

# Stanford Business

AUTUMN 2013



# BOUNDARIES



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<sup>1</sup> "Stanford University's Economic Impact via Innovation and Entrepreneurship," a 2012 study by Stanford professors Charles Eesley and William F. Miller

## A LETTER FROM DEAN GARTH SALONER

# Transcending Geography to Build Our Community

This year marks a milestone in building a community that transcends the GSB's physical boundaries. While our alumni everywhere have always been a vibrant part of our global community, this summer we dramatically increased the GSB faculty who are on the ground teaching courses for students enrolled in certificate programs, as well as coaches who are mentoring program participants in classrooms across the globe.

In extending our reach, we strive to have a transformational impact on the lives of people wherever they are and, at the same time, bring the lessons we've learned back to our classrooms. We will continue to remain a small, impactful community, but one that leverages faculty research, insights, and teaching skills to connect with alumni and the world. Our investments in education technology and in the team to manage online and distance education, along with the launch of our new website, provide us with the foundation to enrich the student experience, enhance our pedagogy, and help us to expand our global impact (and brand).

By the end of November, the first cohorts of Stanford Ignite participants in Bangalore and Paris will have finished their nine-week entrepreneurship and innovation program. The 900 "Igniters" in our high-impact community have combined these lessons with the ideas and skills they've developed from other programs to create more than 80 companies. Matthieu Rouif, a 2009 participant, cofounded HeyCrowd — a platform for sharing opinions, which has created 300,000 polls and 100 million votes through its iPhone app. Peter Frykman, a 2007 participant, who also completed the *Design for Extreme Affordability* course, founded Driptech — an award-winning, venture capital-backed social enterprise based in Silicon Valley and Pune, India, that produces low-cost drip irrigation systems optimized for small-plot farms.

Earlier this year, the GSB and the School of Engineering began offering the Stanford Online Innovation and Entrepreneurship Certificate Program to enable participants to immediately be more effective and impactful in their chosen fields. Six faculty from each school have created 12 online courses to help participants analyze and solve problems. Participants who complete eight of 12 courses within 24 months earn a certificate. As of October, more than 267 people from 47 countries had taken at least one course (tuition for each course is \$1,000). Student satisfaction rates are very high and 40 students from the U.S. and as far away as Russia recently converged in Palo Alto to meet with Stanford faculty and each other.

On a much broader scale, the MOOC we launched in October, *The Finance of Retirement and Pensions*, with free, open

access to the public, has more than 40,000 registered participants. The optional final for this 8-week course requires participants to submit proposals for pension reform to the GSB. A committee of GSB faculty and alumni in partnership with the Hoover Institution will review the proposals and in January will select five students to travel to Stanford to present their plans. We look forward to bringing the brightest ideas and best thinking on the planet back to our classrooms and the university.

Our Executive Education programs hosted more than 1,000 participants in 24 programs this past summer, including 158 executives at the Stanford Executive Program (SEP) from 43 countries. Participants included Deutsche Telekom CFO Timotheus Hötting, who will become CEO at year end, as well as CH2M Hill's international division president Jacqueline Hinman, set to become CEO in January 2014. Our ability to foster rich discussions across diverse business sectors fuels new insights for executives and our faculty to advance their own teaching.

In July, the GSB established the first innovation center for the Stanford Institute for Innovation in Developing Economies in Accra, Ghana. Known as SEED, the institute is dedicated to improving the lives of people in poverty on a massive scale through entrepreneurship and innovation. I am energized by the five GSB alumni who are training and coaching business leaders in West Africa to help them scale their businesses in the region.

For Bill Scull, MBA '81, who has been on the ground in Ghana for three months, his skills in crafting business strategies for Silicon Valley companies and growing their sales have been critical elements to his success. He is putting these skills to work for the 29 companies and 36 entrepreneurs who receive coaching at the innovation center. When Bill and the other Bay Area-based alumni return home (some are already asking to extend their time in country!), they will become resources for us as they bring insights and lessons of their mentorship experiences in Ghana, Nigeria, Ivory Coast, and Liberia back to our students at the GSB.

As we extend our reach to educate change agents in dozens of countries, we are more closely connected to exceptional people and ideas. In turn, we share these perspectives with others in the GSB community. In doing this, we transcend the geographic and technological boundaries to advance one of our core values — the rigorous creation and dissemination of knowledge. ▲



Garth Saloner, in Bangalore, India, in August 2013



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INSIGHTS AND IDEAS  
FROM STANFORD  
GRADUATE SCHOOL OF  
BUSINESS

AUTUMN 2013  
VOLUME 81, NUMBER 3





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mean to you?**

*Cover illustration by  
Ben Wiseman*

## INTRODUCTION

# Boundaries

As usual, in this issue of *Stanford Business* we explore our theme from a variety of angles. For instance, we look at how to come up with breakthrough ideas, build more productive relationships with higher-ups in an organization, and explain an innovation that draws ideas from across categories. We examine how to overcome the limitations others impose on us — as well as those we put upon ourselves. And we discuss the theme from the perspectives of geography, ethnicity, and political identity. ▶ Magazines themselves have constraints. But one of our goals is to create opportunities for readers to go beyond the confines of the page and engage with the ideas presented. We provide Twitter handles so you can connect directly with writers or subjects of stories. We also share web addresses so you can find videos, stories, and interviews with scholars, researchers, and business practitioners on leadership, finance, and other issues relevant



BORDERLINES A 17th Century map by Nicolas Sanson shows California as an island. From Stanford's Glen McLaughlin Map Collection.

Image from the Glen McLaughlin Map Collection courtesy Stanford University Libraries

to your professional life. ► In the spirit of our theme, we decided to try something different, too — something that goes a bit beyond the typical ways a magazine encourages engagement. Tucked inside these pages, you will find a postcard illustrated by artist Brian Cairns that features birds of Northern California. Writing a note may seem old fashioned, but we hope the card will remind you of the Bay Area and even inspire you to reconnect with Stanford GSB. You can use it to say a simple hello to a writer or subject of the following stories (we'll happily pass it along), or to share your feedback, including what management questions you have that you'd like us to address in future issues. Of course, you can also continue to reach us the new, old-fashioned way, at [StanfordBusiness@Stanford.edu](mailto:StanfordBusiness@Stanford.edu) — MICHAEL FREEDMAN, EDITORIAL DIRECTOR



# IN THE MAGAZINE



**Janine Zacharia**, the author of our story on immigration on page 56, has reported on Israel, the Middle East, and U.S. foreign policy for close to two decades, including stints as Jerusalem Bureau Chief for the *Washington Post*, chief diplomatic correspondent for *Bloomberg News*, Washington bureau chief for the *Jerusalem Post*, and Jerusalem correspondent for *Reuters*. You can find her recent interview with scholar, diplomat, and businessman George Shultz on our website, at [gsb.stanford.edu](http://gsb.stanford.edu). Zacharia is currently a visiting lecturer in the Department of Communication at Stanford. Follow her on Twitter @janinezacharia



**Kerry A. Dolan** interviewed Alan Clutterbuck for a story on page 52 about an organization's attempt to bring together Argentina's politicians. A San Francisco-based senior editor at *Forbes*, her reporting has taken her around the globe, most often to Latin America. Follow her on Twitter @KerryDolan



**Edmund L. Andrews** was a business and economics correspondent at the *New York Times* for two decades, and is now a writer and consultant in Lake Tahoe, Nev. He wrote two stories for this issue of *Stanford Business*: a look at research that examines Twitter's effect on small, publicly traded companies, on page 44, and, on page 58, a story that explores why institutional investors tend to stay close to home in their investments.



**Kathleen O'Toole** interviewed Susan Athey for a story on page 36 about how big data affects management, and Katherine Casey about her work in Sierra Leone, on page 48. The senior editor at *Stanford Business*, she is a former city editor and reporter for the Oakland, Calif., and Rochester, N.Y., daily newspapers and for the Stanford News Service.

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## ON THE WEB



See how Robyn Sue Fisher invented a one-of-a-kind ice cream maker that uses liquid nitrogen to turn fresh ingredients into ice cream in 60 seconds — and more at [YouTube.com/StanfordBusiness](http://YouTube.com/StanfordBusiness)



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# Lives



“Are you permanently impaired in your career if you’ve had an **entrepreneurial failure?**”

Certainly the answer to that question is ‘no.’”

—Irv Grousbeck, PAGE 8

Ben Wiseman

For nearly 30 years at Stanford, and for several more at Harvard, H. Irving Grousbeck has taught and counseled countless women and men as they moved along the entrepreneurial path. After graduating from Harvard's MBA program, he cofounded Continental Cablevision (later Media One) in 1964, and has since served on numerous for-profit and not-for-profit boards. He is currently a principal owner of the Boston Celtics. He was founding codirector (with Charles Holloway) of the Center for Entrepreneurial Studies in 1996, and recently stepped down from that position while continuing to teach. Earlier this year, he discussed with *Stanford Business* the traits of successful entrepreneurs, and how they might think about the many challenges that they and others put in front of them.

**One of the hallmarks of your talks is your use of quotations. Let's start with something you've said before, and I'm paraphrasing: "If you choose to go down the entrepreneurial path, ignore the naysayers." Who are the naysayers?**

They can take many forms. Some are people who think that younger MBA would-be entrepreneurs don't have judgment that's well enough refined to make good choices about what kind of business to go into, or to make critical managerial decisions. Or those who think you first need to work your way up in a larger, more structured enterprise to have the right kind of experience to run a company. Others include those who think that people shouldn't be an entrepreneur early in their lives, when they might have student debt or otherwise not have the financial footing to cope with the risks of starting a company.

**How do you ignore them?** One of the emboldening things about our geographic area is that there are many path-breakers for the students to look at, read about, even talk to — since they oftentimes speak at the school. An aspirant can look at them and say, "What qualities did they have when they were 27 that I don't have? If they've done it, why can't I?"

**That suggests that some naysayers are within one's own mind.** Absolutely

H. Irving Grousbeck is MBA Class of 1980 Consulting Professor of Management at Stanford GSB.

Photograph by David Robert Elliott

## ENTREPRENEURSHIP

# "Ignore the Naysayers"

**Irv Grousbeck explores the risks of the entrepreneurial path — and how to avoid overestimating them.**

**INTERVIEW CONDUCTED BY  
MICHAEL FREEDMAN**



IRV GROUSBECK  
"Venturers come in all  
personality types."

BOUNDARY



**“I’ve been given a lot that I didn’t earn. Doesn’t that create an obligation in me to help?”**

— the internal demons. We all have them, especially when you’re taking a nontraditional path, though it’s hard to say that entrepreneurship is nontraditional here in Silicon Valley. Still, fewer than 25% of our graduates immediately go into “entrepreneurial companies,” meaning their own or somebody else’s startup or early growth company. Statistically, more than 75% go to medium-sized or large companies.

**What personal characteristics does someone need to take the entrepreneurial route?** One is a certain sense of self-confidence. Another is a need for independence and self-expression — someone who says, “I’m just not that excited by the career paths I see available working for somebody else.” Care for detail — I think that most entrepreneurs are more particular in their thinking than they’re given credit for. Or, if they are broad generalists, they’re usually smart enough to partner with somebody who will pick up the grass that they cut, in effect. They also realize there is no single personality profile of a successful entrepreneur. Venturers come in all personality types.

**What are the real risks aspiring entrepreneurs face?** Some people say, “Oh, if you fail you’ll be doomed.” But thinking more carefully, is there going to be a time when a failed entrepreneur doesn’t have food, clothing, or shelter? The answer is clearly no — not if he or she has acted with integrity. Nowhere is it written that the entrepreneur should be the supplier of capital.

In terms of the stigma of failing, are you permanently impaired in your career

if you’ve had an entrepreneurial failure? Certainly that answer is also no — the record is replete with failed entrepreneurs who have immediately received plenty of job offers. Even if it takes you two years to fail, and you then get re-employed, do those two years you’ve “lost” against your peer group working for a big company put you behind in a 40-year career?

I think the single biggest risk is constitutional unemployability, a feeling of, “I’ve seen what it’s like to run my own company, even though my venture didn’t work out. Now am I going to be happy somewhere else working my way through the chairs?” I’m probably going to be more unhappy than if I hadn’t had the entrepreneurial failure.

**What if you’re 40 or 50 or 60 — is there still an entrepreneurial path?** I think you have to recognize the blend of pluses and minuses you bring. You have better judgment. You have a lot of experience versus somebody who’s 25. You have a maturity, which is related to, but not necessarily the same as, experience. However, you don’t have as much energy. You’re more set in your ways. I think that the person in mid-career who still plans to do it should realize that it’s very possible. There are many such people who have become successful entrepreneurs.

**You yourself were an entrepreneur for many years. What’s changed?** The way some industries have evolved and new industries emerged make the opportunity set look dramatically different from 40 or 50 years ago. Right now, the barriers to entry are lower. You don’t need to marshal investors and go find a company to start or buy — you can design an app from your dorm room, for example. But there seems to be more competition than there used to be. And, those factors occurring together are consistent with economic theory.

**Was there a time when people didn’t know enough about entrepreneurship to even understand that it could be taught?** I still get the question, though much less frequently now than I used to, “Can entrepreneurship be taught?” It’s clear that the answer is yes. I also get, “Can you teach people to become entrepreneurs?” And my answer is that we are not trying to teach people to become entrepreneurs; we are helping them to make more informed career choices. There’s plenty known about the corporate path. We’re trying to produce

some measure of equality of information about what it’s like to be an entrepreneur so that students, instead of choosing between the known and the unknown, can pick between two relative knowns.

**Here’s another quotation, again paraphrased: “Regret for what you have done can be tempered by time. Regret for what you have not done is inconsolable.” What are you telling us?** This idea really means a lot to me. I feel it on an emotional level. One alumnus came to me last spring — he was 40 or 41 — and said, “I’m locked into my life. I actually don’t like getting up in the morning and going to work. However, my work is respected. It’s looked on as challenging. My peers like me. I feel I’m contributing to the firm. But I hate it because I am not in charge and often don’t agree with corporate decisions. I’ve always wanted to run a company, and I really wish I had done it when I graduated from business school 15 years ago. That was the time I should have ventured out or soon thereafter. But each year I kept getting wooed, and now my ship has sailed.” Those regrets are palpable.

**What did you tell him?** I told him that there is still a path if he wants to try to find it. However, it is not without peril and some dislocation and potential discomfort. First, he needs to explore what it is he wants to do and how that would translate into his day-to-day and week-to-week existence, as well as that of his wife and children. And when he figures that out, there is no reason for him to say that he regrets never having done it because he could still do it. But it’s hard to argue with the fact that it would have been a lot simpler earlier.

**You’ve said that, “Any definition of a successful life must include service to others.” Why?** It is part of the values philosophy: I’ve been given a lot that I didn’t earn, so doesn’t that create an obligation in me to help? Now, you can say, “Well, you earned some of it.” Yes, a small portion. But I had nothing to do with where or when I was born, nor with the genetic makeup and extraordinary education I was given. So I believe that of those to whom much has been given, much is expected. And I tell my students that’s how I feel. ▲

**INSPIRATION**

# Pushing the Boundaries

**Five entrepreneurs show how they do it — in business, in life, and even when funding has dwindled to zero.**

## “Believe in yourself.”

**Pooja Sankar** is founder and CEO of Piazza, an online tool for students to get help from their classmates and teachers. Sankar studied engineering at the Indian Institute of Technology Kanpur. As a shy young woman surrounded by mostly male classmates, she was too timid to ask for help when she faced challenges, and as a result, she fell behind and never forgot that feeling of isolation. Years later, as a student at Stanford GSB, Sankar was inspired to come up with a solution. She founded Piazza Technologies Inc. in 2009 and received her MBA in 2010. Today, Piazza counts more than 1 million registered users at schools across the country, including Carnegie Mellon, Duke, and Princeton.

**In 10 words or fewer, what is the big idea behind your business?** Helping students get unstuck within minutes online.

**What is the best advice you’ve ever received?** The director of admissions at Stanford GSB told me, “Believe in yourself, because we believe in you.” I found that so inspiring. He gave me a lot of confidence, and that led me to start this company.

**What was the most difficult lesson you have learned?** The most profound period of learning for me was during a three-and-a-half-year traditional arranged marriage, beginning at age 22. It taught me how to live my life to its full potential. I tried to be what people expected of me: a submissive, acceptable Indian wife. Every single day



Pooja Sankar



**“We are often isolated by technology. I want to use it to help people help others.”**

of that marriage, I asked myself what else I could be doing to make it work. After reflection, I realized that was not the life I wanted to live. It took time to understand who I am and what I believe, and to have the courage to live that life. It was very difficult because of societal pressures, but I chose to leave the marriage.

Learning who I wanted to be helped me make other changes as well. I was an engineer at Facebook when the company had 500 employees. People around me said I should stay until the company went public. But I wanted to dig deeper and grow more as an individual. At the time, that meant leaving Facebook, attending business school, and pursuing a startup.

**What advice would you give other entrepreneurs on how to build a great business?** You need to deeply believe in the problem you are solving. The last four years of building Piazza have been an incredible journey, but it has also been extremely exhausting. The one thing that keeps me going is the idea that this problem needs to be fixed. We are often isolated by technology. I want to eliminate barriers and use technology to help people help others.

**What is your greatest achievement?** Finding a life partner who appreciates me exactly as I am. I know how rare that is. It took time to become confident enough in myself to let people see who I really am.

**What do you consider your biggest failure?** Being too timid and shy and not having the self-awareness to stand up to my family. That instinct is now gone, and I have grown into a strong and confident woman.

**What impact would you like to have on the world?** I want to eliminate all barriers to learning. —ERIKA BROWN EKIEL

## “Use business to bring people together.”

As an officer in the Indian army, **Vivek Garg** led men into combat for a decade. Now he’s turning his leadership skills to economic development and has founded an organization that is building cooperative enterprises in war-torn Kashmir and two other states. Business Alternatives for Peace Action and Reconstruction (BAPAR) is working with 250 female artisans in villages that were once at war. His next challenge: moving beyond the traditional nonprofit model of social development. Garg received a Master of Science degree from Stanford GSB’s Sloan Program in 2013.

### What inspired you to found BAPAR?

My father was an engineer who worked in development projects such as water and power supply. His work had a remarkable impact on people. I knew I wanted to do something like that — something that would do good. I joined the army and was leading a patrol in Kashmir when a young man detonated an explosive device, killing one of my soldiers. He didn’t even flee. It turned out he had been lied to. He thought pushing the button would just alert the militants that the army was here. Local people, like him, are the engines of peace that the military can’t reach. I realized that we have to engage the locals in a way that they want to be engaged.

