

Think:Act

navigating complexity



The purpose principle

**Why having
a mission gives
business
strength**

Think:Act #25 07 | 2018 PURPOSE



Silicon Valley wakes up to the downsides of its device-driven dreams

Thinker Charles Handy explains how we need to reinvent capitalism

Roland
Berger 

"There's a temptation to solve too many problems in one solution. If you make a solution too heavy, it sinks under its own weight."

NANDAN NILEKANI

Co-founder of Infosys and the architect of India's Aadhaar ID program

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PHOTO: JONATHAN TORGONNIK / GETTY IMAGES



"One of the key qualities of an enduring company is that the founders instilled a sense of being there to serve a purpose that's larger than any of us."

JIM COLLINS

Leadership expert and author of *Good to Great* and *Built to Last*

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PHOTO: COREY RICH / WWW.COREYRICH.COM (2)

"Social media acts as the conscience of the company and holds it accountable for doing things wrong while also rewarding it for doing things right."

CHARLENE LI
Social media expert and
founder of Altimeter

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PHOTO: PR



"As individuals, we cannot live without a sense of purpose. It is the same in business: Companies with a strong sense of purpose have a more meaningful and longer life."

CHARLES-EDOUARD BOUÉE
CEO of Roland Berger

PHOTO: KHANH RENAUD / SQUARE

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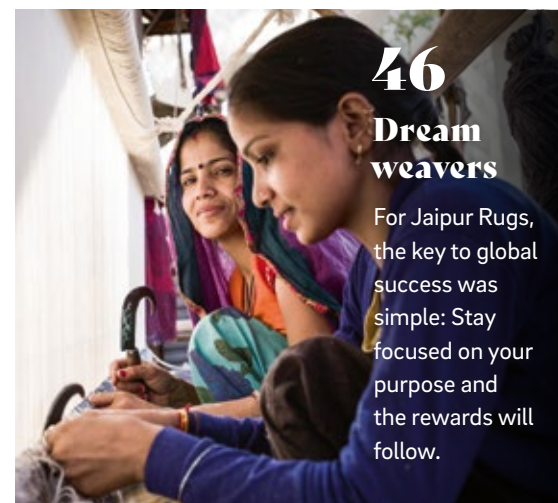
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COVER + BACK COVER ARTWORK: CAMILLE KACHANI | PHOTOS: PR; ASHLEY FLORENCE / UNIVERSITY OF VIRGINIA; FLORIAN LANG / AGENTUR FOCUS; FRANK HERFORT / INSTITUTE | ILLUSTRATION: FILIPPO FONTANA

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Think in numbers

PUTTING A FIGURE ON... Solar power

\$46-53

PER MEGAWATT HOUR. That's the current cost of solar-generated electricity, making it significantly less than coal (\$60-143), natural gas (\$68-106), or nuclear power (\$112-183). That means it's nearly

86%

CHEAPER to produce than it was in 2009. And today, almost a decade later, solar power generates just

400

GIGAWATTS of the world's power, less than 1% of the 25,000 terawatts generated annually. But the installed base of solar power is doubling every 2.4 years. Battery prices are falling too. In 2010, lithium-ion batteries cost

\$1,000

PER KILOWATT HOUR. Today, that same storage capacity costs \$178 and the lower the price of batteries goes, the easier it will be for utilities to cope with fluctuations in supply or demand.

SOURCES: LAZARD; SOLARPOWER EUROPE; BLOOMBERG

Food for thought

Can social media be a force for good?

By Michal Kosinski

SOCIAL MEDIA has come under heavy criticism recently for breach of privacy and trust. Yet there are many ways social platforms like Facebook or Twitter can be a force for good. It can engender trust and even expose people to views outside their own echo chambers. Social media has also become a powerful tool against societal isolation. It has made the difference between someone being an outcast or a fully engaged member of a community. It can also be a tremendous source of information. Consider, for example, people affected by rare health conditions. Social media has made it possible for people to connect with each other instantly, easily and cheaply around mutual concerns, treatment options and shared interests. Social media has also increased civic engagement around the world, allowing political candidates to reach voters directly with relatively little cost. The recent controversy around Cambridge Analytica and its alleged role in Brexit and the 2016 US Presidential election demonstrated the effectiveness of

social media - Facebook particularly - to mobilize voters who otherwise would not have gone to the polls. Those who question the legitimacy of these elections would do well to remember that one person's propaganda is another's successful get-out-the-vote campaign. To quote actor Thomas Jane, what makes us human "is our interconnectedness among people. It's our ability to form and maintain relationships. It's the barometer by which we call ourselves human." If so, social media is the lifeline to our humanity.



MICHAL KOSINSKI is assistant professor of organizational behavior at the Stanford Graduate School of Business.

PHOTOS: MANAN VATSYAYANA/AFP/GETTY IMAGES; NANCY ROTHSTEIN PHOTOGRAPHY/STANFORD GRADUATE SCHOOL OF BUSINESS

Thoughts to live by

"Stop chasing the money and start chasing the passion."

— Tony Hsieh CEO of Zappos

Re-thinking buzzwords

Get to grips with new industry lingo in a flash with our stripped-down explanations of the latest jargon.



"Dark Data"

There's a new(ish) data buzzword on the block and, like big data, "dark data" holds a huge amount of potential. It's called "dark" because there's no tool that can capture or unlock it, or it isn't structured in a way to make use of it ... yet, that is. It includes spreadsheets scattered across a company, perhaps considered useless by one department, but potentially highly valuable to another. So what is dark now, could, as data analysis improves, provide a bright advantage if it's kept for long enough to be of use.

Think: Act

AT A GLANCE



Skin in the Game: Hidden Asymmetries in Daily Life by Nassim Nicholas Taleb. 304 pages. Random House. \$30.

Black swan advice

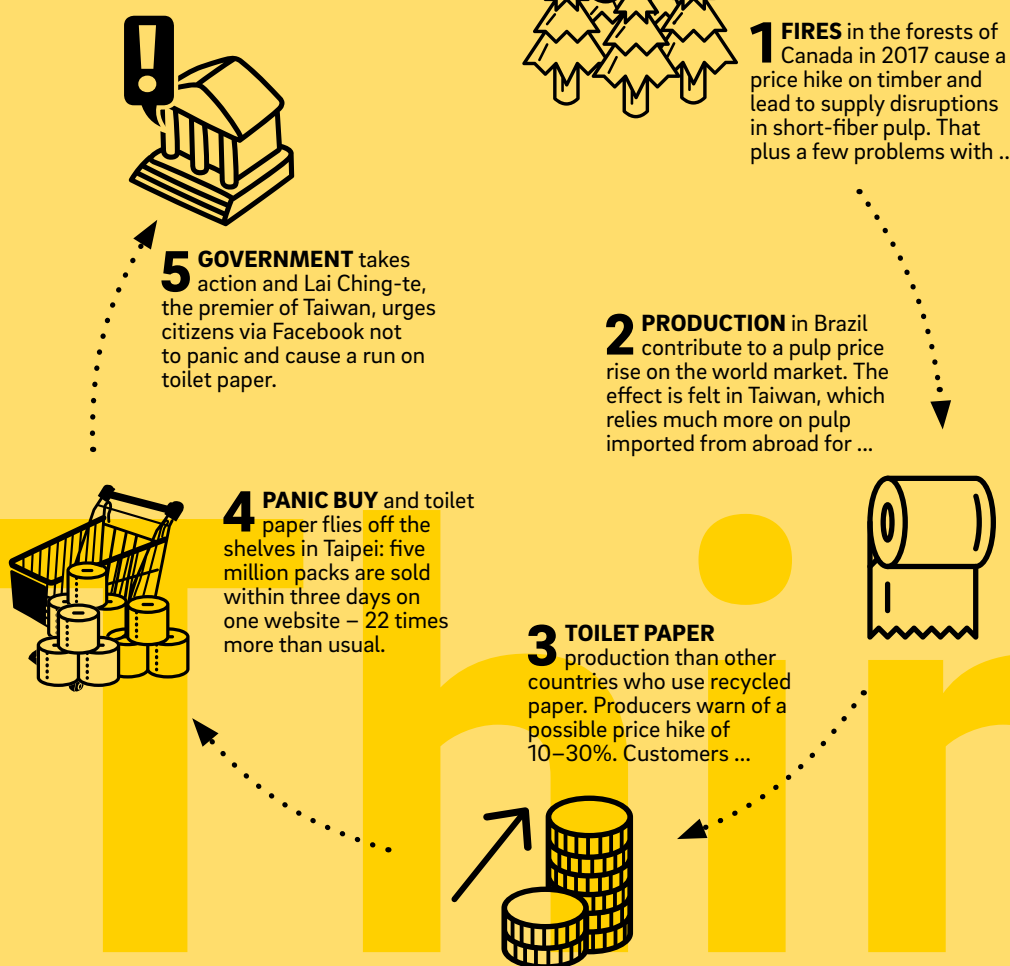
Too busy to read the hot new book everyone is talking about? We have it covered for you. Here's Nassim Nicholas "Black Swan" Taleb's new offer cut down to its essentials, in the style of the original.

