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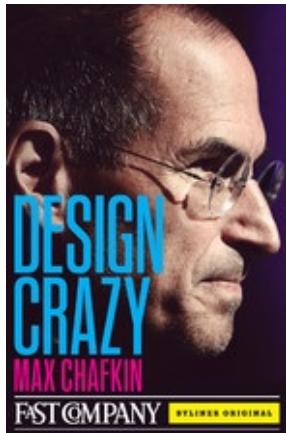
# BREAKTHROUGH LEADERSHIP

WINNING STRATEGIES  
FROM **AMAZON,**  
**TWITTER, J.CREW,**  
AND OTHER  
CUTTING-EDGE COMPANIES  
EDITED BY CHUCK SALTER

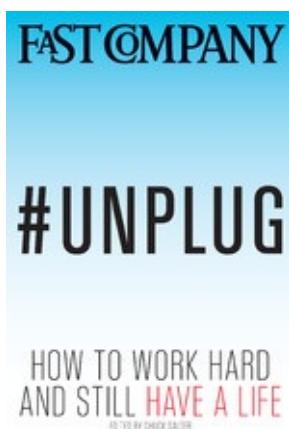
# **Breakthrough Leadership: Winning Strategies From Amazon, Twitter, J.Crew, and Other Cutting-edge Companies**

*Edited by Chuck Salter*

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# Introduction

**Ben Horowitz:** *The job is hard and weird and awkward and unnatural and ...*

**Dick Costolo:** *... and psychologically damaging.*

**Horowitz:** *You feel like you want to throw up all the time.*

The wretched job in question is CEO. Dick Costolo is CEO of Twitter. Ben Horowitz is a former CEO who advises new CEOs through his venture capital firm, Andreessen Horowitz. At a *Fast Company* conference, the two took the stage and offered a brutally candid and insightful glimpse into what it's like to lead an organization. The challenges. The toll. But what makes their admission less disheartening is the fact that in the face of this stomach-churning stress and unnaturalness, some leaders figure it out. They overcome these and other obstacles when their business model or their latest product or their credibility—sometimes all of these at once—are on the line. In those moments, they exhibit breakthrough leadership.

This collection, featuring some of *Fast Company*'s most insightful leadership stories over the years, offers an up-close look at exemplary executives and entrepreneurs in action. It explores some of their defining moments and the strategies they carried out—strategies we believe would serve anyone pushing for greatness in themselves and their organizations.

From the beginning, *Fast Company* has taken readers inside the world's most successful and innovative companies with the goal of chronicling what you can learn from them: what works, what doesn't, how they solve problems. In this anthology, we delve into industry giants GE, Amazon, and Starbucks, as well as upstarts Tesla, Under Armour, and Aravind Eye Care Hospital, a remarkable chain of facilities in India.

By focusing on companies at various stages, we see leaders encountering very different obstacles. We catch Elon Musk in the precarious early years at Tesla, eager to prove that the economics and technology of his ambitious electric-car company are sound. He must lead by educating and persuading

nearly everyone in his path—industry veterans, reporters, and, of course, potential car buyers. Meanwhile, Under Armour and its 32-year-old founder and CEO, Kevin Plank, are fighting Nike, Adidas, and Reebok. Rather than play it safe, Plank gambles on expanding, with Under Armour’s first line of women’s apparel. And at Amazon, we see Jeff Bezos agitating for a dramatic new service—same-day order and delivery—despite the disruption it’s bound to create for the organization. Bezos demonstrates how to innovate, no matter a company’s size.

The underlying question in *Breakthrough Leadership* is what Harriet Rubin, in her story “The Entrepreneur Who Took on an Epidemic,” calls “the only mystery worth solving: the mystery of leadership.” How does an entrepreneurial doctor make his mission of solving a health-care crisis in his overwhelmingly impoverished homeland a reality? How do Starbucks CEO Howard Schultz and J.Crew executive creative director Jenna Lyons make their tepid brands hot again? How does GE transform factory workers who make airline engines into leaders who make high-stakes decisions and answer primarily to each other? And ultimately, why can some people lead while others fall short?

The answer to each of these isn’t a single technique or decision that can simply be duplicated. No mystery this ineffable is easily solved. But by exploring some of the possible answers, we hope this anthology makes meaningful leadership a little less mysterious.

Chuck Salter

January 2014

# Elon Musk's Audacious Startup Strategies

By Jon Gertner

*Launching a major new electric-car company takes bold leadership. Here, Elon Musk reveals his plan for how Tesla Motors can prove that Silicon Valley's innovation model can remake the auto industry. The key: thinking big from the start.*

When Tesla Motors moved into its new Palo Alto headquarters in 2010, CEO Elon Musk raised a flute of Champagne and toasted his cheering staff. In a light, elegant accent—a remnant of 17 years growing up in South Africa—Musk said to the crowd: “Here’s to creating the greatest car company of the 21st century, and to making a real difference in the world, and to moving us off fucking oil as fast as possible.” You can actually watch Musk doing this, if you’re curious, about 80 minutes into the documentary *Revenge of the Electric Car*. But, in fact, this is the kind of thing that Musk says all the time, in television interviews and at technology conferences, and he’s been saying it about his firm even before people began paying much attention. Back in 2006, for instance, two years before Tesla started deliveries of the sporty \$109,000 Tesla Roadster, its first (and so far only) model, Musk happened to write on his blog that the master plan for his company was fairly simple:

1. *Build sports car*
2. *Use that money to build an affordable car*
3. *Use that money to build an even more affordable car*
4. *While doing above, also provide zero-emission electric-power generation options*

What rankles Musk is how often his master plan gets ignored. Sitting at his desk in Palo Alto on a January morning, Musk tells me he has been repeatedly criticized for being an elitist—“one who thinks there’s a shortage of sports cars for rich people.” He seems resigned to the fact that the proof that he is not a snob will only arrive in good time. Soon enough, Tesla will demonstrate to the world that its products are not for millionaires but for everyone. And the same kind of proof that silences the critics who cry elitism will likewise burn the stock market speculators who are betting big money that Tesla’s failure is imminent. “We’re the third-most-shorted stock on the

Nasdaq," Musk tells me, looking somewhat incredulous. Then he laughs. This actually cheers him up. "All I can say is if you're shorting Tesla at the end of this year, it's going to sting," Musk says. "It's going to sting a lot."

Whether this turns out to be true or not, Tesla Motors is now poised to build its first semi-affordable car, which puts it between steps one and two of Musk's master plan. By July, the company says it will begin delivering its new Model S sedan, a fully electric vehicle that's being manufactured at Tesla's new factory, in Fremont, California. The Model S seats between five and seven passengers; it will start at about half the price of the Roadster—\$49,900—placing it in potential competition with a variety of so-called mass luxury cars like BMW's 5 series and the Audi A7. Another Tesla model, an SUV known as the Model X, was unveiled in early February and will likely hit the market sometime at the beginning of 2014, at prices close to the Model S. Yet further down the road, should Tesla survive and thrive, a prospect that is by no means certain, things get more interesting. Later that year, a third-generation Tesla Motors car will be unveiled. This is step three on the Musk master plan. The vehicle—it's not yet named—will be an affordable \$30,000 car. It truly may be a Tesla for the masses.

You might think of Tesla as a company that exists to sell electric cars. Yet after spending time with Musk, you begin to see that Tesla is not really a company that exists to sell electric cars. Rather, Tesla is a company that exists to overturn the entire global automotive infrastructure, an infrastructure that presently functions on petroleum and internal combustion engines but in Musk's belief will eventually, and inevitably, glide forth on exhaust-free electricity. To Musk, the most significant problem with this transition is that we don't know how fast it can or will happen. And this leads to other questions. How quickly will Musk be able to scale up his business to have an actual impact on the world? And when will his competitors—some of whom, Toyota and Daimler included, have paid Tesla hundreds of millions of dollars to build motors and battery packs for their own electric cars—get on board in a big way?

Another problem is that Tesla Motors is doing something hard. Not hard in the way that working day and night on a new website or a social media launch is hard. What Tesla Motors is doing is hard in a way that makes your mind ache. The difficulty of the endeavor—making machines that are big, heavy, and incredibly complicated; making machines that require 1,400

employees to design, engineer, and manufacture; making machines that consist of thousands of parts, sourced from all around the world, that must work together flawlessly for years on end; making machines that must be regulated at every step for safety and emissions; making machines that traditionally have slender profit margins; making machines that use a radical new technology with a track record of only a few years; and making machines that in their electric incarnations have never appealed to a large market of buyers—explains why most entrepreneurs would rather start a business moving electrons around the Internet than within a car motor. If launching a major new automobile company is close to nuts—“probably the hardest thing in the world,” as one auto analyst told me recently—then launching a major new electric automobile company is certifiable. You might as well light a bonfire in downtown Palo Alto and burn a billion dollars.

Tesla Motors almost certainly represents the most extreme test of the limits and capabilities of the Silicon Valley model of innovation. Musk’s startup is built on a defiant and scrappy ethos, and it intends to demonstrate that a product that has long been the exclusive bailiwick of Detroit engineers can be made smarter, faster, cheaper, and more attractive by a bunch of guys in California, Musk included, who don’t tuck in their shirts. Of General Motors, Ford, and Chrysler, Musk remarks, “I think the youngest of them is 90 years old.” The most common refrain he’s heard over the years is that Tesla can’t possibly succeed because nobody has succeeded in nearly a century. Indeed, Tesla and Musk are frequently lumped with the upstart Tucker Sedan (launched by Preston Tucker; bankrupt 1949) and the insurgent DMC-12 (launched by John DeLorean; bankrupt 1982). “If I had a dollar for every time someone brought up Tucker or DeLorean,” Musk tells me, “I wouldn’t have needed to do a bloody IPO.”

Did he know how difficult this would turn out to be from the start? I ask.

“Yes.”

Was he surprised by how hard it actually was?

“No.”

After a pause, he adds, “When we got Tesla going at the very beginning, if you asked me what I thought the odds of success were, I would have said less than 50%. I would have said that failure is the most likely outcome.” But he would not say that anymore.

**To put it starkly**, the future of Musk's company now hinges on the success of the Model S. He has put all his chips on the table; his company has even suspended production of the Tesla Roadster for several years to focus on the new model. If the Model S has "hiccups," the term carmakers use to describe modest production glitches, it could likely get past them. But if the car has larger issues of performance, safety, or durability, it gets more difficult to see how Tesla could endure. Even with its alliances with other automakers, the company could be hundreds of millions of dollars in the hole. And Musk's public assurance of company profitability in 2013 would likewise be jeopardized. "It's a make-or-break product for us," says J.B. Straubel, Tesla's chief technical officer. The big car companies have a lot of models, he remarks, and success for them can be a game of statistics. Some models hit it big, and by doing so they compensate for models that tank. Tesla has no room for error. "The Model S has to be better than all the other cars," Straubel says. "Not just okay. Or else we've failed."

Straubel and Musk both work out of the second floor of Tesla's headquarters, in a gymnasium-size room where most of the company's business is done. Hundreds of staffers, hunched in front of computer monitors, sit crowded together. There are no cubicles; in the company's quest for efficiency, all the desks are Ikea tables. Musk, who goes to the office two days a week (he lives in L.A. rather than the Valley and spends a significant part of the week at his other big startup, SpaceX), sits to the side of the big room, a few feet away from Straubel, at a polished wood desk. Other than a MacBook Pro, a water bottle, and a mug of coffee, Musk's desk is clean. "These days, I work probably 85 hours a week, maybe 90," he says. While he's now at the office part-time, he says he still manages the company 24/7 and that no nuance of engineering and design is beneath his scrutiny. I heard this from a half-dozen others at Tesla too—that Musk's involvement verges on that of a Jobsian obsessive, which is arguably not a bad thing when your company has to build something that is essentially flawless.

Downstairs from Musk's office is Room 24M, a cavernous, high-ceiling garage brightened by hanging fluorescent lights, where the company's new cars get evaluated. During my visit, most of the spots here are taken up by what's known as the Model S "beta" fleet—several dozen early-production, not-for-sale Model S cars, all painted black and all given a number. Each beta is for a different type of testing and data collection—on brakes, suspension,

noise and vibration, crashworthiness, and so forth. Tesla is not letting any outsiders drive the vehicle yet, but Ali Javidan, who runs the garage, offers me the shotgun seat in beta car No. 24.

“The interior isn’t finished,” he says as we pile in, but everything else is pretty close to operational. There is no way to turn a Model S “on”; you merely need a key fob in your pocket, and a sensor allows you to drive once you’re settled in. We head out of the garage and up into the hills, on the winding roads above the Tesla offices. The car is sleek and smooth. And whisper quiet. One of the hallmarks of a well-engineered electric car is its torque—that is, what drives its acceleration. In part this is because electric-vehicle (EV) technology is significantly more efficient than a gas engine. I tell Javidan the car feels fast, and he looks at me quizzically. “I only had the pedal down a quarter of the way,” he says. So he floors it, and my head immediately snaps back, not unpleasantly, against the headrest.

To understand why the Model S is innovative as well as risky, a quick gearhead primer is useful. Electric cars are in certain aspects much simpler than gas cars. There are fewer moving parts, and there’s no engine of any kind. Electric cars have a motor, which in the Model S is fairly small—about the size of a watermelon—and is located between the back rear wheels. The motor runs on electricity stored in lithium-ion cells, thousands of small batteries, that in this particular model are arranged in a rectangular “flat pack” compartment that in effect forms the floor of the car. The software of the car is an essential component too; through something called a “drive inverter,” it regulates how stored energy in the battery pack is used by the car’s motor.

Musk and others at Tesla contend that the Model S may be the first mass-produced car ever designed, from the ground up, with the specific purpose of being an EV; therefore, any design conventions of gas-burning technology have been avoided. (The Nissan Leaf is an adaptation of the Nissan Versa.) On a more granular level, though, it’s not a simple matter to convey how Tesla’s technology may give it a comparative advantage over the competition. The company has more than 300 patents on its technology, all of them highly technical, and in addition has a fair amount of proprietary engineering. In the most general terms, it’s probably fair to say that the company’s expertise resides in how it has designed the circuitry in its large battery pack, how it cools those batteries, and how its sophisticated software regulates the power flow between the battery pack and the motor. The

software especially, which can translate into large efficiency gains for a car, may be Tesla's biggest advantage. Straubel notes that one benefit of being located in the Valley, as opposed to Detroit, is that it offers the company a huge pool of software engineers. "We're in the best place in the world for that," he says, adding that it goes with Tesla's insurgent approach. Whereas the established car companies tend to approach car design "with a deep comfort with internal combustion engines and a deep skepticism of software and electricity, we're the opposite."

Still, even if a Tesla proves itself as both simpler and more sophisticated than a conventional car, there's plenty that can go awry. Musk tells me he thinks the Model S has already made it over the most difficult hurdles. But it is hard to say for sure. "What could go wrong?" says Adam Jonas, an auto analyst at Morgan Stanley. "New technology, new factory, new manufacturing techniques, new company, new distribution channels—there are very few things here that aren't new." Jonas actually sees a bright future for the company, but he acknowledges that the road ahead will be difficult. And for Tesla, he adds, the bar is set extraordinarily high.

**To Musk, the conventional** thinking about the EV market is one reason why so many people fail to grasp Tesla Motors' potential. At the moment, fewer than 13 million cars and small trucks are sold in the U.S. each year. About 2% of those are pure electrics or hybrids. The accepted wisdom, Musk argues, is that "there's a market for electric cars, and all electric cars compete against each other for that market. But that's just the wrong paradigm." Musk does not believe the Model S or X will compete with other EVs for dominion over a tiny slice of the consumer market. Models S and X will instead compete with gas-burning BMWs and Lexuses. And because Musk is assured his EV technology will prove superior in performance (and emissions), it will thus succeed.

Over the course of several years, Tesla sold about 2,400 Roadster sports cars. The company is planning to produce about 6,000 Model S cars this year, but next year it intends to scale up to 20,000. These numbers are not large for a big carmaker—Toyota sells more Camrys in a month than Tesla plans to sell in a year. Still, for an automotive startup, they seem heroic. But most of the auto analysts I spoke with think Tesla's sales projections are still far too high, a belief reinforced by modest sales figures for the Leaf and Chevy Volt. "Is 20,000 in sales optimistic? That's the billion-dollar question," says Brett

Smith, a codirector at the Center for Automotive Research in Detroit. “I think there is a market for Tesla’s product, but I don’t know how large that segment is. And frankly I’m not sure it’s as large as they hope.”

Bob Lutz, the former GM vice chairman who spearheaded the development of the Volt, believes the Model S, which he considers a striking design, will be a success. He is less certain about the sales numbers or Tesla’s long-term success. And he doubts the company is doing anything in terms of technology that the bigger carmakers couldn’t do if they decided to enter the EV market with gusto. But Lutz doubts that will happen soon. “Look, neither the Nissan Leaf nor the Chevy Volt are being yanked out of the hands of producers by eager consumers,” he admits. “The media might have you believe, Gosh, in 10 years it’s all going to be EVs. But it’s just not happening. The average American consumer is delighted with gasoline vehicles and is in no rush to change.”

The EV market remains enigmatic. And future sales may depend less on performance—or environmentalism—than on economics. At the moment, what’s actually driving EV sales is government policy. Car companies, with their sights set on meeting high-mileage and low-emissions requirements for their fleets, view electric and hybrid vehicles as crucial to their vehicle portfolio. At the same time, customer rebates of up to \$7,500 from the federal government and up to \$2,500 from the state of California bring these cars into the realm of affordability. Yet two other factors shift the equation: The price of gas, though climbing, has remained fairly low over the past year, and the price of lithium-ion batteries is fairly high. By the calculations of Menahem Anderman, arguably the country’s leading lithium-ion battery analyst, gas would have to be about \$10 a gallon to recoup the lifetime cost of an EV like the Leaf. Anderman believes the economics look far better for the new plug-in Toyota Prius—\$6 gas makes it a sensible economic proposition. In sum, his firm projects that the global EV market in 2015 will be quite modest in size (250,000 in sales) and will be dominated by Japanese and German automakers. Tesla, in his estimation, would be lucky to sell 15,000 cars.

He might be wrong, of course. A number of car analysts have far rosier projections for Tesla. And in any event, Tesla’s Model S presents a confusing test case. It’s a stylish, high-performance car with a battery pack that gives it greater range (between 160 and 300 miles before recharging, depending on the model) than any other electric car. And EVs like Tesla’s seem to be

evolving at an astonishing rate. Straubel, Tesla's CTO, has little doubt that EVs will soon become competitive, even without incentives, with gas cars. "There's no fundamental law in physics that says you can't make batteries with much higher energy density and much lower costs," he tells me. By Straubel's calculations, if batteries get 50% better, it will put EVs on an even playing field with gas cars. "Between the time we did Roadster and Model S, the batteries have improved by about 40%," he says. "If that same thing happens with Model S, you could have an upgrade battery pack that's half the size in five years than what it is today." Such leaps are unheard of in car technology, he adds. "Engines don't drop in size by half in a few years. It doesn't happen. It's almost like the properties of steel are changing year by year."

This line of sight gives Straubel and Musk faith in their business model. But they're also buoyed by customer enthusiasm, which may be telling skeptics something the economic models can't. When I ask Musk if it's possible that Tesla could fail to sell 20,000 Model S cars annually, he says that it already has more than 8,000 preorders. And Tesla does not advertise, does not give discounts, and has never given any test-drives. Word has spread virally.

"We're sold out," says Musk. "I mean, we're sold out until February [of 2012]. We do not yet have any kind of demand problem. In fact, our problem is one of supply. Therefore our focus needs to be—and it is—on producing the Model S, bringing it to market as soon as we can." I ask if it is likely that once he exhausts the first pool of early buyers he will find demand evaporate, just as Paul Scott discovered with his Nissan Leafs. "Our Model S reservations have been *accelerating*," Musk counters. "If you want a Model S, don't think you can just wait and pick one up. The time is getting longer, not shorter, to buy one."