**How does BAPAR engage with the local community?** We created a handicraft enterprise in a Muslim community and a handicraft enterprise in a Christian community. For years, they were in conflict. The Christian villagers controlled the roads in the area and would blockade them, sometimes for 150 days at a stretch. We have

used business to build interdependence between them and bring them together.

**Why focus on handicrafts?** Almost every woman in the area knows how to do handicrafts, how to weave. They were already making and selling products, so it made sense to start there. But they were working very inefficiently. They bought supplies from a middleman, and he would come back and collect the finished goods and pay them. They got less than a 50th of what the middleman sold the work for in the market.

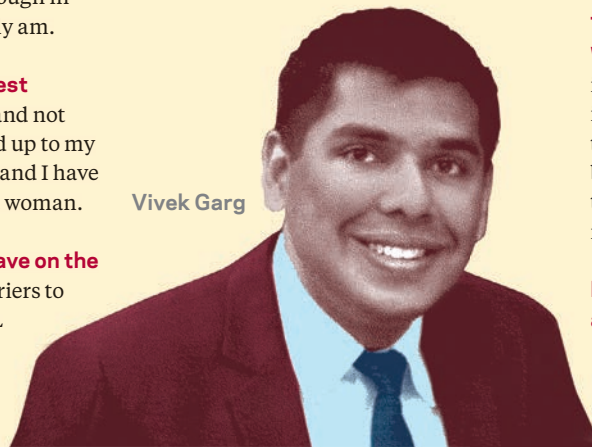
**How is the business different now?** We created an enterprise around a woman in each community who had the potential to run a business. We let those people hire other women to work for the enterprise. Now these enterprises order material on their own, take orders on their own, and sell on their own. We’ve also developed the value chain. They used to buy raw materials locally, which is very costly. Now the supply for raw materials is from Delhi and Mumbai and places like that. We have created relations with large business houses who are buying from the women. Their incomes have tripled.

**What did you learn from getting these businesses started, and is there a lesson for others?** I initially started with the microfinance model. I was trying to make an entrepreneur out of every single person. That failed miserably. They wanted jobs; they didn’t want to be entrepreneurs. I was just doing what had worked in other places, without making sure it was appropriate to our situation. That’s an important lesson.

**The enterprises are made up of women. Why is that?** Women influence the social issues in a very big way. The irony, though, is that in any discussion of peace, they are totally left out. We knew that women could break the barrier between two communities that were fighting each other. They could mobilize their community to do this.

**How would you describe your core values and the core values of BAPAR?** Whenever

Vivek Garg



a youth has a chance to choose between conflict and peace, it is very difficult to make the right choice if he or she doesn't have a sustainable existence. People will choose peace on their own if they can. That is the core value on which I started BAPAR, and I want it to remain like that.

**I assume there was seed money to start the local businesses. Where did it come from?** Initially, I invested money from my savings from the military. Later, business houses that were buying from them started giving them working capital in advance. And that was a major breakthrough, since people usually don't want to give money in advance in conflict regions.

— BILL SNYDER



Denise Brosseau

## “Create a palace of possibilities.”

**Denise Brosseau** is the CEO of Thought Leadership Lab, an executive talent agency. Previously she was cofounder and CEO of Forum for Women Entrepreneurs (now Watermark, celebrating its 20th anniversary this year) and cofounder of Springboard Enterprises, both organizations for women-led startups. She received her MBA from Stanford GSB in 1993. Her book, *Ready to Be a Thought Leader?*, is scheduled to be published by Wiley in January.

**In 10 words or fewer, what is the big idea behind your business?** My business: How to scale your impact and influence in the world. My life: How to get more women leaders at the top of every organization.

**What is the best advice you've ever received?** Early in my career I had a mentor, Eunice Azzani, then a senior partner at Korn Ferry International. She told me, “If you are not living on the edge, you are taking up too much room.” I am always pushing, always headed toward the next challenge.

**What was the most difficult lesson you have learned on the job?** Knowing when to say “we” and when to say “I.” It is a challenge most of us face in our careers. We are often part of a team that created or gave life to a vision, and it can be hard to stop saying it's “our” idea and say “I” am the leader. At the Forum for Women Entrepreneurs (FWE), I had a cofounder who came up with the idea. She did the initial research, and it was her “baby.” I came in as her first follower. Eventually, I had to step out of her shadow and take the stage as CEO. In 1997, I went out to raise money for the organization. In those first conversations she always came with me. At some point I had to say, “I believe in this idea, and we are going in this direction.” Women tend to struggle with this. They may give away too much credit to others or hesitate to step into the spotlight. Learning when to say “we” can also be a challenge. After we started a FWE chapter in Seattle, I flew there to meet the leadership team and give a presentation about the beginnings of the organization. Instead of saying “we,” I kept saying “I,” as in: “I launched this,” “I led this initiative,” etc. At the end, the woman who chaired the board said, “You did a great job but it would have been better if you had said ‘we’ more often.” Lesson learned.

**What advice would you give other entrepreneurs on how to build a great business?** Figure out if anybody cares about what you are doing first. It can be exciting to start a business, but I have wasted a lot of time building businesses around solutions to problems no one else thinks are worth paying for. You should start by saying, “I have a hypothesis,” and then go out and get feedback. Don't stop or get paralyzed when you get your first “no,” but listen to the underlying reasons. When I worked in business development at Motorola, I would ask, “If we could create a product with these features for this price, would you be interested?” Let people react to the hypothesis. The true driver then becomes: Are they willing to put their money into it? When? Do they ask how

quickly they can have it? You want to see an “I need it now” response versus a “Sure, that would be nice.”

Also, when you are coming from left field with something new, like we did with Springboard — the first venture conference just for women entrepreneurs — a lot of people will tell you “that's a stupid idea” or “that can't be done.” You need to surround yourself with orthogonal thinkers who can cross boundaries and are open to new ideas. They are able to see what is possible.

**What inspires you — how do you come up with your best ideas?** I have worked in so many different industries and niches: big companies, small companies, government, for-profit, not-for-profit, etc. For me, it is about expanding the adjacent possible. Steven Johnson, author of *Where Good Ideas Come From*, explains that the world is full of many possibilities, but only certain things can happen. Only by opening doors to new opportunities — a new adjacent possible — can you create what I call a palace of possibilities. I have more doors open — a larger palace of possibilities — than most people, so I can see connections others may not see. My best ideas come from this collage of experiences.

**What do you consider your biggest failure?** The toughest time in my career was the dot-com crash in 2001. The Forum for Women Entrepreneurs was within a few thousand dollars of closing shop. At one point we had seven offices and 1,200 members but in three months our funding screeched to zero. Entrepreneurship was just not happening anymore. The phone kept ringing but it was mostly men. They would call me and say, “You have a connection to X person, can you introduce me?” The guys were reaching out but the women, including me, were essentially hiding under their beds. My failure was that I didn't want to tell my board or my advisors about the challenges I was going through. As soon as I did, solutions presented themselves. Everyone says women are so good at asking for help, but that is not my experience. We think we need to be superwomen and overcompensate by trying to handle everything ourselves. You are always going to have setbacks. You need to pick up the phone and find the help you need. — ERIKA BROWN EKIEL



John Fenwick

## “Look for industries that are ripe for disruption.”

**John Fenwick**, a U.S. Air Force veteran and self-described space geek, is a 2009 MBA graduate of Stanford GSB and a cofounder and vice president of Skybox Imaging. The Mountain View, Calif., startup plans to launch a fleet of micro-satellites that will take high-resolution photos of the earth and sell that data to industries and government. Its satellites — about the size of a hotel room refrigerator — are significantly less expensive to build and launch than conventional imaging spacecraft. As the man in charge of flight operations, Fenwick says, “I’ll have my hand on the joystick when the satellites are in orbit.”

**What was the inspiration behind Skybox Imaging?** My cofounders, Dan Berkenstock and Julian Mann, were aerospace graduate students at Stanford developing interesting technology in satellite miniaturization. In thinking about practical applications for their work, it occurred to them that small satellites could be used to monitor companies that were buying carbon offsets and see if they were doing what they had agreed to do. Since I have a background in remote sensing from aircraft and satellites from my time in the Air Force, they asked me if it were possible. I said not only is it possible, but I can think of a lot of other uses that would be very interesting if we could produce large numbers of spacecraft producing good enough pictures at high volume and high frequency.

**That’s quite a leap from rainforests to imaging satellites.** Well, yes and no. Ultimately, the real value we deliver is saving the trouble of having to send someone to

physically check up on something. There are many ways to provide access to places in the middle of nowhere. But it turns out that satellites are a pretty efficient way to do it, whether you are an oil and gas company that wants to monitor a potentially leaky pipeline, a telecommunications company that wants to look at your towers that are very far afield, or an agency that wants to monitor factory emissions.

**Will you be selling pictures taken from space, or data derived from those pictures?** Both. Our value proposition changes as we add satellites. With our first satellite we will have a comparatively limited volume of data and a limited amount of time [over a given place on earth]. The satellites are in a polar orbit, so at most latitudes a satellite will come overhead every couple of days. With a couple of dozen satellites, we’ll be overhead once every couple of hours. That means you can do analysis you couldn’t when you were only coming over every few days.

**How might a customer use that data?** Commodities are moved around in containers, on ships, and on trucks. We’ll be able to keep tabs on those across the world on a daily basis. We can also track the movement of consumers. Being able to see how many cars are parked outside Lowe’s vs. Home Depot is really important for a trader because even a 10% difference between the two has a huge impact. We can monitor the health of crops by analyzing their reflectance in different color bands. That can be done today, but not as frequently as we’ll be able to do it. Additionally, most of the oil in Asia is stored above ground in tanks with floating roofs. A satellite can see if each roof has moved up or down, providing commodities traders insight into the oil supply.

**“At every step there was uncertainty. The voice was always in the back of our heads. We just ignored it and pushed forward.”**

**Doesn’t this raise a serious question of privacy?** Our cameras don’t have a resolution below the size of a vehicle. So we can’t see people unless there’s a big crowd. And we can’t read your license plate or look in your window.

**You’ve said that much of your technology is “off the shelf.” What does that mean, and is there a lesson in that for other entrepreneurs?** The macro lesson is this: Look for industries that are ripe for disruption. See where barriers to entry, in terms of cost, are lowered because there are parallel technology elements you can bring to bear. A key for us is the development by the auto industry of low-cost electronics that are survivable in extreme temperature environments. Your car has to work in both Minneapolis and Death Valley. That’s not as great a range as you might think; it’s negative 40 to positive 40 Celsius. Turns out that’s the same operating temperature range as our spacecraft. Additionally, all of the guts of our satellite are connected in the exact same way electronic components in a car talk to each other.

**What happens when each of your satellites reaches the end of its life?** Our satellites are so small, and fly low enough, that soon after they take their last picture, they’ll burn up completely upon re-entry into the earth’s atmosphere. If you are watching from the right spot, they should make for quite a pretty shooting star.

**What is your biggest business mistake or regret?** I should have taken more sales classes at Stanford. I thought I was pretty adept at engaging customers coming out of the military, but Skybox has been a crucible of learning the nuances of identifying customer problems and working through them to deliver a solution.

**Your advice to a budding entrepreneur?** At every step in starting Skybox there was a lot of uncertainty. Does this make any sense? Will anyone ever fund us? Is this crazy? That voice was always there in the back of our heads, and we just ignored it and pushed forward. We told ourselves that we’ll keep trying this until everyone we run across says no. We ended up pitching over 40 venture capital firms before someone said yes. The lesson is to follow through on your ideas, however outlandish they might first seem. — BILL SNYDER



## “Never compromise on hiring.”

**Mariam Naficy** is a serial entrepreneur whose latest venture is Minted.com, which she calls “a crowd-sourced business” that sells designer stationery, art prints, and party decor. Her goal: to build “a meritocracy” that rewards the best designers and allows them to vote on which products the company will sell next. She received her MBA from Stanford GSB in 1998.

**What was the inspiration behind the founding of Minted? Were you passionate about designer stationery?** No. I’d been looking at the way “the crowd” had been shaping media and content. I was noticing unknown bloggers who were becoming widely read, and coming out of nowhere to shape the direction of our media. I wondered if crowdsourcing could be a viable way to source product design. I realized that you could source images as JPEGs and make them into physical products quite easily.

I needed a two-dimensional medium for that, and came across custom stationery, and realized it was an interesting business with high margins.

**What does that have to do with crowd sourcing?** We invite designers to submit designs to us, and the community — the crowd — gets to vote, and we sell the best of the best. We at Minted see ourselves as a design community platform, not as a stationery business.

**What values are most important to you in running Minted?** Meritocracy is our most important value as we continue building our community of independent designers. That’s very important to me given my personal history, having immigrated here [from Iran soon after the revolution, leaving most everything behind]. There are many extraordinarily talented people in the U.S. and around the world, and because of where they live and other personal circumstances, they aren’t able to fully participate in our economy. For example, there are a lot of women in our community who have chosen to stay home with their children, and we’ve given them an opportunity to start working at 7 o’clock at night and be able to submit designs to us and earn a great deal of money. Having said that, we are not a democracy or here to help everyone. We are here to help the best designers emerge and succeed.

**There is a lot of discussion these days about the role and status of women in Silicon Valley. What are your thoughts as an entrepreneur in the area?** One of the big issues is that we are often counseled in a well-meaning way to not take risk in our lives — to be careful; make sure you can pay your bills; be careful, be careful, be careful. We are cautioned all the time about the evils of the world. The women who’ve worked for me seem to be more risk averse than the men. I think that this is one of the reasons you see fewer women entrepreneurs.

**What about the institutional issues regarding women in technology?** I think the institutional issues are a lack of mentorship from men, lack of exposure to finance and technology, and lack of encouragement to go into those areas or to take risk. What I’ve done in my career is sidestep working up the ladder inside corporations, because I didn’t feel I’d get a chance within them. You can step outside if you’re courageous enough to do that, or someone gives you encouragement. I was encouraged to start my own business by a male mentor.

**What was the best business advice you ever got that you’d like to pass on?** Act like you’ve got half the cash you really have. For startups, conserving cash is absolutely essential. If you don’t like to manage cash, you need someone in your business who does. Also, never compromise on hiring; never hire the B player.

**You sold an earlier venture, Eve, for \$100 million. Obviously, all of that wasn’t yours to keep, but it’s quite a bit of money. Why put yourself through the intense labor and stress of another startup?** I like working for myself, and what was I going to do with the rest of my life? I also thought: Once you’re lucky, twice you’re good. So if I really wanted to prove to myself and other people that I was a capable entrepreneur, I’d have to do it twice. — BILL SNYDER

For the full-length versions of these interviews, and for more insights and ideas from entrepreneurs, go to <http://stnfd.biz/hpWK1>





**INNOVATION**

# How Do You Come Up With Breakthrough Ideas?

**What neuroscience tells us about getting the best out of yourself, your colleagues, and the boss.**

**BY BABA SHIV**

*Illustration by Harry Campbell*

The human brain is a sophisticated instrument. At its core, however, it's nothing but the organ of an animal, prone to instinctive responses. This instinctual brain operates according to what I call the "X Framework," a concept that emerges from studies on animal and human behavior, particularly those linking behavior to brain functioning.

Like our primate relatives, humans are governed by two neural pathways that you can envision crossing in an X formation. The first takes us from a state of high physiological arousal, often manifest as anger, fear, and anxiety, and governed by the chemical cortisol, down to a place of comfort, typically produced by the calming hormone serotonin. The second moves us from a state of low physiological arousal — what we think of as boredom or apathy — toward excitement, thanks to the naturally occurring stimulant dopamine.

If the brain is experiencing highly physiologically arousing emotions associated with stress, then our first instinct will be to stay away from excitement and seek comfort instead. Studies have shown that primates under stress, for

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**Studies show that stress is a poor motivator. Innovation is more likely to emerge from a culture of encouragement.**

example, will not pursue new territories or mates. Under stress, humans also hang on to the familiar. Once the brain calms, however, it becomes prone to boredom. It will then begin to seek arousal in the form of dopamine, from the excitement pathway. This is when both you and your baboon friend will seek out new territories.

From the perspective of innovation this is critically important to understand, and will help you get the best from yourself, your colleagues, and your boss. Here's how:

### **EAT RIGHT AND EXERCISE**

Research shows that the best way to maximize creativity is to maintain high levels of both serotonin and dopamine, which will keep a person calm but energized. But how? The path begins with proper rest. A minimum of 30 minutes — but ideally up to 2 hours — of deep sleep reduces cortisol levels and boosts serotonin.

That means arriving in bed relaxed by taking a hot shower or bath beforehand, avoiding alcohol in the two hours before bedtime, and turning off all lights, including those illuminating electronic devices, which affect the pineal gland and make people think they should be awake and alert. It also means eating lightly in the evening, and not less than three or four hours before retiring. Digesting a big meal can hamper sleep.

Diet matters, too. A high-protein breakfast is easily converted into serotonin and dopamine, while caffeine is a physiological arouser, meaning it will amplify whatever emotions one is already feeling. If a person is motivated, it will help him or her; if stressed, it will agitate — the last thing an innovator needs.

Cardiovascular exercise is also critical. When the heart muscles pump faster, they release a peptide believed to help produce serotonin. That means considering a brisk walk before an afternoon meeting — or better yet, walk and talk. Steve Jobs regularly held “walking” meetings. Mark Zuckerberg does too. The serotonin it produces not only will make a person more creative and productive but also it improves the quality of sleep, creating a positive cycle all around.

### **ENGAGE YOUR EMPLOYEES**

Corporations worried about losing their edge often try to force their employees to work “better, faster, stronger” by applying more pressure or using threats and ultimatums. They believe that the stick, not the carrot, will be more effective in breeding innovation.

Studies show, however, that stress is a poor motivator. In his best-selling book, *Thinking, Fast and Slow*, Princeton's Daniel Kahneman explains why. Of the brain's two basic neural pathways, the first — from anxiety to calm — does not inspire outside-the-box thinking. Workers are so insecure and stressed that they creep along in terror until they find safety. The goal, then, is to get workers engaging the second pathway — from complacency to excitement — which is much more likely to trigger innovation. That shift is achieved primarily through positive reinforcement: encouragement, respect, and enhanced responsibility.

Consider two case studies: Some time ago, a successful international consumer goods company that felt it had become too comfortable tried to inspire its managers by cutting their advertising budgets but demanding the same — if not better — results. Given how humans are wired, that kind of innovation by desperation was only going to be effective among a small group of people who habitually tend to traverse the boredom to excitement pathway. These types naturally translate desperation into a challenge, and they tend to be younger. But for the majority of their marketing staff, it would never work.

