the past decade, well above the S&P 500's 156% climb and that of most rivals.

Gould has spent almost all of his tenure as CEO focused on building up the company's already strong human resources department, a dedication to talent that extends all the way to field managers. When a high-performance person is lost, it warrants the same full-blown investigation as a technical mistake causing hours of expensive down time on an oil rig. The probe includes an exit interview, the results of which are put online, retrievable by managers throughout the corporate hierarchy. "We essentially treat attrition, especially if someone has a high potential, as a catastrophic incident," says S. Eric Bartz, 33, who manages the Victoria facility's crew of a dozen trucks and more than 70 people. Schlumberger's people "are a big investment," he says. "Huge."

Investigating Exits

TO MAKE SURE THAT IT GETS FIRST dibs on the best available talent and to help schools prepare students to meet high technical and quality standards, Schlumberger has assigned high-level executives as "ambassadors" to 44 important engineering programs. Among them: Massachusetts Institute of Technology, Kazakhstan's Kazakh National Technical University, Peking University, and Universidad Nacional Autonoma de Mexico (UNAM). These ambassadors are generally high-ranking executives within the corporation, and they control substantial budgets, which they can use to help fund university research.

H. Sola Oyinlola, a Nigerian who in a 21-year career working for Schlumberger has held jobs on every continent except South America, is ambassador to Nigeria's University of Ibadan. The university has struggled during the decades of political upheaval in West Africa. Much of Oyinlola's work revolves around helping the university meet the company's educational requirements. Early in the relationship, he donated, on behalf of the company, several million dollars' worth of equipment, which the university used to create a state-of-the-art petroleum learning center. Today, Nigeria is a net exporter of engineering talent for Schlumberger, with more Nigerian engineers working for the company around the world than foreigners working in Nigeria itself.

Schlumberger, which employs people from 140 nations, gets points with clients, many of which are nationally owned, for staffing locally. "It's one of the strong selling points of Schlumberger in Nigeria that it is not an imperialistic model," says Oyinlola. That diverse and deep bench has also helped Schlumberger enter tough markets like Russia and Angola early.

The company's 16 highest-level executives represent 10 different nationalities. That diversity helps in an industry where most of the growth is outside the U.S. Geoff Kieburtz, an analyst at Smith Barney Citigroup who upgraded the stock to "buy" in

Dive Deeper into the Talent Pool

"If only HR could figure out its job": Leadership guru Marcus Buckingham on why accentuating the positive gets better results than fixating on what's wrong

Thinking Outside the Boxes: The UPS internship program keeps execs focused on what things look like from the ground up

"It's not going to get any easier": Manpower CEO Jeff Joerres thinks employers are in for a rude awakening

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WHAT NOT TO DO

Too much of human resources is painful, pointless, and costly. Here are four of the most common pitfalls:

INVENTING MAKE-BELIEVE METRICS

HR is far too often **judged on activity rather than results**—meaningless measures like how many executives attend development classes. Employees are smarter than that, and exercises with little follow-up are big morale-busters.

LESSON Leadership guru Jay Conger suggests **tracking the performance of the people a manager promotes.** If they don't do well, the manager is failing.

CRITICIZING RATHER THAN PRAISING

At its core, almost all **HR training is focused on finding out what's wrong with you and fixing it.** It's fine to work on mitigating weaknesses, but research shows better results for those who focus more time on natural strengths.

LESSON Marcus Buckingham found in his own research that **the best managers spend 80% of their time trying to amplify their people's strengths.** Copy them.

IMPORTING THE SAVIOR

Consultant RHR International says **companies go outside to fill 40% of CEO slots**—at a cost of $1 million to $3 million each. But newcomers have a 40% to 60% chance of failing in the first 18 months.