**One afternoon in California,** I make a visit to the Tesla factory in Fremont, about 30 minutes northeast of the company's HQ. For years, the factory was operated jointly by Toyota and GM; it was known as NUMMI (New United Motor Manufacturing Inc.). Tesla bought most of the factory buildings in 2010 for \$42 million—the equivalent of pennies on the dollar. With the help of a \$465 million federal loan (another example of federal policy nurturing the fledgling EV industry), the company began a strenuous effort to rehabilitate the old space. Today, the final beta versions of the Model S are

making their way through a gleaming new assembly area. When it's up to speed, the factory should turn out 80 a day.

If there are any suspicions that Tesla has more modest ambitions than it lets on, a visit to the 5.5-million-square-foot plant will quickly dispel them. "Elon wants to fill up this factory," says Gilbert Passin, Tesla's VP of manufacturing. Passin, a native of France and a manufacturing wizard who spent his career at Toyota and Volvo, is driving us around in a golf cart. The plant is almost too large to walk through; we go past the production lines, the tool dies and presses, the plastic molding shop, in and out of buildings, and on and on for what seems like miles. "This factory was capable of producing a half-million vehicles by NUMMI," Passin explains. "We obviously are starting with a modest contribution of 20,000 a year. But we have all this, all these buildings." By Passin's estimate, Tesla now takes up about 15% of the factory, most of which remains grimy and locked up.

In many respects, the Tesla plant is not a traditional car factory. "You have to understand," Passin says, "with a fraction of the cost of what others would spend, and a fraction of the time, and a fraction of the resources, we are trying to do something really kick-ass." Building a different kind of car technology means you can build it in a different way, and possibly much more efficiently. At the factory, the large Tesla battery packs are assembled on the second floor and are eventually joined with the car chassis and bodies on the ground floor. But the chassis move along not on an automated assembly line but on bright red robotic carts that follow a magnetic strip on the concrete floor. Everything is electric. When a Tesla Model S is complete, in fact, you can actually test-drive the car on a bumpy road built within the factory. (The cars have no tailpipe or emissions, making them indoor-friendly.) Passin also points out that Tesla is trying to avoid using outside suppliers for parts whenever possible. The company, moreover, has the highly unusual intention to make its own dies to stamp sheet metal to its own specifications. "If you master that," he tells me, "you master the know-how that goes along with it." As he puts it, "We want to do everything ourselves."

This may explain why there's a lot of chatter in Silicon Valley about whether Tesla can be the next Apple. Of course, designing a physical product and producing it in a vertically controlled manner doesn't mean you're the next Apple. There are nevertheless similarities. Tesla is in the process of building a network of elegant stores in affluent areas (all of them overseen,

incidentally, by George Blankenship, an Apple retail veteran). And there seems a conceptual kinship in the way Tesla is trying to bring an innovative, stylish design to market: by starting at a high luxury price point and then moving toward mass production, just as Musk's master plan said it would. In certain respects this diverges from how other upstart auto companies gained a foothold. Toyota and Honda put down roots in the U.S. market by offering cheap cars with high gas mileage that caught consumers' interest during the early 1970s gas crisis.

Musk doesn't push the Apple comparisons, but he sees them as a useful point for debate. "The only strategy that could have been successful," he tells me, "was the one we employed, which was to start out at low volume but with a high-priced car. Because we didn't have a billion-dollar factory. There are really two things that have to occur in order for a new technology to be affordable to the mass market. One is you need economies of scale. The other is you need to iterate on the design." If it were possible for Tesla to have made a mass-market car from day one, he continues, "that is the car I would have made." Yet by Musk's estimation, he needs at least three major versions of his automobile before he gets to what might be called his iPhone. "Think of Windows 1, 2, and 3," he says. "Do you even remember 1 and 2? Or look at Apple. They had the Apple I, the Apple II—and the Mac. That's what you need to do."

Musk has no doubts he will get there. Neither does Passin, who seems to look around his quiet factory and not see it as it is—a huge, dark complex that swallows up the tiny and valiant Tesla effort—but as it could be. "Two years ago, there was no manufacturing team, there was no plant, I was by myself, and Elon Musk said, 'You have two years to create a manufacturing team, find a plant, and build a vehicle that beats all the others.'" Passin was at Toyota, arguably the world's best car manufacturer. Why sign on to such a risky endeavor? "To be part of history," he says. "How many times in your career have you been told, 'Go create your own team, your own plant, your own process—from scratch?' And it's an electric car, which no one else has done. And it's going to be a premium sedan, which everyone is going to want. *And, and, and, and.* How many times are you going to have this opportunity? Zero." He pauses to gather his thoughts. "I mean, I'm lucky I have this opportunity at all."

Passin starts the cart, and we drive the long length of the factory toward the exit. It's getting late; only a few workers remain. The sun is streaming into the enormous room through the factory's clerestory windows. It's bouncing off the floor's glossy white epoxy and reflecting off the welding robots, more than I can count, all painted a bright and shiny Tesla red. In just a few weeks, production will start in earnest and sparks will be flying everywhere. But for the moment, at least, the factory is immaculate, poised for action, a place of pure possibility.

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*Fast Company*, March 2012

# Lessons for a New CEO, From Dick Costolo and Ben Horowitz

*No one's a natural CEO, insist Twitter CEO Dick Costolo and VC veteran Ben Horowitz of Andreessen Horowitz. In the following conversation from Fast Company's Innovation Uncensored conference, they explain how savvy leaders acknowledge their shortcomings, constantly learn on the job, and avoid undermining themselves.*

**Ben Horowitz:** You came in as the outside CEO of Twitter. It's the biggest thing that you have run; it's giant. And as a result, you've brought in people who are radically more senior than what you had been used to. What's harder and what's easier about managing super-senior people?

**Dick Costolo:** The harder thing about it is that they have success biases. Our CFO, Ali Rowghani, was the CFO at Pixar. So he reported to Steve Jobs and Ed Catmull. I'm sure I tell him a few things and, you know, the back of his brain is going, "That's not what Steve would have said."

So that's a challenge. And when I want him to do something a different way, that's a discussion. With a junior person, I ask them to do something a certain way and they're like, "I got it," and they leave the room.

**Horowitz:** But how do you know you're right?

**Costolo:** Well, the great news is, I don't. I don't have to be the smartest person in the room. There are a bunch of management team meetings where somebody on the team will say, "Dick, what do you think?" And I'll say, "You know, I really have no idea, so you guys are going to have to keep talking about this for a while. If it's still not resolved, I'll make a decision. But I really don't have any idea on this particular issue. So hopefully you guys can come to some sort of agreement." You can't do that all the time.

**Horowitz:** That's the knock-wood-management take.

**Costolo:** I try to make sure, because we've got a really strong senior team now, that I don't go against the will of the team too frequently. If we are discussing some issue and I go into the room thinking, Oh, the answer is definitely A, but as we start to discuss it I discover that Ben [Grossman, head of Twitter global operations] thinks B and Ali thinks B and the platform engineering

lead thinks B... . Well, you don't want to too frequently say, "Okay, I hear what you guys are saying, but we're gonna do A"—because then those guys start to tune out.

[Executive coach] Bill Campbell has a great story along this line. Bill is, as you know, involved with Google and Apple and was the CEO of Claris and the CEO and chairman of Intuit. In the early days of Claris, he would say, "Well, we need to do this, we need to do that. Nope, nope, you guys are wrong; we're gonna do this." And Donna Dubinsky came to him and said, "Hey, listen, if you're gonna make all the decisions, we'll go back to Apple. You clearly don't need anyone this senior." So I try to make sure that even if I go into the room disagreeing with these guys, if I start to hear from a bunch of senior people that "We really feel A and we feel about it this way," I'll set my thinking aside and say, "All right, let's go do that." And then I have to leave the room and commit to that decision. I can't say later if they were wrong, "Well, I thought Y, but those guys wanted to do X." There's no better way to undermine your own leadership.

**Horowitz:** That looks particularly bad on a CEO. I couldn't help it! They overrode me. You don't get the privilege of being liked when you're CEO.

**Costolo:** Yeah. I'll tell my managers, "Look, managing by trying to be liked is the path to ruin." And they'll say, "Well, does that mean I should just tell someone, 'You can't work on project A, you idiot, how many times have I told you this?'" And I say, "No, you can be empathetic—you just can't be sympathetic."

You can say, "I understand you want to work on project A. It's just not a priority right now." You can't say, "I know you want to work on project A. Dick just really doesn't want to make it a priority." Don't sympathize with them, right? You can empathize; don't sympathize.

**Horowitz:** Yeah.

**Costolo:** Here's one for you. You and Marc Andreessen and the firm talk about how you want to give the founder/CEO the ball and let them run the show. It's not going to work 100% of the time. So how do you guys think about that when it's *not* working? What do you do?

**Horowitz:** That's a really, really hard question. The big value of the founder running the company is really two things: the knowledge and the

commitment. When you found a company, you have the original vision, you make all the original decisions, you know every employee, you kind of know every aspect of the product architecture and its limitations. You know the team and their limitations; you know the market and the customer feedback. That's a giant body of knowledge, which is very difficult to transfer.

So our general philosophy is, Well, we'd really like to take that person and help them learn the CEO skills to run the company. The tricky thing is, what if they can't learn the skills, or what if they don't want to learn the skills? And that's hard to tell because nobody is good at being a CEO. Nobody is actually a natural CEO. You learn the job, and the job is hard and weird and awkward and unnatural and ...

**Costolo:** ... and psychologically damaging.

**Horowitz:** You feel like you want to throw up all the time.

**Costolo:** I remember reading this book by Bill Walsh, the former coach of the 49ers. Jack Dorsey and I recommend books to each other once in a while; he had recommended this one to me. Walsh talked about when he first took over as coach, and he is working his ass off and trying to make the 49ers successful. And they go on this road game, and the placekicker misses a last-second field goal, and they lose the game. And Walsh is on the team flight on the way back to San Francisco, and he breaks down and starts crying. And the rest of the coaches are like, "Don't let any of the players come up here and see the coach."

**Horowitz:** That's exactly the challenge. You see the founder burst into tears. Maybe not in front of you, but you know he's crying because he's got the tracks on his face. Is that the reason to replace him? You may be replacing Bill Walsh, right? This is how it is. Sometimes the very best people take it the hardest.

For me, a lot of it comes down to when the founder loses so much confidence that he just can't even go to work. Then you're in the position of "Okay, now we've got to find somebody to replace him."

A lot of people want the guy who gets the trains to run on time; it's like, let's get somebody who's a real, professional manager—a been-there, done-that guy. Those people don't tend to work out that well because they'll often shove the founder to the side and seek to put their own imprint on the

company without the knowledge or the moral authority. What generally happens is they'll maximize so it will all be great until you need a new product—and then the company dies.

So what we look for is somebody who can mind-meld with the founder and get what is the knowledge, what is the culture, what are the things that they feel they did wrong, what are the things they did right. So the outsider will have that ongoing very, very deep connection to the history of the company.

My model for that was always Bill Campbell at Intuit. He and Scott Cook [cofounder of Intuit], you couldn't even tell where one of them stopped and the other one started. Without Cook, Bill wouldn't have been nearly as successful, and without Bill, Scott wouldn't have been nearly as successful.

So when you really understand these things, you can make the change. But it's a very, very high-risk transition.

**Costolo:** Yeah. You want to avoid that person who comes in and says, "Step aside, son, I'm gonna show you how to do this."

One of the things I try to do with my senior leaders who have been brought into the company—guys who have worked with Larry Ellison and Marc Benioff and Steve Jobs—I say to them all the time: What would Benioff, what would Ellison do in this case?

[Twitter CTO] Adam Messinger, who came from Oracle, tells this great story: If we had two engineering leaders who disagreed about something at Oracle, we would always want to make sure we agreed about it before we took it to Larry, because if we didn't agree when we took it to Larry, he was liable to make some completely arbitrary decision that neither of us wanted.

**Horowitz:** Yeah, that's actually a very effective CEO technique: management by terrorism. Either you decide or I will destroy the company.

# The Entrepreneur Who Took On an Epidemic

*By Harriet Rubin*

*Everyone talks about overcoming obstacles. Then there's Dr. Govindappa Venkataswamy. Working on a medical crisis in the toughest of conditions in India, the entrepreneurial surgeon developed a life-altering yet affordable service, creating a remarkable network of hospitals—now the world's largest provider of eye surgery.*

**It is the only mystery** worth solving: the mystery of leadership. And here's the question that's wrapped around that mystery: Why is it that even leaders who have the most beautiful of intentions create projects and organizations that don't come close to resembling their original vision?

Between the idea and the reality falls a shadow. This obscuring cast has given us graceless software, brain-dead customer service, and idiotic airlines. Worse, it robs us of pleasure in our own work and lives. Settling for "good enough" makes us all feel small and mercenary.

What if it doesn't have to be that way?

There is a place you can go to find the answer: India. But don't go to the megacities of Bombay and Delhi or to the software center of Hyderabad. Go to the wild, wild south, mystic cowboy country, where gurus roam the plains, and where a John Wayne western turns into a Mahatma Gandhi eastern soon enough. Climb into a beat-up 1980 Chevy Impala. Ride for seven hours with an eye doctor who is 82. Ask him to tell you the secret, to answer the question, to solve the mystery. Listen carefully to what he says. Watch everything he does. And learn.

He's an eye surgeon—a man of vision. He has learned how to deliver perfection, and to do it despite crippling obstacles. As a young man, a brand-new obstetrician, he contracted rheumatoid arthritis and watched helplessly as his fingers slowly twisted, fused, and grew useless for delivering babies. So he started over, this time studying ophthalmology. He managed to design his own instruments to suit his hands, and these tools enabled him to do as many as 100 surgeries a day. He became the most admired cataract surgeon in India.

Twenty-five years later, he confronted another potentially crippling obstacle: retirement. In 1976, facing the prospect of social shelving at age 57, he opened a 12-bed eye hospital in his brother's house in Madurai. Today, he runs five hospitals that perform more than 180,000 operations each year. Seventy percent of his patients are charity cases; the remaining 30% seek him out and pay for his services because the quality of his work is world-class. He is a doctor to the eyes and a leader to the soul.

If corporate leaders who have the best educations, the best consultants, and the best financial and technical resources consistently deliver projects that are dead on arrival, how does perfection emerge for Dr. Govindappa Venkataswamy, known as Dr. V.? How does his execution so closely match his vision? How did his original hospital, Aravind Eye Hospital, invent a service so perfect that it created its own market—and how did it do so without any significant resources, and with a paying clientele that represented far less than half of its customer base?

What is the secret of leadership that would let us actually do what we see so clearly in our heads? Perhaps a visit to Dr. V.'s hospital, halfway around the world from the comfort, wealth, and complacency of Western leadership, will improve both our vision and our capacity to deliver on that vision.

**On the surface**, India is a mess: It has a population of 1 billion, raw sewage on the streets, and traffic that moves at 20 mph. But if you can look past India's visual obscenity, you will see a country that is turned inside out. India is the new frontier of the new economy, and American business will have to become more innovative—not just technically, but humanly too—to reach this market space.

The map can't tell you what meridian this new frontier is on, but 911 sounds about right. In India, every minute is an emergency: Birth, death, life, and infinity rumble past the windows of your car. To see the future, you have to travel to the rough edge of experience. This ride is going to be a bumpy one. Dr. V. is ready; he loves a good emergency. And in India, your wish is the universe's command.

We are driving from Pondicherry to Madurai, which is a seven-hour journey. The Indian gods who govern every learning experience have provided us with a challenge: In hour five of the journey, the skies blacken. Rain lashes the windshield. "Cyclone!" yells Dr. V., picking up his mobile

phone to call his sister Dr. Natchiar, 60, Aravind's joint director of business development, to report exultantly on the amazing weather.

Later, in one of Aravind's classrooms, I will see a sign: "If You Are Looking for a Big Opportunity, Find a Big Problem." But it seems that this problem has found us. Billboards, uprooted by the winds, fly through the air. What better time for Dr. V. to remember his last heavenly vision! He was 55 when he first saw the golden arches of McDonald's, and it changed his life.

"In America, there are powerful marketing devices to sell products like Coca-Cola and hamburgers," he says. "All I want to sell is good eyesight, and there are millions of people who need it." The idea for Aravind was born from that vision of McDonald's.

"If Coca-Cola can sell billions of sodas and McDonald's can sell billions of burgers," asks Dr. V., "why can't Aravind sell millions of sight-restoring operations, and, eventually, the belief in human perfection? With sight, people could be freed from hunger, fear, and poverty. You could perfect the body, then perfect the mind and the soul, and raise people's level of thinking and acting."

In the eye of the cyclone, then, we get our first glimpse of the answer to the mystery of leadership: Leadership is a personal quest you undertake, one based on a mission that troubles your heart.

An hour into the storm, the sky clears. The driver delivers us to Aravind Eye Hospital, on a wide, dusty street in Madurai. Vara, Dr. V.'s niece, is waiting to greet us. "How I envy you," Vara tells me, "seeing the hospital for the first time. The thrill you'll get." She's right, I'll soon find. The cyclone is nothing compared to this.

**It frustrates the folks** at Aravind that Tuesdays are always slow. It means that they can't do all that they could do. "We will see maybe 400 patients today," says Dr. Natchiar. "That's because for Hindus, Tuesdays are not propitious days to begin a new venture, so the people here will be emergency cases." It means that in the work of spreading perfection, Aravind will be a little behind schedule.

How do you achieve perfection in the never-perfect and always-compromised world of business? It helps to have a service so good that it creates its own demand. Many of Aravind's patients can't afford cataract

surgery. Most don't remember what good vision is—and don't understand why it would offer any benefit. So Aravind has to keep educating them—and perfecting its own service. "In the third world, a blind person is referred to as 'a mouth without hands,'" says Dr. V. "He is detrimental to his family and to the whole village. But all he needs is a 10-minute operation. One week the bandages go on, the next week they go off. High bang for the buck. But people don't realize that the surgery is available, or that they can afford it because it's free. We have to sell them first on the need."

What Dr. V. considers a slow day would drive most American hospital officials mad. It's 7:30 a.m., and a few hundred people fill the hospital's driveway—friends and families who have delivered the 400 patients inside. They spill out of the waiting rooms and onto carpets, passing the time until they can take the patients home, back to villages hundreds of miles away.

The free patients, whose medical services (including food and room) are covered entirely by the hospital, have a separate building. Paying customers are charged 50 rupees (about \$1) per consultation and have their choice of accommodations: "A-class" rooms (\$3 per day), which are private; "B-class" rooms (\$1.50 per day), in which a toilet is shared; or "C-class" rooms (\$1 per day), essentially a mat on the floor. Paying customers choose between surgery with stitches (\$110) and surgery without stitches (\$120).

"You don't have to qualify for the free hospital," says Dr. V. "We never question anyone. We sometimes give rich people surgery for free, and we don't question them. I don't run a business. I give people their sight." The next clue to the mystery of leadership: To achieve perfection, it helps to respect money—but not to be motivated by it.

Since opening day in 1976, Aravind has given sight to more than 1 million people in India. Dr. V. may not run a business, but it's important to note that Aravind's surgeons are so productive that the hospital has a gross margin of 40%, despite the fact that 70% of the patients pay nothing or close to nothing, and that the hospital does not depend on donations. Dr. V. has done it by constantly cutting costs, increasing efficiency, and building his market.