A very different approach is exemplified by businessman Sachit Jain. A year behind me in our MBA program at IIM Ahmedabad in India, Jain graduated to marry into the family that owned Vardhman Industries in India, a conglomerate that is one of the largest suppliers of high-quality fabric in the world.

Like most men who marry into such families, he became a senior manager in his mid-20s. Jain was suddenly plunged into dealing with a textile manufacturing enterprise that had experienced





so much strife that a lockdown had occurred at the factory, and the chairman had almost been killed. Amazingly, he turned the situation around — and not just that situation, but a host of them since then.

How? He started talking to his employees. In India, for a boss to sit at a table with his workers is unheard of. But Jain has persisted in regularly getting down to the shop floor level to find out what's going on. His method for instilling an innovative spirit in an organization is to ask his employees, "What can you do in the workplace to make tomorrow better than today?" He doesn't ask them to think about making things better for the organization. He asks them to think about making things better for themselves.

On a study trip to India with Stanford MBAs in 2011, I saw a few examples of the remarkable results of this kind of managerial approach. One was the case of a worker who had the equivalent of a third-grade education in the West. He had noticed a problem: Changing the thread spindles when they ran out was a physically stressful job. It required a team of two — one pushing a cart with the fresh spindles, and the other constantly having to move the stool, climb up and replace the spindle, and climb down. The guy on the stool was often taking sick leave because of the physical demands, which sometimes led to falls and other injuries.

In his own time after work, the factory worker began experimenting with how to propel the stool so that the worker didn't have to keep getting up and down. Eventually, he had the idea to put wheels on the stool, and then he rigged up an electric motor to propel it. In a final ingenious flash, he adapted a sewing machine pedal to the mechanism so that the worker could stop and start it at will. The results?

Less sick time, less injury, and greater efficiency and productivity.

To support the process, Jain drew on one of the most powerful motivators for innovation: social recognition. The factory worker earned tremendous social prestige by our visit, which included a private meeting with him to hear about how he came up with his idea. Other people in the company began realizing: If he can do it, so can I.

Democratizing where innovation can come from, encouraging grass-roots ideas, and utilizing social recognition are powerful methods for encouraging innovation. But the most inspiring method is, as Gandhi affirmed, to "be the change." A manager who takes time to feed her own creative side well is the one who knows how to elicit the creativity of others best.

## UNDERSTAND YOUR BOSS

Middle managers with great ideas face a challenge: How, when, and with whom should they share them? Managing from the bottom up is always tricky, and that's particularly true when it involves bringing something new to the table. But there are several things employees should keep in mind when trying to inspire their higher-ups.

The secret to success is to determine which neural pathway the target audience favors. Those focused on traveling between stress and calm will be less likely to embrace new ideas; they're clinging to the familiar. Those riding the boredom-excitement highway will relish a new opportunity.

It's not hard to figure out who favors which pathway; people habitually tend toward one or the other. Type I personalities, as I call them, don't veer from the groove between stress and comfort. They're terrified of making mistakes. By contrast, Type II personalities are those who tend to move between boredom and excitement. They typically fear missing out on new experiences and see mistakes not as debilitating but as exciting. They reframe failure as opportunity, and see challenges as something fun. ▲

This piece is adapted from five essays on innovation in the workplace, which can be found at [gsb.stanford.edu](http://gsb.stanford.edu)

# 30 MIN.

The path to creativity begins with proper rest. A minimum of 30 minutes — but ideally up to 2 hours — of deep sleep reduces cortisol levels and boosts serotonin.

## PERSUASION

# The Art of Asking Again

**Why you should never, ever, be afraid to ask for something.**

BY MARINA KRAKOVSKY

Nobody likes getting rejected, which is one reason we often think twice before asking for a favor. If we believe we're likely to get turned down, why bother? But recent research led by Daniel Newark, a doctoral candidate in organization studies, shows that we overestimate the chance that our requests for help will be denied — especially after we've been turned down before. And that suggests we should be asking for help more readily and from a wider set of people than we currently are.

Newark collaborated on the studies with Francis Flynn and Vanessa Bohns, researchers who in earlier experiments had shown that people tend to grossly underestimate how likely others are to grant a favor. (For example, participants in one of their studies thought that to get three people to agree to lend their cellphones for brief calls they would have to ask about 10 people, whereas they needed to ask only six.) Flynn had a theory to explain such prediction errors, which his experiments bore out. "When people are asking for help, they're really focusing on how big is this 'ask,'" he said at a 2010 conference on the science of eliciting good behavior. But for the potential help giver, the attention is on a different question. "They're thinking not so much about the costs of saying yes as the costs of saying no: How awkward would it be for me to say no. How uncomfortable would I feel?"

But would the gap between help seekers' expectations and the reality be smaller or

greater when a second request was made of the same person? To find out, the trio of researchers had participants stop strangers on the Stanford campus and, following a simple script, request two favors: Fill out a short survey and then, regardless of how the stranger responded to that request, drop off a letter at a nearby post office. Before sending the participants out, the researchers asked them to guess what would happen so that the predictions could be compared with the strangers' actual behavior. The help seekers expected that people who refused the first request would be much less likely to say yes to a second request.

They couldn't have been more wrong. "What we found," Newark says, "was that the percentage of people saying yes to the second request was higher than the percentage saying yes to the first request."

**“When people get asked for help they think, ‘How awkward would it be to say no? How uncomfortable would I feel?’”**

In other words, saying no the first time actually made people more likely to say yes the second time, even though the two favors were equally small.

“It can be very difficult for help seekers to appreciate the discomfort of refusing someone's request for help not only once, but twice. Having already said no once, it can be more guilt-inducing and uncomfortable to say no a second time,” Newark explains. Indeed, a follow-up study by the trio showed that such feelings of discomfort are precisely what's behind potential helpers' tendency to agree to the second favor at rates higher than those for the first. Help seekers, meanwhile, don't merely fail to anticipate this discomfort: They also read too much into the first no, seeing it as a sign that they're probably dealing with a person who's unhelpful in general.

Out in the real world, these divergent thought processes create a kind of paradox: Help seekers, the researchers say, may be the least likely to ask for help from those people who in fact are the most likely to help them. And over time, that means we tend to go back to the same small pool of people who've helped us in the past. This can happen in organizations, Newark points out, where those who say yes early on during their tenure get lots of requests in the future. That leads group members to an unfortunate tendency to overburden the same set of helpers while underutilizing other group members, who, this research suggests, might say yes if you try them again.

“If anyone who tells us no once gets taken out of the potential pool of people we can trust or turn to for help, that's a pretty high bar,” Newark says. “Even helpful people refuse to help sometimes. When someone tells us no, it could be because of circumstances that have nothing to do with a person's willingness to help, and in the long run, we'll be better off if we're not quick to write people off after a single rejection.” ▲

Daniel Newark is a doctoral candidate in organization studies at Stanford. Francis Flynn is the Paul E. Holden Professor of Organizational Behavior at Stanford GSB. He discusses related research at <http://stnfd.biz/pOMYb>. Vanessa Bohns is an assistant professor of management sciences at the University of Waterloo, Ontario, Canada.





S F  
BOUNDARY

FEARLESS  
Oliver Twist asks  
for more.



**ETHICS**

# How Do You Encourage Honesty?

**Research shows that a subtle change in language can lead people to do the right thing.**

**BY MARINA KRAKOVSKY**

Psychologists have long known that ordinary people often manage to feel good about themselves, even while doing bad things, and that the words we use can foster this kind of moral disengagement. Euphemisms like “creative accounting” don’t just sound more pleasant than “cooking the books.” They also make us more willing to cross moral lines while still seeing ourselves as good people. But research coauthored by Benoît Monin, a professor of organizational behavior and psychology at Stanford, shows that it doesn’t take doublespeak to sway moral behavior. In fact, subtle changes to the

same word can actually make people behave more ethically.

The research, led by postdoctoral fellow Christopher Bryan, now at UC San Diego, and coauthored with Gabrielle Adams, now at London Business School, tested this idea through a series of experiments in which participants faced a financial temptation to cheat. In one experiment, a researcher asked participants to think of a number between 1 and 10. Then, the researchers told the subjects they’d give them \$5 if their number was even. This was a clever test of honesty because the researchers knew (based on past research and a separate sample in this

study) that people are far likelier to think of an odd number. So, although individual participants could cheat without getting caught, a high rate of even numbers reported within a group was a good indication that cheating was going on.

So what was the pattern of cheating? It depended largely on the language participants heard at the start of the test. Participants randomly assigned to one group were told they’d be playing a game that tests how common “cheating” is on college campuses. Participants in a different group received the same instructions except for a tiny but crucial detail: This second set of instructions referred not to cheating, but to “cheaters.” For example, whereas everyone in the “cheating” group was told it would be impossible for the researchers to know



**Benoît Monin is a professor of organizational behavior at Stanford GSB, and a professor of psychology at Stanford’s School of Humanities and Sciences. Christopher Bryan received his PhD from Stanford in 2009; Gabrielle Adams received hers from Stanford GSB in 2011.**

# DON'T BE A CHEATER

“whether you are cheating,” everyone in the “cheater” group was told it would be impossible to know “whether you’re a cheater.”

It turned out that only about one in five people in the “cheater” group said they’d thought of an even number — roughly the rate at which people actually do tend to think of an even number when nothing is at stake. But in the “cheating” group, that rate more than doubled: Half the people now said they’d thought of an even number. Two more experiments, conducted online to examine whether this tweak in language could also prevent cheating in more private contexts, found similar results in a game where people flipped coins for money. In all three studies, Monin says, raising the specter of being a “cheater” made the person more likely to behave ethically. “It’s only when we say, ‘Don’t be a cheater,’ that it stings their ego at some level. And that’s when everybody is suddenly acting like a choirboy.”

The results go hand in hand with a recent study by Bryan and colleagues on motivating people to vote. The results of that study indicate that urging people to “be a voter” was far more effective at increasing voter turnout than just urging them to vote. Bryan interpreted the finding

to mean that people were seizing an opportunity to feel like a voter.

At the time, Monin wasn’t convinced there was this much reasoning going on: Maybe the effect was due to simple priming, as in the classic experiment in which adults subtly exposed to words related to old age began to walk more slowly. But if the cause was priming, then a negative label would make people act in line with the negative label. “So we realized that if we went from a positive identity like ‘voter’ to a negative one like ‘cheater,’ we’d tease apart the explanation,” says Monin.

In this latest study, conducted with the Stanford GSB Behavioral Lab, since people cheated less, not more, in the “cheater” group, the researchers could safely conclude that this language worked on a more deliberate level. Specifically, it appealed to people’s desire to see themselves in a more positive light.

The most obvious upshot of these studies is that wording matters more than most people expect. “The sign in the coffee shop asking people not to take too many napkins can be phrased in different ways,” Monin says. Or consider the way you motivate a team: “You can tell them to achieve more, or dangle in front of their eyes the promise of being an achiever.”

**“It’s only when we say, ‘Don’t be a cheater,’ that it stings at their ego at some level. And that’s when everybody is suddenly acting like a choirboy.”**

There’s also a deeper lesson: “What’s fascinating about these findings is that they show us that, ultimately, the audience we care a lot about is ourselves,” Monin says.

Behavioral economist Dan Ariely of Duke University has popularized the notion that people tend to fudge a little bit rather than going all the way, Monin points out. “We are starting to show the force that is pulling people back toward honesty. Once you emphasize the moral implications of their choices, people are willing to leave money on the table rather than feel like a cheater.” ▲

**RESILIENCE**

# “Isolation Is Never the Answer”

**How businesspeople can deal with feelings of despair and overwhelming stress.**

**BY JOEL PETERSON**

I’ve often received calls and emails from former business students of mine who, despite being at a pinnacle of career or financial success, have expressed profound loneliness and despair — the kinds of feelings that might lead to tragedies like the suicides last summer of two Swiss executives in high-pressure positions.

Many young leaders and CEOs say that power and influence come at a steep cost. The more success these people find, the more they feel like targets. It can seem like everyone wants something from them, and even acts of kindness and generosity from others seem like veiled attempts at manipulation.

So, some leaders gradually lean away from people, creating a self-imposed detachment. In this isolation, they come to feel that they have no one to share their problems with — and at the same time, it makes them seem unapproachable to others. They drift deeper into themselves, and end up far away from the people in their lives.

It’s not only leaders and executives who can come to feel this way. As we know, stress is epidemic in workplaces everywhere. The more of it we face, the greater danger there is of losing touch with the people and values that are important to us. There are always moments of isolation, but by keeping the following ideas in mind, you’ll be better equipped to address them or avoid them:

**1. Get outside — of your head and your office:** The more you stay in one place,

both mentally and physically, the more one-sided the world starts to look. That’s when priorities get warped. But high-energy, focused people can often replace one kind of engaging activity with another. Read great novels. Learn to fly-fish. (That takes a lot of concentration, I’m told.) Try to develop an exercise plan, especially one that takes you out of doors. Richard Branson pilots hot air balloons. Larry Ellison sails. Sergey Brin even learned the trapeze. Think of recreation as “re-creation” of your energy in a different venue.

**2. Set boundaries and stick to them:** People who succeed often are too willing to subordinate everything in their lives to their quest for the top job. But once you get started on that path, it’s hard to slow down. So you have to set boundaries. Early in my career, I got a Sunday morning phone call from my boss and mentor who wanted to meet with me at the office about a deal. I was flattered, but I’d already decided that Sundays would be reserved for family. He respected this limit, and I went on to become the managing partner of the firm, where I kept Sundays for family for 20 years.

**3. Stay close to your friends and family:** I tell my business school students that the pop songs aren’t lying: Love can be a powerful force if you cultivate it in your family and among friends and colleagues. Love is rooted in security, in self-esteem, and in self-confidence. Deeply needy people have a harder time loving — they’re busy concentrating on themselves. But

building a support network will help you with your needs and will allow you, in turn, to give back to others. This “other-centered” mindset has a way of helping you put your own problems in perspective.

**4. Learn to trust, even if it hurts:** Trust is a fundamental part of building strong relationships, and avoiding the kind of mental vacuum that makes us feel suspicious and alone. To build trust with someone, you have to believe that he or she is able to put your interests ahead of their own, and that they’ll do what they say they’re going to do. When someone violates your trust, it can be difficult to bounce back and give someone else a chance. But, having been betrayed a few times myself, I’ve learned that it’s worse to recoil in wariness than to keep trying, learning better who to trust and when to trust them. Imagine that it’s your job to be trustworthy and to help others to be the same.

**5. Just give:** A few months back I agreed to fly halfway across the country to be with returning special operations servicemen entering the work force. When the day arrived, I had so many other pressures and deadlines that I was regretting my commitment. How could I give up an entire day? But by mid-morning, I’d lost myself in the company and good nature of these veterans, grateful to have had a chance to spend time with them and inspired by their sacrifices. I was also more than a little humbled by the problems they’d taken on, which made mine seem tiny in comparison. With that perspective, I breezed through a very long to-do list when I got home.

Isolation is never the answer. Instead, you want to surround yourself with, and reach out to, the people around you. If you start to feel you’re getting tunnel vision from incessant pressure at work, interrupt it. Consider starting with the guidelines above to help you find meaning and connection. We often feel locked into wearisome routines in life. The trick is to find ways to break out of them as soon as you realize you’re in one. ▲

Joel C. Peterson is the Robert L. Joss Consulting Professor of Management at Stanford GSB. This piece originally appeared on LinkedIn, where Peterson writes regularly on management issues.





ST. PETERS

**WELLBEING**

# Defeat Your Internal Saboteurs

**An author and executive coach trainer explains how a more positive outlook can help you reach your true potential.**

**BY MARINA KRAKOVSKY**

An unsettling classroom experience near the start of his second year in the Stanford GSB MBA program caused a personal crisis for Shirzad Chamine and led him to the work he's doing more than a quarter century later. It was 1987, and he was sitting in a circle with other students in their *Interpersonal Dynamics* class, and sharing emotions openly. At one point, a classmate turned to him and said, "I often feel harshly judged by you, and it really bothers me," Chamine recalled at a recent TEDx Stanford conference. Then, a second, a third, and a fourth student told him the same thing. "Somehow, the fifth person finally got through, and I realized, 'Oh my god, they're right. I judged everything instantly.'"

At first, Chamine panicked that he had no clue how to change. But he soon had a helpful insight. "This judge character in my head was constantly and brutally beating down not only others but myself," he said. For Chamine, who had grown up in a turbulent, emotionally abusive household in Iran, the judgmental behavior was an effort to disguise insecurities. Feeling that others might be

doing the same thing, he poured out his thoughts into a five-page typed letter to first-year students. The letter touched its audience, especially the many students stressed or saddened by academic and social pressure — so much so that 26 years later, it is still in circulation among students. After receiving "tons of thank-you letters," the 1988 graduate knew he was on to something. "That's when I felt reassured that 'the judge' tends to be universal," even if not in the extreme form he saw in himself.

After more reading and soul-searching, Chamine came to think of this judge as what he calls a "Saboteur," one of several figurative villains that he says can reside in normal human minds. "Your mind is your best friend, but it is also your very worst enemy," he says, calling the best-friend part your "Sage," the voice of authenticity, calm, and positive emotion. The Saboteurs — which, besides the Judge, include such instantly recognizable types as the Victim, the Avoider, the Hyper-Achiever, and six others — undermine you by triggering anger, anxiety, shame, regret, and other

negative emotions. "Pretty much all your suffering in life is self-generated by your Saboteurs," Chamine says.

The good news, which Chamine has been sharing through lectures, a popular book, *Positive Intelligence*, and executive coaching, is that you can choose at any moment which voice to listen to. "That choice makes all the difference in not only how happy you are, but whether you reach your true potential," says Chamine, who for many years ran the Coaches Training Institute, a San Rafael, Calif.-based company that trains executive coaches and life coaches.

Research in positive psychology, neuroscience, and even organization science supports many of Chamine's claims. Psychologists have long observed a human tendency to attend disproportionately to the negatives, since our ancestors' survival was aided when they noticed threats. Brain-imaging studies have shown the seats of various emotions, suggesting that creating a positive mental state requires activating one area and quieting another. Experiments on happiness interventions have shown ways to foster optimism, compassion, and other good feelings. And studies by organizational scholars have shown that happier people and teams make for more productive workers.

The finding that links happiness with productivity owes much to the work of Stanford University alumna Barbara Fredrickson, who received her PhD in psychology in 1990. Now a professor of psychology at the University of North Carolina, Chapel Hill, she is best known for her "broaden and build" theory of positive emotions. The theory explains why, given that natural selection favored negativity, evolution would have left us with positive emotions at all: Whereas negative emotions narrow our focus to handle an urgent challenge, Fredrickson argues, positive emotions broaden our options, enabling us to play, to explore, to think more creatively, and to build human connections.