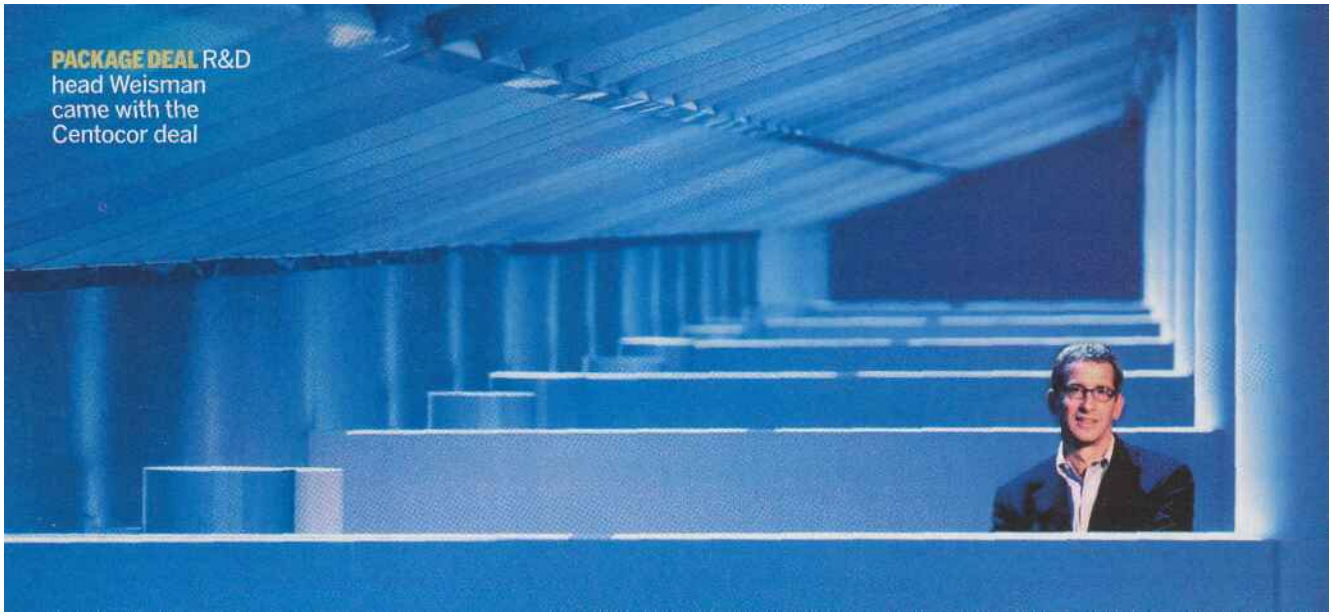
LESSON It takes effort, but **the best companies grow their talent in-house.** Hewitt Associates says 85% of leading companies tapped homegrown executives for CEO.

FOCUSING ON THE FAD

There is **no software you can buy off the shelf, no consulting guru who can jet in to solve all your recruiting and training needs.** But companies keep shelling out big bucks to find one, anyway.

LESSON Think about **what your company needs, drive hard toward that goal, and be patient.** Bellwether General Electric has been actively incubating leaders since at least the 1950s.

RAY VELLA/BW



PACKAGE DEAL R&D head Weisman came with the Centocor deal

HOW A DEALMAKER NURTURES NEWCOMERS

Johnson & Johnson

Johnson & Johnson is a highly acquisitive company. The drug giant has completed $30 billion worth of deals in the past 10 years. So when J&J bought Malvern (Pa.)-based Centocor Inc. in 1999, it was business as usual. At the time, the smaller company had a promising rheumatoid arthritis drug called Remicade. That product has turned out to be a blockbuster for J&J—as have many of the executives who came with the deal. Among them is Dr. Harlan Weisman, 53, now group chairman of pharmaceutical research and development at J&J, who had shown exceptional skill as a manager.

It's often hard to hold on to managers like Harlan in the aftermath of a takeover, but New Brunswick (N.J.)-based J&J has a good track record. That's a tribute to the company's broadly decentralized structure, which gives managers great leeway—no small thing for execs used to running their own shows.