DON'T TELL ME what you think: Tell me what's in your portfolio. On Wall Street, as well as almost everywhere else, the people to trust are those who have something on the line – or rather those who have skin in the game.

Historically, warlords and warmongers were warriors themselves. With few curious exceptions, societies were run by risk takers. But through bureaucracy people have learned to separate themselves from the consequences of their actions. This is dangerous because transferring risk impedes learning and evolution. When decision-makers don't have skin in the game, systems tend to get more and more complex and then collapse. If a banker's profits accrue to him while his losses are transferred to society as a whole, hidden risks will continue to increase until the final blowup.

You should avoid taking advice from someone who gives advice for a living. How much you truly believe in something can be shown only by demonstrating what you are willing to risk for it. Those who talk should *do* and only those who do should talk.

If you see that someone's private life conflicts with their words, trust what they do more than what they say. If a car salesman tries to sell you a Detroit car but drives a Honda, his wares may have a problem. Not everything that happens happens for a reason, but everything that survives survives for a reason ... If the beard is black, heed the reasoning, but ignore the conclusion. If the beard is gray, consider both the reasoning and the conclusion. If the beard is white, skip the reasoning, mind the conclusion.



Chain reaction

TOILET PAPER IN TAIWAN
What happens on one side of the world can have an effect on the other. Chain reactions – or rather supply chain reactions – are an unpredictable part of doing business. Here we take a look at how panic toilet paper buying in Taiwan began with a forest fire in Canada.

Best practice

How to ... work with noise

YOU MIGHT THINK YOU NEED A NICE QUIET PLACE TO WORK, but what you actually need is a little bit of noise. According to *The Journal of Consumer Research*, a little bit of noise – or should that be sound? – makes you more creative. Really. Or, in the language of the researchers: "A high level of noise may cause a great deal of distraction. A moderate level of noise, however, enhances creativity by prompting abstract thinking." That's what a growing army of freelancers have also discovered – gentle café clatter can increase your productivity. The folks at Coffitivity even created an app to recreate the sounds of coffeehouses anywhere from Brazil to Paris – so you can carry creative café "noise" on your phone and headphones wherever you go.

Economic impact



A storm brewing for coffee producers

DEMAND FOR COFFEE remains as strong as a double espresso. And while Europe accounts for almost 30% of global coffee consumption, China's taste for java has doubled in the last five years. But there's a threat on the horizon: climate change. As temperatures rise, experts say that half of the land used to grow coffee will no longer be arable by 2100. Ethiopia, the birthplace of the bean, could be profoundly affected. It could lose 60% of its production by 2050. So Ethiopia's coffee growers, who are thought to have been the first to recognize the stimulating effect of coffee a thousand years ago, could find themselves filtered out of a business they pioneered.



Act

AT A GLANCE

In focus



In this issue we take a close look at purpose and what it means for business.

THE

pur

pose

OF

business is

business

purpose

PURPOSE

PURPOSE



The long-held assumption that businesses exist simply to make money for shareholders is being challenged. There is a growing trend to focus on the longer term and the wider social impact that a business can have. How has this shift come about? And, more importantly, how can a successful company embrace "purpose"?

BY **Janet Anderson**

ARTWORK BY **Camille Kachani**

PURPOSE

WITH HIS 1962 BOOK *CAPITALISM AND FREEDOM*, the influential economist Milton Friedman set out the ground rules for how business should interact with society. "There is one and only one social responsibility of business," he wrote, and that was to "use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud." In other words, it is none of business's business to get involved with anything other than creating value for shareholders. Or as it has been reduced to a now famous adage: The purpose of business is business.

But while that statement was once held as a certainty, it is now being squarely challenged. Today's businesses view their social responsibilities a little more widely. Marc Benioff, CEO of Salesforce, has put it quite bluntly: "To be truly successful, companies need to have a corporate mission that is bigger than making a profit." Since he made that statement, the corporate world has largely embraced the idea that its role goes →



PHOTO: RUSS CAMPBELL / PR. SOURCES: BENTLEY UNIVERSITY CWB; IVEY BUSINESS JOURNAL

The Millennial view

84%

say making a difference is more important than professional recognition

70%

say giving back and being civically engaged are their highest priorities

94%

of a college-educated sample are asking themselves: "What is the best use of my heart and mind?"

Q&A: FINDING THE RIGHT PURPOSE

Not too big, not too small, just right



George Serafeim,
Professor of business administration,
Harvard Business School

→ HOW DO COMPANIES DEFINE and develop an authentic purpose? We ask George Serafeim, Jakurski family associate professor of business administration at Harvard Business School.

THINK:ACT: You have argued that a crucial aspect of purpose is its inherent intangibility – it's not something to be found in a formal announcement. How, then, should a company go about defining its purpose?

SERAFEIM: For me it is about developing a shared understanding in an organization about the meaning of work. It needs to answer the questions: Why do people in this organization come to work? What characteristics bond them together?

How do you avoid overstretching or being too narrow?

Mission statements can all tend to sound the same. A sense of purpose needs to be specific to a particular organization. It must also explain the organization's competitive positioning in this respect – what it is that it adds over and above the others.

What kind of internal structures are required to do that?

It helps to align the purpose with the type of people the company hires. Many organizations have learned that it's one thing to develop a sense of purpose, another to execute it. This can be supported through the recruitment and retention processes.

What does it take to maintain a sense of purpose in an organization?

You need clarity about how employees will be enabled to achieve their purpose. It has to be supported by senior leadership and

there have to be credible incentives that are aligned to the purpose, not against it.

Is there a danger that defined values could become a straitjacket?

Purpose should not be a straitjacket. It needs to be adaptive and respond to the environment, but not change too often – it's a question of getting the balance right.

How important is it to measure success?

There has to be a way of measuring success, of knowing if the company is moving in the right direction. This is extremely important – otherwise it is just cheap talk.

"Purpose should not be a straitjacket. It needs to be adaptive and respond to the environment."

What are the costs and benefits?

The benefits are a workforce that is more likely to be productive, innovative and supports efforts for change and adopting new practices. But there are costs too. It requires hard work and management attention to maintain the culture. It also means saying "no" to business that does not fit your purpose and sometimes investing where others won't.

PURPOSE

Q&A: THE PURPOSE-DRIVEN ECONOMY

Walking the talk



Aaron Hurst,
Author of *The Purpose Economy*
and CEO of Imperative

→ WHEN NOBLE AIMS ARE EXPOSED as shams, customers vote with their feet. People don't like to feel they are being fooled. What do businesses have to do to counter this? We ask Aaron Hurst, author of the 2014 book *The Purpose Economy* and the founder and CEO of Imperative, an organization that defines itself as a "human-centered career platform that helps businesses and workers develop meaningful careers." In other words: Its purpose is to empower people to find and build their own.

THINK:ACT: You have said you believe the economy is shifting to a new model – one driven by purpose. What are the signs that this is happening?

HURST: I grew up with conversation about economic evolution. My uncle, Stanford economist Marc Porat, coined the term "information economy" in the 1970s to describe the shift that was happening then from the industrial economy. The information economy model allowed for efficiency and scale but it was missing a sense of connection – it was too sterile. People started to spend money to bring connection back into their lives. In every industry we have studied we have seen the change, and not just on the retail side – we have seen it on the employment side too. People don't go to work just to get a paycheck; they want to feel what they are doing matters to the world and that they are growing in the job.

What does a genuinely purpose-driven business look like?

There is no one kind. We have identified three key types, however. There is the values-driven organization: Here values are at the core of all decision-making and "what is the right thing to do?" is the question behind every critical decision. There is the organization striving to build excellence, where the purpose is its craft

and its focus on quality work. Then there is the impact-driven organization that takes responsibility for its impact on its stakeholders and proactively seeks to optimize that impact. Within each of these types of organizations are individuals who make the choice every day to work with purpose at the forefront. The organizations that are doing well are the ones that help individuals to have that self-awareness about purpose and connect it to the organization's purpose.

How is this trend evolving?

Early on, having social impact could be a differentiator. Now that the market is mature, it's tougher – you can't fake it. You have to compete with people doing the same thing and stand out in that context. Purpose raises the bar. It's not just about having engaged employees anymore, it's about having inspired employees.

85%

of purpose-driven companies show positive top-line growth. The figure drops to just 42% when looking at non-purpose-led companies.

"Every company must not only deliver financial performance, but also show how it makes a positive contribution to society."