It costs Aravind about \$10 to conduct a cataract operation. It costs hospitals in the United States about \$1,650 to perform the same operation. Aravind keeps costs minimal by putting two or more patients in an operating

room at the same time. Hospitals in the United States don't allow more than one patient at a time in a surgery, but Aravind hasn't experienced any problems with infections. Aravind's doctors have created equipment that allows a surgeon to perform one 10- to 20-minute operation, then swivel around to work on the next patient—who is already in the room, prepped, ready, and waiting. Post-op patients are wheeled out, and new patients are wheeled in.

Aravind has managed to beat costs in every area of its service: The hospital's own Aurolab, begun in 1992, pioneered the production of high-quality, low-cost intraocular lenses. Aurolab now produces 700,000 lenses per year, a quarter of which are used at Aravind. The rest are exported to countries all over the world—except to the United States. (Aravind would have to pay for an FDA study and a clinical study, which the hospital cannot afford.) Aravind even has its own guest house, and students and physicians from around the world come to teach, study, observe, practice—and boost their training. Poles for stretchers? They're made from bamboo that grows in Dr. V.'s garden. "We also have the \$5 pole, which is bright and shiny," says Dr. Natchiar, "but we prefer these bamboo poles."

They are proud of their fiscal conservatism, but this is not HMO-speak. This is pleasure in the knowledge that they are not seduced by money. "The health care business is so bad," Dr. Natchiar says. Extravagant is what she means. "Alternative models are needed. There is a new machine used to help with surgery that recognizes the doctor's voice. It is egotistic. That's another \$100,000, which the patient pays. You have to stop and think, Is this the best way to spend money? At our hospital, machines aren't doing the surgery; people are. We need technology, but medicine also needs the practices of the East."

When Dr. V. started, there were perhaps no more than eight ophthalmologists in all of India. Dr. V. saw a market in the 20 million blind of India, most of whom suffer from cataracts, which in India are caused mainly by the glare of the tropical sun, poor diet, and genetic factors. Today, Aravind is the largest single provider of eye surgery in the world. In a typical year, its hospitals see 1.2 million outpatients and perform 183,000 cataract surgeries. Dr. V.'s extended family visits 1,488 villages to run diagnostic eye camps. Paying customers support the free surgeries, and the sale of lenses abroad adds to the bottom line. Aravind accepts no government grants. The hospitals

are totally self-sustaining. And Dr. V. lives on his pension. “There is not one rupee that he takes out of Aravind,” says Dr. Natchiar.

“**The surgery is an art,**” Dr. Natchiar says. “You work in such a tiny space, and if you create a beautiful job, the painting is worth so much money. You put pictures in people’s eyes. You paint them stunning flowers, their children’s faces.”

11 a.m.: In pediatric surgery, a chubby, brown 5-month-old baby with double cataracts is fussing on the operating table. A surgical team begins to sedate the baby, massaging his legs and arms, hovering, comforting. The head nurse tries to find a vein buried in the chubbiness. It’s like trying to find a thread baked into a loaf of bread. The surgery itself is over in five minutes. The baby is carried out to its mother and begins to wake up.

Cataract surgeries are beautiful. Eyes never look old. From the TV monitors in the operating room, an eye looks like the globe of the bright blue earth, floating in a sea of white clouds. The doctors never make it more gorgeous. They only make it perfect; they do this by scraping out the film that clouds the retina. The eye turns brilliantly clear, the light pouring into it. An artificial lens is then positioned over the retina.

For the team in pediatric surgery, the morning has been routine, another brief, successful operation that will give sight to an infant. Dr. V. has assigned me my own private nurse, in case the sight of the operation makes me faint. I don’t faint—I wet through my surgical mask with tears. The surgical team has never seen this reaction before. But what I have seen—five adults hovering over a tiny infant and light flooding into a once-blind eye—is a study in selflessness, tenderness, and art that I have never seen before.

You haven’t seen until you’ve seen Aravind. Whether you’re a patient or an observer, your eyes are opened. You see in new ways.

**For Dr. V., leadership begins** with the pursuit of self-knowledge and a vision bigger than any that can fit in the prospectus of a single corporation. All his life, Dr. V. has resisted smallness. Yet there is nothing egotistic about him. He asks himself, “How can my work make me a better human being and make a better world?” That question is at the heart of the mystery of leadership. And to answer it is to seek perfection.

“Two qualities for leadership are to be a visionary and to know execution,” says Dr. V. “If I can go from consciousness to higher consciousness, then I’ll be a leader.”

Dr. V.’s work is to fight blindness in the world and in himself. The two missions are one. He realizes his destiny by his work. Helping people see is to achieve a new level of consciousness.

His philosophy derives from a difficult but ideals-driven past. Dr. V. was born to a farmer’s family in 1918. There was no school in his village. In the mornings, he had to take the buffalo out to graze, and then he would walk nearly three miles to school. Years later, when a school finally opened in his village, there were no pencils, paper, or even a slate. The children collected sand from the riverbed, spread it smoothly over the mud floor of their thatch-roofed schoolhouse, and wrote in it with their fingers.

Dr. V.’s father was a follower of Gandhi and a man who believed in perfection. “We were not thinking of amassing money as our goal,” says Dr. V. “We always aspired to some perfection in our lives.” Perfection, as he defines it, is a means of following God or of pursuing a form of higher consciousness.

Gandhi’s ideas of celibacy, nonviolence, and truthfulness appealed to Dr. V. In 1948, after three of his cousins had died of eclampsia (an attack of convulsions) in the last three months of their pregnancies, Dr. V. began postgraduate medical training at Stanley Medical College, in Madras, to become an ob-gyn. Rheumatoid arthritis struck him soon after graduation, and he was hospitalized for almost two years. Severe pain began then, and it has never left him. “When I finally could stand,” he says, “I felt as if I was on top of the Himalayas.”

There was also the pain of a terrible conflict in his life. He had been schooled in perfection by his father, and now he was barely able to work. What saved him from despair, says Dr. V., was meeting the philosopher Sri Aurobindo, a rebel in the Free India movement who had opened an ashram in Pondicherry. From Aurobindo, Dr. V. learned meditation and found a purpose: He came to believe that man has not reached the highest level of evolution, but that evolution will continue for several more stages until a higher intelligence is created.

But spiritual teachings, inspirational and useful as they may be, still are not enough. “The task is not to aspire to some heaven but to make everyday life divine,” says Dr. V. When he switched to ophthalmology, he had to train himself to hold a knife and to perform cataract surgery despite his physical pain.

“People thank me for giving them sight,” he says. This is no error of translation, no slipup of English. Dr. V. considers his gifts to be the things that he has given others, not what he possesses.

Here is another clue to the mystery: The reward for work is not what you get out of it but what you become from it.

**You could compare Aravind** to FedEx, the Gap, or Starbucks—but only if you didn’t care about how ridiculous that comparison would make you sound. Part of Aravind’s service includes love, courage, and total care. “You identify with the people with whom or for whom you work,” says Dr. V. “It is not out of sympathy that you want to help. The sufferer is part of you.”

“Market driving,” a term coined by Philip Kotler, a professor at Northwestern University’s Kellogg Graduate School of Management, refers to the creation of a need that didn’t exist before. What all market-driving companies have in common is that they are guided by a vision or a radical idea rather than by traditional market research. These visions involve high risk—and unlimited upside potential.

Aravind has brought its market-driving vision to the world’s boldest and largest marketing segment, the one that will define future markets: the poor.

India’s poor never expected to regain their sight. A visit to the hospital is largely out of their physical, geographic, and economic reach. It’s also totally beyond their imagination, outside the boundary of hope. How can you hope for what you can’t even imagine? How can you imagine what is so far beyond your daily experience? It isn’t easy to picture an active market existing in these villages, where buffalo roam freely amid huts that have just a cot or two under their roofs. Yet everyone in India is an entrepreneur, and there is great pent-up demand. The poor can afford products and services—ones that sell functionality over features.

Most companies tend to focus on selling to the rich and the super-rich—consumers who have an annual income of \$50,000 to \$100,000, or more. But

there are billions of potential customers out there whose purchasing power is about \$2,000 per year.

C.K. Prahalad, an award-winning author and respected professor of strategy at the University of Michigan's Stephen M. Ross School of Business, argues that you need more sophistication and greater intellect to cope in these markets. How do you marry low cost with quality, sustainability, and profits—all at the same time—in such diverse markets as food, health, communications, personal care, primary education, and financial services? Prahalad's answer: You imagine selling your service or product to the poor. He argues that “the business opportunity in India is in servicing the poor, and servicing the poor is good business.”

Dr. V. agrees with that analysis, but he hates the sound of it. “Consultants talk of ‘the poor,’ ” he says. “No one at Aravind does. ‘The poor’ is a vulgar term. To think of certain people as ‘the poor’ puts you in a superior position, blinds you to the ways in which you are poor—emotionally and spiritually, for example.”

As a market-driving organization, Aravind has to educate its free patients. One of the ways that the hospitals accomplish this is through community work, which their doctors and technicians almost routinely undertake. First, a representative from Aravind visits a village and meets with its leaders. Together they do the planning necessary to organize a weekend camp. Then Aravind doctors and technicians set out for the village, sometimes driving for days. Once there, they work around the clock, examining people and working to identify those who will need to be taken to Madurai for surgery.

They put a pair of glasses on people for whom the purchase represents a day and a half’s pay. “People can’t believe it,” says Dr. V. “Often they can see clearly for the first time in their lives. They usually say, ‘Thank you’ and go away—with the glasses on. The next day, they come back ready to make the purchase. This is how we sell 1,000 pairs of eyeglasses per day.”

Give people a new experience, one that deeply changes their lives, make it affordable, and eventually you change the whole world. And your customers become your marketers.

**I have never met** a leader who even approached Dr. V. The stories about him are legendary. Here’s one: A new security guard confronts Dr. V. at the entrance

to the hospital: “Sit down, old man, you’re blocking people.” In walks Dr. Natchiar, who asks, “Dr. V., what are you doing sitting in reception?” “I was told I can’t go in, so I’m waiting,” he replies.

Here’s another: Usha, his niece and fellow surgeon, who holds the record for most surgeries in a day (155), admits to conspiring with the nurses to send her more than her allotment of patients, a practice that Aravind doctors routinely engage in. On returning from a village camp running a fever of 102, she checks herself into the hospital. Dr. V. happens to arrive in the morning. “What are you doing here?” he asks. “I’m sick,” she says. “My fever is 104,” he tells her. “How high is yours?” She can’t bring herself to say, so she climbs out of bed and goes back to work.

An industrialist from Delhi once came to Aravind and said, “I need to build a hospital, and I’m very much impressed with this one. Could you come to Delhi and start a hospital for me?” Dr. V. replied, “You have all the money you need. It shouldn’t be hard for you to put up a hospital in Delhi.” “No,” the industrialist said, “I want a hospital with the Aravind culture. People are cordial here. They seem to respect more than money. There is a certain amount of inner communion or compassion that flows from them. How do you do it?”

Dr. V. admits that Indian families raise daughters and sons with a certain discipline and love. “At Aurolab,” says Dr. Natchiar, “the workers are all farm girls. Most of them are in the big city for the first time in their lives. For them, this is a luxury. They are next to God, working in this environment, helping others. They come to work at Aravind because they want some human element in their work. They want to work under a different philosophy.”

When Dr. V. said that he wanted to build hospitals, Dr. Natchiar was ready to do what he asked. Dr. V was her older brother. He had raised her, and he had been her teacher at ophthalmology school. Dr. Natchiar convinced her husband to study ophthalmology. His sister, in turn, convinced her husband, and on it went: Eventually, nearly the entire family got involved. Little by little, a dynasty was being built. The family is now in its fourth generation.

**Why do adventure-travel companies** escort people to the heights of the world but not to its depths? Perhaps because it’s easy up at the top of a mountain in Tibet or Chile to think that you’re getting enlightenment. A visit to southern India, a true topological depth, takes spiritual endurance. It forces you to

examine your comfortable notions about yourself and about leadership: Your soul is tested more in the depths than it is at the heights.

This is a place where eating an ice cream can threaten your life. The food and water are so corrupt that a Western traveler is almost guaranteed sickness. The *Times of India* reported last spring that patients were pouring into a hospital in southern India suffering from serious food-borne illnesses. The Indian government raided roadside food kiosks, destroying uneaten food, and cholera experts were brought in to investigate. The smell of centuries of burning flesh and piles of sewage burns inside you. It invades your sleep. A doctor staying at Aravind said she wished she had brought a chilled bag of her own blood, in case of an accident. The AIDS epidemic in India is second only to the horror in Africa. There are truck drivers who stop as many as six times a day to have sex with children as young as 10 years old.

When organizations and systems are weak or breaking, leadership reaches its pinnacle. You have to find another way to perfection. It's not strange that an Aravind exists in India.

"Had enough poverty for a while?" a friend asked when I was back home. While I was in India, he had gone to Canyon Ranch in Tucson, Arizona. He works hard at answering 500 emails a day. Like his peers in Silicon Valley, he is focused largely on himself, a flyboy who spends one-third of his life in the sealed-off first-class cabin of one airliner or another. His mantra: What I want, what I need. He is the center of the universe. The bad news is that his universe is no bigger than him.

We may not admit the poverty of our own lives, but we feel it. Soon we may even see it; economic shifts will thrust the reality of it in our face. We are headed for the cyclone, and if we are blind to our soul, we will be uprooted in this new world order.

"People at business schools talk about share price," says Dr. V. "I tell them that I gave sight to 180,000 people last year, and that doesn't mean much to them." But the Aravind model may come to mean a great deal as the map of power continues to shift relentlessly toward the East, and as perfection becomes less the mystery and more the essential job of leadership.

# How J.Crew Fashioned a Cult Brand

*By Danielle Sacks*

*Hoping to transform the lackluster brand, J.Crew CEO Mickey Drexler turned to design maven Jenna Lyons to foster a culture where rapid, freewheeling experimentation is required—and sells lots of clothes. A story for anyone building or managing a creative powerhouse.*

**Jenna Lyons** is in her corner office sucking on an iced coffee as if it were manna. The room looks like a cross between a boudoir and an artist's loft, with a peach fur draped over a white leather Eames chair. The industrial windows stretch up and up, like Lyons's legs, which are punctuated by a pair of metallic, sparkled three-inch stilettos. But the coffee just isn't cutting it. "I'm so hungry. I haven't eaten in 10 days," says the executive creative director and president of J.Crew, not hyperbolically. "I was like, *errrr! errrr!* with every pair of pants," she adds, making that grunting sound familiar to all women at some point in their lives. Turns out even the most fashionable manager in America can have a bad clothing day. "The inside button would pop before I even zipped it. I was like, Oh, God!" So Lyons went on an organic-juice-cleanse-plus-Isogenics bender and has consumed nothing but liquids for more than a week. "I'm a little bit mangy. Hangry mangy," she confesses, within five minutes of my arrival.

It's surprising, though comforting, to find out that Lyons is humanly imperfect. Since her coronation as creative head of J.Crew in 2008, the company once known for its preppy Nantucket ancestry has become a force in fashion, with Lyons at the center of its evolution. She has created a high-low look that reflects her own boy-girl style—androgyne with some sequins and a dash of nerdy glasses. Along with annual revenue that has more than tripled to \$2.2 billion since 2003, the cult of J.Crew has blossomed like a CMO's fantasy, with fashion blogs wholly devoted to the brand (from [J Crew Is My Fav Store](#) to [The J.C.R. Girls](#)) and a fan base that includes Michelle Obama and Anna Wintour. At Fashion Week this February (J.Crew's fourth season there, itself a symbol of the retailer's growing influence), one attendee whispered, as if Lyons were Madonna or Bono, "I am just totally obsessed with Jenna."

Her ascension seems instantaneous, but she happens to be one of the company's longest-tenured employees, having worked there her entire career. After graduating from Parsons in 1990, the then 21-year-old started as an "assistant to an assistant to someone else's assistant," as she puts it, designing the company's old-world men's rugby shirts. "It's taken me years to get here, and I've cultivated it so carefully," says Lyons. "But I didn't think it was possible. I just assumed I'd plateau and that there would be no place for me to go."

She most likely would not have reached her perch if she hadn't crossed paths with Millard "Mickey" Drexler, the son of a Garment District fabric buyer, the so-called Merchant Prince who transformed the Gap from a \$400 million enterprise into a \$14 billion empire. Not since Steve Jobs and Jonathan Ive at Apple has a creative pairing been as intriguing and fruitful as that of Drexler and Lyons. Drexler became chairman and CEO at J.Crew in 2003, four months after Gap fired him following a plunge in the company's stock. His fall was both humiliating and motivational. Todd Snyder, Drexler's former head of menswear at Gap, advised him to seek out Lyons, at the time J.Crew's vice president of women's design, likening her to Calvin Klein in the early days. "Jenna was a great designer. She looks like a model, and then she talks like the best salesperson you ever met," says Snyder. "I think she's the most talented person he's ever worked with in design."

Their partnership would mark the end of the days when J.Crew's product design was dictated by corporate strategy. Together, they would make and sell only what they loved. The love would not be unconditional; they would adjust their product line always, trying new ideas, assessing, and quickly getting rid of anything that didn't work. Under Drexler and Lyons, J.Crew would become a company of constant and freewheeling experimentation, iteration, adaptation.

On the surface, the two are an unlikely fit—Drexler, a 68-year-old from the Bronx; Lyons, a Southern Californian who at 44 looks like a J.Crew model before the airbrushing. Yet they share an ebullient, unselfconscious nature, and they have set the standard for running a business focused on design. Though he is a notorious micromanager, Drexler doesn't stifle the talent, funneling his obsessiveness toward the steps that come before and after the creative process. And though she has been called a designer's designer, Lyons has instinctive business acumen. In Lyons, Drexler has found a partner

to create both an ethos of mutual support for creative risk-taking and a unified aesthetic that suffuses the company and is spreading through the culture at large. Which is how Lyons came to have the unusual dual role of J.Crew's top creative executive and its president. "What it says," Lyons claims, "is that no financial decision weighs heavier than a creative decision. They are equal."

**J.Crew employees reveal themselves** by the nakedness of their ankles. It's as if the company's uniform, ambiently dictated by Lyons, is enforced only from the knees down. Bare ankles, for men and women alike, whether with suede bucks, ballet flats, heeled ankle boots, high-top Converse, vintage Nikes, or glittery pumps, fill the company's East Village headquarters in New York. At a review in early March for a jewelry catalog shoot, sockless stylists, art directors, and merchants gather before Lyons as she interprets a wall mocked up with outfits paired with samples from the company's latest accessories collection. "This—not so pretty," Lyons says, her delicate hand clasping a chunky turquoise necklace hanging at the neck of a white linen suit. As she continues along the wall, her underwhelmed reaction becomes increasingly apparent. But instead of pointing fingers, she senses a deeper problem, and the jewelry review turns into a mediation session. "It seems like you guys feel you didn't have a lot to play with?" Lyons asks. The stylist agrees. Lyons starts probing to figure out how the stylists gain access to jewelry for a shoot—which is just where the problem began.

"When something hasn't been as beautiful as it can be, the reason is always bigger than the thing," Lyons tells me afterward. Here, the reason was miscommunication between the stylists and the merchandisers. "At this stage, I'm like a glorified crossing guard," says Lyons. "It's like, try to keep people motivated, keep the traffic moving, keep people from getting stumped or stopped by a problem."

She has a therapist's touch as well. "Every time I walk in her door, she reads my mind in three seconds. I think she knew I was pregnant before I did," says Ashley Sargent Price, who does art direction for J.Crew's catalogs and website. "She knows how to make you feel appreciated, even if you need to be redirected." The skill is an essential one for getting the best out of designers, who, Lyons holds, don't operate by the same rules as other people in business. "Managing creative people—not so easy," she says. "A lot of emotion, a lot of stroking. Some people need tough love. Some people need a lot of love." Above all is the challenge of managing in a subjective realm.