J&J is also very good at providing ambitious managers with new challenges. At Centocor, for instance, Weisman specialized in so-called biotechnology protein therapies. They are typically administered by injection and known as "large-molecule" drugs. It's a far cry from J&J's bailiwick of small-molecule drug development, the traditional arena of pillmakers. But J&J didn't just leave Weisman in place. Soon after the merger, he began a two-year transition in which he learned the small-molecule business. Weisman now oversees more than 5,500 people and controls about $2 billion in R&D spending.

It's a system that's supposed to keep giving. As an executive, Weisman is rated not only on how well he develops talent but also on how well he does at exporting it to other J&J businesses. The second part is crucial. While many companies advocate job changes in order to develop talented execs, it's hard to convince managers that they should let their good people go.

Today, Harlan says the company's overall reputation for R&D has improved, and the number of molecules in the late stages of human testing has climbed from two in 2001 to 17, with Weisman's group supervising the development of many of them. "There is no better place to be," he says of J&J.

early June, is predicting sales will rise to $12.9 billion this year—70% of which will come outside North America—while earnings will climb 35%, to $1.67 billion. Schlumberger gets more of its revenue outside the U.S. than any of its rivals.

University alliances are just the start of Schlumberger's strategy. Once at the company, any engineer headed for the field goes through a three-year education program that combines classroom time with on-the-job projects. After an initial two to four months spent working on real jobs, field engineers come back to one of the company's 10 training centers, where they spend 12 weeks. The facility in Sugarland, Tex., just outside Houston, is typical. On a recent afternoon, students sat in small classrooms. On one side of the hall, a Schlumberger engineer lectured a group of about a dozen. Across the corridor, other students sat at computers working on projects, many still in the blue uniforms they wear on the campus' working oil rig. There's a strong bond formed within the groups. Years after their training, engineers say, they continue to keep up with classmates flung across the globe.

15% of top companies hired their CEO from the outside

Data: Hewitt Associates

After 30 to 36 months, field engineers in North and South America cap their training by spending two to three days presenting a project that they have completed, something designed to address a real business need. If they pass, they are deemed promotable out of the field. Unlike many other companies, at Schlumberger strong performers from other disciplines often do a stint in human resources. It's seen as a gold star on a Schlumberger resume, and 40% of its human resources staff are so-called visitors. Campus recruiting,

PHOTOGRAPH BY RICHARD FREEDA/AURORA

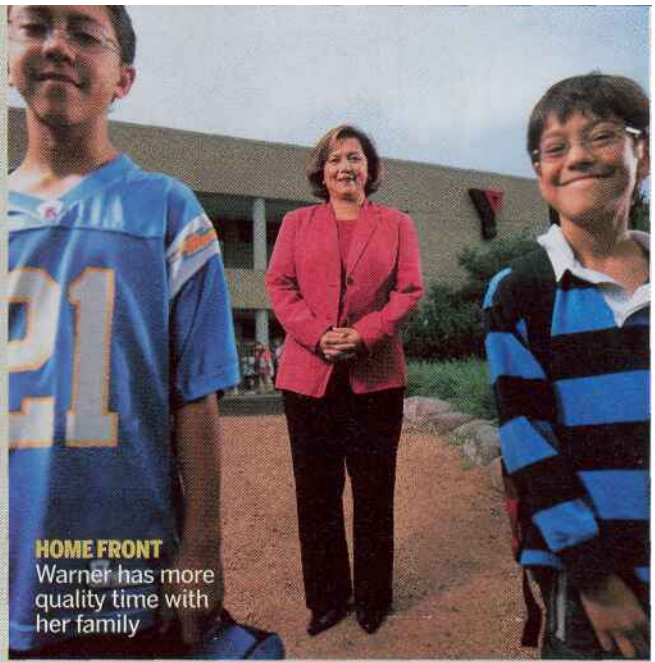
TREATING PART-TIMERS LIKE ROYALTY

Jefferson Wells

Liza Warner, 43, has the sort of résumé that recruiters at Big Four accounting firms drool over. Her specialty is internal auditing, a hot skill now that the Sarbanes-Oxley Act requires CEOs and CFOs to vouch for the strength of their internal financial systems. But instead of toiling at one of the accounting giants, she has chosen to work at relative unknown Jefferson Wells International—a firm that has gone out of its way to give valuable employees flexibility.