Larry Fink,
CEO of BlackRock



PHOTOS: BROOKE FITTS; GETTY IMAGES

well beyond delivering profits. It's no longer just about running successful companies; the purpose of business now extends to fixing society's ills. Or, as Paul Polman, CEO of Unilever puts it: "We have to bring this world back to sanity and put the greater good ahead of self-interest."

What brought on this turnaround? Self-interest and the profit motive appear to have fallen by the wayside as business begins to rapidly redefine what purpose means and implements it. Just a casual look at a few 21st-century companies reveals purpose in a number of guises: Companies are hiring "heads of purpose" – a job title that might have seemed nonsensical just a few years ago. In social media marketing, a new kind of "influencer" is gaining favor and glamorous online brand advocates are making way for "activist influencers" whose authenticity, values and commitment to important causes chime better with younger consumers. All of which points to how social purpose now plays a significant role in how businesses run themselves, how they hire staff and how they appeal to customers.

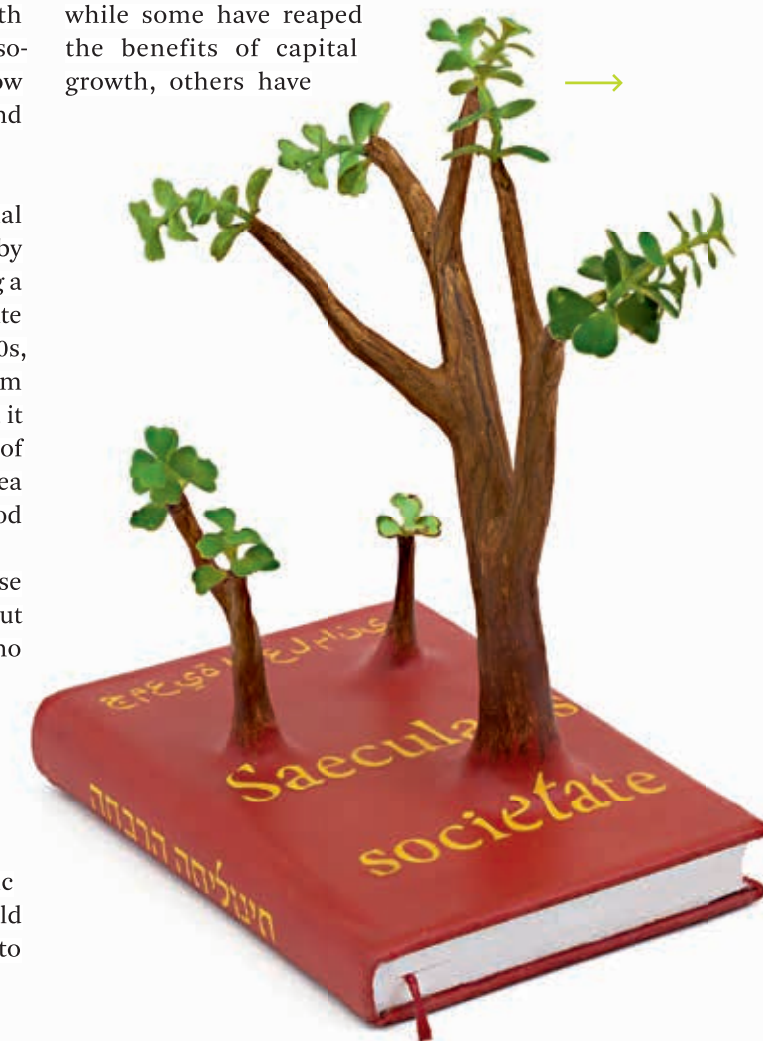
IT WAS NOT SO LONG AGO that showing social responsibility was something businesses did by contributing to a charitable cause or sponsoring a local community event. The concept of corporate social responsibility (CSR) took hold in the 1990s, but even then it was still an activity distinct from the company's core business strategy and, often, it had more to do with PR. It was toward the end of the 1990s that this started to change, and the idea began to grow that being good could also be good for business.

As climate change and the environment rose up the news agenda, social responsibility came out of the PR room and into the boardroom. It was no longer simply a gesture to make a company look good. It was now recognized as a strategic requirement because environmental problems were issues that could hit the bottom line – businesses could not afford to ignore the growing scarcity of natural resources or the fines and damage to public reputation for pollution. Importantly, it also sold well with customers. Since then it has spread to

encompass many other issues. Businesses now have to think about the impact they have on the wider society – and purpose differentiates itself from CSR in that it runs through a company's structure and strategy.

THE IDEA OF "PURPOSE" IS NOW FUNDAMENTAL, so much so that BlackRock's CEO, Larry Fink, wrote to other CEOs in his letter at the end of 2017 that companies without social purpose have no chance in the long term. As the head of the world's largest asset management company, it is very significant that he should make such a strongly worded statement. Today, purpose is not simply desirable, but rather vital for long-term survival.

How did we get here? Fink described the state we are currently in as being "a paradox of high returns and high anxiety" – while some have reaped the benefits of capital growth, others have



PURPOSE



faced low rates, low wage growth and job insecurity coupled with the growing threat of inadequate pensions. Fink believes that, as a result of these pressures, people are now looking to companies to respond to broader societal challenges. "To prosper over time, every company must not only deliver financial performance, but also show how it makes a positive contribution to society. Companies must benefit all of their stakeholders, including shareholders, employees, customers, and the communities in which they operate," he wrote.

Lynn Stout of the Clarke Business Law Institute at Cornell School of Law, who lost her long battle with cancer in April 2018 a few weeks after sharing her thoughts for this piece, was not at all surprised by these shifting outlooks when it comes to business. The author of *The Shareholder Value Myth: How Putting Shareholders First Harms Investors, Corporations and the Public*, she had been arguing for years that focusing only on maximizing shareholder value is a mistake. She believed this message was finally getting through. "Things have really changed," she said. "Shareholders, particularly institutional shareholders, are increasingly recognizing that the old strategy of asking corporations to focus on so-called shareholder value simply doesn't work, even for shareholders."

Stout believed that one of the precipitating events to this shift in attitude was the global financial crisis that began 10 years ago. "We've had a number of crises over the past years. It

increasingly isn't working out for shareholders looking for good returns," she said. Then there's the second key driver, which is climate change. "Young generations are increasingly concerned about its effects because they will be the ones who bear most of its costs," she said. "As they see it, shareholder value doesn't work for the planet, so it's not going to work for them."

AS A GROUP, THE MILLENNIAL GENERATION has shown itself in surveys to be very committed to its values, even to the point of being willing to sacrifice material gain for them. "There has been a key shift in people's perceptions away from believing that pursuing your own interest serves society's interest," said Stout. Are we beginning to see a convergence in interests, where good CEOs →

"There has been a key shift in people's perceptions away from believing that pursuing your own interest serves society's interest."

Lynn Stout,
Professor at the Clarke Business Law Institute at Cornell School of Law

PHOTO: CORNELLE UNIVERSITY/PR

3x

According to a 2014 study conducted by Burson-Marsteller in Nordic countries, communicating purpose is three times more important to stakeholders than communicating financial performance.



THE VALUE OF COMMUNICATING CORPORATE PURPOSE

Talking the walk

17%

higher financial performance can be attributed to clearly conveyed corporate purpose.

→ ONCE AN ORGANIZATION HAS ESTABLISHED a clear sense of purpose among its employees, how does it go about communicating that to the outside world and how can it show that it means it – that its purpose is authentic?

Talking about purpose in the right way can be critical to success. Research by public relations consultants Burson-Marsteller in Nordic countries in 2014 found that customers in that region are willing to pay a premium for products and services from a company that they view as responsible and that corporate purpose is three times more important than financial performance for corporate reputation overall. Internationally well-known companies like Lego, Carlsberg and Volvo came out high in the survey results.

Burson-Marsteller found that one of the most effective tools for engaging with consumers on these issues – whether it be the company's commitment to social responsibility or the wider impact they have on society and the economy – is social media, because this enables the conversation to go beyond advertising and promotion into genuine discussion and dialogue. Engaging with consumers on the company's values and practices helps build loyalty to its brands.

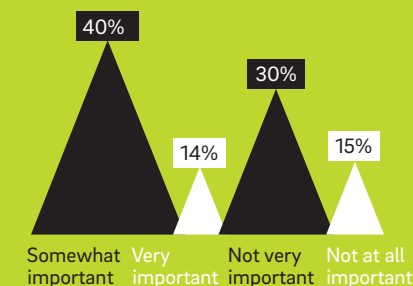
Customers are not the only stakeholders that it is important to communicate to about purpose. Larry Fink, CEO of New York-based investment firm BlackRock, says that investors, particularly long-term ones, want the opportunity to engage with companies to help foster long-term value.