If negativity aids survival, positivity makes it possible to thrive. As a result, people with higher ratios of positive to negative emotions are more likely to

**Shirzad Chamine received his MBA from Stanford GSB in 1988. He spoke in May at TEDx Stanford. Watch the video at <http://stnfd.biz/pOMZR>**





**People with higher ratios of positive to negative emotions are more likely to flourish in life, experiencing better health, more satisfying relationships, and greater professional achievement.**

flourish in life, experiencing better health, more satisfying relationships, and greater professional achievement.

Chamine uses a similar metric he calls the positivity quotient, or the fraction of all your emotional experiences that are positive. PQ, he says, is more important for your success than your IQ or your EQ (emotional intelligence). Many of the executives he coaches, he says, have tried to raise their EQ, with little lasting success. EQ training teaches self-awareness and self-management, among other skills, but it misses a crucial component, Chamine believes. “What EQ training doesn’t tackle are the Saboteurs, who, left untouched, quickly reclaim their power.”

Chamine’s goal is practical: He wants to help everyone, from children to executives, raise their PQ. Through his coaching practice, he’s refined techniques designed to weaken the Saboteurs (for starters, by learning to spot them in action) and strengthen the Sage, starting with understanding that an optimistic attitude becomes self-fulfilling. For example, he recommends a thought experiment involving identical twins who face a setback

in opposite ways: One blames himself or others, while the second one says, “I can turn this failure into an opportunity.” Guess which twin will be better able to muster the internal resources, such as compassion and curiosity, to overcome the setback? “When your Judge says you’re screwed, you *are* screwed,” Chamine says.

Many of the exercises Chamine uses, like the twin experiment, are almost like little games. Others, like the mindfulness exercise that has you focus on a bodily sensation for 10 seconds, sound less fun, and, in fact, Chamine prescribes a number of “reps,” as if you were counting crunches at the gym. Fun or not, you have to stick with the program. The effort, though, can bear unexpected fruit.

“One of the biggest lies is that success leads to happiness,” Chamine says, rather than the other way around. “The biggest insight is that the happy brain is a more capable, more creative, more resourceful brain.” ▲

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# Organizations



“This is not about  
**making a  
perfect boss.**

It’s about you making a  
better relationship.”

—David L. Bradford, PAGE 30

Ben Wiseman

BOUNDARY

**INFLUENCE**

# How Do You Manage Upward?

**The coauthor of *Influencing Up* describes how to build a partnership with the boss.**

**INTERVIEW CONDUCTED BY  
MICHAEL FREEDMAN**

In the classic leadership book *Influence Without Authority*, Allan R. Cohen and David L. Bradford describe how even workers with no official power can effect change in an organization. They recently teamed up again to write *Influencing Up*, which explains how employees can manage up in the organizational chart — and why they need to now more than ever. *Stanford Business* recently sat down with Bradford to discuss the book. Excerpts:

**What is the premise of *Influencing Up*?**

It's about how you can influence powerful people, and be powerful in doing that. You need to be influential because you need things: resources, permission, or support. But this is not just for your sake but for the boss's sake as well. Powerful people need powerful direct reports. They need direct reports who can take initiative in coming up with new ideas and getting them implemented. Furthermore, even the most successful leaders get blinded by what they want and need reports who will "tell truth to authority" in a respectful manner. Most powerful leaders do not need or want passive, obsequious subordinates.

**What does it take for a direct report to gain power in the employee-boss relationship?**

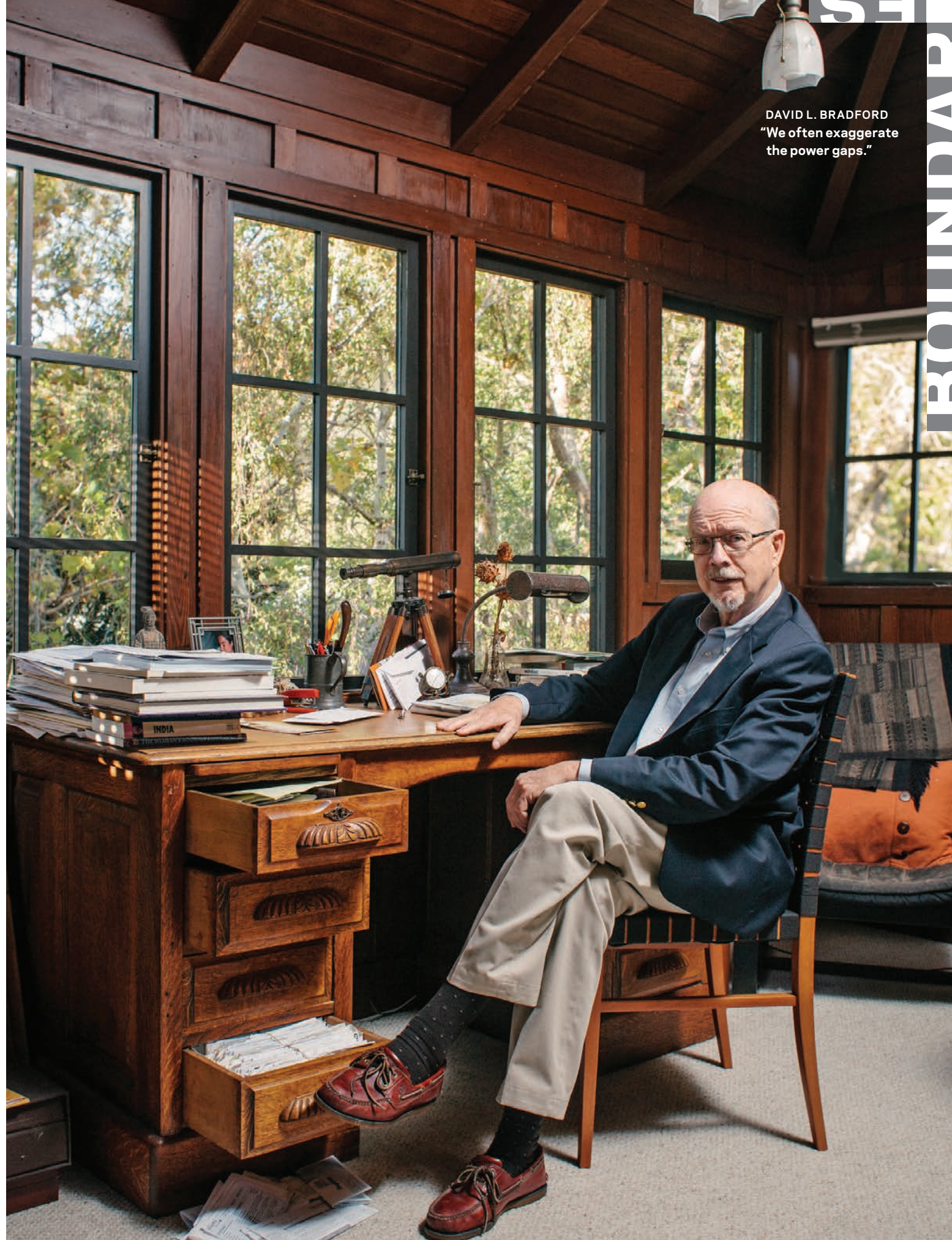
First, not falling into the trap of accentuating the power gap. Research, much of it done here at Stanford, shows that when there is a significant gap between the most powerful and the least powerful, dysfunctional things happen for both parties. In the book, we say that "high power makes you deaf, and low power gives you laryngitis." When you have high power, you tend to overestimate your abilities and can be closed to influence, which can be very dangerous in a fast-changing world. On the other hand, if you perceive you have very little power, you tend to shut down instead of offering alternate points of view, which is really what is needed. Now, sometimes power is objective: Some people have a lot of money and others have very little; someone is CEO and another is a clerk. But we often exaggerate the power gaps, and when we do that we hurt ourselves and our bosses.

**David L. Bradford is Stanford GSB's Eugene D. O'Kelly II Senior Lecturer in Leadership, Emeritus. He discusses related research at <http://stnfd.biz/pON4D>**



DAVID L. BRADFORD  
"We often exaggerate  
the power gaps."

BOUNDARY







**So, much of this responsibility really falls on the junior partner?**

We’re making that argument. It may seem counterintuitive, but we do it for several reasons. One is, bosses are concerned about their relationship with their boss. Furthermore, your boss has other direct reports and may not have as much time for you as you would wish. Also, we want to build a world in which people are more in control of their own destiny, so you’re not taking a subordinate orientation that says, “If only my boss would do these things for me.”

This is not about making a perfect boss; it’s about you making a better relationship. It is keeping the boss’s needs in mind and even taking responsibility to try to balance what the boss is not good at. Let’s say your boss puts off decisions. You could say, “Hey, Boss, my sense is you like to get as much information as possible before making a decision, but we get criticized when decisions are delayed. Is it okay if I am more active in pushing for decisions?” This is a more useful way than grouching about the problem. It’s you being a proactive junior partner.

**Isn’t what you are talking about going to lead to more disagreements? Is that a problem?**

Yes, it will cause more disagreements — that’s the good news! But that doesn’t necessarily have to be a problem. Constructive disagreements not only can cut down on mistakes, but they can also be a source of creativity and, therefore, increase the quality of the outcome.

Now, there are two sorts of disagreements. One is about the fundamental goals, the ends. If you disagree on these, then it raises the question about whether you ought to be in this organization. But most disagreement is around means. If I’m explicit that we agree on goals but not on how we’re going to achieve them, then I can both be on the boss’s side — be a partner — and be direct. I can say, “Hey, Boss, we agree we need to build better relationships with marketing. If we send out this memo, it’s going to bend them out of shape. Can we do something about that?”

The second essential thing is for a direct report to have high influence skills. In our previous book, *Influence Without Authority*, we describe the various ways that a direct report can have power and a key one is using the Law of Reciprocity: I have influence insofar as I give you what you need, which builds up a line of credit for me to get what I need. Many things that a direct report wants are also in the boss’s best interest but are not framed that way. And when thus framed, and linked with what the organization needs, a person can have a great deal of influence.

The third thing is to move beyond the concept of being a subordinate and, instead, being a junior partner. “Subordinate” carries all sorts of negative implications including excessive deference, passivity, and the like. But “junior partner,” while still recognizing the hierarchical difference, says “we are in the same boat together,” so are concerned for the boss’s success as well as one’s own. Junior partners don’t let senior partners make mistakes.

**What is the senior partner’s role in the dynamic?**

We wrote the book from the point of view of the junior partner to make them more powerful in a way that’s helpful to the senior partners. That said, it would be nice if the senior partner didn’t fall into the high-power gap and assume that he or she has private conversations with God and has all the answers. Also, that the boss doesn’t get threatened when people disagree. It would be wonderful to have a perfect boss, but we rarely do. And our point is that you don’t need to have an ideal manager for you to be a powerful junior partner.

Even so, it doesn’t mean that direct reports always get their way or have license to disagree in perpetuity. Bosses set different standards. I know one CEO who said, “You’re allowed four nos, and each one has to bring in new information. I will listen to your disagreements, but after the fourth time, if I still disagree, this is the way it’s going to be.” Bosses have the right to say that. At some point you sign up, and that’s where the hierarchy plays a role.

**What risks are there for the junior partner trying to create this partnership?**

This obviously has risk. But we would argue it’s more risky to do nothing. To succeed in today’s world, you need to be seen as a person who can take initiative, who gets things done, who can be relied on to be on the boss’s side, and to tell the truth when that’s crucial. To not do that, we would argue, is riskier. To be passive, to wait to be told to do things, to not tell the truth, we think is the biggest risk of all.

**Some bosses are impossible. What do you do then?**

There are some bosses who would see any disagreement as insubordination, but in most cases when people say they have an impossible boss, on examination, we find that they may be difficult but really aren’t impossible. There is the tendency to give up too early and over-read gruffness or resistance as a sign that we are about to make a career-limiting move. For example, we raise a question about an action our manager is considering and the response of, “I think you are wrong; what’s your evidence?” causes us to back down. Powerful people act powerfully, but, as we said, they usually want powerful direct reports. The mistake is seeing bosses as impossible when they really aren’t.

The objective in building an empowered relationship is not as an end in and of itself but as a means for you to be more productive, to be able to take initiative, to get the resources you need, and to truly add value to the organization. And achieving that is a crucial source of your power.

### How do you know the difference between a resistant boss and an impossible one?

There's rarely a boss who will fire you on one disagreement, so even if you get into a difficult conversation, it doesn't necessarily mean that you have jeopardized your career. You may want to ask yourself, "Was there something about the way it was raised? Did I not have the facts? Did I fail to acknowledge agreement with the goals, but disagree on the means? Did I not speak to the boss's best interests? Was it the setting — disagreeing in public — that produced this?" Mostly, we find bosses are resistant when the subordinate makes a request that adds to the boss's workload, or implicitly or explicitly criticizes the boss as a bad boss.

But let's assume that the conversation didn't end that well. Again, before jumping to the conclusion that you have an impossible boss, would it be worth the effort to discuss what is getting in the way of a more open relationship? Could you go into the boss's office three hours after a difficult conversation and say, "Joe, I want to be able to tell you the truth, but the signals I'm getting are that either I did it in the wrong way or that I shouldn't disagree. But if I can't raise concerns, that gets me to withhold useful information, and my intention is to be helpful. So, can we have a conversation about how we're talking?"

The boss may say, "You did it in public." Or, "You came to me with opinions and didn't have facts, and if you want to disagree, this is how to do it." Or, the boss may say, "What I say is right, and you're never to disagree." And then you know that boss is impossible. But you have pushed back, you have shown you're there to be as helpful as you can, and we find that most bosses value that. If it turns out that you can't be a junior partner, the best recommendation is to protect yourself. Don't do things that make you vulnerable, and try to look for another job if you can.

### What about when you need to influence the boss's boss — do these same principles apply?

It may not be possible to build as tight a relationship as with your immediate boss, but the principles still apply. You need to give that person what they need so that you can get what you need. Now, it may be more difficult knowing what a person further up wants, but often we can make a good guess by knowing the pressures they're under, the demands of their job, what they talk about. Again, you need to be aware, even when dealing with the boss's boss or further up the organization, of not falling into the power gap trap and shutting yourself down when you really do have more power than you think we have.

### Some people work with a boss for 10 years or 20 years, and they never do this. Can you just start?

I think you can start at any time. Couldn't I go in to my boss and say, "Mary, we've worked together for 10 years. I think I've done a reasonably good job. But I realize that there are times when I haven't been as direct as I could be, and I don't think it serves you well. I would like to stop doing that." Mary is likely to be surprised, but my guess is ultimately Mary's going to say, "Yeah, I've noticed that, and I'd like you to stop doing that, too."

It also works well from the outset. In the book we have the case of a person, George, who starts a new job and says to the boss, "If I do anything that bothers you, I want you to tell me immediately." He's taking responsibility to define the relationship. And it works. George says, "I never have to worry about what my boss is thinking because we've set the ground rules. And it's made my boss more comfortable."

### How can the senior partner encourage this kind of initiative from the junior partner?

The first thing is that the boss has to share what he or she wants. It could be, "I read this interview about how direct reports could be more of a partner," and

**“Before deciding you have an impossible boss, is it worth the effort to discuss what is getting in the way of your relationship?”**

then to say, "I'd like you to think about how you could be more proactive, and let's talk about it." This way the boss initiates wanting to change the relationship but puts the responsibility back on the direct report by saying, "How would it work for you?"

The other thing the boss can do is reward the person who takes initiative. Let's say there's a person pushing back in a meeting, and the decision goes against her. It would be helpful if the boss would say in the meeting, "You know, Ann, you didn't win this one, but I really appreciate that you stuck in there and kept us honest. That was really helpful." So you're rewarding the person for the effort.

When we cover this material in executive programs, inevitably participants — mostly upper-middle managers — say, "I really can't be that direct with my boss." Then I ask, "Would you want your direct reports to be that direct with you if they thought you were making a mistake?" And, in almost every instance, they say yes. I then add, "Isn't it interesting? Everyone thinks they have insecure bosses, but they're secure themselves." We are often afraid to give what we say we want. Partially, it's because we don't know how to do it. This book is about how you can be direct while still being on the other person's side, and be productive and powerful in the process. ▲

**GENDER**

# Paths to Power

**Research explores what's changed for women on boards of directors, and what hasn't.**

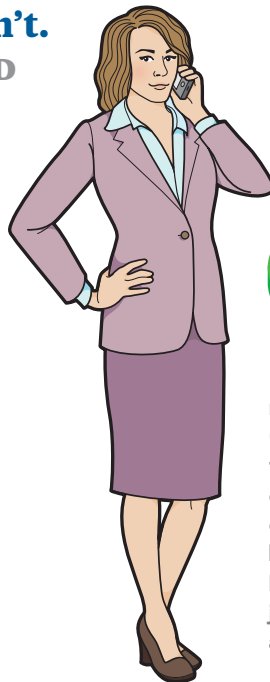
BY DAVID LARCKER AND BRIAN TAYAN

Corporations today show great interest in increasing female representation on their board of directors, and female director numbers are rising. Yet women represent only a fraction of directors at publicly traded companies around the world. To better understand this, we surveyed the companies on the 2012 list of the Fortune 250 to identify their first female director, the year she joined the board, and her previous experience. We found that the first female directors of large public corporations had diverse backgrounds, while the mix of professional experience among female directors today is quite different, with a strong shift toward a corporate career path.