“There’s no right or wrong answer,” says Lyons. “When someone creates something and puts it in front of you, that thing came from inside of them, and if you make them feel bad, it’s going to be hard to fix, because you’ve actually crushed them.”

This sensitivity stems in part from a challenging childhood. Lyons was born with incontinentia pigmenti, a genetic disorder that led to scarred skin, patchy hair, and lost teeth, requiring dentures as a kid. Her gawkiness (she’s now 6 feet tall) didn’t help. As a result, she was subjected to almost constant bullying. “It’s amazing how cruel kids can be, and superjudgmental, and really just downright mean,” says Lyons. Her nonchalant manner became her defense, and she found a refuge in art. “I searched for ways to make things more beautiful and surrounded myself with beautiful things because I didn’t feel that in myself,” she says. Her mother, a piano teacher, encouraged Lyons to take art classes, where she discovered a passion for drawing and sketching and what might seem to be the unlikeliest of interests—fashion. “I felt a huge drive to make clothes that everybody could have because I felt ostracized by that world of beauty and fashion,” says Lyons. “I never thought I would have a part in it. Never in a million years.” She traces her ambition to her parents’ divorce when she was in the seventh grade. “I’ll never forget my mother standing in the tuna fish aisle thinking, Are we going to get tuna fish this week?” says Lyons. “Feeling like I never wanted to rely on a man, I was like, I gotta work my ass off.”

It was Lyons’s candor that initially impressed Mickey Drexler. When he arrived at J.Crew in 2003, the company was in financial distress and largely seen as a bit player in the industry. Management consultants had taken over and were prescribing product designs. On Drexler’s first day, recalls Lyons, “he sat down, pushed his chair back, put his foot up on the table, and he looked around and he’s like, ‘You’re all interviewing for your jobs.’” On his second day, he asked Lyons to run through the women’s collection in front of the entire team, a roomful of 50 people. She presented three pairs of skinny stretch pants. Drexler asked what she thought of them. “At that point I was like, I have to be honest,” recalls Lyons. “I can’t lie to him because this is sort of a do-or-die situation.” She said except for one pair, she didn’t think the others fit the brand. Drexler told her to throw them on the floor. Then they got to a boucle sweater, which looked like poodle fur. Lyons said she hated it, but it was a million-dollar seller. Drexler told her to drop it on the floor. Then

came the cheap cashmere T-shirts, made in China. Onto the floor. “I didn’t know if I was going to be fired,” says Lyons. “I was so confused, and I was scared, but I was also a little bit excited, because all the things that I liked and that I thought were brand-right he was leaving up on the wall. And I was like, Is that good, is that bad? I don’t know.”

She kept her job. (Many of her colleagues did not.) After two days of reviewing the entire product line, Drexler told Lyons to get on a plane to Hong Kong and design new pieces to fill all the holes. He also asked her where she wanted to source the company’s cashmere. A more expensive mill, she said. He told her to call them. This move marked the beginning of Drexler’s turnaround strategy—a bet on quality. “You cannot copy high quality, and it takes a long time to get a reputation for quality,” he says. Lyons credits this first encounter as both formative and telling of their future together. “Honestly, I think it was because I didn’t bullshit him,” says Lyons. “His bullshit-dar is insane.”

Giving primacy to design involves more than a shift in the power structure. It means running the business in a completely different way. Before Drexler came to J.Crew, designers were ordered to develop products that would meet specific merchandising goals. “We were told we need ‘this bucket’ and ‘this bucket’ and ‘this bucket,’” says J.Crew head of women’s design Tom Mora. “‘I need a merino sweater that is \$48 that has a stripe.’ And you are jamming your design into a bucket, and that’s what you got—a design in a bucket.” Drexler told Lyons not only to scrap the buckets but also, she says, “‘Don’t tell me what you’re doing. Don’t show any of the merchants. Just go and do it and then show me.’”

Since generating those designs, Lyons’s staff has implicit permission to take risks. “Jenna leads by example,” says a former J.Crew employee who worked for Lyons in menswear. “She’ll be wearing an oversize men’s cashmere sweater and a maxi skirt of feathers. If you described it to a famous fashion person, it would sound ridiculous. But it’s liberating for everyone who works for her.” Three years ago, J.Crew designer Emily Lovecchio floated an idea for an organza jacket. The fabric was unusual for such a garment because of its delicacy, but Lyons told the team to try it anyway. The jacket ended up on the cover of the J.Crew catalog. When experiments don’t work out as well, all Lyons requires is for her staff to assume responsibility. “Jenna really loves people who are themselves, flaws and all,” says Lovecchio. “If you mess up

or totally do the wrong thing, you have to look her in the eye and say, ‘I messed this up,’ and she will always say, ‘Okay, we’ll fix it.’”

Designing distinctive clothing was only the first step in reviving J.Crew. Lyons believed that to create a coherent brand and drive the business forward, every piece of the creative organization—from retail to catalog to web—had to be unified. She was initially frustrated that the stores and catalog, both run by merchandising, didn’t match the aesthetic of the products. “There were a lot of really talented people, but they were all doing their own thing, and it looked like it,” says Lyons. “It was bifurcated and fractured. It didn’t come together.” While Lyons is a little coy about whose aesthetic she felt the company needed—“It’s not that my vision is better. It’s having one singular vision”—she ultimately did fight for it to be hers. “For me, it was like, ‘I really want to get my hands on that because I want it to look more cohesive, and it’s driving me crazy.’ So I was asking for it,” says Lyons.

In 2010, her lobbying paid off. J.Crew’s president, according to the official announcement, stepped down “to spend more time with her children,” and Drexler gave the title to Lyons. “It was literally a two-second conversation,” says Lyons. “He pulled me into a room and said, ‘So, just want to let you know you’re the president.’ I was like, uh, okay. Alrighty then. Then I put my head down on the table, took 10 deep breaths, sat back up and was like, ‘Okay, do I need to do anything different?’ And he was like, ‘No, just keep doing what you’re doing.’ I’m like, ‘Okay,’ and we walked out of the room. That was it.”

As Lyons’s domain within the company grew, the prime directive for all her teams became always to consider how the brand appears to everyone who comes into contact with it. “I don’t care if it’s an employee handbook or the layout of the nursing room,” says Lyons, who now also oversees marketing. She started with the stores. Their design, she felt, clashed with itself—sparse interiors with clothing stacked in chockablock fashion. “It’s a little bit like a modern house with tons of shit in it,” says Lyons. “It really doesn’t look so pretty.”

Lyons set out to rehab the stores, but getting the details just the way she wanted required her to make a business case for design. “It’s hard when the finance team is used to putting a light fixture in the store that costs \$2,000, and I’m like, ‘Well, I want an \$8,000 fixture,’” says Lyons. “You have to get

people to understand why having that Serge Mouille light fixture is better, because it's beautiful and people will know something's different. Maybe when you look at that \$200 cashmere sweater, you'll feel like, 'Oh, yeah, look at the store. It's so beautiful. This \$200 sweater is a steal.'"

More recently, Lyons worked a bold overhaul of the catalogs. With 40 million copies distributed every year, the catalogs are at the root of J.Crew's business and constitute some of the brand's most precious real estate. Yet for years, the catalog lineup was dictated by sales from the year before. Pictures of each item ran alongside clunky color swatches and dense text; perhaps only 2 out of 100 pages were devoted to material that might be called editorial. The reimagined catalog supports the idea of J.Crew as tastemaker, with multipage stories packaged around trends, such as "The Italian Shoe Collection: Designed in New York. Made in Italy" for some fancy leather flats. Today, the J.Crew Style Guide—its new name—and its website have more of the feel of a fashion magazine.

Lyons's whimsical nature can sometimes make her seem like a different species from most folks with a key to the executive floor. And she can hardly be accused of stuffy qualities like propriety or perfection. "Ask my ex-husband how perfect I am," she jokes during one of our interviews. (He might have a thing or two to say about it, too; Lyons's personal life has been tabloid fodder since 2011, when she got divorced and paired up with a woman.) "You're pretty candid," I tell her. "Maybe to a fault," she says. "I might take my teeth out." Yet her colleagues credit her with a keen business mind, and that easy oscillation between her two selves is what has brought her so much success. Libby Wadle, J.Crew's executive vice president of brand (that is, merchandising), says: "Jenna is a designer all day long, but she can have conversations about real estate and parts of the business that many designers will just tune out. She gets all the moving parts and how they connect." When I ask Lyons how going private in 2011 helped the company, she immediately cites the freedom to invest more in IT infrastructure—not the first thing you'd expect to hear from a native creative. "It's hard to make those kinds of capital expenditures when you're public," she says.

**Emil Corsillo is a denim nerd.** A 33-year-old graphic designer, he has an affection for vintage American workwear of the sort worn up until the 1950s. He's particularly fascinated with old selvedge fabric. Its signature mark—a heavy red stripe stitched along the fabric's edge—indicates that the denim is high

quality, made from an original loom. One day Corsillo was tooling around with a piece of selvedge cloth on his sewing machine and realized that it was the perfect width for a men's tie. He and his brother Sandy would use the fabric in their Hill-Side line. For the Corsillos, the tie was an experiment. They wanted to start small, working out of their apartment in Bushwick, Brooklyn, and they restricted supply to three independent shops. Within two months, J.Crew somehow caught wind of it. "Frank [Muytjens, head of men's design] got in touch with us," recalls Emil, "and said they wanted to talk about carrying the collection in a couple of shops."

Bringing in products made by third parties was a new gambit for J.Crew, but one that Drexler felt could raise its profile. The design team saw no point in trying to re-create, say, a beautiful handcrafted leather boot, when a Minnesota company called Red Wing had been doing it for more than 100 years. So J.Crew cracked the door to outsiders. "We buy what other people do much better than we can ever do," explains Drexler of the outside collaborations, of which J.Crew has had more than 100. Playing curator was also a branding strategy. The retailer isn't making much from the 25 pairs of handmade Alden Revello Cordovan Longwing shoes it sells, even at \$710 a pair ("You have to have 100 perfect hides to make that many. That's why you can only have 25 pairs," a J.Crew store manager explains), but they reinforce the idea that J.Crew is carefully selecting products on the shopper's behalf. "People love scarcity," says Drexler. And scarcity brings people to the stores to buy shirts and pants.

When J.Crew approached the Corsillos about the selvedge tie, the company was an unproven partner for outside brands. While most homegrown players would view this moment as winning the lottery, the Corsillo brothers were conflicted. They didn't have the resources to make goods for a national retailer. But more important, if the Hill-Side was going to establish its fashion cred, selling out to a big retailer didn't seem like the answer. "It's like not wanting your favorite punk band to sign with a major label when you're a teenager," says Emil.

The Corsillos turned down a couple of meetings with J.Crew—until they got a call at 10 a.m. one morning saying that Drexler wanted to visit them at their place in Brooklyn. "I looked around our office," recalls Emil, "and saw Sandy's unmade bed and dirty clothes on the floor, and said, 'Would it be possible to come to you guys instead?'" At J.Crew headquarters, they

gathered in Drexler's office, along with Muytjens and four other J.Crewers. "Very quickly, Mickey said something like, 'Okay, we're going to order this stuff immediately and put it in the catalog, right?'" says Emil. "No one had told him that we had sort of said no."

Drexler told them that J.Crew was trying its best to behave like a tiny company. And he immediately proved his point. During the meeting, as he paged through a J.Crew catalog, he came across a sneaker from Tretorn. When Emil mentioned that he was a freelance art director for Tretorn advertising, Drexler asked if he thought J.Crew was selling the best model of the shoe. Emil said he preferred another, the men's classic. "Mickey got on the officewide intercom," recalls Emil, referring to Drexler's most melodramatic prop, a loudspeaker system that booms through the hallways at J.Crew headquarters, "and said, 'Who's in charge of Tretorn? Come to my office!'" The person in charge of Tretorn was asked, "Are we getting these?" Twenty minutes after leaving the J.Crew office, Emil got a call from his boss at Tretorn asking if he had just been in a meeting with Mickey Drexler. Eventually the company ended up carrying that Tretorn shoe—and the Hill-Side tie, too, which is now on its 15th J.Crew collection.

The performance was undiluted Drexler, mixing efficiency with his unique brand of persuasion. In many ways, he is the Woody Allen of retail, his New York accent still thick as garlic on his breath, a desire always to be the omniscient narrator in the world of his creation, though his neurosis is focused on cashmere instead of death. Insecurity is a shared motivator too. "Mickey has such a chip on his shoulder for being fired at the Gap and raised poor," says a former employee. "That desire and anger make him unstoppable and relentless." As with a film whose producer is also director and star, Drexler is always working his audience while telling his cast how to play the scene.

On a recent visit to J.Crew's new Ludlow Shop at 50 Hudson Street in New York, Drexler's id and ego were on full display. "I wish we had a couple customers," he announces like a dinner party host with no guests, greeting some 12 of his top staffers for a monthly store walk-through. "Just kidding. We do [have customers]," he tells me. Drexler's mouth is an engine that never stops, and his irrepressible effusiveness defeats any attempts at self-censorship. The Ludlow Shop is an outgrowth of the Ludlow suit, one of the most successful products to debut at the Liquor Store, a one-off boutique in

the city's Tribeca neighborhood that has served as a petri dish for new products. "If you look at most department stores—I'm not going negative on department stores," Drexler says, then whispers, "but I am." He then shouts, so even the few customers roaming the store can hear, "I can't stand them!"

**Lyons and Wadle are staring** at a spread from the May 2013 catalog. They decide to kill it. The two pages show models wearing thick black glasses, colorful oxfords with ties, bare ankles in heels—Lyons's signature girl-in-her-boyfriend's-clothes look. "It looks too much like the copiers," grumbles Wadle, who keeps making vague references to a *Daily Mail* article that came out the previous day and has been irking the team ever since. When I get home, I dig up the piece: "Has J.Crew finally found a rival? Gap makes big comeback." It is the worst kind of story for J.Crew, lumping it in with Drexler's ex, a name that is practically forbidden in the office. "And with a smattering of quirky spring prints (like the cat symbols on a boyfriend-style shirt), colorful outfit combos, and the use of some geek-chic spectacles," the article reads, "it seems Gap's \$133 million profit increase may be thanks to some strategic styling lessons from fast fashion's reigning queen bee, J.Crew."

If Drexler has taught Lyons one thing, it's that in retail you're only as good as your last suit. But in their search for the next big franchise, an important part of Lyons's job is managing Drexler. In many ways she has become both his editor and translator. At any given moment, ideas and questions machine-gun out of him. Says Wadle, who worked with Drexler at Gap, "It's a constant, and none of us can keep up because we all have to be running the business. She [Lyons] is the ultimate filter." The challenge lies in knowing which of Drexler's ever-flowing stream of proposals to act upon. "If we executed every single thing he said, we would just be spinning," says Lyons. "What he's trying to say is, Have you asked yourself every single question? He's looking for the golden nugget all the time."

Lyons is one of the few people who can rein Drexler in. She typically waits until a product is in its final form before presenting it to him. "Sometimes his head is filled with 50 other things and he has an allergic reaction to something because he looks at it crooked or he just had a bad meeting," says Lyons. "And it's like, 'Okay, hold on. Don't look at that for a second. Let's redirect. I need you to calm down.' I swear to God, there are maybe three people, one of them being his wife, who can do that."

Lyons might have this power because Drexler knows he could never do alone what they can do together. “If Jenna wasn’t there,” says a former employee, “J.Crew would be really good, but it would not be great. Probably a healthily run company like a Banana Republic.” They give each other cover too. “Mickey wants to be so cool so bad,” says the former employee. “Jenna is confident and cool and human and comfortable with herself and gives him the credibility he needs to be on fire. And he has her back in a way no one else can.” I ask Lyons what everyone in the business wonders: When will she leave J.Crew to start her own line? She says it’s not in the cards, at least for now. As she has said, she already is building her own collection, and she wouldn’t be able to do so on her own. Her former colleague Todd Snyder argues that no designer in Lyons’s shoes would ever have a reason to leave. “Mickey has given her enough runway so she can really make of it what she wants,” he says. “They should just call it Jenna Crew.”

And for that chance, she says that she’s indebted to Drexler. “This is his last job, you know? He’s probably not going to do this again,” says Lyons. Whenever Drexler does decide to retire, she and Wadle are rumored to be in line to run the company. “I’ll give it to Libby,” laughs Lyons, feigning disinterest. “I’ll sit in the corner and draw some stuff.” As if Jenna Lyons has never been hungry before.

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# Starbucks's Recipe for a Stirring Rebound

By Jon Gertner

*When Starbucks's growth ballooned out of control, the company found itself in hot water with loyal customers. Here's how Howard Schultz renewed the company's entrepreneurial spirit, boosting sales and ingenuity.*

A man named Dub Hay works out of a big industrial kitchen on the seventh floor of Starbucks's headquarters in Seattle. Known as the cupping room, the space is furnished with stainless-steel tables and an impressive array of state-of-the-art coffee machines. Hay—friendly, stout, with a relaxed manner that belies his spectacular daily intake of caffeine (he even chews beans throughout the day)—holds a position that essentially makes him the high priest of coffee at the world's biggest coffeehouse chain. “Best job in the company,” he says matter-of-factly. His cupping-room ritual involves lining up glass tumblers filled with massive heaps of freshly ground coffee and small portions of boiling water. The brew is muddy and outrageously strong, or “cowboy coffee,” as Hay calls it. Typically, fellow executives and employees—“partners” in Starbucks-speak—join him here to judge beans from around the world or help craft a new Starbucks blend. Is the aroma reminiscent of grapefruits? Dusty cocoa? Fresh-turned earth? (All good things.) Hay does not sip coffee. Rather, he notes its aroma and gently dips a tablespoon into a tumbler and brings it to his lips, and sucks the coffee in with a swift, loud, vacuumlike pull.

*Phwwwwwwwp.*

“You have to let it atomize across your palate,” he explains. Then he moves on to the next tumbler. *Phwwwwwwwp.* When you try thousands of cups a year, he remarks, this is how you know which ones make the grade.

Hay points out a particular steaming glass of coffee in the line. To me, it resembles all the others. But this cup is different: It contains the first light roast that Starbucks has ever sold. Trademarked “Blonde,” this glass signals an important event for Hay and his boss, CEO Howard Schultz. For a company whose brand is built on the premise that dark roasts are better than light, it has been a formidable challenge to convince the executive team this

wasn't an insane idea and to create a light roast to meet Hay's and Schultz's standards.

"I figured it was going to be pretty easy—in about a month we could knock this thing off," Hay tells me. But he failed over and over again. In addition to trying a multitude of beans, it took 80 different kinds of roast progressions—or rather, variations of roasting time and temperature—to finally hit on the right combination.

Blonde is not merely a strategy to give Starbucks customers a new taste variety. Over the past two years, Starbucks has collected a trove of consumer research to develop what executives there call a "sensory preference" map. As Mary Wagner, head of R&D, told me one morning in December, about a month before Blonde's global unveiling, "If I know a little bit about you, I can tell what you drink, when you drink it, how you drink it, why you drink it, and what's important in your life." In simplest terms, the sensory map shows what the global universe of coffee drinkers prefer—mild or bold, smooth or biting, woody or acidic. Starbucks drinkers, the dark roasters, fall within a certain small area of this map. But 40% of U.S. coffee drinkers prefer lighter, milder roasts. As Wagner explained, "This is huge. So we looked at it as a big opportunity to offer something for everybody." Blonde, in other words, represents the company's big—that is, huge—long-term ambitions and appetite for growth.