Indeed, it seems there is a shift away from short-term investment – a shift that Lynn Stout, a professor at Clarke Business Law Institute, welcomed. "If you hold your funds for less than two years, you are really just renting your stock instead of owning it – you don't care about long-term sustainability or reputation, you just want the share price to go up as quickly as possible," she said. By contrast, a long-term investment environment in which shareholders hold their shares directly is one in which a shared sense of social and moral purpose can flourish. Corporations can only serve the social purposes we want them to serve if they have the space to look towards long-term projects that provide social benefits.

With "conscious capitalism" on the rise and sustainable investing no longer a niche activity, companies need to work out how to articulate their purpose to shareholders and show that they understand their impact on their community, the environment and society at large.

Social engagement

A quarter of Nordic consumers have recommended a company because it acted responsibly and social media is a key communication strategy. How important is it to have a strong presence on social media?



PURPOSE

Q&A: THE BENEFITS OF PURPOSE

Long-term SUCCESS in times of change



Michael Bzdak,
Global director of employee
engagement in global
community impact at J&J

→ IN 1943, JOHNSON & JOHNSON'S then chairman, Robert Wood Johnson, formulated a "credo" for the pharmaceutical and medical devices company. It sets out the company's responsibilities toward a wide range of stakeholders – customers, suppliers, distributors, employees, local communities, the environment and stockholders. The company says it is not just a "moral compass," but a recipe for business success and the reason why it is one of only a handful of companies that has flourished through more than a century of change. How has their credo helped them stand the test of time? We ask Michael Bzdak, global director of employee engagement in global community impact at Johnson & Johnson (J&J).

THINK:ACT: How has J&J's credo contributed to its long-term success?

BZDAK: I put it down to being an "and-and" document rather than "and-or" – it doesn't say "take care of your patients and your consumers," or "your employees and the community," or "your shareholders." It's about all four groups of stakeholders.

Has the credo been put to the test?

The classic example was the Tylenol crisis in the 1980s when an individual outside the company succeeded in lacing some capsules with cyanide. Our credo made it easy to take the decision to pull all the product off the shelf. That's just one example. I've seen it in action a number of times.

How do you navigate conflicts between stakeholder interests?

We have regular credo sessions where leaders discuss how we measure against our aspirations. Some of the issues facing them are difficult. Having discussion and including your stakeholders is a way to resolve that. But I don't want to suggest it is easy.

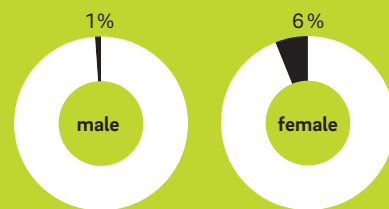
How does J&J's credo work today?

In a time of low trust and high expectations for companies, the credo serves us well. It's

both a source of inspiration and aspiration. When people join the company, we create opportunities for them to engage with it as soon as they start – to make it a living document instead of a static document. We find ways to connect individuals' passion and purpose to the greater purpose of J&J. This is important too, especially for young recruits with a strong sense of social purpose. I used to think of us as an old-fashioned company, but we're actually a very current company because of our social mission. It's been there forever and is in the DNA of the company – and young recruits are attracted to us for that reason.

Fostering commitment

Johnson & Johnson expanded its parental leave program in 2016. It now retains 96.91% of the employees who take that leave in the US and was listed on Fortune's Change the World list in 2017.



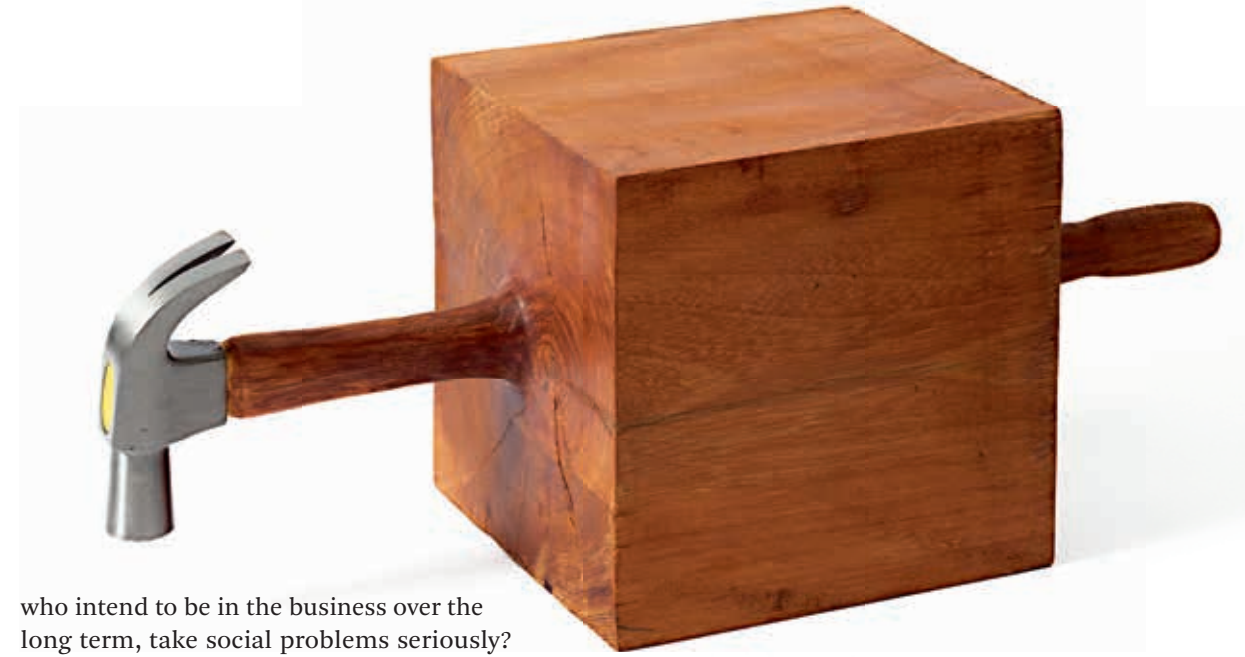
● returned ● did not return

2/3

of professionals around the world feel disengaged from their jobs, according to the *Purpose at Work 2016 Global Report* conducted by LinkedIn and Imperative.



PHOTOS: GETTY IMAGES; A.E. FLETCHER PHOTOGRAPHY/PR.
SOURCES: J&J HEALTH FOR HUMANITY REPORT 2016



who intend to be in the business over the long term, take social problems seriously? Fink's letter suggests that this is what they should be doing: Companies should not only avoid creating problems for society, but they should also be actively involved in making contributions that address society's problems.

To be fair to Friedman, he didn't see any problem with company owners choosing to do good. "It may well be in the long-run interest of a corporation that is a major employer in a small community to devote resources to providing amenities to that community or to improving its government. That may make it easier to attract desirable employees, it may reduce the wage bill or lessen losses from pilferage and sabotage or have other worthwhile effects," he argued in an article in *The New York Times*. What made the difference for Friedman was that such decisions should be taken by the owners of the company operating in their own self-interest under the "cloak" of social responsibility – rather than by corporate executives on the grounds of some

general social interest. Friedman believed firmly that market mechanisms were the most appropriate way to determine the allocation of scarce resources to alternative uses in a free society.

WE COULD WELL ARGUE THAT TODAY'S CLIMATE of opinion shares some similarities with that of the 1970s in which, as Friedman described it, there was "widespread aversion to 'capitalism,' 'profits' and the 'soulless corporation.'" Perhaps the rules of the game have not changed so much. Indeed, as Stout pointed out, some of these ideas do have ancient roots: "If you look at the earliest corporations in history, they were created to pursue social projects that would last for generations – they built monasteries, universities and cathedrals," she said. "Business corporations for most of the 20th century had a similar philosophy – managers were stewards of great social institutions run for the benefit of stakeholder groups and the nation. It is only very recently that the focus has become much narrower."

Whether we see it as a return to an older model or a turning point for capitalism, many different voices are saying that business is changing in this direction. We are entering a new era of responsibility which offers an opportunity for the private sector to help tackle issues that affect wider society and collaborate in designing solutions that create sustainable value for humanity. As Indra K. Nooyi, CEO of PepsiCo, once put it: "The blind pursuit of profit at all costs is untenable. It is essential that we make money the right way. After all, if communities suffer as a result of a company's actions, those returns are not sustainable." ■

"The blind pursuit of profit at all costs is untenable. It's essential that we make money the right way."

Indra K. Nooyi,
CEO of PepsiCo

Build a circle of trust

How do you stay on the right side of the interactive internet? Become a master of social media with these key pointers.