Why is female board representation not higher? In one recent survey, women cite male-oriented networks as the number one reason. Men cited a lack of female executives at the top of corporations. ▲

**THE PIONEERS**

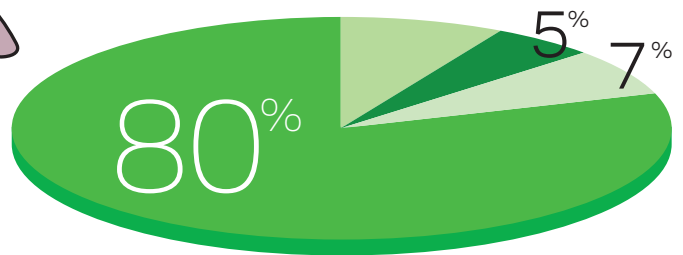
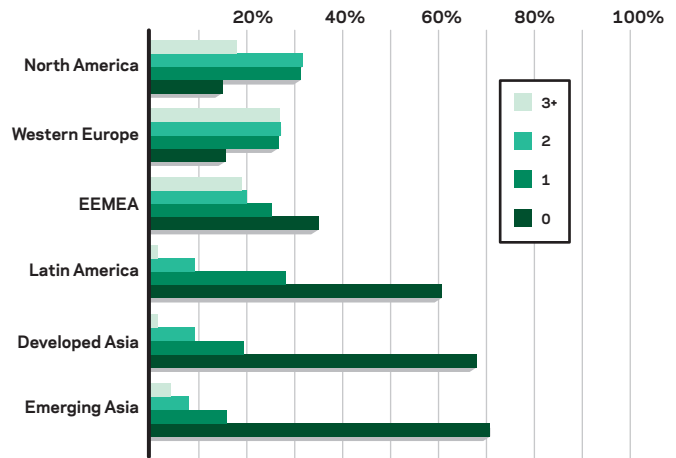
First female directors of select Fortune 250 companies



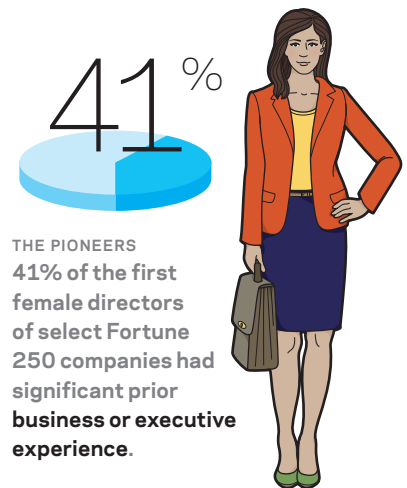
The first female director in our sample was Clara Abbott of Abbott Laboratories, who was the wife of founder Wallace Abbott and served two terms on the board from 1900 to 1908 and from 1911 to 1924.

**THE WORLD TODAY**

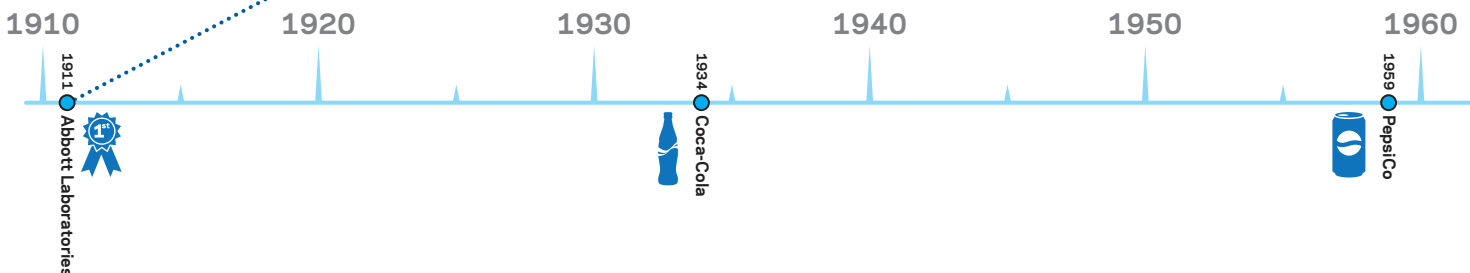
Percentage of companies with zero, one, two, or three or more female directors



**LEADERS TODAY**  
Of female directors today, 80% have corporate executive experience, only 7% have a consulting or legal background, and just 5% come from academia.



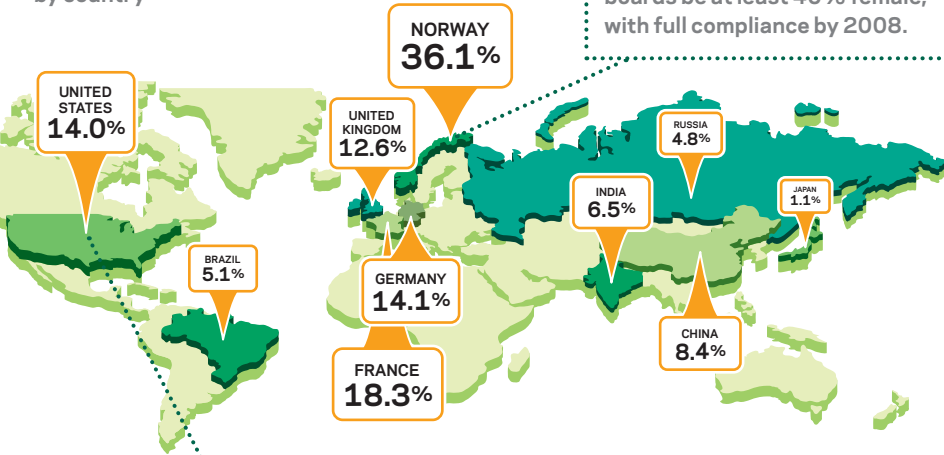
**THE PIONEERS**  
41% of the first female directors of select Fortune 250 companies had significant prior business or executive experience.





THE WORLD TODAY

Female corporate board representation by country



Norway passed a law in 2003 requiring that listed company boards be at least 40% female, with full compliance by 2008.

Only 17% of women on boards in the United States are independent directors.

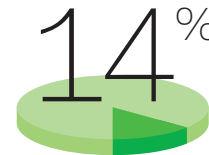
LEADERS TODAY

Women represent 26% of newly elected independent board directors.

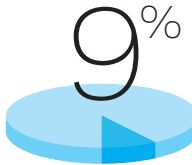


LEADERS TODAY

Only 14% of executive officers in Fortune 500 companies are women.

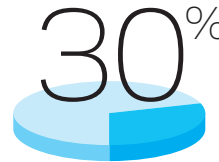


THE PIONEERS  
17% of the first female board members had professional consulting or legal backgrounds.



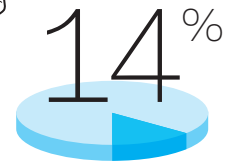
THE PIONEERS  
9% of first female directors were company founders or members of the founding family.

THE PIONEERS  
30% of first female directors had meaningful state or federal political experience.



THE PIONEERS

Approximately 14% of first female directors gained their seats because of academic or research experience.



The first female directors of two power companies in our sample were environmentalists. In 1973, Doris Leonard joined Pacific Gas & Electric. In 1977, natural history writer Ann Zwinger joined American Electric Power.

Wal-Mart's first female director was Hillary Clinton, a patent infringement and intellectual property lawyer, and wife of then-Arkansas Governor Bill Clinton.



1970

1980

1990

2000

2010

1969 ● The Gap



1973 ● Prudential Financial

1975 ● Bank of America

1975 ● Lincoln National

1977 ● American Electric Power

1977 ● Chevron

1986 ● Wal-Mart



1991 ● Johnson Controls

1991 ● United Health Group



1994 ● Land O'Lakes



2003 ● Berkshire Hathaway



SUSAN ATHEY “Management clearly is changing.”

**TECHNOLOGY**

# The Data Explosion

**Economist Susan Athey says digital information is reshaping competition — and management.**

**INTERVIEW CONDUCTED BY  
KATHLEEN O’TOOLE**

The explosion in digital data allows managers to measure and know radically more about their businesses, which they can then translate into improved products or entirely new ones. Stanford GSB economics professor Susan Athey, who consults for Microsoft and other technology companies, discussed with *Stanford Business* how voluminous data collection, cheap storage, and machine learning from data troves is changing the management of organizations — not just internet-driven newcomers but also traditional businesses. Here are excerpts from the interview.

**How do you see Big Data technology reshaping management skills in Silicon Valley and beyond?** At the internet-related firms, most of which have a significant presence in the Silicon Valley, there is an enormous demand for new and different skill sets created by Big Data. Clearly, there is a need for large-scale data analytics.

Within analytics, there are people who write the code to pull data from very large data sources and aggregate it into a form that’s more useful. There are people who do the fairly simple statistical analysis on that data, and then there are people who do much more complex statistical analysis involving machine learning or econometrics, such as modeling that predicts which link on a web page is going to get clicked on or which products consumers should be offered when they come to a web page.

Susan Athey is a professor of economics at Stanford GSB. She received her PhD from the school in 1995.

At high-tech firms, managers need to be able to understand and evaluate the output from these analysts, and they often find that if they cannot directly engage in it themselves, they are left out or left behind. Beyond analyzing data that is created in the regular course of business, a new domain involves managing large-scale experimentation platforms and analyzing data from experiments.

**I've heard that Google specialists run thousands of experiments a year and that the data from those experiments determine company direction more than human managers. In fact, some data specialists at internet companies refer dismissively to ideas and intuition that are not grounded in data as hippos, which stands for "highly paid person's opinions." Is that an accurate characterization?** Management clearly is changing. At companies like Google and Microsoft, even the smallest change to a search engine algorithm goes through a mandatory experimentation process. That means that products only see the light of day if they make it through rigorous statistical scrutiny. Since the firm's core product development is operating in a way that's governed by data, people in finance and business planning can't perform their functions without evaluating studies and predictions from the statisticians and data scientists. Thus, even MBAs who might be delegating the analysis of the data still need to consume sophisticated analyses and be able to communicate with the engineering and product teams, whose professional language is data.

In my experience, MBAs who have good business intuition, but also can speak the language of the statisticians intelligently, are rock stars. These are people who have a good grasp on what data can prove and what it can't, and how to use data effectively to make decisions. They know how to use data to prove a point, present the information well visually, and pull together a collection of empirical facts that all support the main conclusion. People with this set of talents are poached by other firms and quickly promoted. They're giving executive presentations and are the go-to people on any sort of major strategic projects. This is the direction to expect other industries to move in as well.

**Besides running online experiments, what is the next big change coming from Big Data for business?** Real-time collection of data from monitoring devices or from user interaction with websites enables machine learning in real time, which can improve a company's performance relative to competitors. The internet firms are on the cutting edge of automated decision making rooted in machine learning, but it will be valuable elsewhere also.

**Could you explain how machine decision making using large data sets works?** Think of a search engine, which is the ultimate machine-learning algorithm. The intent of the person who makes the query changes over time. If you type Amanda Bynes into the search box today, the search engine looks very quickly at what other Amanda Bynes searchers today clicked on first when they were presented with a web page of results. Today matters because what you want could be different than it was yesterday.

When Michael Jackson died, for instance, there was a huge spike in internet traffic, and the search engine companies wanted to be able to figure out in the first 30 seconds how to stop sending people to general pages about the performer and start sending them instead to the latest news. By using the latest data — crowdsourcing what you want — a search engine can be a quick learner.

**“MBAs who have good business intuition but also can speak the language of the statisticians intelligently are rock stars.”**

All search engines try to do that, but how well they do it is a function of how fast they get the data. So Google will do it faster than Bing, because more people come to Google first. Amazon can beat out smaller retail operations. If you type “stroller” into Amazon, the algorithms figure out the best design of the web page for you personally. The algorithm uses a combination of what kind of consumer you are and what consumers like you clicked on in the very recent past.

When I talk with people outside of the internet companies about machine decision making, they are often not aware of how important vast quantities of data can be. Indeed, for many years, artificial intelligence researchers thought that if they understood the link structure of the internet and the structure of language, that would be enough to help people get good search results. It turned out that having a lot of data on how people behaved while searching was also crucial.

Just knowing the most common things that people type after a particular three-letter sequence can be more important



**“Social scientists are actively mining data to study everything from happiness to social norms to political upheaval.”**

than a lot of semantic understanding. This implies that in industries where machine learning is crucial to the quality of the product, you would expect to see a lot of concentration, and new firms will have difficulty getting off the ground.

**Is that why investors sink millions into startups that make no profit but grow troves of data?** Take the case of mobile phone services. If you can get a lot of your mobile phone users to use your voice services, you will become better at voice recognition, which creates a higher-quality product for your consumers. It becomes a source of differentiation in your core product, but also it’s a capability you can extend. That data is valuable for learning how to understand speech in a variety of contexts.

You might imagine that companies that gather a large corpus of that data could sell it as a standalone product to other companies who are not direct competitors but who need speech recognition. All of the products that are touched by interfacing with humans will have that feature. So, if humans are trying to type text or speak or use touch or handwriting or gestures to interface with a device, then a company that has a large corpus of that input will have an advantage at understanding the input faster and better.

Voice recognition is an example of this more general phenomenon in which you see some of the internet firms integrating in a lot of directions because they want to gather more data. They don’t want their

competitors to have data that makes the competitors’ products better, and they can also try to monetize the data in other ways, for example through personalization and better-targeted advertising.

**In what other industries do you expect to see Big Data disrupt business as usual?**

It will be interesting to see what domains will use data effectively sooner rather than later. You might think, for example, that getting an automated airline reservation system to change a connecting flight reservation when your first flight has been delayed would be simpler than getting a car to drive itself. With caller ID, the airline should know who you are when you call from the tarmac. Yet, many a passenger has been frustrated by the time-consuming airline phone tree encountered in that situation, and only recently have we seen real improvement in that experience. Cars, on the other hand, have demonstrated they can drive themselves safely.

Another fascinating use of data sensors is to monitor the parts of a complex machine, such as a car or an airplane, to learn how to improve safety or when to replace worn parts. Medical diagnosis may also be a case where machines poring through petabytes of data might be quicker or more accurate than doctors, particularly for rare conditions, or cases where treatments have unusual side effects for particular populations of patients.

Some cases might surprise you. You might have thought it was pretty much impossible to break into something like the taxi business, since it is so highly regulated and local government is sensitive to the industry. Yet companies have succeeded in many cities, and they use real-time demand data to raise prices in times of short supply, ensuring that people who are willing to pay enough can always find a ride.

**What about finding new uses for old data?** There are huge opportunities to answer important policy questions, both public policy and business policy questions, using operational or passively collected data designed for another purpose.

All of the social sciences are actively mining data from social media such as Twitter, studying everything from happiness to adolescent social norms to the underpinnings of political upheaval. Both academics and the financial industry have mined sources such as Google Trends, finding that patterns of search behavior can be used to predict flu

outbreaks, unemployment statistics, as well as stock returns.

Another growing trend is for firms with access to large datasets to partner with researchers from academia, where the firm learns from the researchers’ expertise while the researchers are able to answer questions that can only be studied using proprietary datasets. The resulting published research only produces aggregate statistics, protecting the confidentiality of the data. This is something I’ve done fruitfully myself, with Microsoft Research, but other companies such as eBay and Yahoo have also successfully worked with academics.

Consider a less obvious example: cities. New York City, Chicago, and some entire countries, are doing large-scale data collection now. As this data becomes available, it is used for its direct purpose like data-driven policing or traffic and transportation-flow management. But we’re just starting to see the possibilities that can be unlocked through the secondary uses of the data: data concerning things like noise, energy use, and pollution at a very granular level.

You might gather noise data to identify violations of a noise ordinance but then find you can use it to study the effect of noise on the health of children. You might gather data about taxi trips to monitor compliance with various regulations, but end up learning about commuting patterns, gaps in public transportation, and even the propensity of different types of customers to tip. I expect to see that in businesses as well. They may be passively collecting information about what their customers are doing with their cars. They may discover, along the way, patterns in how customers are using the cars that have implications for the design of transportation systems generally, for urban planning, as well as for how to design future cars.

It can be difficult for companies and governments to enable full utilization of the data they possess because of confidentiality and data-security issues, but more amazing uses will inevitably come. Any industry could be the next one to rethink and innovate in a dramatic way. ▲



TRUST Warren Buffett high-fives a runner at a May 5k in his hometown of Omaha.

## GOVERNANCE

# What Happened to Trust?

Why giving corporate managers more autonomy can pay off

BY DAVID LARCKER AND BRIAN TAYAN

Rick Wilking/Reuters/Corbis

The litany of prominent corporate failures in the last decade or so — Enron, WorldCom, Lehman Brothers, and so on — ushered in an increase in regulatory requirements for corporate governance. The result is that every year, companies spend tens of millions of dollars paying for audit fees, internal auditors, and compliance efforts and evaluating incentive compensation and director salaries in order to satisfy a long list of rules, regulations, and procedures imposed by legislators and the market.

It all raises a critical but too often overlooked issue: Would corporate governance improve if companies instead had fewer controls? Would shareholders be better off if organizations instead demonstrated more trust in employees and executives? Research suggests that the answer may be yes, and that companies might benefit by emphasizing trust over regulations. Indeed, high-trust settings are characterized by less bureaucracy, simpler procedures, and higher productivity.

For starters, trust replaces the need for written contracts because the two parties commit in advance to abide by a set of actions and behaviors that are mutually beneficial. Both parties in a trusting relationship generally understand the limits of acceptable behavior even when these are not fully specified. And when trust is introduced into the environment, the motivations of each party are known and their behaviors are predictable. That means managers can spend less time monitoring employee actions, and employees can focus on their jobs rather than exerting additional effort simply to demonstrate they are compliant with the firm's standards.

In the extreme case — utopia! — there would be a number of additional benefits to creating a more trust-centered environment.

David Larcker is the James Irvin Miller Professor of Accounting at Stanford GSB and the Morgan Stanley Director of Stanford GSB's Center for Leadership Development and Research. Brian Tayan is a researcher at the Center for Leadership Development and Research and received his MBA from Stanford GSB in 2003. They are the authors of the recent book *A Real Look at Real World Corporate Governance*.

**“The key is knowing where to draw the line between too much trust and too little formal corporate governance.”**

First, the responsibilities of the board of directors could be significantly narrowed. Rather than balance advisory and monitoring obligations, the board would focus entirely on advising management on matters involving strategy, organizational design, and risk management. Total board-related compensation, which averages \$2 million per year among mid-sized companies, might be reduced.

Second, the external audit could become largely unnecessary. Rather than sample a large number of accounts for material misstatement and check internal controls for deficiencies, the external auditor would serve a much narrower role of clarifying the application of accounting standards when questions arise. Audit fees, which average \$3.9 million among publicly traded companies, might also be greatly reduced.

Third, the internal audit function could also become unnecessary. Companies would not require an independent assessment of their accounts, controls, and procedures because employees would be trusted not to abuse the system. Instead, the accounting department would

employ a small staff to check accounts for inadvertent errors. Head count in the internal audit department, which averages seven to 15 auditors, could shrink.

Compensation contracts could also be simplified. Most companies today offer an extremely complicated program of fixed and contingent payments that vest over short- and long-term time horizons to motivate specific employee behaviors. In a trust-based environment, such an elaborate program becomes unnecessary. Furthermore, companies would no longer have to pay the risk premium associated with contingent (risk-based) pay. Instead, companies would offer large fixed salaries, potentially supplemented with cash bonuses for those who achieve critical performance metrics. Equity programs, which require a larger risk premium relative to cash programs, might be substantially reduced or even discontinued. And finally, companies could eliminate many of the bureaucratic checks and controls that are often implemented to prevent and detect legal or regulatory violations, such as bribes to win foreign business. Instead, employees would self-monitor, with line managers responsible for reporting inadvertent legal or regulatory missteps to higher-level executives.