Starbucks has now regained its footing after suffering a miserable few years. One explanation is that it achieved this resurgence by rediscovering its roots—good coffee, served expertly, and with an emphasis on what Starbucks employees rhapsodize as the "human connection." But the company's rebound is more complicated, and arguably more interesting, than that. Much of Starbucks's financial rebound (in 2011, \$1.7 billion in income on \$11.7 billion in revenue) actually results from domestic cost-cutting—closing underperforming branches and wrenching savings from improvements in efficiency and supply-chain distribution. At the same time, the company has been steadily expanding around the globe, especially in China.

Meanwhile, much of Starbucks's reputational rebound is the result of Schultz and his company's efforts to renew a culture of entrepreneurialism and innovation that had fallen by the wayside during a mad rush for growth a few years back. Some of these efforts have taken the form of new products—

Blonde lighter roast, or Via instant coffee, which in 2011 reached annual sales of \$250 million. Others take the form of community involvement, such as Starbucks's Jobs for U.S.A. program, a recent endeavor to use wristbands as a way of raising funds for job-creation initiatives in economically hard-hit communities. "I've always said there's not a silver bullet or one single thing that creates a solution," Schultz tells me during a candid conversation one afternoon in his Seattle office.

Starbucks is something of a corporate paradox. The company is a multinational giant and growing, especially through branches overseas and new packaged goods in the grocery aisle. At the same time, it is able to introduce risky ideas quickly, systematically, and sometimes idiosyncratically, much like a startup—even though it has more than 17,000 branches and nearly 200,000 employees. How? Schultz has come to believe that size is not a limiting factor. In terms of being innovative, he says, "I think scale can be an advantage. It's not about being big. It's about behavior."

Starbucks's headquarters—housed in a former Sears Roebuck warehouse by the waterfront shipping yards—is a rambling affair that takes up seven immense floors. As you'd expect, there's a Starbucks shop in the building lobby. But there is also, less predictably, a large and bustling Starbucks deep inside the headquarters, on the eighth floor, where Schultz works. Starbucks employees often take a break at this meta-Starbucks and use their own money to drink or eat what they've been selling conceptually from their cubicles. One of the odder aspects of spending a few days at the Starbucks HQ is that someone is always asking if you'd like to have coffee at the nearby Starbucks. Meaning the one down a long corridor on the eighth floor.

I first met Schultz last fall in New York, at a Starbucks in downtown Manhattan, while he was talking up the impending launch of the company's Jobs for U.S.A. program. Schultz, tieless but dressed in a pressed shirt and navy suit, was wearing a prototype of the Jobs for U.S.A. wristband that Starbucks would soon offer to customers for a \$5 donation. While he was open to talking about his company's performance, what seemed more exciting to him was how the company had mobilized around an idea: to provide capital to small businesses that would, in turn, leverage the capital to create jobs. The effort was more complicated than the simple wristband would imply; it involved deep research on community lending, legal vetting, and complex marketing assessments and designs. It also involved locating a U.S.

manufacturer of wristbands, not an easy feat when such trinkets are almost exclusively made overseas.

To a certain extent, Jobs for U.S.A. illustrates how projects get moving at Starbucks: Schultz—still the company's main instigator—has a kernel of an idea, in this case fueled by emails he received from customers despondent about the U.S. job market. He then activates a team, even inviting members over to his house for pizza if that helps to create a stir of urgency. Ideas at Starbucks are supposed to undergo a rigorous review process and 6 to 12 months in the company pipeline. Sometimes, too—as was the case with Blonde (18 months in development) or Via instant (about 20 years)—it can take far longer. “But we did this in 30 days,” Schultz says, pointing to the wristband. “I’m going to use this for years as a symbol and example to our people of what’s possible.”

A few months later, in Seattle, when I ask Schultz for a progress report, he tells me that the company has distributed 500,000 wristbands and dispersed about \$2 million to more than a dozen organizations. To me, that made it only a modest success. On the contrary, Schultz says he’s pleased. “I don’t think I ever thought this would be the end of unemployment in America,” he remarks. He points out that the initiative has already done quantifiable good. Schultz, who visits branches several times a week to chat with baristas, adds that his employees, young and frank and unafraid to vocalize a complaint, have told him they feel proud of the effort. This is not negligible. Starbucks considers a product’s success not only in terms of consumer acceptance but also in terms of employee acceptance. The company’s U.S. workers alone constitute a huge and influential social network.

Schultz tends to see his company’s recent tribulations as a case study in what can happen to a business that uses growth as a strategy rather than a tactic. For the better part of 15 years, he explains, from 1992 through 2006, “practically everything the company did produced a level of success and adulation.” Yet Starbucks’s consistent successes distorted its managers’ view of their own creativity. As he puts it: “If Frappuccino is a hot category and you introduce a new flavor, and it moves the needle a lot, the organization comes to believe, ‘That was a great thing we did.’ And it imprints a feeling of, ‘That was innovation.’ But that’s not innovation. In fact, it’s laziness.” The line extension of a product, by Schultz’s criteria, involves little in the way of

risk taking or long-range vision. And that was the problem with the old Starbucks.

In trying to understand this company's response to its crisis—the low point, one executive told me, was at the start of the recession, when a host of economic commentators concurred that Starbucks coffee was an ideal thing for consumers to cut back on—it's helpful to view the organization as having shifted from a methodical expansion of the brand to a methodical enhancement of the brand. Starbucks no longer seems to perceive its future as depending on an ability to clone its essential store concept ad infinitum. To be somewhat reductive: You can try to sell the same amount of stuff at more stores. Or you can try to sell more and more stuff at the same number of stores. These days, the overarching gestalt of the company—demonstrated by its plans for redesigned stores, investments in innovative coffee machines, an expansion of its digital networks and rewards programs—is striving for every branch to be both more versatile and more artisanal.

It is not simple, or philosophically consistent, to sell products that are commoditized and personalized at the same time. The same goes for trying to be global and local simultaneously. Starbucks employees actually have a rejoinder to this—they call it thinking “glacially.” The something-for-everyone ethos of Blonde lighter roast, therefore, fits in with company coffees (rare Ethiopia Harrar, for instance) meant only for epicures. Standardized wall decor is complemented by the work of local artists. At Seattle HQ, these apparent paradoxes make perfect sense.

Roy Street Coffee & Tea is the last stop on my afternoon tour of Starbucks's Seattle stores. My guide is Arthur Rubinfeld, Starbucks's president of global development and the company's top design guru. Roy Street is a curious place. There's no Starbucks logo and no Starbucks cups; its only apparent tie with the mother ship is an “inspired by Starbucks” note stenciled on the front door. As such, the store could be seen as a stealth effort at “local-washing” and yet another example of Starbucks's attempts to expand at the cost of indigenous neighborhood coffeehouses.

Within Starbucks, at least, the store is viewed more benignly as a laboratory for high-end products. Thus, there are a number of Clover machines here, each costing upward of \$10,000, which produce a single cup of high-quality coffee through a special French-press-like process. Starbucks

bought the Clover company in 2008 and is now rolling out the machines around the world. Each machine is connected to the Internet and a central databank, managed by Starbucks, that instructs the machine on the optimal brew time of different blends. Even if you have the money, you can't buy one (though celebrities often call the company to try). Clover now exists for the enhancement of the brand and as a part of "the theater of experience," as Rubinfeld puts it, of its new or redesigned stores.

What's ultimately most intriguing about Roy Street is the feel of the place. It is chic and comfortable, like a boutique hotel lobby. And it is big, about 3,600 square feet, which has demonstrated to Starbucks executives that they can create exceedingly large spaces and manage them efficiently. Finally, it's versatile. Rooms can be partitioned off for independent-film screenings or concerts, while a slightly futuristic Starbucks scene exists nearby. At Rubinfeld's suggestion, we pause to take a look around. A few students are doing homework; some businessmen are taking a meeting; a woman sips wine at the bar, while a man next to her pokes at a charcuterie plate of local handmade cheese and salami. The barista is fiddling with a new machine, a Clover for tea that can adjust its brew temperature for different leaf blends.

Roy Street is the most extreme example of the company's experimentation. It's also testing wine, beer, and premium-food offerings in five markets, as well as other subtle changes in decor or lighting, and how they might affect a branch's atmosphere and receipts. These are all efforts to realize a fundamental goal: to boost store business beyond the breakfast rush, which still constitutes the bulk of the company's revenue. And in Roy Street, in particular, Rubinfeld believes, Starbucks has the answer. As we observe the scene, he leans over and whispers, "You could be here from 6 a.m. to midnight."

As Starbucks was struggling to mount a turnaround between 2007 and 2010, there seemed a belief, at least on Wall Street, that the company's best days were behind it. Schultz was publicly advised that to save the company, Starbucks should lower prices and cut health benefits to employees. He did neither. While he did shutter branches and roil his management ranks, what seems most striking is that the company invested in new ideas rather than cut back.

The next great challenge, Schultz explains, involves the company's deepening involvement in health and wellness. "I think despite the growth and development and the size of the company," he tells me, "we're still in the early days of what Starbucks might become." Later this year [2012] or early next, Starbucks will integrate a new line of fruit and vegetable juices and new healthy foods into its stores. But even before then, Schultz will oversee a risky (and related) endeavor.

"We are opening a whole new retail store," Schultz says as he reclines on a large couch in his office. Behind him, a wall of windows frame the Seattle rail yards and, in the distance, Puget Sound. The test concept, he adds, is operating in a secret place in this very building.

"Could I see it?" I ask.

"No, you can't," he says, laughing. "But we're going to create a brand-new retail concept around health and wellness that's never been done before. Because we think we can create a national retail brand."

Schultz's appetite for risk is all too apparent here—and innovators often meet with failure. Several times during my visit to Seattle, I tasted some of the juices, currently sold under the Evolution name, that Starbucks is testing for launch. Some are conventional and appealing, tangy mixes of mango and orange; others come fresh out of the Starbucks R&D lab and taste, at least to my palate, like they come fresh out of the Starbucks R&D lab. For lunch, would you drink 12 ounces of neon-green liquid kale sweetened with apple juice or spiced with a ginger kick?

When I ask Schultz whether Starbucks might be straying too far from its core, he says, "Well, you have to ask: What is the core?" Starbucks is not a tech company, he points out, nor is it an apparel company. "We have 40-plus years of acquiring real estate and designing and operating stores all over the world. We understand how to elevate and romanticize an experience built around a beverage. And we think we can do that again on a platform of health and wellness, and elevate the nutritious value of what fresh fruit and vegetables can be in a world that is longing for educational tools to eat and live healthier." The company can, he vows, "bring that to life in a way that has not been done."

Schultz is a very good salesman. He gets you curious; he wants you to buy in. He assures me that the concepts for the two new health and wellness

stores, which will debut this spring in Seattle, are “stunning.”

Obviously, he sees a market. More to the point, he sees a mission. Schultz effectively contends the distinction is not relevant; Starbucks has enjoyed the biggest profits in its 43-year history by pursuing both. And he sees this as logical rather than paradoxical. “Profit as a singular goal is a fairly shallow aspiration, and it’s not enduring,” he says. “I’ve always said that you can’t create long-term value for the shareholder unless you create long-term value for the employees and the communities you serve.” In Schultz’s view, companies with a social or environmental mission simply get rewarded. “And those companies that are unwilling to participate in improving and enhancing the communities they serve and the employees they employ,” he adds, “will be in the penalty box. And they should be.”

Still, embracing new and risky endeavors—or making a consistent effort to balance business with social involvement—is not the only explanation for why Starbucks has bounced back. You can get the feeling, talking to Schultz, that if you asked him to make you a macchiato, he could (and would) walk you over to the Starbucks store near his office, but that he’d also lecture you on why one espresso technique is superior to another and why the coffee machines at Starbucks are now built at a lower height, at his insistence, so the barista can chat and make eye contact.

To that end, innovation is pointless unless you sweat the details. When Schultz and I met in downtown Manhattan, we had spoken for about an hour before we shook hands and said goodbye. I walked toward the door, but before leaving I looked back. The Starbucks boss—now comfortably a billionaire—was wiping a spill from the table with a napkin. Then he stood up to bus his mug to the counter. On the way, though, he paused: He had noticed an empty coffee cup that someone else had left behind, and so he grabbed that, too.

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*Fast Company*, February 2012

# **Under Armour and the Disrupter's Dilemma**

*By Chuck Salter*

*Kevin Plank made Under Armour an improbable hit, kicking off the fastest growing category of sportswear. Here, David is on a collision course with Goliath. Plank's survival strategy: Be like Nike.*

The ad needs a shot of adrenaline, a killer riff. “Right there,” says Marcus Stephens, watching the commercial for the umpteenth time. He breaks out his air guitar: “*Wherrrrrrrrng!* Loop it there a few times. *Wa-wa-wherrrrrrng!*” The creative team from Under Armour is working overtime on a new 30-second spot. The company makes premium athletic clothes that stay remarkably dry and light when you sweat and sell as fast as Under Armour can sew them. The ad is scheduled to air in two weeks, during the pre-Oscars hype, but the latest version is due tomorrow. “It’s always crunch time,” says Stephens, the creative director.

Maybe so. But this crunch is like no other in the life of 9-year-old Under Armour. The new commercial is for a new audience: women. It could catapult what has been until now a testosterone-driven brand to the next level. The company is an unlikely would-be giant killer in an industry in which Nike, Adidas, and Reebok are so dominant that it seems inconceivable that a challenger brand could get noticed, let alone thrive. But Under Armour has done both. Much as JetBlue snuck up on the airlines, Under Armour snuck up on the sports giants.

Founder and president Kevin Plank, 32, almost single-handedly launched a new sportswear category out of whole cloth—specifically, out of sweaty undergarments. Plank, a former college football player, worked with manufacturers to create a comfy shirt to wear under football pads. Cotton absorbs sweat, but he found that a polyester blend wicked perspiration off the skin. The moisture evaporated quicker. The fabric stayed light. It made athletes feel faster and fresher, Plank says, which gave them a psychological edge. It didn’t hurt that his football shirt was as silky and snug as Superman’s suit.

Performance apparel may be a small category compared with, say, the \$9 billion sneaker market. But it’s become the industry’s fastest-growing sector.

During the past four years, annual retail sales have jumped nearly fivefold to more than \$400 million. Under Armour, one of the country's fastest-growing private companies, has developed apparel for various sports, climates, and settings—loose-fitting shirts, sweats, batting gloves, even sports bras and boxers—available at more than 6,500 stores worldwide. The brand dominates the category so much—with around 75% market share—that the name has become synonymous with the product. Under Armour is like Kleenex or Band-Aid.

And therein lies the trouble. Plank may have caught the megabrands snoozing, but now they're wide awake, and the alpha underdog is under siege from Nike Dri-Fit, Adidas ClimaLite, Reebok Hydromove, and others. "We're not taking this lying down," warns Ken Barker, director of apparel at Adidas America. "It's a war."

**Under Armour is facing** what might be called the "disrupter's dilemma," the exhilarating and perilous "What now?" moment that upstarts dream of—and fear. It's the mirror image of the "innovator's dilemma" famously formulated by Harvard Business School's Clayton Christensen, who explored how dominant companies can be upended by disrupters bearing new technologies. But if the established players respond nimbly, it can be the disrupter that comes under pressure. Consider the recent innovators that have stirred sleeping giants: Netflix, after its mail-in DVD-rental service took off; TiVo, after it launched an easy-to-use digital video recorder; JetBlue, after it made flying less expensive but more enjoyable; even Apple, after the iPod became an icon. In each case, the hunter becomes the hunted and tries to avoid becoming another cautionary tale—the next Netscape. That online pioneer introduced its hot browser and was subsequently crushed by Microsoft's Internet Explorer.

To survive, a disrupter has to grow beyond its niche, developing new products and innovations that reach new customers. At the same time, it has to protect its turf, differentiating itself from an increasing number of copycats. Other than the harrowing years of launching a business, this maturation ranks as one of the most challenging periods for companies, says Adrian Slywotzky, managing director of Mercer Management Consulting and coauthor of *How to Grow When Markets Don't*. It puts everything that worked up until then to the test: the business model, the leadership, the customer connection, the brand.

Companies need to branch out in a way that makes strategic sense and at a pace they can manage. For instance, Starbucks built on its early success by saturating a local market with multiple locations. It dominated Seattle before it applied the same strategy elsewhere, one city at a time. “You have to ask, ‘Which are the segments where my model gives me an advantage?’ And, ‘What will it take to establish a leadership position?’” Slywotzky says. “For every Starbucks example, you have, I don’t know, 30 more companies you’ve never heard of because they didn’t ask the right questions and didn’t make it.”

Ten years ago, the upstart sports brand trying to make the leap from disrupter to major player was No Fear. The company said it was creating a new category called “attitude apparel.” Its shirts and hats featuring in-your-face slogans such as “Second place is the first loser” were all the rage among teenage boys. No Fear was fearless, expanding into the hypercompetitive shoe market and airing its first TV ad during the 1995 Super Bowl. Soon, though, Nike and other competitors came out with their own attitude apparel, while No Fear stumbled because of its limited distribution network. Before long, the company was reduced to a niche player, a motocross brand.

Plank is determined not to let that happen to Under Armour. “Most people out there are saying we’re going to trip up at some point—it’s just a matter of when,” he says. “Our job is to prove them wrong.” The key to Under Armour’s next growth spurt, he says, is winning over women—no small feat for a company started by football players for football players. The ad on Oscars weekend is part of a delicate and complicated strategic shift: This supermacho brand doesn’t want to alienate its core customers by offering something called the Power Thong for women. And there lies the fundamental test of a brand as it evolves. How do you stay true to your roots while simultaneously attracting a broader market?

So far, Under Armour has defied the odds. In a market considered impenetrable, says Paul Swangard, managing director of the Warsaw Sports Marketing Center at the University of Oregon, “we have an interesting new battle on our hands.”

**Under Armour and Nike** are the top sellers of performance apparel—in that order. But that’s just one category. In the grander scheme of things, Under Armour’s annual revenue, more than \$200 million last year, is practically a rounding error for the \$13 billion Nike. David, meet Goliath.

Nike declined to comment on Under Armour. Its recent push for Nike Pro performance apparel, however, speaks volumes. The ads, aptly named “For Warriors,” were one of its largest apparel campaigns ever. The budget, reportedly \$30 million, exceeded Under Armour’s total ad spending last year.

It’s enough to make a small company sweat. Unless, that is, you’re Under Armour. The 450-employee staff exudes Plank’s unwavering, understated confidence. The company got this far on smarts, hustle, and creativity: grassroots marketing, athlete-aided product development, a TV ad that became a phenomenon, a must-have logo, and a rabid following. Sound familiar? It should. Nike did practically the same thing.

Nike founder Phil Knight and Plank both started their companies shortly after college. Both were former athletes: Knight on the track, Plank on the gridiron. “When I first started, I believed every kid playing football would be wearing an Under Armour shirt in two years,” he says. “I was a young punk who thought he knew everything.” Plank was also a fast learner. After some of his University of Maryland teammates wore his shirts while playing on the lacrosse and baseball squads, he saw the product’s broader potential. “I realized, I don’t just have a product,” he says. “I have a market.”

Both entrepreneurs disrupted the industry by working under the radar at first to build a loyal following among athletes. Just as Knight sold shoes out of his trunk at track meets, Plank loaded up his Ford Explorer and visited locker rooms throughout the Atlantic Coast Conference starting in 1996. He befriended players as well as equipment managers. It didn’t take long before the distinctive logo—an overlapping U and A—appeared in college and pro games, bowl games, and the Super Bowl. Plank let his customers’ needs drive product development; when they requested long sleeves or cold-weather clothes, he drove to New York’s garment district and created them.

From the time he was a boy in Kensington, Maryland, Plank has run one enterprise or another. Shoveling snow. Mowing lawns. Delivering roses in college. If the football-shirt idea didn’t take, he had a backup: catering crab cakes at pro-golf tournaments.