BY **Charlene Li**

SOCIAL MEDIA HAS BEEN ONE OF THE BIGGEST SEISMIC CHANGES to hit business in the past decade. Businesses could once message their purpose and blithely believe that customers, employees and partners accepted and trusted that the purpose was being met. But today, social media gives everyone the ability and voice to hold businesses accountable for promises made. If you promise that your company will act with integrity, protect people and the environment and dedicate a portion of profits to these efforts, then examples of promises unkept will be captured, shared and amplified.

This capability strikes fear in the hearts of many businesses, but it doesn't have to. I've spent the past 15 years explaining how to master social media for the benefit of your business and customers. And I believe that now it's even more important than ever to understand how social media creates a virtuous circle in which it acts as the conscience of the company and holds it accountable for doing things wrong while also

rewarding it for doing things right. People want to work with businesses that do more than deliver great products and experiences – they want to align themselves with organizations that reflect their personal beliefs and that seek to make the world a better place.

There are a number of ways in which you can use social media to develop, live and reinforce your purpose. The first is to ensure that you listen for purpose resonance. By that I mean that if you are in the process of redefining your purpose, social media can be a fantastic way to figure out what resonates with your customers. What topics in your past social posts have gotten the most comments or shares? Or if you have a new purpose statement, how is it being received? Social media is a messy, volatile cauldron of opinions, misquoted facts and hearsay. Filtering out the noise is partly science, mostly art – so social media listening takes practice and time to draw meaning from the data.

LISTENING AND DEFINING IS A GOOD START, but from there you need to develop a relationship. Purpose isn't a "one-and-done" campaign that you can run for six weeks and then turn off. Too often social media finds its place as part of marketing planning when it is much more than that. It should instead be at the vanguard of creating the relationship your business needs, where you begin a conversation about your corporate social responsibility (CSR) efforts. For example, "green" cleaning products brand Seventh Generation steers people who comment on their social channels to their "Generation Good" community site, where they can provide feedback, submit ideas and even test products under development.

"The more transparent you are, the greater interest the audience will have to follow your journey."

Relationships are based on trust, so your message has to be honest. For that reason it's vital that you speak the truth, especially if you are unsure about what is going on. Here's an example: In 2006, one of Dell's notebooks spontaneously burst into flames. When a photo of the laptop started hitting social and mainstream media, Dell wrote a blog post about it – and included a link to the photo. That's right, the company published a photo of one of its products blowing up and shared that while they thought it was a battery issue, they weren't 100% sure. Even today, 12 years later, many companies struggle with telling the truth – or trusting that the relationship is strong enough with customers to simply provide an update. Be honest about your purposes, how well you are doing but also the challenges and setbacks that you are facing. The more transparent you are, the greater interest the audience will have to follow your journey.

Those three small interventions – listening and defining your purpose, developing a relationship and being truthful – can prepare the ground well for your purpose plans. Then you can move on to how you can use social media within the company as a tool to push forward. Empowering employees is a case in point and Southwest Airlines offers a good example that you

could emulate. The company's stated purpose is to "connect people to what's important in their lives through friendly, reliable and low-cost air travel" and it has done this brilliantly on social media. This past March, a social care team member named "Mike" was answering a mid-flight tweet from an irate passenger who had paid for Wi-Fi but couldn't livestream a basketball playoff game of her beloved college. Mike explained that they limit livestreaming and then gave a quick update: "You're up at the half." The passenger asked a favor: "Any chance you can live tweet the second half for me?" Mike obliged and turned an unhappy customer into a raving fan – and spawned multiple positive articles. Southwest Airlines also encourages all of its employees to use their own personal social media accounts to share their experiences and passions at the company, trusting that they are aligned in a common purpose through a strong culture of customer service and training.

TWO FINAL WORDS OF ADVICE to help you harness social media for your purpose: "Use it." Post frequently and use visuals. If you are doing good work that exemplifies your purpose, be sure to share it! IBM recently conducted a study that correlated the number of social media mentions needed to raise the prominence of CSR programs based on the company's net income. This makes sense – if you have a larger company, then you need more social media mentions to move the needle. One of the ways to increase mentions is to include photos, videos or even livestreams of events because posts with visual elements boost engagements and sharing.

The positive feedback loop created by social media can become addictive – you do good work, share it on social and get rewarded with recognition that acts as positive reinforcement. The social media "flywheel" takes time, effort and resources to get started, but the benefits of more aware and engaged customers and employees will be well worth it. ■

Disclosure: Dell, IBM and Southwest Airlines have been Altimeter clients.



Charlene Li

Charlene Li is a principal analyst and the founder of Altimeter, now a part of Prophet. She is the author of five books, including the *New York Times* bestseller *Open Leadership*, and the co-author of the critically acclaimed *Groundswell*.



PURPOSE

PURPOSE

Silicon Valley gets a conscience

Tech companies are being taken to task for "digital addiction" by a growing coalition of technologists, shareholders and academics. Are the pioneers of Silicon Valley at last waking up to the downsides of their device-driven dreams?

BY **Steffan Heuer**
ILLUSTRATIONS BY **Filippo Fontana**

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EARLY MARCH 2018: It was an unusual sight outside Apple's shiny new headquarters in Cupertino, California. Four Stanford University computer science students, all of whom have an internship at a renowned tech company on their resume, waved picket signs and handed out flyers. The group's name says it all: Stanford Students Against Addictive Devices (SSAAD). "We want to call attention to an increasingly critical problem," explains the group's co-founder Sanjay Kannan. "Device makers, and in particular app developers, have a responsibility to address the issue of addictive technology. We chose Apple because they are a trendsetter that everyone's watching. And they are in the best position to do something about it."

The student protest in the heart of Silicon Valley was one more example of the growing and, more importantly, homegrown backlash against the tyranny of always-on devices, apps, services and platforms such as Facebook. SSAAD may seem inconsequential compared to the raging scandal over unauthorized access to the data of the platform's two billion users and the controversy surrounding Russian meddling, yet it speaks to a larger point that goes far beyond Facebook. What exactly does technology do to humans? And what can – and should – the people who design those technologies do about it?





PURPOSE

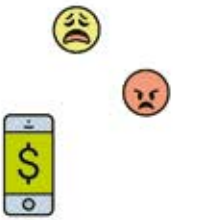


Silicon Valley is finally having second thoughts about its greatest and most successful inventions as evidence mounts that they wreak havoc on individuals, families and society. As a result, the tech industry is being forced to grow a conscience and address issues of safety, self-regulation and also potential government intervention. While the term "digital addiction" may not have yet entered the Diagnostic and Statistical Manual of Mental Disorders, the psychiatrist's handbook, it looks increasingly as if spending your waking hours on apps, games and platforms designed for maximum engagement takes a measurable toll. "There is emerging research that kids and adults feel addicted to their devices. We still avoid the phrase addiction from a diagnostic point of view, but we can definitely say many people have feelings of addiction," says Colby Zintl, vice president of external affairs at Common Sense Media, an advocacy group based in San Francisco that researches and promotes healthy media use for families as well as educators. Her organization has now partnered with the Center for Humane Technology (CHT), a group of



"We have all those wonderful technical tools and somehow used them to create this large weapon."

Aza Raskin, Co-founder of the Center for Humane Technology



40%

of Americans who use social media responded that it would be "hard to give up" using it in a 2018 Pew Research Center survey. The number climbed to 51% in the 18-24 demographic.



rebellious techies launched in early 2018 that encapsulates the growing remorse and guilt among Silicon Valley elites about the (often unintended) consequences of their urge to "make the world a better place" and score a lucrative exit.

WHEN IT COMES TO CALLING OUT THE DANGEROUS DOWNSIDES OF TECHNOLOGY, CHT is at the forefront. The group was launched by former Google and Facebook programmers and supported by a Who's Who of the industry, among them early Facebook investors and one of the programmers responsible for developing the blue "Like" button back in 2007. "Technology is hijacking our minds and society," declares the group's website, listing studies and anecdotal evidence about how smartphones and apps hurt humans psychologically and physiologically. "We have all those wonderful technical tools and somehow used them to create this large weapon. We let whoever bids the most money point this gun at our heads," says Aza Raskin, one of the group's co-founders.

While some might have concerns about the application and use of the data, others fear what tech is doing to the way we think. Tony Fadell, one of the creators of the iPod and iPhone, ripped into his peers with a tirade of tweets: "Apple Watches, Google Phones, Facebook, Twitter - they've gotten so good at getting us to go for another click, another dopamine hit," making reference to the neurotransmitter molecule in the brain commonly associated with addiction and pleasure. Roger McNamee, an early investor in Amazon, Facebook and Google demanded: "For the sake of restoring balance to our lives and hope to our politics, it is time to disrupt the disrupters." Former Facebook executive Chamath Palihapitiya has expressed "tremendous guilt" for his part in creating "tools that are ripping apart the social fabric of how society works." And even financier George Soros weighed in at this year's World Economic Forum, saying that tech companies "deliberately engineer addiction to the services they provide."