Several examples already exist of companies that demonstrate trust in their employees and managers, and benefit from these sorts of cost reductions. Berkshire Hathaway Inc. is renowned for granting considerable autonomy to the operating managers of its various businesses. This allows the company to maintain an extremely modest head count of only 24 staff at headquarters, despite having 288,000 employees worldwide.

Real estate company Keller Williams Realty Inc. maintains a strict “open books” policy. All agents within the company’s market centers have access to detailed information about the office’s revenues, commissions, and costs. This reduces the opportunity for theft, waste, or special dealings, and also the need for a robust internal audit department.

Netflix Inc. is known for maintaining a high-performance culture rooted in the concept of “freedom and responsibility.” Employees are expected to work hard, take ownership, and put the company’s interests ahead of their own. In return, the company offers top-of-market salaries equivalent

to the combined value of the salary and bonus offered by other firms. Netflix does not offer incentive bonuses, and equity compensation is granted only to employees who voluntarily request it as a portion of their compensation mix.

An emphasis on contracts to minimize self-interested behavior creates its own set of risks. It is impossible, for instance, to write a contract that specifies all behaviors. And strict enforcement of the terms of a contract has the unintended consequence of emphasizing the minimum amount of work required for an employee to satisfy his or her obligations and avoid punishment. A contract can therefore reduce, rather than increase, productive effort.

It is true that even a company that adopts a high-trust governance system cannot entirely eliminate the risk that its trust will be abused. Indeed, the downside is potentially amplified because the company will not have effective controls in place to deal with any breakdowns that take place. Such a situation might have occurred at Johnson & Johnson, which historically has maintained a highly decentralized management system. In 2009, this structure was challenged when the company issued the first of what eventually became three dozen product recalls due to faulty manufacturing in its consumer health care division. A *Fortune* magazine article blames the recalls in part on the McNeil division’s “wrenching cultural change, and a quality-assurance department that crumbled as its mistakes were overlooked.”

The key, then, is knowing where to draw the line between too much trust and too little formal corporate governance. Many of the regulations of the last decade were designed for the worst offenders, not for the everyday company. A question for regulators, policymakers, and business leaders is whether “average” companies should be presumed to be more “trustworthy” — and whether it is cost-effective to impose these same standards across the board. Could it be that more trust is the answer? ▲



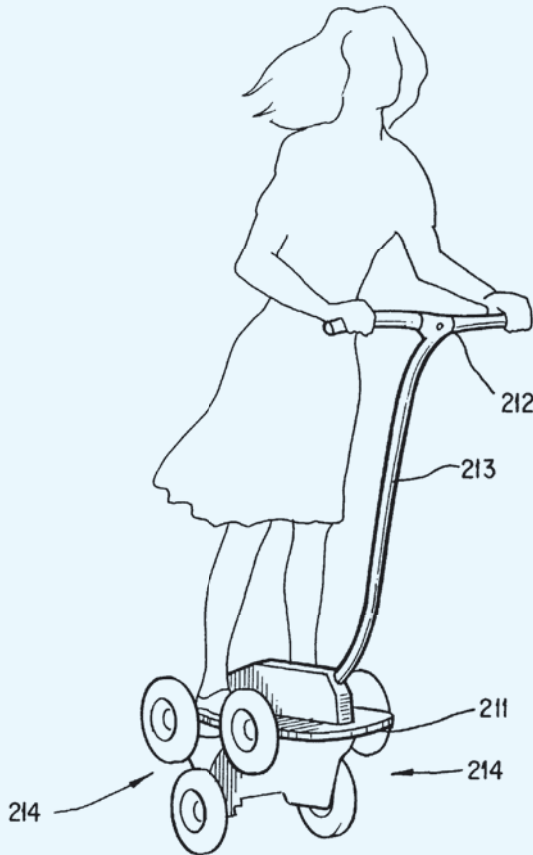


FIG. 21

**MESSAGING**

# How Do You Explain an Innovation?

**A genuinely novel idea can win or lose depending on how quickly the consumer “gets” it.**

**BY JESPER SØRENSEN**

The Holy Grail for innovators often is not simply to win in an existing market, but also to create an entirely new product category. But doing so raises a critical question for the entrepreneur: How do you get potential customers and investors to understand what it is you are doing?

It’s harder than it sounds. Consumers make sense of unfamiliar products by mapping them onto categories of things they already understand. So when Apple comes out with its iPhone 6, for example, it’s pretty easy for customers to understand that it’s a lot like the previous iterations. But genuinely novel products don’t fit neatly into one category or another. Indeed, their novelty stems from the very fact that the ideas and technologies that came together to create the new concept existed previously in domains or categories that were thought to be entirely distinct.

As a result, innovations that are totally new to the market are often extremely difficult to describe. Things that are difficult to describe are hard to understand. And things that are hard for consumers and investors to understand typically face two outcomes: They are either ignored or devalued.

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To give a sense of the challenge for the innovator, consider an advertisement for Samsung's Galaxy Note line. With this product, the South Korean company tried to create a new kind of product that combined the features of a phone with the features of a tablet. The advertisement showed a picture of the device with the copy line, "Phone? Tablet? Best of both? The next big thing is here."

The ad tackles the challenge head-on — namely, the difficulties consumers might have in describing what exactly a Galaxy Note is. On the one hand, it has the ability to make phone calls over cellular networks, so it is in some sense a phone. But it is a mighty big phone. On the other hand, it has many of the features that people find appealing about tablets (itself a category that is very new to the world). But it is smaller than other tablets. So what exactly are you supposed to call it? And what exactly are you supposed to compare it to?

This challenge is echoed in a review of the Samsung Galaxy Note 2: "Normally, this is where we'd talk about the alternatives on offer," the reviewer wrote. "But we admit, we're stumped here. Why? Well, in our mind, there is no clear rival. The Samsung Galaxy Note created its own category, in that there were no real phablets about before."

What the reviewer ended up doing was assessing the product feature by feature, rather than provide an overall assessment like "much better than an iPhone," or "inferior to an iPad." But if you always have to explain your product feature by feature, you have a problem. You are more likely to confuse people or lose their attention, and you risk that the true innovations embedded in the new product may be lost. You need a shorthand.

A more vivid, and perhaps cautionary, illustration of these risks is the case of Segway, which has now been around for 10 years but has never really lived up to the promises that were made when inventor Dean Kamen first launched it.

Much of the reason for this is that it has been hard for consumers to make sense of what exactly a Segway is. This challenge is immediately apparent on the company webpage where they describe their device as "a leader in personal, green transportation," and "as a leader in the emerging small electric vehicle (SeV) space." This seems a bit like claiming to be a leader in a category with no followers.

One tactic innovators and marketers often use to help potential consumers understand the value of their new innovation is the analogy. In other words, they try to explain the new product by helping the customer map it to an existing product or set of products they already clearly understand. In Segway's case, Kamen tried to convey the promise of the product through analogy by claiming in 2001 that it would do for city dwellers what "Henry Ford did in the last century for rural America." In another instance, he said he believed the vehicle would "do for walking what the calculator did for pad and pencil."

But these analogies fell flat. Yes, it is clear he believed the product would make walking a distance obsolete. But what exactly *is* the device? In the end, consumers simply could not comprehend the characteristics that made this the radical innovation it was. Put more simply: They didn't "get" it.

Scholars have been exploring for years how people make sense of the new objects, products, and services they encounter. Research conducted by several faculty here at Stanford suggests that categories serve as a key frame of reference for consumers as they evaluate a new product. Several years ago Stanford's Hayagreeva Rao explored the phenomenon through the lens of French haute cuisine. He and co-researchers measured the extent to which chefs' decisions to borrow from alternative cooking approaches affected their Michelin ratings. They discovered that chefs who departed from the traditional approach were initially penalized for doing so. However, as more chefs crossed over, the effect diminished.

The study, Rao said at the time, suggested that "the early bird can get the

**"If you always have to explain your product feature by feature, you are more likely to confuse people or lose their attention."**

worm — but can also be killed." In other words, when categorical boundaries are very well defined, as they were in this case, "people may not understand what you're doing when you cross them."

Work by Stanford's Glenn Carroll, and others, looks at the phenomenon from a slightly different approach. They looked at a particular type of data storage system called disk arrays to address a seemingly straightforward question: Why is it that this product category never took hold as a recognizable entity? Their answer: Nascent markets are more likely to coalesce into broadly understood categories when the producers have sharply focused identities. "If many firms in the market derive their primary identities from other activities," they wrote in one paper, "and there are few firms deriving their primary identity from disk arrays, then the disk array producer identity will likely not be readily perceived by outsiders."

These findings have important implications for innovators who want to launch a novel product into the market. For an existing company, it means understanding that if the new product is too far afield from its identity — say, a computer company that launches a line of helicopters, or a Michelin-starred restaurant that opens a haute couture boutique on the side — it might be worth considering licensing the

new product, selling it, or spinning it off to avoid market confusion. For a startup, it means recognizing that its potential advantage may lie in the fact that it has a more malleable identity than competitors.

To understand why this is so, consider the company Zipcar. Avis Budget Group now owns the company, but imagine if the rental giant had tried to invent the concept from the start. It likely would have been an uphill climb because consumers' existing mental model for "Avis" is tied up in all sorts of associations, including car rental counters, liability forms, tack-on prices for gasoline, and lines at the airport. So, explaining to customers that this new company is essentially a car rental agency, but one that operates very differently from what they think of when they hear the words "rental car company," would have been extremely challenging. Zipcar, by contrast, had no baggage in the category. It established itself on its own terms.

While this freedom to define themselves creates potential advantages for startups, it also carries risks. Finding the analogy that will help people understand an innovation is difficult, and the temptation is to offer the audience multiple possibilities in the hope that one will work. Consider the San Francisco-based car-sharing startups Getaround and RelayRides. Since the notion of car-sharing is unfamiliar, both try to help consumers understand by invoking well-understood concepts such as the rental car business, social networks ("car-sharing communities"), and environmental sustainability ("imagine a world with fewer cars, without traffic jams, and less pollution"). By providing multiple analogies for potential customers to latch onto, they risk creating confusion and alienation.

The key, then, for a company building novel products is to resist the temptation to be multivocal; that is, to say we are "part this, part that."

Truly innovative products are often the ones that bring ideas across categorical boundaries. But doing so creates potential confusion, and people devalue what confuses them. The solution, difficult as it may seem, is to adopt a crisp identity instead. After all, staking a claim on your identity is a key element of the entrepreneurial "bet": When introducing an entirely new product into the marketplace, make a choice about who you are. ▲



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**MARKETS**

# Breaking Through the Market Noise

**A study suggests that tweeting can measurably increase the market liquidity of little-known stocks.**

**BY EDMUND L. ANDREWS**

It almost goes without saying that Twitter has changed the way corporations communicate. Despite much early sneering about the 140-character limit of a tweet, thousands of very serious companies fire off tweets daily about their latest news. In April, the Securities & Exchange Commission gave additional guidance to firms thinking of using social media as a means of disclosure that made it more likely firms will start using it. And in September, Twitter itself disclosed its plan for an initial public offering of stock by tweeting the news to its roughly 25 million followers.

But does tweeting have any impact on investors? A new empirical study suggests

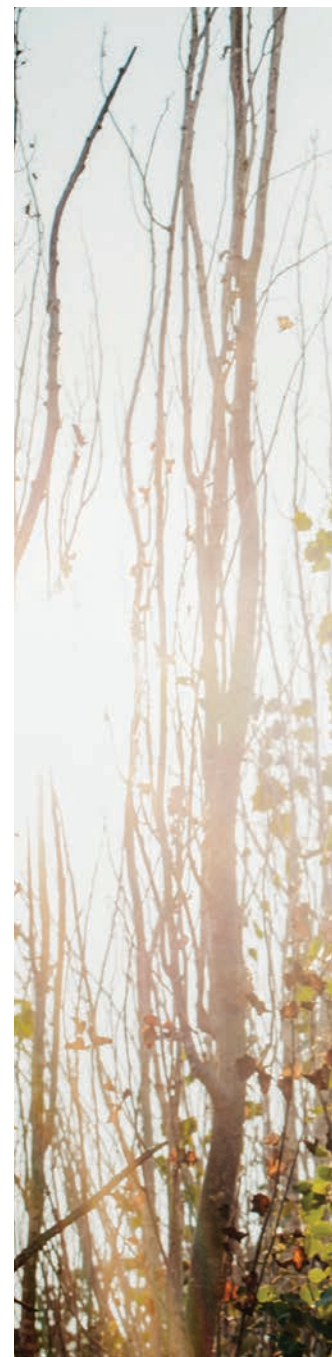
that it does. In particular, Twitter seems to help little-known companies overcome the natural bias of traditional news media toward bigger companies that already get buzz.

The researchers, who include Elizabeth Blankespoor, an assistant professor of accounting at Stanford GSB, found that tweeting measurably increased the market liquidity of stocks that normally get little attention.

That's important for both practical and theoretical reasons. As a practical matter, corporate investor-relations departments are pouring money into Twitter and other "push" technologies without completely knowing how well they work.

On a more theoretical level, the findings further undermine a key assumption about how markets work. The traditional assumption has been that markets instantly assimilate every new scrap of information as soon as it becomes public. If a company announces its latest earnings over the PR Newswire, for example, the traditional view is that the information reaches everybody in the market immediately.

Many analysts had already found that the real world was messier than that. In





ELIZABETH BLANKESPOOR Exploring the message and the medium

the real world, investors get much of their information from the news media — the *Wall Street Journal*, news services such as Bloomberg, and television networks such as CNBC. And news organizations pay much more attention to high-visibility companies because those are the ones that attract bigger audiences.

Blankespoor teamed up to study Twitter's market impact with Gregory S. Miller, an associate professor of accounting at the University of Michigan, and Hal D. White, an

assistant professor of accounting at Michigan. They suspected that Twitter and other technologies were changing the old rules. For the first time, companies could communicate with investors directly and instantly.

Twitter is hardly the only direct-access technology in use. Many companies also reach investors through mass email alerts, RSS feeds, and Facebook. But for many investor-relations departments, Twitter has become the social networking tool of choice.

To measure Twitter's impact, the researchers studied one particular form of corporate tweet: those that contain links to a company's full original announcement.

The researchers compiled tweet data from 2007 through September 2009 for 102 information technology companies (on the theory that IT firms were likely to be early Twitter adopters). They then correlated the tweet activity with trading data about the liquidity of each company's stock.



**The takeaway is that Twitter can help reduce the information disadvantage of small companies.**

Specifically, they looked at the spread between bid and ask prices, or the difference between prices offered by buyers and sellers. Narrow spreads mean that a stock is more liquid and easier to trade, often because investors are more confident about what they know. High-visibility companies with lots of shareholders usually have narrower spreads than lesser-known companies, an indicator of the “information asymmetry” that plagues the lesser-known companies.

Navigating through the Twitter data took some detective work. The researchers had to identify the Twitter “handles” for each of the companies, round up all their tweets, and then weed out those that didn’t link back to press releases and other blog posts. They also tabulated how many times people actually clicked on the tweet’s hyperlink. Once they had all that, they correlated the tweets with trading data immediately before and after each news announcement.

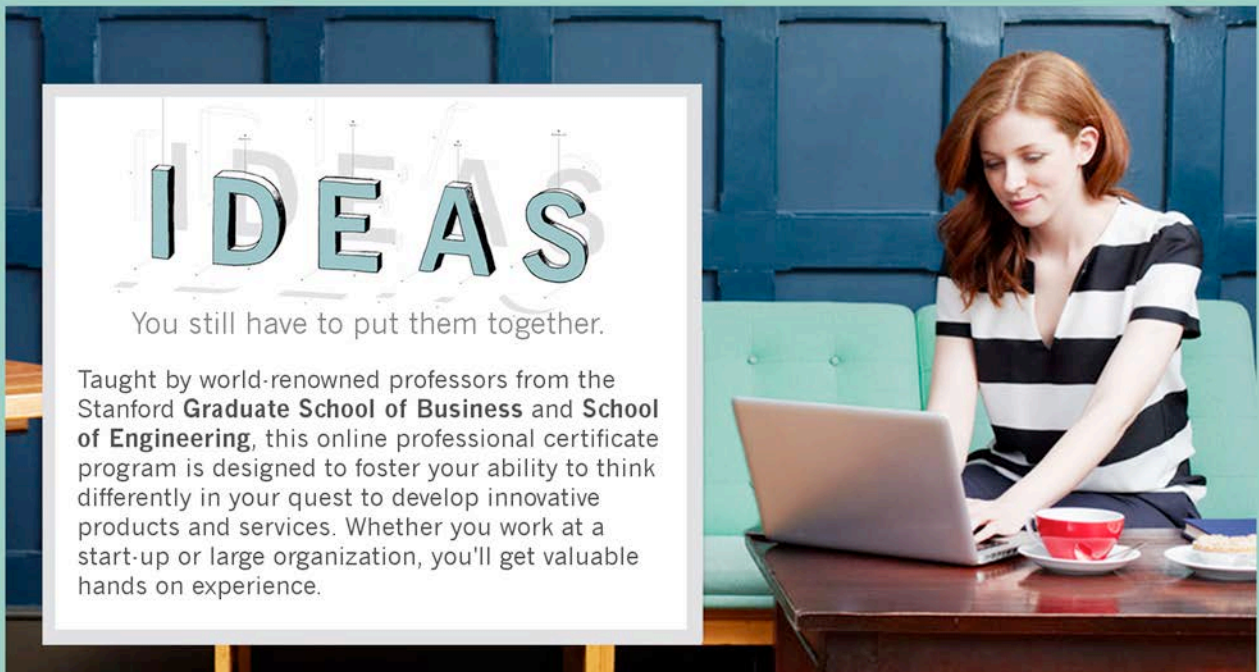
For the record, the average company in the study had 28,318 followers over the period (Twitter was still in its infancy). Companies sent an average of 46.9 tweets with links per month, and each link was clicked an average of 141 times. What the researchers found was that bid-ask spreads narrowed significantly for lesser-known companies when they tweeted about their news. Bigger companies that already enjoyed visibility didn’t see any impact. In other words, tweeting helped level the information playing field at least a bit.

Blankespoor, Miller, and White also looked at whether Twitter had a particular effect on smaller investors, who don’t have

as much money for information collection as institutional traders. In theory, Twitter might boost their activity. But the data doesn’t show that. Tweeting didn’t seem to have any meaningful impact on the share of trading in small lots.