His innovation wasn’t inventing the fabric. Nike and Adidas had already developed moisture-management fabrics. What he did was recognize the appeal of a compression undershirt and other forms of polyester-blend “base layer” apparel (even though it costs two to three times as much as its cotton

counterparts). Because he was thoroughly outmanned, he had to do more with less. He recruited dozens of college and pro players as his unofficial marketers. “Try it,” he told them, “and if you like it, give one to the guy with the locker next to you.”

The underdog had to figure out ways to get more bang out of its tiny marketing budget. For Under Armour’s first TV ad in 2003, the goal was to create a spot that would live longer than its 30 seconds on the air, says Steve Battista, director of marketing. The commercial showed a football squad huddled around Eric Ogbogu, one of Plank’s former teammates and a defensive end for the Dallas Cowboys. He shouted, “We must protect this house!” as if his life depended on it.

The reaction was a marketer’s dream—more than 50,000 calls and emails from athletes, coaches, even execs. Consumers sent in stories and tapes of themselves invoking the rallying cry at games, and even at sales meetings. PROTECT THIS HOUSE! banners appeared at NFL stadiums. ESPN anchor Stuart Scott and David Letterman quoted the phrase. It became shorthand for the brand, Under Armour’s version of “Just do it.”

**The disrupter’s dilemma** is not a new challenge for Under Armour. But Plank knows that the battle gets fiercer and the stakes higher the larger his company grows, and he’s not taking anything for granted. On the whiteboard in his office, in a former Tide factory in Baltimore, one word stands out: *attack*. “‘Protect this house’ doesn’t mean sitting back on your haunches,” he says. Plank, who played fullback at Maryland, looks like he could still take care of business on third and goal. He wasn’t the most talented player, former teammates say, but he was fearless.

The first time Under Armour designed a women’s line a few years ago, he pulled the styles at the last minute. Losing \$600,000 in potential revenue was painful, he says, but it was the right decision: The quality and fit were poor. The next time, the company relied on more female designers and athletes, and it paid off. In just 12 months, Under Armour was producing the second- and third-best-selling sports bras. More than any other product, says Raphael Peck, vice president of apparel, “the sports bra is how you win credibility with women.”

Unfortunately, most women don’t know Under Armour, and if they’ve seen previous ads or borrowed a boyfriend’s shirt, they probably assume it’s

for guys. The macho pitch won't work, not for hot-pink sports bras. Yet Under Armour can't feminize the brand. It has to speak to athletes, period. The TV ad for this year's new women's line shows soccer star Heather Mitts doing her morning workout. She's best known as a member of the Olympic squad that won the gold last summer. Like Ogbogu, she's intense and fit, but not intimidating. Mitts doesn't utter Under Armour's signature catchphrase, but "the message is still about passion and emotion and performance," says Plank. And the ads are unlikely to turn off young males: Last year, Mitts beat out Anna Kournikova and others in ESPN's online vote for "hottest female athlete."

The company needs more than new customers. Last year, 90% of its sales at the Sports Authority, the largest sporting-goods chain in the United States, came from just 27 products, says Doug Morton, the chain's CEO. This year, it's up to 50. Peck is building a pipeline of new products and patented technologies. (Under Armour now makes more than 300 products.) But here, too, the company has had to figure out ways to outmaneuver players with vast R&D resources. So Under Armour teamed up with the Human Performance Lab at East Carolina University, in North Carolina, whose research led to the new Metal Series, with lightweight mesh in the underarms and back to provide ventilation. Metal, the company's most technical and expensive line yet (\$50 for a short-sleeve top), is selling nearly twice as fast as expected.

**As a disrupter grows**, it must decide which techniques that worked for the company early on no longer apply, so it can operate like a mature organization. At the same time, it can't lose the competitive advantages of a scrappy startup—in Under Armour's case, speed, daring, and strategic relationships.

The original Under Armour, where Plank infiltrated locker rooms and once tracked down Oliver Stone to get the unknown brand in the movie *Any Given Sunday*, is alive and well. Twelve members of the sports marketing department do exactly what Plank did: hang out in locker rooms, distribute samples, and schmooze with players and equipment managers. "Nothing has changed," he says. "There are just more zeros."

The company can't rely on athletes alone for exposure: It's just too expensive. Nike pays thousands of jocks to wear its gear, including such superstars as LeBron James, who signed for a reported \$90 million. Under

Armour does what it can, paying a few dozen pros, including the Texas Rangers' Alfonso Soriano and ski phenom Jeremy Bloom. Under Armour also looks for unofficial endorsements. "One of our high-profile guys wears it even though he has a contract with Nike," admits Mike McCord, equipment manager for the Dallas Cowboys. And one member of Under Armour's marketing team works in Los Angeles pursuing product placements full time. In exchange for free gear, Under Armour has appeared in nearly 50 movies, including *Million Dollar Baby*, and a dozen TV shows, including *The Apprentice*.

Plank cultivates retailers as intently as he did when he was just starting out. He makes himself available to them by phone or in person, unheard-of access for bigger companies. Under Armour doesn't operate its own stores (as Nike does) or distribute through discounters or department stores (the lone exception is its new line of everyday skivvies), so retailers don't worry about additional competition or a surplus of price-deflating inventory.

But Under Armour also acts big when and where it needs to—and can sometimes outperform the big guys. Thanks to a state-of-the-art 350,000-square-foot warehouse, it can pack products by SKU, size, and color, and ship to the Sports Authority's 400 stores within days.

**This David and Goliath story** isn't over yet. It's too early to celebrate. But a tantalizing question lingers: Could Under Armour be the next Nike? A number of retailers think Plank is on the right path, but he won't bite. The performance apparel category has room for two brands, he says, and Under Armour will be one of them. Even when Nike's "For Warriors" ads were blanketing the airwaves, Under Armour's new \$20 shirt was selling out. More important, several months after the Mitts ads hit, women's-apparel sales have increased from 13% of the total to 19%.

The growth curve to becoming a \$1 billion company is lined with pitfalls and uncertainty, but don't underestimate Plank. He has a 32-year-old's optimism and ambition and a 50-year-old's levelheadedness about managing a larger organization, the danger of trying to be all things to all people, and his own limitations. "My number-one asset is knowing what I'm good at and what I'm not good at," he says, which is why he surrounds himself with industry veterans. He readily seeks advice from Gap chairman Bob Fisher and

eBay CEO Meg Whitman (members of Under Armour's private-equity investor board), and from former Nautica CEO Harvey Sanders.

It also helps to be an inspiring underdog and overachiever, the sort of person who made the Maryland team as a walk-on after the major college scouts snubbed him. Walk-ons rarely play, but at 5-foot-11-inches and 229 pounds, Plank became a starter and eventually a team captain. He has faced bigger, stronger opponents before, like the time he was assigned to block his buddy Ogbogu in practice. The 6-foot-4-inch, 269-pound Ogbogu wound up on his back with a concussion.

That, Nike might want to note, is the kind of competitor Plank is.

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*Fast Company*, August 2005

# Jeff Bezos on the Risks and Rewards of Constant Innovation

*By J.J. McCorvey*

*When a company gets massive, it inevitably slows down, takes fewer risks, and stops evolving. Not Amazon. Here's how founder and CEO Jeff Bezos continually reinvents the e-commerce giant.*

The first thing you notice about Jeff Bezos is how he strides into a room. A surprisingly diminutive figure, clad in blue jeans and a blue pinstripe button-down, Bezos flings open the door with an audible whoosh and instantly commands the space with his explosive voice, boisterous manner, and a look of total confidence. “How are you?” he booms, in a way that makes it sound like both a question and a high-decibel announcement.

Each of the dozen buildings on Amazon’s Seattle campus is named for a milestone in the company’s history—Wainwright, for instance, honors its first customer. Bezos and I meet in a six-floor structure known as Day One North. The name means far more than the fact that Amazon, like every company in the universe, opened on a certain date (in this case, it’s July 16, 1995). No, Day One is a central motivating idea for Bezos, who has been reminding the public since his first letter to shareholders in 1997 that we are only at Day One in the development of both the Internet and his ambitious retail enterprise. In one recent update for shareholders, he went so far as to assert, with typical I-know-something-you-don’t flair, that “the alarm clock hasn’t even gone off yet.” So I ask Bezos: “What exactly does the rest of Day One look like?” He pauses to think, then exclaims, “We’re still asleep at that!”

He’s a liar.

Amazon is a company that is anything but asleep. Amazon, in fact, is an eyes-wide-open army fighting—and winning—a battle that no one can map as well as its general. Yes, it is still the ruthless king of books—especially after Apple’s recent loss in a book price-fixing suit. But nearly two decades after its real Day One, the e-commerce giant has evolved light-years from being just a book peddler. More than 209 million active customers rely on Amazon for everything from flat-panel TVs to dog food. Over the past five years, the retailer has snatched up its most sophisticated competition—shoe seller

Zappos and Quidsi, parent of such sites as Diapers.com, Soap.com, Wag.com, and BeautyBar.com. It has purchased the robot maker Kiva Systems, because robots accelerate the speed at which Amazon can assemble customer orders, sometimes getting it down to 20 minutes from click to ship. Annual sales have quadrupled over the same period to a whopping \$61 billion. Along the way, incidentally, Amazon also became the world's most trusted company. Consumers voted it so in a recent Harris Poll, usurping the spot formerly held by Apple.

Amazon has done a lot more than become a stellar retailer. It has reinvented, disrupted, redefined, and renovated the global marketplace. Last year, e-commerce sales around the world surpassed \$1 trillion for the first time; Amazon accounted for more than 5% of that volume. This seemingly inevitable shift has claimed plenty of victims, with more to come. Big-box retailers like Circuit City and Best Buy bore the brunt of Amazon's digital assault, while shopping-mall mainstays such as Sears and JCPenney have also seen sales tank. Malls in general, which once seemed to offer some shelter from the online pummeling, have been hollowed out. By Green Street Advisors' estimate, 10% of the country's large malls will close in the next decade. It has become painfully clear that the chance to sift through bins of sweaters simply isn't enough of a draw for shoppers anymore.

Amazon's increasing dominance is now less about what it sells than *how* it sells. And that portends a second wave of change that will further devastate competitors and transform retail again. It's not just "1-Click Ordering" on Amazon's mobile app, which is tailor-made for impulse buying. It's not just the company's "Subscribe & Save" feature, which lets customers schedule regular replenishments of essentials like toilet paper and deodorant. It's not just Amazon's "Lockers" program, in which huge metal cabinets are installed at 7-Elevens and Staples in select cities, letting customers securely pick up packages at their convenience instead of risking missed (or stolen) deliveries.

No, it's all this, plus something more primal: speed. Bezos has turned Amazon into an unprecedented speed demon that can give you anything you want. Right. Now. To best understand Amazon's aggressive game plan—and its true ambitions—you need to begin with Amazon Prime, the company's \$79-per-year, second-day delivery program. "I think Amazon Prime is the best bargain in the history of shopping," Bezos tells me, noting that the service now includes free shipping on more than 15 million items, up from

the 1 million it launched with in 2005. Prime members also gain access to more than 40,000 streaming Instant Video programs and 300,000 free books in the Kindle Owners' Lending Library. As annoying as this might be to Netflix, it is not intended primarily as an assault on that business. Rather, Bezos is willing to lose money on shipping and services in exchange for loyalty. Those 10 million Prime members (up from 5 million two years ago, according to Morningstar) are practically addicted to using Amazon. The average Prime member spends an astounding \$1,224 a year on Amazon, which is \$700 more than a regular user. Members' purchases and membership fees make up more than a third of Amazon's U.S. profit. And memberships are projected to rise 150%, to 25 million, by 2017.

Robbie Schwietzer, VP of Prime, is more candid than his boss when explaining Prime's true purpose: "Once you become a Prime member, your human nature takes over. You want to leverage your \$79 as much as possible," he says. "Not only do you buy more, but you buy in a broader set of categories. You discover all the selections we have that you otherwise wouldn't have thought to look to Amazon for." And what you buy at Amazon you won't buy from your local retailer.

Prime is phase one in a three-tiered scheme that also involves expanding Amazon's local fulfillment capabilities and a nascent program called AmazonFresh. Together, these pillars will remake consumers' expectations about retail. Bezos seems to relish the coming changes. "In the old world, you could make a living by hoping that your customer didn't know whether your price was actually competitive. That's a very"—Bezos pauses for a second to rummage for the least insulting word—"tenuous strategy in the new world. [Now] you can't convince people you have the low price; you actually have to have the low price. You can't persuade people that your delivery speeds are fast; you actually have to have fast delivery speeds!" With that last challenge, he erupts in a thunderous laugh, throwing his cleanly depilated head so far back that you can see the dark fillings on his upper molars. He really does seem to know something the rest of us don't. We're still asleep, he says? The alarm clock at Amazon went off hours ago. Whether the rest of the retail world has woken up yet is another question.

**Amazon's 1-million-square-foot** Phoenix fulfillment center produces a steady and syncopated rhythm. It is the turn of mechanical conveyor belts, the thud of boxes hitting metal, the beeping of forklifts moving to and fro, and the hum of

more than 100 industrial-size air conditioners whirring away. This is the sound of speed—a sonic representation of what it takes to serve millions of customers scattered across the globe.

In centers like this one, of which there are 89 globally (with more to come), Amazon has built the complex machinery to make sure a product will ship out in less than 2.5 hours from the time a customer clicks PLACE YOUR ORDER. From that click, a set of algorithms calculates the customer's location, desired shipping speed, and product availability; it then dispatches the purchase request to "pickers" on duty at the nearest fulfillment center. The system directs the new order to the picker who is closest on the floor to that product, popping up with a bleep on the picker's handheld scanner gun. These men and women roam the sea of product shelves with carts, guided by Amazon's steady hand to the precise location of the product on the color-coded shelves. The picker gathers the item and puts it into a bin with other customer orders. And from there, the item zooms off on a conveyor belt to a boxing station, where a computer instructs a worker on what size box to grab and what items belong in that box. After the packer completes an order, the word SUCCESS lights up in big green letters on a nearby computer screen. Then the package goes back on a conveyor, where the fastest delivery method is calculated by scanning the box, which is then kicked down a winding chute to the appropriate truck.

The process is efficient, but still lower tech than it could be. Although Amazon shelled out \$775 million last year for those orange Kiva robots, it says it's still "evaluating" how to deploy the bots, and they're nowhere to be seen here. "Fulfillment by Amazon" is still a very human endeavor—and the company's creativity thrives within that limitation. A team at the Phoenix center is constantly thinking of ways to chip away at the 2.5-hour processing time. For instance, when products arrive from Amazon's vendors and the 2 million third-party merchants who sell their goods on the site, workers now scan them into Amazon's inventory system (again, with a handheld gun) instead of entering the details manually. Also, products have been stowed on shelves in what otherwise might appear to be a random way—for example, a single stuffed teddy bear might be next to a college biology book—because it reduces the potential distance a worker must trek between popular products that might be ordered together. Small tweaks like these have an impact: In the past two years, Amazon has reduced the time it took to move a product by a

quarter. During the 2012 holiday season, the company processed 306 items per second worldwide.

These centers aren't just about warehouse speed, though. They're also about proximity. Over the past several years, Bezos has poured billions into building them in areas closer and closer to customers. The Phoenix warehouse, one of four in the region, serves a metro area of nearly 4 million. Robbinsville, New Jersey, is roughly one hour from 8 million New Yorkers. Patterson, California, is an hour and a half from 7 million people living in the San Francisco Bay Area.

"What you see happening," Bezos explains, "is that we can have inventory geographically near major urban populations. If we can be smart enough—and when I say 'smart enough,' I mean have the right technology, the right software systems, machine-learning tools—to position inventory in all the right places, over time, your items never get on an airplane. It's lower cost, less fuel burned, and faster delivery."

The holy grail of shipping—same-day delivery—is tantalizingly within reach. Amazon already offers that service in select cities, what it calls "local express" delivery, but the big trick is to do it nationally. And the crucial element of this ambitious plan is revealed by something wonkier than a bunch of buildings. It is something only an accountant could see coming: a cunning shift in tax strategy.

If you were a competitor who knew what to listen for, you'd practically hear the *Jaws* theme every time Bezos said the word *taxes*. For years, Amazon fervently avoided establishing what is called a "tax nexus"—that is, a large-enough physical presence—in states that could potentially force it to collect sales tax from its customers, something brick-and-mortar and mom-and-pop stores had long argued would finally remove Amazon's unfair pricing advantage. In states that dared to challenge Amazon, the company would quickly yank operations.

But Amazon has since changed its mind. It determined that the benefits of more fulfillment centers—and all the speed they'll provide—will outweigh the tax cost they'll incur. So it began negotiating with states for tax incentives. South Carolina agreed to let the company slide without collecting sales tax until 2016, in exchange for bringing 2,000 jobs to the state. In California, Amazon was given a year to start collecting taxes in exchange for building

three new warehouses. And at the end of 2011, Amazon even threw its support behind a federal bill that would mandate all online retailers with sales of more than \$1 million to collect tax in states in which they sold to customers. In 2012 alone, Amazon spent \$2.5 million lobbying for issues that included what's known as the Marketplace Fairness Act—the same law, essentially, it had once moved heaven and earth to eradicate. The bill recently cleared the U.S. Senate and awaits passage in the House.

"The general perception is companies thinking, Oh, great, finally a level playing field," says John Rossman, a former Amazon executive. "But other retailers are going to regret the day. Sales tax was one of the few things impeding Amazon from expanding. Now it's like wherever Amazon wants to be, whatever Amazon wants to do, they are going to do it."

**There's yet another weapon** in Amazon's offensive, and it's ready for rollout. It's called AmazonFresh, a grocery delivery service that has long been available only in Seattle. The site has a selection of 100,000 items, and from my hotel room in that city on a recent Saturday at 11 a.m., I gave it a try. I clicked on chips, bananas, apples, yogurt, and a case of bottled water—along with a DVD of *Silver Linings Playbook* and a Moleskine reporter's notebook. After checking out and paying the \$10 delivery fee, I requested my goods to arrive during the 7 p.m. to 8 p.m. window. At 7:15 that evening, De, my AmazonFresh delivery woman, showed up in the lobby. She helped carry my bags up the elevator and to my hotel room, and tried several times to refuse a \$5 tip for the trouble I put her through in the name of research. It was simple, easy—and for Amazon competitors, very threatening.

De and the Kiva robots are central to what Amazon sees as the future of shopping: whatever you want, whenever you want it, wherever you want it, as fast as you demand it. AmazonFresh is expected to expand soon to 20 more urban markets—including some outside America. Los Angeles became the second AmazonFresh market, this past June, and customers there were offered something the folks in Seattle must wish they had gotten: a free trial of Prime Fresh, the upgraded version of Amazon Prime, which provides free shipping of products *and* free delivery of groceries for orders over \$35. Subscribers will pay an annual fee of \$299. Considering that grocery delivery otherwise costs between \$8 and \$10 each time (depending on order size), the subscription covers itself after about 30 deliveries—which busy families will quickly exceed.

Bezos, in his cagey, friendly way, seems more excited about my Fresh experience than he is about describing Fresh's future. He seems almost surprised that the service worked so well at a hotel, given that it was designed for home delivery. "Thank you!" he shouts. After peppering me with questions on how, precisely, the delivery went down, he finally gets around to addressing the service's business purpose.

"We'd been doing a very efficient job with our current distribution model for a wide variety of things," Bezos says. "Diapers? Fine, no problem. Even Cheerios. But there are a bunch of products that you can't just wrap up in a cardboard box and ship 'em. It doesn't work for milk. It doesn't work for hamburger." So he developed a service that would work—not because he suddenly wanted to become your full-service grocer but because of how often people buy food.