It's a feeling of responsibility that tech insiders kept bottled up for far too long, admits CHT co-founder Raskin. "If you live in Silicon Valley, you get up every day and go to work, thinking you'll make the world a better place. My entire career was about drinking that Kool-Aid." A key turning point, by many accounts, was a presentation that then Google Design Ethicist Tristan Harris gave inside the search giant back in 2014. He lamented the vast influence Google yields over two billion



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humans, steering them like an ant colony. His presentation became one of the most internally requested topics at Google, Raskin recalls and adds: "Until the election of 2016 it was easy to paper over this problem." It took the revelations about Russian meddling to give those second thoughts a unifying theme and urgency.

At Google's most recent developer conference, CEO Sundar Pichai admitted something's amiss. "We want to help you understand your habits and focus on what matters," he declared, all the while introducing plenty of new features that intrude even more deeply into the private lives of the tech giant's users. Artificial intelligence features such as a voice assistant called Duplex that masquerades as a human created particular concern among many technologists, even if Pichai proclaimed Google had "a deep responsibility to get this right."

Big tech companies like Google are aware that Wall Street has begun to take notice, too, drawing a connection between digital dependence and the future revenues, profits and valuations of tech companies. In January, New York-based hedge fund Jana Partners joined the California State Teachers' Retirement System in sending an open letter to Apple calling for changes to its technology. "We believe there is a clear need for Apple to offer parents more choices and tools to help them ensure that young consumers are using your products in an optimal manner," the letter said, citing research findings and media reports.

WHAT EXACTLY DOES RESEARCH HAVE TO SAY about the impact of digital devices and services on our well-being? To begin with, devices bring strife and tension to kids, teens and families. Almost half of all children polled by Common Sense Media say they feel addicted to their phones, and three in four families say that devices have caused discord at home. Smartphones and tablets have a significant, negative impact on sleep duration and quality among school-age children and adolescents, according to a 2015 summary review of 67 academic studies on the topic. While the verdict is still out as to whether being on Facebook or Snapchat can really be compared to cocaine or battling a gambling disorder, studies have documented brain activity that looks suspiciously similar to other addictions when it comes to how subjects are able - or rather, unable - to control their impulses and inhibitions. Psychologist Jean Twenge at San Diego State University has drawn an

"Silicon Valley's business model is surveillance capitalism: Give products away for free and turn us into the products."

Andrew Keen, Author of How to Fix the Future: Staying Human in the Digital Age



7 hours.

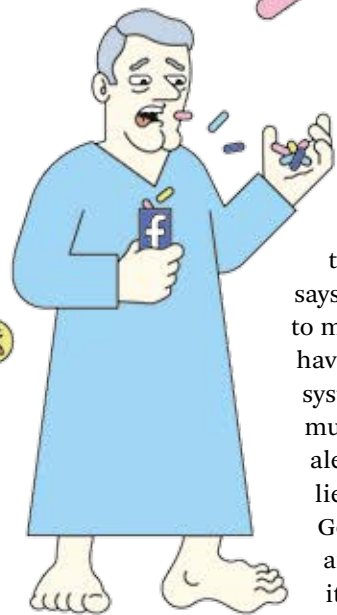
The average amount of time that American teenagers spend every day in front of some kind of screen.



even darker conclusion, making a connection between new media screen time and adolescent depression and suicide rates, especially among females. US teens spend an average of seven hours a day in front of some kind of screen, which comes at the expense of interacting with other humans.

Critics argue that the current wave of remorse needs to be transformed into action on three fronts. For starters, consumers should take some easy steps to blunt the worst effects of digital addiction [see p. 29]. It will be more difficult to pull the second lever, which can be called "coding with a conscience." Companies have a moral obligation and also a business incentive, the argument goes, to self-regulate and think from the outset how to make their products safer and less addictive. "There are some people who are still in denial [about] how their wealth is created and how their products tear apart society and democracy, but we get more and more thank you notes every day," says CHT co-founder Raskin, whose late father Jef developed the Macintosh computer at Apple in the 1970s and who therefore has a specific frame of reference for what good design should focus on. For him, human-scale design is a big opportunity that should be taught in schools and colleges so it can permeate the developer community. He sums up the question as: "How do you make great products that don't cater to our impulses but appeal to the higher stack of human qualities?"





The third point is regulation. "The fact is tech companies have so far gotten a free pass and are completely unregulated. It's more heavy lifting than the other steps, but we're suggesting to add a seatbelt or an airbag to Facebook," says Common Sense's Zintl, drawing a parallel to mandated updates to automobile safety that have long become accepted standards. The systemic changes critics propose, however, are much deeper and wider than adding the equivalent of an airbag. If the root of the problem lies in the fact that the business model of Google or Facebook is built around tracking and manipulating user behavior and turning it into advertising dollars, regulation would have to force them to change how they operate – and how they make money. "When the British Empire gave up slavery, it gave up 2% of its GDP for 60 years, but it was the morally right thing to do," argues Raskin. "If companies want to do something that protects democracy, they need to give up some revenue. Or why not hold them responsible for the content they promote, that would hugely change the incentives."

Andrew Keen, a razor-tongued tech observer and author of four books on the tech industry's failed promises – the latest one being *How To Fix*

The Future: Staying Human in the Digital Age – says contrition is not enough. "Silicon Valley's business model is surveillance capitalism: Give products away for free and turn us into the products."

CITIZENS NEED TO FIGHT BACK and impose human values on technology with commonsense tools like civic engagement, education and, yes, regulation, argues Keen. "If it's true that we live in a system of surveillance capitalism, changes cannot come from the five big platforms because we have a winner-takes-all economy that stifles innovation and competition," Keen warns.

Taken together, the long overdue public soul-searching among Silicon Valley's best and brightest may well bring change. First, a blend of heightened awareness and wariness among users of what they're getting into by tapping that "I agree" button. Second, governmental and self-imposed regulation of the dominant players nudged along by frameworks such as the EU's General Data Protection Regulation that took effect in May. And third, the dark horse of emerging competition – and eventual economic success – by entirely new companies that are driven by a different set of values, among them design that doesn't merely look at the interaction between a machine and an individual, but society as a whole.

PURPOSE

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Long-term well-being is not about instant gratification



Technologist **John C. Havens** is the executive director of the IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems. He answered a few questions for *Think:Act* on the importance of machine ethics. The statements he makes here do not necessarily reflect the opinions of the IEEE.

Mr. Havens, is it necessary in your opinion that we start building ethical principles into hardware and software?

Being more "connected" to devices or screens doesn't inherently increase short- or long-term happiness. That's why we need applied ethics, or values-based design, to help people creating artificial intelligence (AI) and machines to delve deeper into both end users' values and new issues arising from these technologies. AI directly affects human agency, identity and emotion in ways many other technologies don't. That doesn't

mean AI is "bad" or "evil," but that engineers, programmers and practitioners need new levels of due diligence to ensure they can avoid negative, unintended consequences.

Do algorithms need to adhere to human values? Can they align with both our well-being and need for gratification?

The baseline is human values, but put into the context of your regional and cultural values. We also need an analysis of what can increase people's long-term well-being or flourishing. And that's not about instant gratification.

You head the Global Initiative on Ethics of Autonomous and Intelligent Systems of the IEEE, the world's largest association of engineers. What has the project accomplished so far?

The second version of *Ethically Aligned Design (EADv2)* is currently available on the IEEE website. We address these topics in 13 different sections created by over 250 global experts, and developers can already use *EADv2* today. Just like the IEEE created the Wi-Fi standard, these standards will help guide companies and developers to implement values-driven design.

Give me a buzz: your brain on smartphones

A recent study done by McGill University claims that smartphone addiction isn't inherently antisocial, but rather an expression of a primal need for social reward.