The big takeaway, Blankespoor says, is that Twitter and other “direct access information technologies” can help reduce the information disadvantage of small companies. It isn’t just the message that’s important. It’s how widely you can disseminate it. ▲

**Elizabeth Blankespoor is an assistant professor of accounting at Stanford GSB. She discusses the research at <http://stnfd.biz/pON5G>**



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# World



“Information can help create conditions that encourage

## the election of better leaders

and dampen ethnic rivalries.”

—Katherine Casey, PAGE 48

**POWER** At a polling station in Freetown, Sierra Leone, a woman casts her ballot for president in the November 2012 elections.







**GOVERNMENT**

# Crossing the Ethnic Barriers

Research in Sierra Leone explores the role of information in strengthening a democracy.

BY KATHLEEN O'TOOLE

In the weeks leading up to the November 2012 elections in Sierra Leone, villagers gathered to watch a 45-minute debate among candidates for parliament. The debaters were not there in person, but rather in a video projected on the outside of the local polling center. For Katherine Casey, an assistant professor of political economy at Stanford GSB, who was one of about 250 people watching in one village, the attentive crowd offered hope for Sierra Leone's restored democracy — and may even provide lessons that can be applied elsewhere. The lesson, she suggests, is that providing voters with information about candidates can help create the conditions that encourage the election of better leaders, the dampening of ethnic rivalries, and, as a result, a strengthened democracy.

Sierra Leone has now held several peaceful elections, a far cry from the intimidation and violence that racked the

**Katherine Casey is an assistant professor of political economy at Stanford GSB.**



country of 6 million between 1991 and 2002, when a civil war took 50,000 lives.

The candidate debate nights were part of an experiment devised by Casey and colleagues to test what sort of information affects how citizens vote. In previous research, they had found clues that better information plays a significant role. In national elections in 2007 and 2008, 86% of Sierra Leone's voters voted for the party historically associated with their ethnic group, but in local elections only 75% did so. Exit polls pointed to a possible explanation: Voters knew twice as much about local candidates as national candidates, and that additional knowledge about individuals, as opposed to just party labels, may have played a role in their willingness to cross over ethnic lines on their ballots.

The ability of information to change voters' choice matters for two reasons, Casey believes. If political parties cannot rely on people voting for traditional affiliations, such as an ethnic or religious group, they may be more likely to field candidates who pay closer attention to what policies constituents want. And, armed with more knowledge, voters may be better able to hold politicians accountable, which makes it more difficult for those elected to divert public resources.

But getting information to voters in rural villages, with limited access to radio, television, and newspapers, is no easy task. Moreover, in a setting where 70% of voters have no formal schooling, it is critical to deliver information in a way that is accessible and engaging.

One of Casey's ongoing projects, with partial funding from the Stanford Institute for Innovation in Developing Economies (SEED), is to tease apart what sort of information makes a difference. To find out, the researchers teamed up with Search for Common Ground, a nonprofit organization, to organize moderated debates among

candidates for 14 of the most closely contested national parliament seats in 2012. Videos of the relevant debate were shown in 112 villages. Other voters were asked to listen to a radio report, and still others were shown a "get-to-know-you" video of candidates talking about themselves.

The results showed a dramatic effect of the debate video. In villages where voters had not seen the video debates, exit polls indicated "only 28% of voters could name the two parliamentary candidates in the election they had just voted in," Casey says, "and only 3% knew roughly the amount of money [\$11,000] that members of parliament are given every year" to spend in their constituency.

Among those who saw the video debates, many more voters knew the candidates' names and other details about them, such as who was better educated or had held office before. The number who knew the amount of money the elected candidate could spend quadrupled. Furthermore,



DECISION TIME A ballot for the 2012 Sierra Leone presidential elections

Casey said, those who had seen the debates were more likely to vote for a candidate whose policy stance was the same as the voter's policy preference. "Across the board, we had large positive impacts on people being able to tell you where each of the candidates stood on important issues such as health care and gender equity."

The result was a change in the vote totals. "The candidates who won the debates, according to various ways we had measured the winners, got almost a five percentage point increase in votes," Casey said. "Also, the candidates responded to these debates by stepping up their campaigning in the villages that saw debates. They gave more gifts, like T-shirts and posters, and made more in-person visits."

In another 40 villages, the researchers measured the impact of a radio journalistic account of the debates and of the personality videos to see what kinds of information were influential. Some people were asked to listen to a journalist summarizing all the policy stances and professional qualifications covered in the debate. "It was just straight facts and excluded the candidates' charisma," Casey said. "Others watched the get-to-know-you video, where the candidates talked about their families and their hobbies, but nothing about their professional qualifications or policy stances. It was pure personality."

In exit polls, the researchers learned that the 5-minute personality video allowed voters to pick up on which candidate was more educated and which one had public office experience, but they did not know more about the policy stances of the candidates. The radio report increased voters' knowledge of politics, candidates, and policy positions, although somewhat less than watching the debates. "Only witnessing the debates actually changed voting choices," Casey said. "More people voted for the candidate who performed the best, and they moved into policy alignment with their preferred candidate."

For Casey, voting experiments are part of a larger investigation into the most effective ways to provide assistance to developing countries. She is part of a generation of economic and political development scholars who advocate randomized field experiments to guide decision making. Just as medical practice dramatically improved after the adoption of research protocols that randomly assigned some patients to experimental treatment and others to standard or no-

## Voting experiments are part of a larger investigation into the most effective ways to assist developing countries.

treatment control groups, Casey and her peers believe donor interventions in extremely poor countries will be more effective if rigorously evaluated.

In another experiment in Sierra Leone, she and her colleagues used randomization and control groups to look at the value of infrastructure loans and grants given at the very local level of villages with about 300 residents, or 50 households, instead of at the level of districts serving about 10,000 residents. The idea behind decentralization, Casey says, "is that people at the local level may have a lot of information that the central government doesn't have about what they need and how to accomplish it."

Four years after the World Bank and national government distributed grants, the researchers found that in those villages receiving the grants, there were more public goods, such as schools, latrines, and traditional birthing centers, and that the quality of those goods was better than those of the control villages, Casey says. "This was physical assessment of things like what the roof is made out of, what the walls are made out of, and the overall condition of repair. They had more facilities of better quality and also more petty traders and goods available to purchase, which are indicators of economic well-being." The study did not, however, show any impact on a complementary goal of enhancing the role of traditionally excluded groups — such as women and younger men — in village decision making, underscoring the difficulty in changing local power structures and governance institutions. ▲



In national elections in 2007–2008, 86% of Sierra Leone's voters voted for the party historically associated with their ethnic group. But in local elections only 75% did.

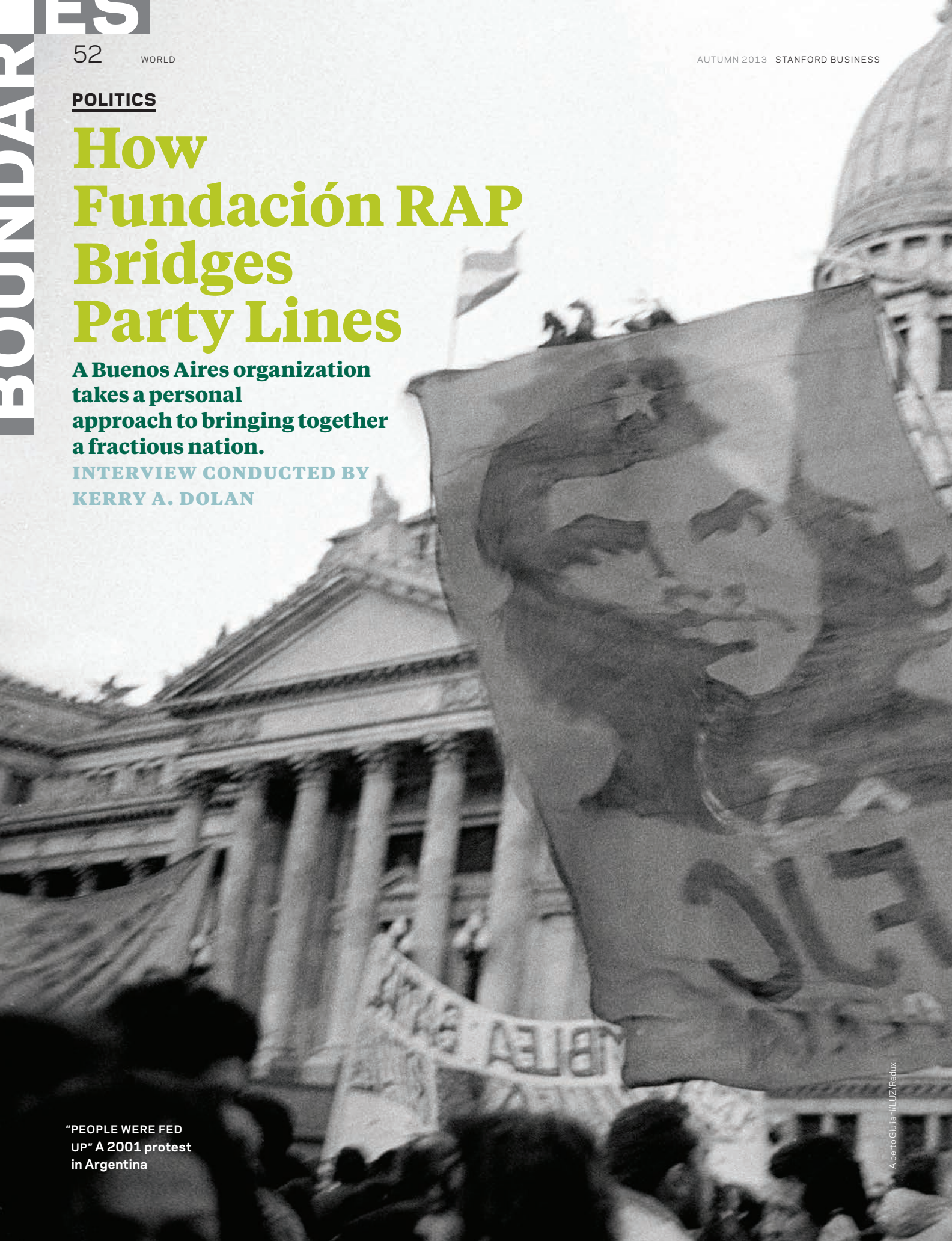


**POLITICS**

# How Fundación RAP Bridges Party Lines

**A Buenos Aires organization  
takes a personal  
approach to bringing together  
a fractious nation.**

**INTERVIEW CONDUCTED BY  
KERRY A. DOLAN**



**"PEOPLE WERE FED  
UP" A 2001 protest  
in Argentina**





BOUNDARY



Alan Clutterbuck spent a decade working at his family's Buenos Aires-based textile business before a series of events shifted his focus to improving the political dialogue in his native Argentina, a country with a long history of political fractiousness. Clutterbuck, who received his MBA from Stanford GSB in 1990, cofounded and has run Fundación RAP — the Political Action Network — for 10 years. In 2008, he was named an Ashoka Fellow for his work on civic engagement. *Stanford Business* spoke with Clutterbuck about his experience.

**What triggered the creation of Fundación RAP?** The idea started maturing after the crisis Argentina ran into in 2001. We had five presidents in two weeks. In Argentina, we have usually experienced a major crisis every 10 years, and a minor crisis every five years. The 2001 crisis came after the end of the 10-year stint of President Carlos Menem, under whom the country adopted a convertible exchange rate system. One peso was equal to one dollar. It was a good instrument to attack hyperinflation, but over time, we lost competitiveness, ran into substantial deficits, and increased the country's debt levels. By the end of the 1990s, we had high levels of unemployment and increased poverty. The whole system ended up collapsing. The peso was devalued to three to four pesos per dollar, bank deposits were frozen and partially confiscated, and we had the worst drop

Alan Clutterbuck received his MBA from Stanford GSB in 1990.

in gross domestic product per capita in Argentina's history. People were fed up [with politicians], saying, "*Que se vayan todos.*" ["Take them all out!"]

You had this big call of civil society complaining about politics on the one hand while calling for mitigating the impact of the crisis in terms of hunger and poverty. At least the system worked within a democracy and without military coups, which we had had in the past.

In the first six months of 2002, we began to meet with a group of mostly business professionals. We were frustrated with the state of the country and wanted to find a way to make a contribution to improve the overall situation. In the first half of 2003, with a group of 10 to 15 people, we decided to start a new nongovernmental organization that had a vision of trying to improve the quality of politics but with the distinctive ingredient of diversity and pluralism, and trying to reduce the level of confrontation that has been a constant throughout the history of Argentina.

**Did you model your group after an existing organization?** There was no model. There was no learning curve to jump onto.

**What was your plan?** We decided to try creating personal relationships between politicians from different parties based on trust. When you kept talking with politicians, you'd step back and say, "I'm not hearing things that are that different." They had more in common than they thought they had, but their prejudices didn't allow them to realize that. We decided to promote the development of "civic friendship," fostering bonds of trust and getting people to engage and sit down and talk, hoping this would allow them to realize that they had some common objectives.

When we started with this, we thought it would be a 15- to 20-year project. Argentina has a long history of not being able to get leaders from [various parties] together. What we are trying to do is a viral scheme that we hope will change the underlying political culture. We started with 12 politicians and we are at 160 today, bringing in 15 or so new ones each year.

**How many different political parties are active in Argentina?** Until the 1990s, we had two major players and a lot of minor players. That was fragmented after the crisis in 2001. In the mid-2000s at the national level, we had over 70 parties.

The Peronist party continues to be the most prominent. Over 20 parties are now represented in Congress. Some of them tend to form coalitions, and there are parties that do not have strong, clear ideological platforms.

**How do you decide which politicians to invite in?** We bring in people with two characteristics: people wanting to rethink how to strengthen democracy and institutions, and people willing to invest time in building a new political culture, one that is less confrontational. We also look at party diversity. We ask politicians from within our group and persons and corporations from our broad base of donors, think tanks, and academics for their thoughts on who we should consider inviting. Our database has over 450 names in it. We undergo a due diligence analysis.

**Describe the breakdown of your members.** We have two governors, two vice governors, 25 to 30 mayors, eight senators, 20 federal representatives, and 30 state legislators. Plus city council members, political appointees, and political leaders who are trying to reach office in the next election. Argentina has 24 provinces; we have representatives from 23 of them and clusters from the five most important provinces that are home to 80% of the population.

We started with the middle-age generation: those 35 to 45 years old. We are trying to invest long-term. We want to make sure they remain in politics. Over the past two to three years, we have been slowly starting to identify younger people, aged 25 to 35.

**How do you measure success?** We're trying to build social capital. It's hard to measure. We are seeing people being able to build and work together toward the country's development. Our aim is to hook them up with others and have them discuss the best practices of governance in other places.

In February 2009, we sent a group of four politicians from the province of Santa Fe — three from the governing party and

promote analysis and discussions to answer the following question: What do we want Argentina in the next 100 years to be like? What are the key policies that will promote the country's sustainable development? We have identified six key areas to focus on: education, institutional infrastructure, sustainable development, social inclusion, federalism, and foreign policy.

Last year, we travelled with 30 politicians and 20 business leaders to Columbia University for a conference launching the project. We had a group of 10 politicians working on institutional infrastructure who went to Australia on a two-week academic program. That was donated by the Australian Agency for International Development.

We are creating groups of 12 to 15 politicians, assisted by academic advisors, to work hands-on on these issues and look at what's being done in other countries. They are trying to develop policies that should be prioritized. These 15 people have to work and engage with think tanks, scholars, business, union, and civil society leaders, and the broader group of 160 RAP politicians. This will help shape consensus building into the future.

#### What is your annual budget?

For Argentina, it's a medium budget of about \$1.5 million per year. We have a very small staff of 10 people. We work a lot with other institutions that help us create

**“We are seeing that the networks we are creating are doing projects that help the country improve.”**

seminars, workshops, and activities. All the funding is from the private sector. We have no government funds, and we have done that on purpose. We get 80% of our funds from corporations, 15% from private individuals, and 5% from what I would call multilateral agencies: international agencies like the Inter-American Development Bank and the National Endowment for Democracy.

**How will you know when you've achieved your goals?** I think we can say that when this generation starts sharing significant responsibility and changes the way politics are conducted and the way policies are developed, we'll be able to say we have made a positive contribution. After 2016 and the following years, we'll know whether the investment we have made has paid off.

**What have been the more surprising outcomes?** We've had people coming from different countries in South America to learn about what we are doing. Similar initiatives have started in Paraguay, Peru, and Brazil.

As an organization in Argentina, we are well-known in selected sectors. We've had strong backing from the academic and corporate sectors. We've been able to organize activities at prestigious universities and think tanks. It's been gratifying to create an organization from scratch and attempt to put in place a political culture that challenges what the old paradigm was all about. That is a positive. ▲

one from the opposition — to New Zealand. They came back and asked us to help them work together on an initiative. They created a public ethics bill, which the province didn't have.

We've had changes in electoral systems in provinces; we've had provinces work on laws that favor philanthropy and the education system. We are seeing that the networks we are creating are doing projects that help the country improve.

The most ambitious project we are working on now is called the basic agreement for the tercentenary. It's kind of a grandiose name, but our goal is simple, though challenging. In three years, Argentina is going to be 200 years old, and then we will begin the country's third century of independent life. We're trying to



Joseph Rodriguez/Redux

CONFRONTATION Angry Argentines demonstrate in Buenos Aires.



**BORDERS**

# Are Americans' Fears of Immigration Overstated?

**A new study explores the evidence behind the idea that people oppose immigration because they fear losing their jobs.**

BY JANINE ZACHARIA

Polls of Americans' views on immigration are generally sweeping. Questions are usually general and the results seemingly decisive. One recent survey found 70% of Americans thought allowing more immigrants would make it harder to find jobs. In a separate poll, only 29% said the United States should admit as many high-skilled foreign workers as companies wanted to hire. And 61% said there should be restrictions.

Answers to such polls can have profound implications for how legislators perceive immigration. But they often fail to get to the heart of why people feel the way they do about the issue. And the results, even worse, can oftentimes be misleading, researchers say. In fact, a study led by a professor at Stanford GSB has found that polling has somewhat overstated Americans' economic fears about immigration.

Stanford GSB associate professor of political economy Neil Malhotra, Columbia University's Yotam Margalit, and Vanderbilt University's Cecilia Hyunjung Mo found evidence that people oppose immigration because they fear losing their jobs, but the results are not as dramatic as traditional, broad surveys would suggest. "The influence of economic threat, while real, is limited," the researchers wrote.