AmazonFresh is actually a Trojan horse, a service designed for a much greater purpose. "It was articulated [in the initial, internal pitch to Bezos] that this would work with the broader rollout of same-day delivery," says Tom Furphy, a former Amazon executive who launched Fresh in 2007 and ran it until 2009. Creating a same-day delivery service poses tremendous logistical and economic hurdles. It's the so-called last-mile problem—you can ship trucks' worth of packages from a warehouse easily enough, but getting an individual package to wind its way through a single neighborhood and arrive at a single consumer's door isn't easy. The volume of freight and frequency of delivery must outweigh the costs of fuel and time, or else this last mile is wildly expensive. So by expanding grocery delivery, Amazon hopes to transform monthly customers to weekly—or even thrice-weekly—customers. And that, in turn, will produce the kind of order volume that makes same-day delivery worth investing in. "Think of the synergy between Prime, same-day delivery, and Fresh," says Furphy. "When all of those things start working in concert, it can be a very beautiful thing."

**AmazonFresh** is arguably the last link in Bezos's big plan: to make Amazon the dominant servicer—not just seller—of the entire retail experience. The difference is crucial. Third-party sellers, retailers large and small, now account for 40% of Amazon's product sales. Amazon generally gets up to a 20% slice of each transaction. Those sellers are also highly incentivized to use Fulfillment by Amazon (known as FBA). Rather than shipping their products themselves after a sale is made on the Amazon site, these retailers let Amazon

do the heavy lifting, picking and packing at places like the Phoenix center. For the sellers, an FBA agreement grants them access to Prime shipping speeds, which can help them win new customers and can allow them to sell at slightly higher prices. For Amazon, FBA increases sales, profits, and the likelihood that any shopper can find any item on its website.

The burgeoning AmazonFresh transportation network will help expand these numbers. In Los Angeles and Seattle, a fleet of Fresh trucks delivers everything from full-course meals to chocolate from local merchants. The bright green branded trucks—with polite drivers in branded uniforms—let Amazon personify its brand, giving it the same kind of trustworthy familiarity that fueled the rise of UPS in the 1930s. “If you have all kinds of fly-by-night operations coming to your door, people don’t like that,” says Yossi Sheffi, professor and director of the MIT Center for Transportation and Logistics. “It’s different with someone in a U.S. Postal Service or FedEx uniform. Those brands inspire confidence.”

As Amazon evolves into a same-day delivery service, its active transportation fleet could become yet another competitive advantage. By supplementing its long-term relationships with UPS and FedEx with its own Fresh trucks, Amazon may well be able to deliver faster than retailers that depend entirely on outside services. “Pretty soon, if you’re a retailer with your online business, you’re going to be faced with a choice,” says Brian Walker, a former analyst at Forrester Research who is now with Hybris, a provider of e-commerce software. “You’re not going to be able to match Amazon, so you’re going to have to consider partnering with them and leveraging their network.”

This shift could even turn Amazon into a competitor to UPS and FedEx, the long-standing duopoly of next-day U.S. shipping. “In classic Amazon fashion, they could leverage the infrastructure they’ve built for themselves, take a disruptive approach to the pricing, and run it as an efficiency play,” says Walker.

Amazon has been down this road before. Its Web Services began as an efficient, reliable back end to handle its own web operations—then became so adept that it now provides digital services for an enormous range of customers, including Netflix and, reportedly, Apple. It’s not impossible to imagine Amazon doing the same with shipping. Last year, the company cut its

shipping costs as a percentage of sales from 5.4% to 4.5%. As it builds more distribution centers, installs more lockers, and builds out its fleet, Amazon is likely to drive those efficiency costs down even further.

So is Amazon Freight Services Bezos's next mission? When I ask, the laugh lines vanish from his face as if someone flipped a switch on his back. He contends that same-day delivery is too expensive outside of urban markets and that it only makes sense for Amazon to deliver its own products within the Fresh program. In China, he explains, Amazon does, in fact, deliver products via many couriers and bicycle messengers. "But in a country like the United States," he says, "we have such a sophisticated last-mile delivery system that it makes more sense for Amazon to use that system to reach its customers in a rapid and accurate way." When I ask whether he would consider, say, buying UPS, with its 90,000 trucks—or even more radically, purchasing the foundering USPS, with its 213,000 vehicles running daily through America's cities and towns—Bezos scoffs. But he won't precisely say no.

Rivals aren't waiting for an answer. eBay has launched eBay Now, a \$5 service that uses its own branded couriers in New York, San Francisco, and San Jose to fetch products from local retail stores like Best Buy and Toys "R" Us and deliver them to customers within an hour. Google, fully aware that Amazon's market share in product search is substantial (now 30% to Google's 13%), has launched a pilot service called Google Shopping Express, which partners with courier companies. Walmart—which has booted all Kindles from its stores—started testing same-day delivery in select cities during the last holiday season, shipping items directly from its stores.

These are the sort of ideas that retailers—both e-commerce and physical, large and small—will have to consider as Amazon expands. Guys like Jeff Jordan, partner at well-known venture firm Andreessen Horowitz, will make sure of it. His firm follows and invests in direct-to-consumer businesses. "We won't invest in a company," he says, "unless they can tell us why they won't get steamrolled by Amazon."

**Given the astounding growth** of Amazon, and the seemingly infinite ways it has defied the critics, Bezos may have proved himself the best CEO in the world at taking the long view. But he doesn't like talking about it. He does, however, like discussing what the future might bring for his customers. In

fact, he likes talking about his customer so much that the word can seem like a conversational tic; he used it 40 times, by my count, in just one interview. “It’s impossible to imagine that 10 years from now I could interview an Amazon customer and they would tell me, ‘Yeah, I really love Amazon. I just wish your prices were a little higher,’” he says. “Or, ‘I just wish you’d deliver a little more slowly.’” In Bezos’s world, the goal of the coming decade is a lot like the goal of the past two: Be cheap. Be fast. That’s how you win.

There is, naturally, no guarantee that Bezos will simply win and win and win. The bigger Amazon gets, the greater the number and variety of stakeholders required to make the Amazon machine hum. Many seem to be getting increasingly frustrated. Consider Amazon’s third-party sellers—that group making up 40% of the company’s product sales. Earlier this year, Amazon issued a series of fee hikes for use of its fulfillment services, ranging from as low as 5 cents per smallish unit to as much as \$100 for heavier or awkwardly shaped items (like a whiteboard, say, or roll-away bed). Many sellers took to Amazon’s forums to complain, and others threatened to go to eBay, which mostly leaves fulfillment to its sellers. “I think Amazon is a necessary evil,” says Louisa Eyler, distributor for Lock Laces, a shoelace product that sells as many as 3,000 units per week on Amazon. After the price hike, Eyler says her total fees for the \$7.99 item went from \$2.37 to \$3.62. She says Amazon now makes more per unit than she does.

Or consider the frustrations of Amazon employees, who are striking at two of its eight German facilities in an effort to wrest higher wages and overtime pay. At the height of the conflict, on June 17 [2013], 1,300 workers walked off the job. (It is one of Amazon’s largest walk-offs in its biggest foreign market and could result in shipping delays.) Meanwhile, Amazon workers in the U.S. have filed a lawsuit claiming that they’ve been subject to excessive security checks—to search for pilfered items—at warehouses. The suit alleges their wait could last as long as 25 minutes, an inconvenience Amazon would never subject its customers to. “It means there’s a broken process somewhere,” says Annette Gleneicki, an executive at Confirmit, a software company that helps businesses capture customer and employee feedback. “[Bezos] clearly inspires passion in his employees, but that’s only sustainable for so long.”

The company could be vulnerable on other fronts as well. Target and Walgreens have “geo-fenced” their stores so their mobile apps can guide

customers directly to the products they desire. Walmart and Macy's have begun making their stores do double-duty, both as a place to shop and a warehouse from which to ship products. They're proving that retail won't go away—it'll learn and adapt. "Now you have smart brick-and-mortar stores saying, Why isn't our experience more intuitive, as it is on the web?" says Doug Stephens, author of *The Retail Revival: Re-Imagining Business for the New Age of Consumerism*. "We should know a consumer when they walk in, and what they bought before, in the same way as Amazon's recommendation engine."

Bezos won't admit to any deep concern. While Amazon's paper-thin profits continue to perplex observers, the three primary weapons in its retail takeover—fulfillment centers, Amazon Prime, and now AmazonFresh—are coming to maturity. If the next year tells us anything about Amazon's future, it should reveal whether Bezos's decision to plow billions back into these operations will give the company an end-to-end service advantage that might be nearly impossible for its competitors to overcome.

The sun seems to be setting on Bezos's big Day One. Before we part ways in Seattle, I ask him what we can expect to see on Day Two. "Day Two will be when the rate of change slows," he replies. "But there's still so much you can do with technology to improve the customer experience. And that's the sense in which I believe it's still Day One, and that it's early in the day. If anything, the rate of change is accelerating."

Of course, Bezos is the accelerator.

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# GE: Leadership Without Hierarchy

*By Charles Fishman*

*At its manufacturing plant in North Carolina, GE makes some of the world's largest jet engines. There's no room for error. Despite the stakes, the company adheres to a radical approach: Teams don't answer to a boss. They answer to each other.*

The factory is not just quiet—it seems almost deserted. The driveway, lined with thick pine forest, is a mile long and gives the place a muffled quality. The two main buildings are large enough to be airplane hangars—tall-shouldered, with blank metal walls so high that the doorways look puny. The inside of the far building is almost as still as the outside. There is plenty of equipment—tool carts, platforms for working around large items, racks of parts. But there is an air of work interrupted. Only a handful of people are visible.

It is, however, instantly clear what kind of work gets done here. Hanging from yellow overhead cranes are two of the largest jet engines in the world. It takes no great aeronautical expertise to appreciate these engines: Even unfinished, they look muscular. They're also huge. Each one is bigger than a Lincoln Navigator.

Although engines go out the door of this plant at a rate of more than one per day, the air of calm is hardly its most unusual aspect. The plant is General Electric's aircraft-engine assembly facility in Durham, North Carolina. Even within Jack Welch's widely admired empire, the Durham facility is in its own league—a quiet corner of a global giant, a place where the radical has become routine. GE/Durham has more than 170 employees but just one boss: the plant manager. Everyone in the place reports to her. Which means that on a day-to-day basis, the people who work here have no boss. They essentially run themselves.

The jet engines are produced by nine teams of people—teams that are given just one basic directive: the day that their next engine must be loaded onto a truck. All other decisions—who does what work; how to balance training, vacations, overtime against work flow; how to make the manufacturing process more efficient; how to handle teammates who slack off—all of that stays within the team.

Everyone knows how much money everyone else makes, because employees are paid according to his or her skill. There are three grades of jet-assembly technician at this plant—tech-1, tech-2, and tech-3—and there is one wage rate for each grade. There is no conventional assembly line. One team “owns” an engine from beginning to end—from the point when parts are uncrated and staged to the moment a team member climbs on a forklift to place the finished engine on a truck for shipment. The members of the team do the jobs that interest them. No one ever does the same job, shift after shift, day after day. There is usually choice—and there is always variety.

This plant has no time clock. Workers leave to go to their kids’ band concerts and Little League games. Every technician has an email address and Internet access, voice mail, business cards, and a desk shared with one teammate. The plant manager—the boss—sits in an open cubicle that’s located right on the factory floor: Engines float by, just 20 feet away.

And one more thing: Jet-engine assembly is rocket science—or, rather, something no less difficult than rocket science. In an engine that weighs 8.5 tons and has 10,000 parts, even a nut that weighs less than an ounce must be installed to a very specific tightness. Every part is put together with a torque wrench. Some parts are so vital, and so sensitive, that a computer is used to tighten the nuts that attach them to the engine. And after each step, a technician takes responsibility by entering his or her initials on a computer terminal.

The 170-plus people who work at this plant try to make perfect jet engines. And they come close. On average, one-quarter of the engines that GE/Durham sends to Boeing have just a single defect—something cosmetic, such as a cable not lined up right, or a scratch on a fan case. The other three-quarters are, in fact, perfect. That is one big reason why Boeing, in an eloquent vote of confidence, recently chose a new version of the GE90 as the exclusive engine for its new, long-range 777 airplane. For early versions of the breakthrough 777, Boeing had used engines from GE and its two competitors, Rolls-Royce and Pratt & Whitney. For the new 777s, which will be able to fly 10,000 miles without stopping, the GE90 will be the only engine—and only GE/Durham makes the GE90.

At GE/Durham, there is no cynicism about the drive for perfection. “It matters,” says Bill Lane, a 35-year-old tech-2. “I’ve got a 3-year-old daughter,

and I figure that every plane we build engines for has someone with a 3-year-old daughter riding on it.”

Before Lane started putting together jet engines, he worked for Frito-Lay. “I ran the machinery that packaged Doritos,” he says. A bad Dorito, of course, only spoils someone’s lunch. A bad jet engine could destroy hundreds of lives—or alter the course of history. The engines that keep Air Force One aloft came from this plant.

So how can something so complicated, so demanding, so fraught with risk, be trusted to people who answer only to themselves? Trust is a funny thing. It is the mystery—and the genius—of what goes on at GE/Durham. And it is the reason why the plant offers so many lessons about why people work, how teams succeed, and what workplace democracy really means.

**The jet engine**, like the telephone and antibiotics, is one of those wonders of modern technology that works so well it has rendered itself mundane. That someone who lives in Topeka can decide on a whim to go to Tokyo, and be there in less than a day, is truly miraculous.

Unlike the computer chip or the MRI scanner, whose underlying technology is impenetrable to the ordinary person, jet engines work so simply, so elegantly, that they can be understood by a precocious fifth-grader. The principles of jet-engine design and operation are these: Suck. Squeeze. Bang. And blow. A jet engine moves itself along by sucking in air; compressing that air; mixing the compressed air with fuel and a spark to get a dramatic, controlled expansion of the air (that is, an explosion); and aiming that explosion out the back end of the jet.

It’s just that simple.

The simplicity of the modern jet engine makes its power all the more impressive. GE’s big jet engine—the GE90, one of the most powerful commercial-jet engines in production—generates 92,000 pounds of thrust. The Boeing 777 airplane, which is powered by the GE90, weighs 300,000 pounds when it’s empty. Loaded with fuel, 350 people, their luggage, and food, the plane doubles in weight. It requires only two GE90s to fire a fully loaded 777 through the air at 600 mph. And the plane can fly safely on just one engine.

Although the engines made in Durham operate on principles that are easy to grasp, the specifics of engine design, assembly, and operation are anything but elementary. Walk up to a group of three people working at GE/Durham and ask, “So what are you working on?” and, likely as not, the answer will require a 20-minute explanation, along with the aid of a hastily sketched diagram.

John “Hoss” Swain, 54, Paul Bryan, 32, and Pat Miller, 31, are hunched over a stand that holds a metal ring about three feet across. While it looks like a ring, it’s actually a seal, designed to keep exhaust gases inside the GE90 engine at a critical point. It works in much the same way that a washer in a garden hose does. Swain, Bryan, and Miller are measuring the seal to see if it is perfectly round.

How round? “It can’t be more than 4/1,000 of an inch out of round,” says Miller. That’s about half as thick as a human hair. In other words, this three-foot-wide ring must be round within the tolerance of a single hair. If it isn’t exactly that round, gaps will develop between sealing surfaces. With the parts turning at 10,400 rpm, even a small gap can cause a decrease in performance. So these guys measure every single seal on every single engine. “This has never been 4/1,000 of an inch out of true in the four years I’ve been measuring these,” says Miller. “Never.”

Money alone can’t motivate people to perform this well. At GE/Durham, people strive for perfection, expecting no reward other than their own satisfaction. This place has no performance incentives. And so, as impressive as the technology of the jet engine is, as demanding and precise as the assembly process must be, as unforgiving as the engines and the airlines are of even the slightest flaw, the human technology by which GE/Durham organizes its work is no less impressive. In some ways, in fact, the management of the Durham plant is more impressive than its products. High-performance turbo-fan jet engines can be found at every major airport. But a place where workers are given real responsibility is about as common in the world of work as an out-of-round aft-shaft seal is at this plant.

Pat Miller knows that as vividly as anyone. His last job was as technically advanced as any in the aviation-mechanics world. “I came from Northrop Grumman, in Palmdale, California, where I was working on the B-2 bomber,” says Miller. “That plane, which used Stealth technology, was as

high-tech as you can get. But someone else wrote the assembly process. Here, I write the process—at the mechanic level. There, I was on a ‘team,’ but I also had a supervisor. He had a boss. And there were other bosses above him. In two years of working there, I never saw the plant manager. Every day, my boss would just hand me my job. I had no input at all—none. I’m much happier here. I can change what goes on.”

In a plant that has been open only since 1993, Duane Williams is a veteran. Williams, 33, started at GE/Durham in February 1994. He’s a tech-3, certified to do any task that’s necessary to make a GE90 engine for Team Raven.

He’s standing at a big table, starting work on the “stage 5” disk of an engine’s low-pressure turbine. This is the back end of the engine, where power is generated not to fly the airplane but to run the engine itself. This back-end turbine creates the spin that turns the big fan up front. When it’s done, the stage-5 disk—made of polished metal, lying flat on the table—will look like a very large version of a child’s pinwheel. “It’s just 20 minutes out of the box,” says Williams. This is not the glamour work of turbo-jet assembly. It’s one of those parts of the job that is reminiscent of long and lazy childhood Saturday afternoons spent gluing together plastic model airplanes and ships.

The stage-5 disk has 120 identical curved blades around its perimeter. Each blade needs to be checked, by hand, for nicks or roughness. It is then greased with something like Vaseline, and its dovetailed ends are slotted into place. Although the technicians do the same routines over and over, every stage of an engine’s assembly is laid out in detail in an encyclopedia of three-ring binders. Each task is broken down into steps, and every step is illustrated with a color photo of that part of the engine being assembled correctly.

Like every other technician at GE/Durham, Williams has his FAA ticket as a power-plant and airframe mechanic, and he went through two years of school and a certification test to get it. That’s an unusual prerequisite for building engines: No other GE jet plant requires job candidates to be FAA-certified mechanics. But the need for an FAA license is one of the founding principles of GE/Durham.

Back in the early 1990s, that license wasn’t doing Williams much good. After getting it, he couldn’t find an aviation job in Norfolk, Virginia, so he took a job doing maintenance for a McDonald’s franchiser who owned 16

restaurants. Eventually, he got a job at a Navy facility, beefing up F-14 fighter jets to handle more-powerful engines. When he was laid off about two years later, Williams returned to what he calls “my old faithful: working as a laborer at a shipyard.” When he heard about the possibility of jet-engine-assembly jobs in North Carolina, Williams hustled down to GE/Durham for an information session. “They mentioned the team concept,” says Williams, “but I never even gave it any thought. I didn’t know if I was up for it. But a job—I was up for that.”

Williams is a cheerful man who conveys an innate optimism. Starting with his interview, the hiring process at GE/Durham introduced him to a work culture that he had never imagined—one that would change his life. “The interview, now that was one heck of an experience,” he says. “It lasted eight hours. I talked to five different people. I participated in three group activities with other job candidates. I even had to do a presentation: I had 15 minutes to prepare a 5-minute presentation.”

For Williams, the respectful, demanding interviewing process turned out to be the beginning of an eye-opening experience. “My first six months at the plant were something I wasn’t prepared for,” he says. He was part of Delta team—the startup team charged with building the CF6 engine. The CF6 is the Honda Accord of GE jet engines. It is in its 28th year of service and in its fifth evolution of jet-engine technology. It’s a super-reliable workhorse, flying everything from UPS cargo jets to Philippine Airlines A320s to Air Force One. Back in 1994, GE/Durham started making the CF6 engine, in addition to the GE90.