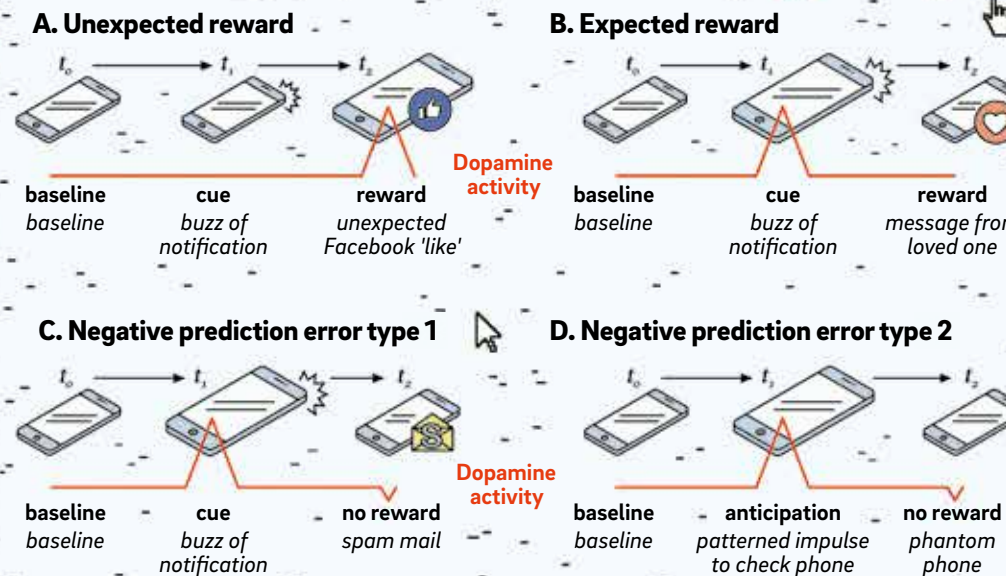
60 seconds in social media

The number of interactions that occurred, on average, during every minute of 2017 give a clear view into the socially driven motivation behind smartphone use.



Dopamine surge

Digital or not, social interaction activates dopamine reward circuits in our brains. The intermittent and unpredictable schedule of smartphone notifications creates a state of arousal that is more correlated with reward anticipation than with the reward itself.



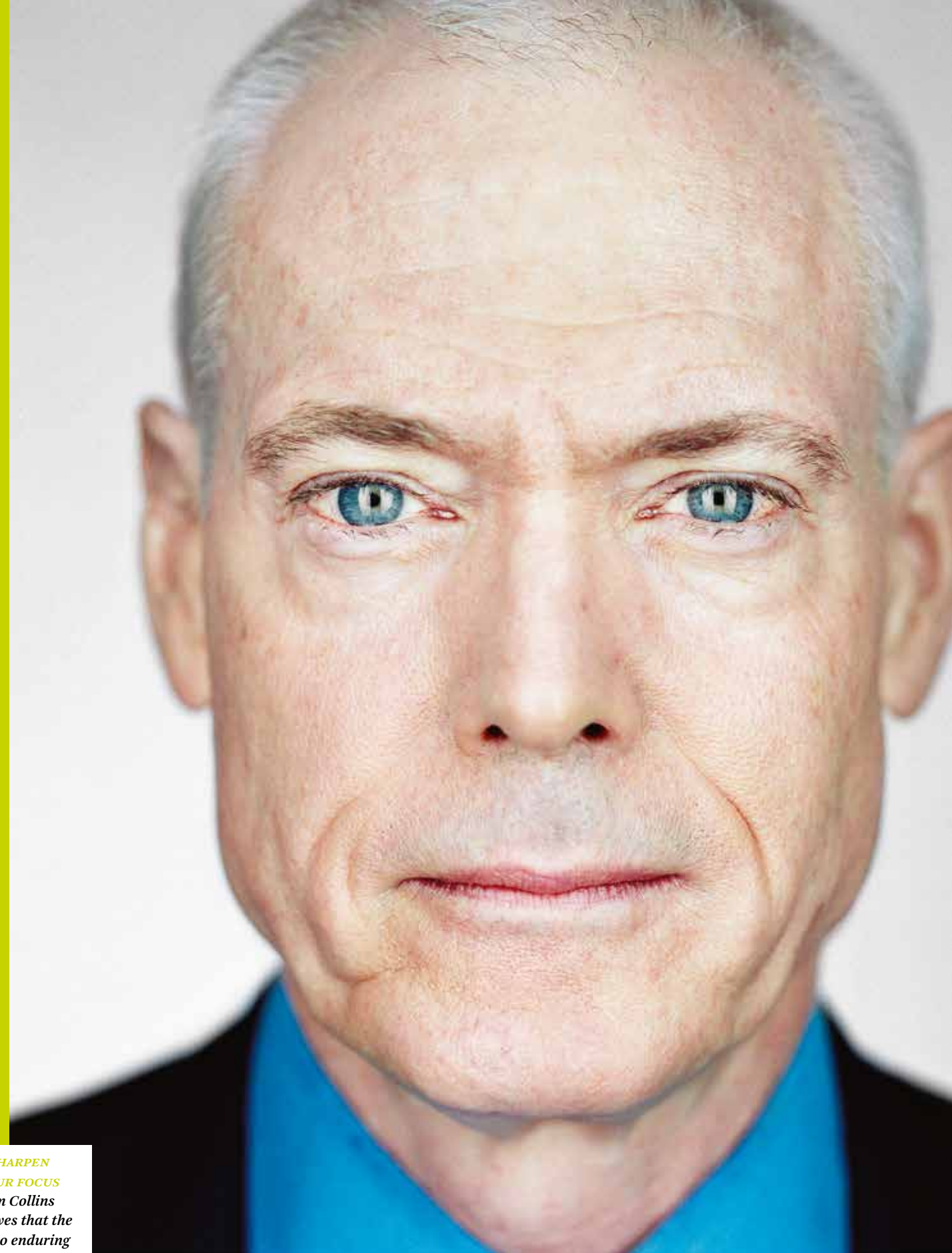
How to limit addiction

Consumers can take some easy steps to blunt the worst effects of digital addiction, dampening the feedback loop that hooks our brains with little dopamine spurts every time a notification or new photo comes in.

- 1 Turn off notifications** – no buzzing, flashing or pop-ups unless they come from a real human.
- 2 Set the phone display to grayscale** in order to make it more boring. Stanford students have called on device manufacturers to make it easier to enable those features, just like switching to airplane mode.
- 3 Banish all devices from defined areas of life**, such as when sitting down at the dinner table or when going to bed at night.

SOURCES: STATISTA; FRONTIERS IN PSYCHOLOGY

**SHARPEN
YOUR FOCUS**
Jim Collins
believes that the
key to enduring
success lies in
understanding
how you can be
most useful.



GOOD PURPOSE STICKS

What does it take to build an iconic company?
If you ask influential author, researcher
and advisor Jim Collins, superior results are
the product of asking exactly what it is
you have to offer.

INTERVIEW BY **Bennett Voyles**

THE VALUE OF INSTITUTIONAL PURPOSE is a relatively new discovery for many organizations, but not for celebrated author Jim Collins. For the writer of such influential business books as the groundbreaking *Built to Last: Successful Habits of Visionary Companies* (co-authored with Stanford professor Jerry Porras), and *Good to Great: Why Some Companies Make the Leap ... and Others Don't*, one essential quality that important and enduring companies share is having a sense of meaning that goes beyond simply keeping their stockholders happy. In a telephone interview from his home in Colorado, he talked to *Think:Act* about his evolving view of purpose and what it means.

How important is purpose if you want to build a great organization?

One of the key qualities of an enduring company is that the founders instilled a sense of being there to serve a purpose that's larger than any of us.

Purpose tends to be found fairly early. Back in the 1970s at Apple, for instance, Steve Jobs was able to articulate the idea of "hey, what this is really about is building bicycles for the mind. Our purpose is to think about the world and say: 'What will change the world more – making one computer a thousand times larger, or making a smaller computer and putting it in the hands of a thousand creative people and letting it bloom?'"

A good purpose sticks: When Jobs came back to Apple in 1997, one of the first things he did was find the people who still shared that ideal. It was still there, in the woodwork.

What if you've never had a clear purpose?

That's much harder. In that case, you have to ask: "Why is the work important in the world?" Then you start working backwards: "Why is it important that we make semiconductors?" And you begin to unlayer those reasons. If you're actually doing something effective, there will be a reason →

you can put your finger on. But it's a lot harder to find if you didn't instill it from the beginning.

But purposes don't look alike. If you look at the examples of purpose listed in *Built to Last* and compare Nike's to Disney's, 3M's, Patagonia's or Pacific Theaters', you'll find that they're really different flavors. Some are really competitive, some are really creative, some are really built around social change and some have to do with serving the people who work for you. If your purpose really is just "we love to win," that's okay. If your purpose is "we just love to create things," that's okay. If your purpose is "I really want my people to flourish," that's okay. What matters is if it is authentic. An inauthentic purpose is worse than having no purpose. Even if it's a commendable idea, purpose can't be a bolt-on. It can't be something that you do to feel good. It has to grow from the actual work.

In *Built to Last*, you quote the historian Barbara Tuchman on the tendency of "affluence to smother motive." Do today's cash-rich companies face any special risks?

Interestingly, great companies don't usually fail because they become complacent, but because they pursue undisciplined growth – growth that doesn't fit with the purpose of the company, that doesn't fit with why it could be best in the world, that is just fueled by big acquisitions. The hubris born of success leads to what we call the undisciplined pursuit of more.