The researchers reached this conclusion after conducting a study focused on American attitudes toward the issuance of H-1B visas, which are largely granted to Indians working in the high-

tech sector. Researchers targeted 75 U.S. counties with a high percentage of workers in the IT sector. During a 3-week period in 2009, 1,134 people in those counties were surveyed online. Questions included whether people thought the United States should increase, decrease, or keep about the same number of H-1B visas. And: "Looking forward to the next three years, how confident do you feel about being able to keep your current job?" Respondents were coded based on whether they worked in the high-technology sector.

Results showed that American high-tech workers who felt their own jobs threatened were far more likely to oppose granting more H-1B visas than white-collar workers outside the sector. Whereas more

**Those who opposed issuing visas to highly skilled workers from abroad turned out to be only a small subset of the U.S. population.**

than three-quarters of high-tech workers concerned about their jobs supported decreasing the number of H-1B visas, less than half of white-collar workers outside the sector supported a decrease. In other words, those who opposed issuing more visas to highly skilled workers from abroad turned out to be only a subset of the overall U.S. population.

For Silicon Valley, the study has clear implications: Boosting the number of H-1B visas granted has been a high priority in the region. Facebook's Mark Zuckerberg and other entrepreneurs have been funding a lobbying effort to expand the number of such visas granted to computer engineers from abroad amid a shortage of qualified applicants at home. Research such as Malhotra's could make Washington less skittish about awarding more visas given the narrow group of workers opposed to them.

The study's implications for the broader question of amnesty for millions of undocumented workers is not yet clear. Malhotra said more research needs to be done to determine the true reasons behind opposition to amnesty. Margalit, Malhotra's co-researcher, is currently conducting a similar targeted study of 12 fields that employ a large number of foreigners — including construction and nursing — to see if there is a similar impact beyond the high-tech sector. But Malhotra said no study to date has done a good job really getting at the heart of why people feel the way they do.

"You can't do these broad omnibus studies," Malhotra said in an interview. "You have to do targeted research." Understanding why Americans feel the way they do about immigration is important for smart policymaking. "The question is: What is actually driving people in their hearts?"

If American views on immigration are primarily tied to economic issues, Malhotra said, "there are policy interventions you can have." If opposition is rooted in cultural biases or racism, that may be harder to address, he added. ▲

Neil Malhotra is an associate professor of political economy at Stanford GSB and the Philip F. Maritz Faculty Scholar for 2013–14. Yotam Margalit received his PhD from Stanford in 2009. Cecilia Hyunjung Mo received her PhD from Stanford GSB in 2012.

Canada



# H-1B Problems? PIVOT to CANADA

New Start-Up Visa  
Low Taxes

[immigration.gc.ca/startup](http://immigration.gc.ca/startup)

001422

CLEARCHANNEL

"CLEAR IMPLICATIONS"  
A billboard on  
Highway 101 near  
South San Francisco

27  
CLEAR



FINANCE

# Big Investors May Still Be Too Parochial

Institutional investors often favor deals close to home — even though it can cost them dearly. BY EDMUND L. ANDREWS





MIT Sloan School of Management looked at the direct investments by sovereign wealth funds, giant funds that are usually owned by national governments.

Sovereign wealth funds have become major players on the world stage. Their aggregate holdings have climbed tenfold since 1990, to \$5 trillion in 2012. Many sovereign wealth funds were created to reinvest money earned from state-owned resources, such as oil reserves; China has created several huge ones to manage the money tied to its trade surpluses.

Bernstein and his colleagues studied the funds' direct investments — partial or complete stakes in companies. All told, they looked at 2,662 transactions by 29 sovereign wealth funds from 1984 through 2007. When politicians were involved in management — in about 24% of the funds — sovereign wealth funds were 41% more likely to invest in domestic companies. Not only that, the sovereign funds tended to buy high and sell low: They bought into industries with inflated valuations that often deflated later. Put another way, many sovereign wealth funds engage in trend-chasing that hurts their long-term returns. “Political pressures seem to force these sovereign wealth funds to use their funds to support underperforming local industries rather than build a savings buffer for the long run,” Bernstein and his coauthors wrote.

It's tempting to assume that provincialism is higher in less-developed countries than in countries with long histories of professional money management. But a second study, by Joshua D. Rauh of Stanford GSB and Yael V. Hochberg of Northwestern University's Kellogg School of Management, finds that localism is alive and well in the United States.

Rauh and Hochberg analyzed how public-employee pension funds, university endowments, and other institutional investors make “alternative investments,” that is, investments in venture capital funds, private equity funds, and real estate limited partnerships. Pension funds are plowing ever-bigger shares of their money into such investments, hoping to generate higher returns and reduce their huge projected shortfalls. But those higher returns can be illusory, in part because many pension funds pour money into subpar local deals.

Rauh and Hochberg found that state pension funds generally reap lower returns on their in-state deals than on their out-

of-state deals. Nationwide, they estimate, those diminished returns cost state pension funds about \$1.28 billion a year.

Nationally, that's less than 1% of annual pension contributions. But it turns out that more than half of that underperformance is in just two tech-heavy states: California and Massachusetts. In Massachusetts, the authors estimate, the drain from in-state private-equity deals is equal to a whopping 10%-plus of annual state pension contributions. In California, the local losers cost the equivalent of 3.5% of annual pension contributions. That's a real bite.

Are public pension funds being corrupted by political pressure? Rauh and Hochberg found that states with higher conviction rates for public officials did have higher rates of local favoritism. But Rauh suggests that the localism stems from more than old-fashioned cronyism. Public pension funds are under enormous pressure to reduce their massive projected shortfalls, and they are allowed to reduce those estimated shortfalls by assuming that higher-risk “alternative” investments will bump up their annual returns to 7% or 8%. Yet because there are only a limited number of premier deals, Rauh argues, some pension funds settle for low-quality deals from people close by. “They're getting themselves drawn into the cult of alternative investments,” Rauh says. “If they don't invest in these risky assets, they say, they won't have any hope of making those returns. But it's illusory. It's kind of like saying that the only way to become a millionaire is to play the lottery.” ▲

**Shai Bernstein is an assistant professor of finance at Stanford GSB and the Younger Family Faculty Scholar for 2013-14. Joshua Rauh is a professor of finance at Stanford GSB, and the Dhirubhai Ambani Faculty Fellow in Entrepreneurship for 2013-14.**

It's been eight years since Thomas L. Friedman first published *The World Is Flat*, the best-seller proclaiming that technology and the collapse of communism were obliterating national boundaries, at least in business. In a borderless and market-driven world, he argued, capital and knowledge were already flying between rich and poor countries at the speed of light. Manufacturing would flow where production was cheapest, and money would go where it earned the highest returns. None of the old barriers had a chance.

In practice, the world is more complicated than that. Cross-border capital flows actually collapsed during the financial crisis of 2008 and 2009, and they haven't recovered. According to the McKinsey Global Institute, cross-border capital flows in 2012 were still 61% below their peak in 2007. The biggest reason, according to McKinsey: European financial integration has gone into reverse.

But there may be more to the story than temporary economic disruptions. In the real world, politics and localism still play big roles, even with institutional investors bent on maximizing returns. And that's true here in the United States as well as in Asia or the Middle East.

Two separate studies by researchers at Stanford found similar patterns of parochialism at two different levels: public pension funds in the United States, and sovereign wealth funds operating around the world.

In the first study, Shai Bernstein of Stanford GSB, Josh Lerner of Harvard Business School, and Antoinette Schoar of



OUTREACH Motorcycle training led by Riders for Health in Zambia

**NETWORKS**

# A Team of Researchers Explores Health Care Delivery in Africa

**Can well-managed fleets of vehicles increase health worker productivity?**

BY GRAHAM BUTTON

Zambia is one of the least densely populated nations in Africa, with rural villages separated from one another by hundreds of miles of treacherous roads and dirt paths. For several months in the winter, some of those roads simply disappear as torrential rains inundate the surrounding floodplains. This wreaks havoc on any attempt to provide health care to isolated populations, and makes reliable transportation a matter of life and death — not just in emergency situations but also in terms of outreach programs aimed at disease prevention. Enter Riders for Health, a U.K.-based social enterprise that uses vehicle fleets comprised mostly of motorcycles to support and strengthen health care networks in developing countries.

Hau Lee is the Thoma Professor of Operations, Information, and Technology at Stanford GSB.

The organization has been active in sub-Saharan Africa since the late 1980s. With client partners such as health ministries, NGOs, and community organizations, Riders has grown to offer a range of services — from planning budgets for health-related transport to sourcing vehicles and spare parts to inventory to fuel management to the collection of patient diagnostic samples. It now manages some 1,400 motorcycles and vehicles across seven African countries and operates a sophisticated hub-and-spoke system in which skilled technicians regularly travel to service vehicles in communities where health workers are based, thereby facilitating the mobilization of health resources to rural areas.

The organization's basic hypothesis is that efficiently managed vehicle fleets, operated and maintained by well-trained riders and mechanics, increase health worker productivity — the number of outreach visits workers are able to make — and health equity; that is, how well rural communities are served relative to populations in closer proximity to health centers. But, until fairly recently, that has never been rigorously tested. So in 2009, with a \$1.83 million grant from the Bill & Melinda Gates Foundation, Stanford GSB's Global Supply Chain Management Forum launched a five-year study to assess the role of transport in bridging the gap — the so-called “last mile” — between remote communities in the Southern Province of Zambia, where public transportation is infrequent at best, and the provision of health care. (The foundation subsequently increased the grant to \$2.27 million.) The results of the study, scheduled for release next year, are likely to provide the impetus for health ministries to think creatively about resource allocation. “It will be a very, very big eye opener for everyone,” predicts George Muwowo, program manager on Stanford's Zambia team.

The collaboration dates back to 2006, when Stanford GSB's Hau Lee attended a logistics conference in Chicago. He was one of just six people in the audience for a presentation by Riders' husband-and-wife cofounders, Barry and Andrea Coleman. In Riders, Lee saw a learning opportunity with a purpose beyond being “socially responsible,” as he puts it, or “a good citizen.” Discerning not only the scalable potential of the Riders model to save lives, he also intuited a valuable lesson for future managers at global companies expanding into emerging markets: that innovative solutions can make a big difference in challenging, resource-poor environments.

Six months later, Lee emailed Andrea to propose a case study on Riders and then began teaching the case in his core classes covering supply chain management in operations. “To my wonderful satisfaction,” he recalls, “the students did not think of this as nonessential or nonrelevant. But, in fact, many of them felt this is how the private sector can contribute to social causes and increase the well-being of developing economies.”

The Riders case study took on a life of its own as other MBA programs began incorporating it into their curricula. The study of supply chain as a means of overcoming the last-mile challenge in economies lacking broad-based infrastructure emerged as a compelling new research agenda.

The Gates Foundation has committed \$12.5 million to Riders for Health including the “sub-grant” to Stanford GSB. The original grant proposal aimed to expand Riders' geographic footprint and increase the number of vehicles and motorcycles it managed on behalf of its partners. Riders also proposed a research component, but the foundation suggested going beyond internally monitoring the impact of its programs. Additional money was in the offing if a plan could be prepared quickly and the right outside experts came on board.

Hearing about the opportunity from the Colemans, Lee envisioned a study that would examine not just logistics and the efficacy of Riders' approach, but also an entire system of health care delivery. He teamed up with Lesley Sept, a PhD in public health who, at the time, directed the Forum's Socially and Environmentally

## **He envisioned a study that would examine not just logistics and efficacy, but an entire system of health care delivery.**

Responsible Supply Chains Program. Their combined expertise made Stanford GSB an ideal partner for Riders and the Gates Foundation, which shared an interest in augmenting health supply chains through the dissemination of best practices.

Just to set the stage to begin collecting data in Zambia took two-and-a-half years and required much negotiating and relationship-building with the country's health ministry. The study covers four randomly selected control districts and five (originally four, one of which was divided in two) experimental districts. Before any intervention by Riders for Health, researchers in the field spent five months collecting baseline data on the status quo.

The Ministry of Health's existing fleet and modus operandi remained in place in the control districts, while two Riders models — Transport Resource Management (TRM) and Transport Asset Management (TAM) — were introduced into the experimental districts. Under TRM, Riders takes over management (including maintenance, training, and fueling) of fleets already owned and deployed by the Ministry of Health. Motorcycles and other vehicles in the TAM program are procured, owned, and managed by Riders.

In March 2012, Riders deployed 76 motorcycles and four SUVs into the experimental districts and mobilized 76 Environmental Health Technologists (EHTs). Starting out several mornings



a week from hub health centers in their respective districts, the EHTs visit outreach posts to engage local populations in disease-prevention education and immunization. They also monitor the growth of infants and children and test bacteria levels in water and food supplies.

Stanford GSB employs a team of seven data-collection officers who, in addition to conducting phone surveys, regularly visit health centers in their assigned districts to interview EHTs and managers of vehicle fleets at the district level. The data collectors have handheld scanners for copying monthly “tally sheets” of services performed at the centers and on outreach. Back at Stanford, researchers download the tallies and compile them. A more complete picture of health services delivery emerges, says Stanford GSB project manager Davis Albohm, when the tally data is combined with findings from the interview surveys of EHTs and tracking information obtained from global-positioning receivers attached to a subset of motorcycles and other vehicles.

Real-time tracking data from the GPS program is fed to Stanford GSB researchers, who are working in partnership with geographic information systems (GIS) experts at Stanford’s Branner Earth Sciences Library. The GIS maps they create chart the routes and distances traveled by the health technologists. Population density overlays are applied to create color-coded “heat maps” depicting what Kala Mehta, epidemiologist and lead research consultant on the evaluation study, calls “health-outreach coverage.”

By linking this data with demographic health information surveys undertaken by Zambia’s Ministry of Health, an interdisciplinary team, including Eran Bendavid, an infectious diseases physician and assistant professor at Stanford School of Medicine, can draw correlations between EHT productivity, outreach coverage, and health outcomes broken down to the village level.

Laura Hubbard, associate director of Stanford’s Center for African Studies, is one of four anthropologists doing qualitative research for the Riders study. Among them, Jess Auerbach, a doctoral candidate at the center, is focused on the human and technical aspects of transport allocation and staffing at Zambia’s Ministry of Health, gaining insight into supply-chain sourcing and the trickle-down effects of transport decisions made at the top.

In an email, Auerbach recounts how one driver, at the end of a 12-hour shift in the Mazabuka district, received a call from hospital staff to pick up a patient at a remote clinic. Auerbach went along to observe.

“First we had to collect a nurse from her home,” she wrote, “get fuel authorization [and] fetch a mattress from the hospital. Then we drove 90 kilometers in a Land Cruiser-turned-ambulance over sometimes all-but-non-existent roads.” At the clinic, an adolescent mother who had just given birth was collected with her infant and taken to the hospital by placing the mattress behind the front seats and hanging up an intravenous drip with wire. Usually that journey takes several hours by ox cart, followed by at least two more hours in one of the open-topped trucks that serve public transport needs in the region. In this case, it took just two-and-a-half hours.

For Auerbach and the rest of the Stanford team, experiencing the adverse conditions firsthand has provided a deep appreciation and respect for those who deliver health care in Zambia — and driven home the idea that logistics and transport can have a big impact in underdeveloped settings, just as they do in developed economies.

The study has broader implications for promoting economic development in places like Zambia, says Sonali Rammohan, associate director of the Forum. Indeed, understanding supply-chain dynamics can help companies and other ventures obtain agricultural commodities and other inputs, as well as finished goods such as textiles and artisanal crafts, from rural communities. There are also potentially valuable lessons for retail and other sectors looking to overcome last-mile distribution challenges. “Hopefully,” she says, “with what we learn, we can influence how multinationals and others practice,” in terms of sourcing and delivering goods and services. ▲



REAL-TIME Data collection officer Mambwe Ng’oma (right) consults with an environmental health technologist at Masemu Health Center, Itezhi-Tezhi, Zambia.

“It’s really important  
to get out and manage by

**walking  
around.**

Do not sit in your office.”

— United Airlines CEO **Jeff Smisek**,  
speaking at Stanford GSB

## EXCHANGE

SOME FINAL THOUGHTS ON BOUNDARIES  
EDITED BY NATALIE WHITE

“When you’re starting  
a company or any venture,  
you’ve got to be

**open**

to alternative perspectives.”

— **Randy Hetrick**,  
founder of TRX exercise equipment  
[stnfd.biz/mhfUP](http://stnfd.biz/mhfUP)

“See a picture of  
where you want to go and  
what you want to do  
in the world, and then

**work backward.”**

— Twitter cofounder **Jack Dorsey**,  
speaking at Stanford GSB

“You can’t come up with

**new**

ideas unless you observe the world  
with fresh, empathetic eyes.”

— Author **Lisa Kay Solomon**  
at a Stanford GSB workshop on visual  
thinking for innovators  
<http://stnfd.biz/IBUI9>

“If you hire, train, and mentor correctly,  
you’ll have someone who is

**better than you are.**

If they’re not, you haven’t done your job.”

— Chef **Thomas Keller**,  
speaking at Stanford GSB

“If you start something,  
don’t view your destination as final.  
Create possible

**exit points.”**

— Professor **Anat Admati**  
in advice to the Class of 2013

“The leader’s job is not to know the future.  
It is to create an organization that

**discovers the future.”**

— **William Barnett**  
<http://stnfd.biz/q1S7J>

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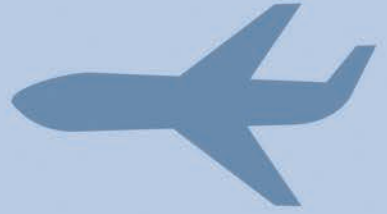
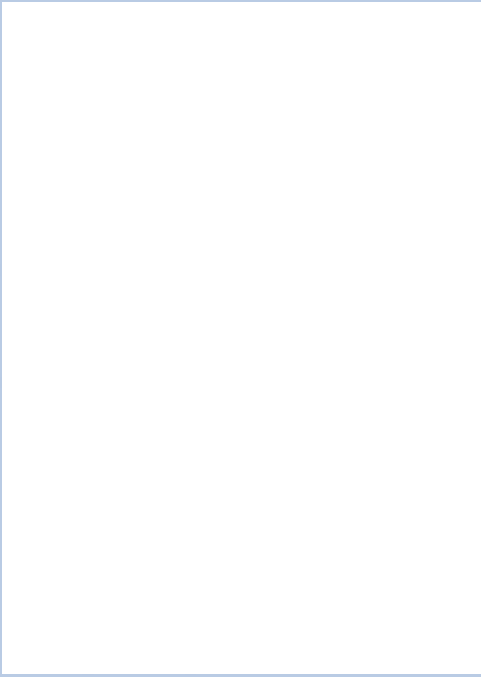
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