Warner spent the 1980s and first half of the '90s working at Bank One before joining fledgling financial outsourcer Jefferson Wells in 1996. She rose quickly. Six months after signing on she got her first promotion. In a year, she was managing a staff, and by spring of 1998, she was running the big Milwaukee office. But by 2002, Warner needed more time with her two young sons. She left the company—then discovered that she missed the stimulation of her career. "It was a shock," she recalls. When the company invited her back 10 months later with the promise of a 30-hour workweek, Warner jumped.

Of Jefferson Wells's 2,000 employees, 10% work a flexible schedule, with benefits, like Warner. A further 20% work even fewer hours, project by project, without benefits. The remaining 70% are full-time, but still have a lot more control over their lives than is typical at the Big Four firms many come from, where travel schedules are often grueling. How does the firm do it? Jefferson Wells is structured on a local-office model. Even when staff are stationed at their clients' offices, the offices are usually within driving distance of home. And unlike the Big Four, which work with the same clients for years, Jefferson Wells (now owned by Manpower Inc.) works on a contract basis, often on projects that last only a matter of months.



HOME FRONT Warner has more quality time with her family

Although it can be complex to manage so many part-time staffers, there is a payoff: The company relies on its commitment to work-life balance to attract top-caliber candidates like Warner. Jefferson Wells will not hire anyone with less than seven years experience. People at that level are professional enough to get the job done without being baby-sat. "They probably get more out of me as a part-time employee than they did before," says Warner, whose schedule lets her put the boys on the school bus in the morning and greet them at the bus in the afternoon.

for example, is only open to "high-potential" staffers.

Some don't make it through Schlumberger's extensive training. "It's not lifetime employment guaranteed," says Cox. Of new engineers hired for the field, 40% will drop out before their third year is complete. Schlumberger's research and development group loses only 10% in that early period—but only one in four hires will make a full career at the company.

Not everyone is a fan of the system. Some former workers describe the company as "arrogant" and "insular" and its culture as "cliquish." Gould isn't surprised when he is asked about the characterization but counters that "any company that has an extremely strong culture has to live with those things." Daniel Guermeur, founder of Metadot, an open-source portal server, spent most of the 1990s working in technology at Schlumberger. He thinks that the company, which is still a client, is exceptional at recruiting globally and that it has maintained its technical edge. But he worries that there is less opportunity today for engineers to move up to top management than there once was, that as more MBAs move into the company, it's losing something. "People don't feel secure anymore," he says.

25% of the largest 500 companies are confident that their current talent pool is sufficient

Data: RHR International

Still, there are many examples of engineers moving up the ranks. Of Schlumberger top management, 80% started at the company right out of school, many as field engineers. And the chance to move up keeps people happy who might otherwise burn out. Bartz, who runs the Victoria wireline station, joined the company in 1995. An avid sea kayaker, camper, fly-fisher, and snowboarder, he spent most of his early career as a field engineer in Alaska. In his office, he keeps a book of photos of that time, including some of the polar bear that clambered out of the water and sauntered past his jeep. There is a series, too, of the truck that hauled his rig back to safety in far northern Canada after it got stuck in a frozen river and he and an intern spent two days north of cell-phone and satellite range.

For years Bartz wanted only to be in the field. But even for an outdoorsman like him, that life eventually grew wearing. So the flat plains of Texas replaced the tundra of Alaska. And while he once puzzled over extreme technical challenges, he now spends much of his time on personnel matters. If to an outsider it seems a major jump, inside the company it's seen as entirely normal. "People who are able to solve problems are going to do that in a lot of different roles and succeed," says Kenneth L. Havlinek, a longtime R&D engineer and now the technology manager for Schlumberger's Product Center. The company seems to have already solved the biggest problem of all: talent.

-With Amy Barrett in Philadelphia