“We had to come up with a schedule. We had the chance to order tools, tool carts, and so on. We had to figure out how the assembly line to make the engine should flow. We were put on councils for every part of the business,” says Williams. It was his first taste of an environment in which there really are no bosses: The technicians not only build the engines, they also take responsibility for the work that middle management would normally do. “I was never valued that much as an employee in my life,” says Williams. “I had never been at the point where I couldn’t wait to get to work. But here, I couldn’t wait to get to work every day. That’s no BS!”

The visible joy that Williams gets from his work, and from his participation in his work, remains as palpable as his recollection of those early

days, when he was helping to start up the first CF6 team. Part of his education at GE/Durham has involved something that many teams stumble over: how to get around the truism that committees don't make decisions, people do. At GE/Durham, virtually every decision is made by a team, by consensus. Consensus is another of the founding principles of GE/Durham. It is so ingrained that technicians have turned consensus into a verb: The people at the plant routinely talk about "consensing" on something.

The average group of 15 or 16 people can't reach consensus on where to go for lunch—let alone how to run a factory. How to organize a production line, whether to hire someone, how to assess someone's skills for promotion, even how to pick who will work over the weekend—those kinds of issues inspire strong disagreement. "Everybody doesn't see things in the same way," says Williams. "But we've had training on how to reach consensus. We've had training on how to live with ideas that we might not necessarily agree with." And the team members always have the power to change things that don't work out. Says Williams: "All the things you normally fuss and moan about to yourself and your buddies—well, we have a chance to do something about them. I can't say, 'They' don't know what's going on or 'They' made a bad decision. I am 'They.'"

**Teams, teamwork, teaming**—these are such overused words, such overworked concepts, that they have been all but drained of meaning. GE/Durham isn't so much a team environment as it is a tribal community. There are rules, rituals, and folklore; there is tribal loyalty and tribal accountability. There is a connection to a wider world, beyond the tribe.

Some of these routines are big things. Everyone at the plant belongs to a team, and every team meets every day at 2:30 p.m. The team meeting is the pivot of GE/Durham. There are two shifts, and they overlap to allow everyone either to start or to end the day at the team meeting. More than a simple update of the day's progress and problems, this meeting is a place to hip-check morale, conflict, overtime, hiring, technical snags, and planning for the future.

Also, everyone learns to assemble different parts of the engine.

"Multiskilling is how the place is kept together," says Derrick McCoy, 32, a tech-3 and a buddy of Duane Williams's on Team Raven. "You don't

hoard your skills. That way, when I'm on vacation, the low-pressure turbine can still be built without me."

In addition to building engines, everyone serves at one time or another on one of several work councils that cut across team lines. The councils handle HR issues, supplier problems, engineering challenges, computer systems, discipline, and rewards. And everyone participates in training—from sessions on how to give and receive feedback to advanced classes on cost accounting.

Some of the routines seem smaller, but they are no less essential. Everyone cleans up. Despite the plant's almost operating-room cleanliness, there is no cleaning crew. The plant's tools are not locked up. People trusted to make important decisions have to be trusted not to take home a socket set. And every day, everyone at GE/Durham wears the same outfit: blue jeans or blue slacks, and a gray pullover that has the GE/Durham logo on the left breast. The uniform sends a quiet message. Says Dave Hyde, 41, a program-improvement leader who has been at the plant almost since it opened: "There should be no reason for barriers between people here."

Paula Sims, 38, was plant manager at GE/Durham for four of its first six years of existence. Ask her what the basic principles are, and she doesn't hesitate. "There are four," she says. "One, we have a layerless organization: There is just one classification of worker. Two, people are paid according to their skills. Three, everyone is an FAA power-plant mechanic—meaning that he or she comes highly skilled. And four, this is a team environment that requires a highly involved workforce."

Clearly, not everyone has the temperament, skills, or intellect needed to work in an environment like that of GE/Durham. So who, in particular, doesn't fit in? "People who expect to take orders," offers Hyde wryly. The first encounter employees have with the GE/Durham principles occurs during the hiring process. At most jet-engine facilities, an FAA mechanic's rating and a bit of experience would be enough to get a job. At GE/Durham, candidates are rated in 11 areas. "Only one of those involves technical competence or experience," says Keith McKee, 27, a tech-3 on Team Raven. "You have to be above the bar in all 11 of the areas: helping skills, team skills, communication skills, diversity, flexibility, coaching ability, work ethic, and so forth. Even if just one thing out of the 11 knocks you down, you don't come to work here."

To see how candidates cooperate, they are interviewed in groups and given group tasks. Each team includes technicians who have been trained as “assessors,” and they do the interviewing. Both the team and the plant manager have to agree—to “consense”—on the hiring of a new team member. “We ask, for instance, ‘If there were something in your past that you could change, what would it be?’” says McCoy. “If you say, ‘Well, I wish I could play ‘Stairway to Heaven’ on the guitar,’ well, I’m not sure you’re going to get hired. You are on a team, a group, and you have to voice your opinion, but you also have to know when to hold back your opinion—when to offer an idea and when to consent to an idea. You’ve got to be able to give a little and to take a little. You’ve got to be able to listen. You’ve got to be able to change. That process is how we get the best people to work here.”

Tom Mitchell, 29, a program-improvement leader, is listening to McCoy. “It’s a fit issue,” Mitchell offers. “We wouldn’t hire Donald Trump here. But that doesn’t mean he isn’t good at what he does.” McKee knows firsthand how stringent the screening is. One of the people who applied for a job at the same time he did was a GE technician who had built CF6 engines at another facility. “I thought he was a shoo-in,” says McKee. “But he didn’t get the job.”

The Durham plant is not a setting that tolerates muttering, resentment, or unresolved disputes. “When I got here,” says McCoy, “I was skeptical. I hadn’t been on a team yet. What happens if someone is not performing? If you’ve got an issue—a problem with someone’s work ethic, for instance—you’ve got to bring it up. Like, why is the day shift not getting its work done? Maybe the computer is down, or the parts are not in. Either way, we have to discuss it. Recently, Keith [McKee] was expecting me to get further along on building the BEA-92 (that’s the system of cooling tubes near the fan hub) than I did. And I said to Keith, ‘Well, I’m working with a guy who has been here only eight months.’

“They expected me to get to a certain point,” McCoy adds. “But when you put someone with the new guy, you can’t expect that person to get as far as he would if you put him with an experienced guy. As the materials-council rep, Keith did the right thing by confronting me. And I did the right thing by confronting him back—by explaining. It was friendly.”

GE/Durham's continuous-feedback culture—"We call this the feedback capital of the world," says Paula Sims—means that while in one sense it's true that no one here has a boss, the opposite is also true: "I have 15 bosses," says McKee. "All of my teammates are my bosses." No one is exempt. "Not long after I started here," says Sims, "an employee came to me and said, 'Paula, you realize that you don't need to follow up with us to make sure we're doing what we agreed to do. If we say we'll do something, we'll do it. You don't need to micromanage us.' I sat back and thought, 'Wow. That's so simple. I'm sending the message that I don't trust people, because I always follow up.' I took that to heart. This was a technician, and I had been at the plant less than 30 days. I appreciated that he felt comfortable enough to tell me this. And I thought, 'This really is a different place.'"

**When it all comes together**, GE/Durham can accomplish things that are almost unheard of—even in the world of sophisticated manufacturing. Early this year, for example, GE offered the Durham facility the chance to start building another kind of engine: the CFM56, for which demand is rising. The CFM56 is one of the most widely used commercial engines in the world. GE says that 40% of all passenger planes carrying more than 100 passengers use CFM56s—including the most common commercial jet, the 737. GE/Durham had never built the CFM56, but getting a new engine line, and more work, is good for morale in the plant, for expanding skills, and for job security. "Also, it reinforced the job we were doing," says Sims. The question was simple: "How do we do that engine, which we've never done before, and do it fast?" she says. "We were going to do it with just one new team—and with no new hires."

After interviewing some tech-3s, Sims picked the first two members of the CFM56 team, along with a tech-support person. Those three people posted the rest of the jobs for the team and then started interviewing and building a group. GE's Evendale, Ohio, facility—where the bulk of CFMs get built and where GE Aircraft Engines (the parent division of GE/Durham) is headquartered—sent engineers to Durham to help design the line and to provide details on how the engine would be put together.

Meanwhile, Sims went to GE/Durham's HR council and asked, "What's the best way to support this new team?" The council—with representatives from every team at the plant—came up with a rotation plan that involved lending one member of each team to the new CFM56 team, as well as

maintaining a list of volunteers who were willing to work overtime on the weekends. Pit-crew time, in other words: everyone over the wall with a wrench. In the end, GE/Durham got off to what Sims politely calls “a very aggressive” start. “We announced that we would do this work,” she says, “and nine weeks later, we shipped our first engine.”

Two months later, Sims’s boss sat in his office in Evendale, just outside Cincinnati, and offered a slightly different perspective on GE/Durham’s performance. “They have been producing the CFM engine for eight weeks,” said Bob McEwan, 46, general manager of Evendale assembly operations. “In Evendale, we have been producing it for years and years. And in Durham, they are already producing it for 12% to 13% less cost than we are here.”

In the case of the new engine, Sims did one thing that was potentially controversial: She made a decision. She made the decision to take on the work—without consulting people in the plant or reaching consensus or forming a council to consider the options. “That was a no-brainer,” says Sims. But not quite.

“I made that decision,” she says, “and we call it an ‘A decision.’ It was a unilateral decision. I don’t make very many of those, and when I do make one, everyone at the plant knows it.” When she says she doesn’t make that many A decisions—the kind that managers of her rank at other workplaces probably make several times a week, dozens of times a year—she isn’t kidding. “I make maybe 10 or 12 of those a year.”

At GE/Durham, every decision is either an A decision, a B decision, or a C decision. An A decision is one that the plant manager makes herself, without consulting anyone. B decisions are also made by the plant manager, but with input from the people affected. C decisions—which make up the most common type—are made by consensus, by the people directly involved, with plenty of discussion. With C decisions, the view of the plant manager doesn’t necessarily carry more weight than the views of those affected.

That decision-making taxonomy perfectly captures one of the most nagging questions about a place like GE/Durham: What is the role of a plant manager in a place that manages itself? If the plant needs a manager like Sims to make just 10 decisions a year, what does she do with the bulk of her time?

She does the kinds of things that most managers talk about a lot but that they actually spend very little time on. At the operational level, her job is to

keep everyone's attention focused on the goals of the plant: Make perfect engines, quickly, cheaply, safely. "The marketplace for jet engines is very, very competitive," says Sims. "They sell for less this year than last year, and that has been true for the past five years in a row. To sustain our business, we have to reduce our costs every year."

Strategically, the plant manager's job is to make sure that the plant as a whole is making smart decisions about talent, about time, and about opportunities for growth. Says Sims: "Each team, or group of teams, may be optimizing itself, but what's the right way to optimize the plant? If we've optimized each engine program, how do I free up resources for growth and for process improvement?"

Because there are no financial incentives for technicians to improve either their productivity or the quality of their work (Sims says simply, "[Financial incentives] are not part of the culture at GE Aircraft Engines"), job security is something that people at the plant think about a lot. So it's the plant manager's job to make GE/Durham the assembly facility of choice—the place where senior GE executives, and GE customers, turn first whenever they need a new jet engine built. "Then, as new work becomes available, we have the potential to bid on it internally—and to get it," says Sims. That approach should help cushion GE/Durham during an economic downturn, when senior management will want to make engines at the most efficient plant available. The plant manager, in other words, has to manage up—to make sure that her bosses understand how well the plant does its work.

Sims would be easy to underestimate. She's a small woman. She has braces on her teeth and wears wire-rim glasses, and her bearing is no different from that of anyone else at the plant. Although she has two engineering degrees, along with an MBA from UNC's Kenan-Flagler Business School, she has the approachable air of a junior-high soccer coach. Every day, she wears the same outfit (blue slacks, gray pullover) that everyone else wears. "The idea of being 'The Boss'—having a big office or whatever—doesn't turn me on," says Sims. "I've had a nice, big office, and I felt uncomfortable—removed from what was going on. But I know I'm the boss here. It comes out in funny ways. I hadn't been here long before I started hearing the phrase, 'Paula says ...' After a while, it became a joke."

During her tenure at the plant, Sims was almost never at rest over the course of a day. Any person wearing a gray GE/Durham pullover had a potential claim on her attention. “I had never worked in this kind of environment before,” she says. “The workforce is highly skilled and highly motivated—and highly demanding as well. It is demanding of information, time, resources, results. I consider that a good thing—because a lot of managers I’ve talked to are lulled to sleep by the layers of insulation around them. But with 170 people reporting to you, you really have to balance face time with getting your work done.”

The job, says Sims, “has been the most challenging four years of my life—and also the most rewarding. To do it well requires a different level of listening skills. Significantly different.” In a place with no layer of middle managers to muffle the noise from below, a manager like Sims is exposed to the daily twang of worry, conflict, and tension that filters through a plant that produces roughly 400 high-performance jet engines a year. “More and more of what I do involves listening to people, to teams, to councils, to ideas, trying to find common themes. I’m always wondering, How can I simplify things and make everybody’s job easier?”

Training and information are key to making the plant manager’s job manageable—not for her, but for the rest of the plant. “I hadn’t been here more than six months,” says Sims, “when there were some big budget challenges. We wanted to reduce costs at this facility by \$1.2 million. And we wanted a plan to do it in a few days. I’d been through this kind of thing many times in many different places, but I’d never been through it here before.”

Sims quickly and silently developed her own plan and sent it to her boss. “At the time, this plant wasn’t very cost-conscious. So I formed an expense council to educate people at the facility about why keeping track of expenses is important and how expenses fit into the total scheme of things.”

The council moved fast. Although the full “cost education” process took six months, the expense council took less than three weeks to grasp the basics and to develop a plan to trim costs by \$1.2 million. “It was a real rudder change—to get the plant to focus on expenses,” says Sims. “That was the year when everyone decided that I was a cheapskate. But in a place like this, you have to trust people to a degree that you never would have before.

“When I had a new plan, I called my boss back and said, ‘Take that first plan I sent you and throw it in the trash. We’ve got a new plan, a better plan.’ And I explained the process that we’d gone through. This job requires realizing that the rest of GE doesn’t work the way we work. You can’t say to GE, ‘Let me get a council together, and we’ll get back to you in a couple weeks.’ But the plan we came up with in that case was better than what I had come up with on my own. My boss chuckled and said, ‘I guess you’re learning the process down there.’”

**The snazziest thing** about GE’s Durham facility is the look of the jet engines themselves. Hanging from an overhead hoist, a CF6 engine has the allure of a big toy. You can’t help wondering where the “on” switch is. The nose cone in front has a white spiral on it that looks very familiar: Riding on an airplane, you’ve twisted your head around, looked out the window, and seen the black nose cone with its white hieroglyph. (The white design functions as a safety mechanism, revealing to the ground crew whether or not the engine is spinning.) The sides of the engine look like a schematic of vessels, cables, and pipes. All of the parts and textures beckon the touch—yet the care required to build these engines makes it seem like even touching them in the wrong place could cause disaster.

At GE/Durham, the jets are not just the main-stage show—they are the only act. And the stage set is nothing special. The building is a former steam-generator plant, with corrugated metal walls and concrete floors that are 18 inches thick. Each of the two main assembly buildings has 3.5 acres of floor space. Building 1 is open 6 stories high; Building 2 is open 11 stories high. They are cavernous enough to have their own weather. The pinkish mercury-vapor lighting gives the factory floor an odd, underwater feel.

There is no well-equipped gym. There are no offices—corner, nice, or otherwise. There are no windows. There are no well-stocked break rooms, Ping-Pong tables, or video games to provide relief from stress. The cafeteria is a small room where a couple of sweet ladies prepare food that’s reminiscent of the kind you would get in an elementary-school lunchroom. The service is outsourced, the meals are cheap, and the food is served in Styrofoam containers. There are no stock options for technicians. The only way to get a promotion is to do the studying and training necessary to score well enough on an exam to become a tech-2 or a tech-3.

And yet, the external turnover rate at GE/Durham is less than 5% per year. (The plant loses between 10% and 15% of its staff each year to other GE facilities.) At a place where the morale is high and the performance is extraordinary, something is going on that is often overlooked in an economy obsessed with fringe benefits, gratuitous flattery, and today's closing stock price. At GE/Durham, the work itself is the thing.

The techs at GE/Durham have challenging jobs that matter, they have a degree of control over their work that is almost unprecedented, they adhere to demanding performance standards, they receive the training and support that they need to do the best work they can—and, as a result, they do just that. There is something so extraordinary about this place that you wish you could walk through it with Karl Marx and Max Weber—just to hear them explain how its revolutionary culture squares with their theories about the dehumanization of work in modern society.

How good is GE/Durham? Since Paula Sims arrived four years ago, when the plant was two years old, GE/Durham has reduced the number of defects per engine delivered to Boeing by 75%. The defect rate used to be about one defect per engine (and remember, such defects are mostly cosmetic). Today, defects occur at the rate of one for every *fourth* engine. And GE/Durham considers even that rate to be too high. The plant still holds a weekly conference call with Boeing to discuss defects on the latest delivery—as well as techniques for eliminating future defects.

The plant has not missed a delivery date on the CF6 engine in 38 straight months. Or, to put it another way, GE/Durham has consecutively delivered more than 500 CF6 engines on schedule. The cost of producing jet engines dropped by 10% or more every single year of Sims's tenure at GE/Durham. Given that the GE90 is a never-before-made engine, initial savings were to be expected, but the degree of savings was remarkably high. GE/Durham has reduced the cost of producing the CF6—an engine in production for two decades—by 30% over the past four years. “We are very close to producing twice the output of CF6s from this plant with the same number of employees as when I came here,” says Sims.

Although comparisons between GE plants are difficult—no two plants do exactly the same kind of work, with exactly the same kind of overhead to

support it—Bob McEwan, who has authority over GE/Durham, says simply, “They are the best in the GE Aircraft Engines division.”

The most interesting measure may be one that the people at GE/Durham talk about themselves. They don’t really think that their main job is to make jet engines. They think that their main job is to make jet engines *better*.

Now, for instance, when the GE90 is in final assembly, the huge engine sits in a scaffold that consists of two-story-high yellow metal platforms. The platforms form a kind of pier, giving easy access to the flanks and top of an engine that is as big around as a passenger liner. “They used to go up on ladders to work on those engines,” says Sims. “The GE90 teams said, ‘Could we build some platforms?’ I said, ‘That’s a great idea.’ Once we decided on a design, it took a month to build the first one, and now we have two. Not having to climb up and down the ladder, or to move it each time you need to reach something new, has reduced the assembly time of the engine by eight hours.”

GE/Durham’s culture of constant improvement offers a completely different way of looking at work. “Here in Evendale,” says McEwan, “we have method engineers and process engineers, and you give them a job, and they hem and haw for a year, and then they come up with something. Then you have to get the techs on the floor to buy into it. It’s all very structured, and it takes a while to get done.

“Now, down in Durham, you don’t hear about process improvement. They are constantly swinging away at it. Every time I go down there, I’m amazed. They have their washers all sorted into holders, like poker chips sorted into trays. You can easily get the washer you want. It’s things like that. They don’t ask anybody—they just go and do it. Down there, you can get more going in a week’s time than you can here in a year.”

McEwan’s office is in the basement of the Evendale factory, a sprawling facility that was used to make bombers during the second World War. Today, the giant facility employs about 8,000 people. Directly above McEwan’s office is a shop floor where GE technicians assemble jet engines.

“I think what they’ve discovered in Durham is the value of the human being,” says McEwan. He points to the ceiling.

“Upstairs, you’ve got wrench turners. In Durham, you’ve got people who think.”

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