This is why having a purpose and a drive far beyond the purpose of making money is so important. Because if your purpose really is just to make a lot of money, then when you have a lot of money,

you run out of purpose. But if your purpose is to do amazing things or create things, you'll never run out of purpose because you're never done.

When you study the people who built lasting, iconic and visionary companies, the drive that they had was an inner compulsion. It had nothing to do with their circumstance. It's like trying to imagine Beethoven after the success of the *Fifth* and *Sixth Symphony* saying, "I have too much cash. I think I'll skip writing the *Seventh* or *Ninth* and take it easy now." He couldn't help himself.

So pay doesn't matter?

You can't turn the wrong people into the right people with incentives. If you have the right people, they're going to try to do the right things, and if you have the wrong people, it doesn't matter. Great vision without great people is irrelevant.

You should be very careful with incentives. The economic evidence is clear: Incentives will affect behavior. If you have incentives that drive you towards undisciplined growth, you're going to get undisciplined growth.

Discipline, on the other hand ... ?

One of the real differentiators of companies that endure at a really high level is that they're even more disciplined in good times than in bad times, because it's what you do before the storm comes that most determines how you will do when the storm arrives. You don't grow too fast. You put reserves away for when the bad things come. You don't compromise on the quality of people you hire. You don't get sloppy around the edges because you can. Then, when the storms finally come, you are the one that pulls ahead.

Several years ago, you served an appointment on leadership at the United States Military Academy at West Point. Did that change any of your thinking about discipline or purpose?

Let me ask you: Which is a harder life? Being a West Point cadet, where you have four years of academic burdens, physical burdens, leadership burdens, military training burdens and at the end you are also signed up for a minimum five years of service and you're going to be charged with responsibility for people's lives and the accomplishment of missions? Or being a Stanford MBA student hanging out in Silicon Valley ready to go do a startup? Yet my West Point cadets struck me as a happier bunch than my Stanford MBA students by a sizeable delta.

Why do you think that was the case?

A lot of it came down to their sense of purpose. Ask the Stanford MBAs: "What cause do you serve? What are you doing that you might be willing to suffer and sacrifice for? Why are you here?" Very few of them would have an answer. At West Point, you get an answer. The sense of service is there from the get-go.

There were a couple of other things. Ask West Point cadets: "How many of you have experienced failure and inadequacy here?" They will all raise their hands because the system is designed to make sure you struggle and fail. You learn that the only way you really do well is to help each other. At West Point, the opposite of success is not failure, but growth. And success is always communal – you only succeed by helping each other succeed. What could be a happier situation?

The great companies you've written about often did most of their work in-house – you've written that Disney didn't even outsource parking. Can strong organizations still be built today in our world of extended supply chains?

The nature of supply chains today clearly means that there's going to be a lot of moving parts, including outsourced parts. Maybe it's like being allied forces – we're all coming from different countries that need to stay relatively unified in pursuit of an overall mission.

My mentor Peter Drucker made an interesting observation that was profoundly right for the 20th century: The alternative to tyranny was well-managed organizations, widely distributed. Without them, tyranny wins. Today, I believe we might be on the cusp of a shift. If the 20th century was about organizations well managed, the 21st century might well be about networks well led.

You've always advocated the pursuit of what you call the BHAG (Big Hairy Audacious Goal). Now that you've just turned 60, do you find that your sense of purpose has changed?

Yes, and I think rock climbing might be a good illustration of how. Rock climbing has always been a central theme in my life, this unifying theme of growth and adventure and the pursuit of big hairy audacious goals, but my sense of the purpose of climbing has changed over the years – or maybe I've uncovered a deeper purpose. When I was younger, climbing was really about how to persist through cumulative failure. One route took me five years to do 25 moves. I basically failed for five years

"Purpose can't be a bolt-on. It can't be something that you do to feel good. It has to grow from the actual work."



Jim Collins

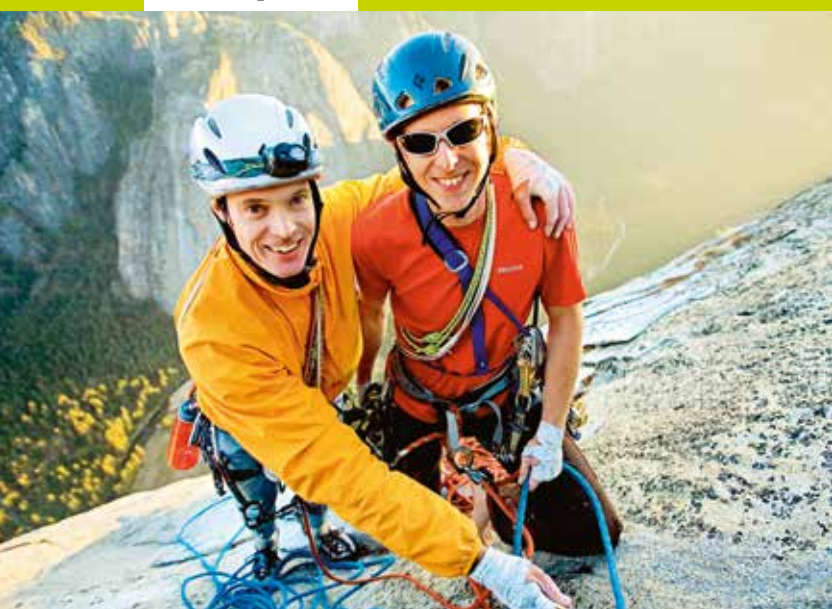
A former Stanford Graduate School of Business professor, Jim Collins founded his own "management laboratory" in Boulder, Colorado in 1995 and has authored or co-authored six books that delve into what makes companies great. He was named as one of the 100 Greatest Living Business Minds by *Forbes* in 2017.

before I finally succeeded. Part of climbing was to learn how to go through that process and to eventually accomplish the goal.

Now climbing is about enjoying a great time with great partners. Whereas I used to ask myself what climb I wanted to go do, now I ask who I want to do the climb with. The climb becomes almost just a canvas for enjoying a marvelous shared day of adventure, comradeship and friendship, of watching out for each other and having a great conversation on a belay ledge a thousand feet above the ground while the birds fly by and then summiting the climb. In almost every aspect of life, I keep coming back to the idea that the who is ultimately more important than the what. The climb doesn't care if you get up it. Your friends care, and you care about your friends.

I've also been thinking a lot about what I want my life's work to be. I have a picture of all of Peter Drucker's books from a shelf at the Drucker Institute set up in chronological order. At my age, Peter was only about 25% of the way through his life's work. I've been doing a lot of thinking about how to make good on that idea, not just the numbers, but finding an overarching theme. If you look at Peter's shelf and you were to ask yourself what the overarching question is, I think management was a sub-point. The deeper question is: "How do we make society both more productive and more humane?" That's a beautiful, marvelous question that runs through the 30-odd books like a common thread. A lot of what I've been thinking about is that I've been really fortunate to create a body of work up to this point, but how can I tie it all together? What would my question be? ■

PEAK PERFORMANCE
For Collins (seen here with American climber Tommy Caldwell), rock climbing illustrates how we can persist through failure and discover what is most important.



Cleaning up business

In 2015, the UN launched its sustainable development goals program to end poverty, protect the planet and ensure prosperity for all. The goals are a clear signal and a call to action for business.

PURPOSE

PHOTOS BY *Kadir van Lohuizen*

THE UN'S SUSTAINABLE DEVELOPMENT GOALS (SDG) PROGRAM explicitly calls on businesses to help solve the world's environmental challenges by 2030 by integrating change, innovation and creativity into their practices and initiatives. The manifesto encourages companies – and especially the large and transnational ones – "to adopt sustainable practices and to integrate sustainability information into their reporting cycle."

Waste management is a global issue with local impact and substantially reducing waste generation through prevention, reduction, recycling and reuse is a core concern of the UN goals aimed at reducing the adverse per capita environmental impact of cities. These images set out the impact of waste: Can business help solve issues like these by 2030?



PURPOSE

LAGOS LANDFILL

→ SCAVENGING FOR PLASTIC

Located in Lagos, Nigeria, the Olusosun landfill is Africa's largest. Approximately 1,000 scavengers live on-site, sorting through the waste for scrap materials that can be sold on.



PURPOSE

PLASTIC REUSED

→ REDUCING LANDFILL

Tokyo only has one landfill site, but it has 48 incinerators and a well-organized recycling program. Other Japanese cities like Tochigi make big efforts to recycle plastic bottles as well.

URBAN PRESSURE

→ A MEASURED DIFFERENCE

Rush hour in Tokyo reveals a population density that produces less waste than New York City (NYC) – 12 million as opposed to 33 million tons. Households separate their waste to reduce landfill demands.



PURPOSE



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COMPACT CARS

→ METAL MAKES MONEY

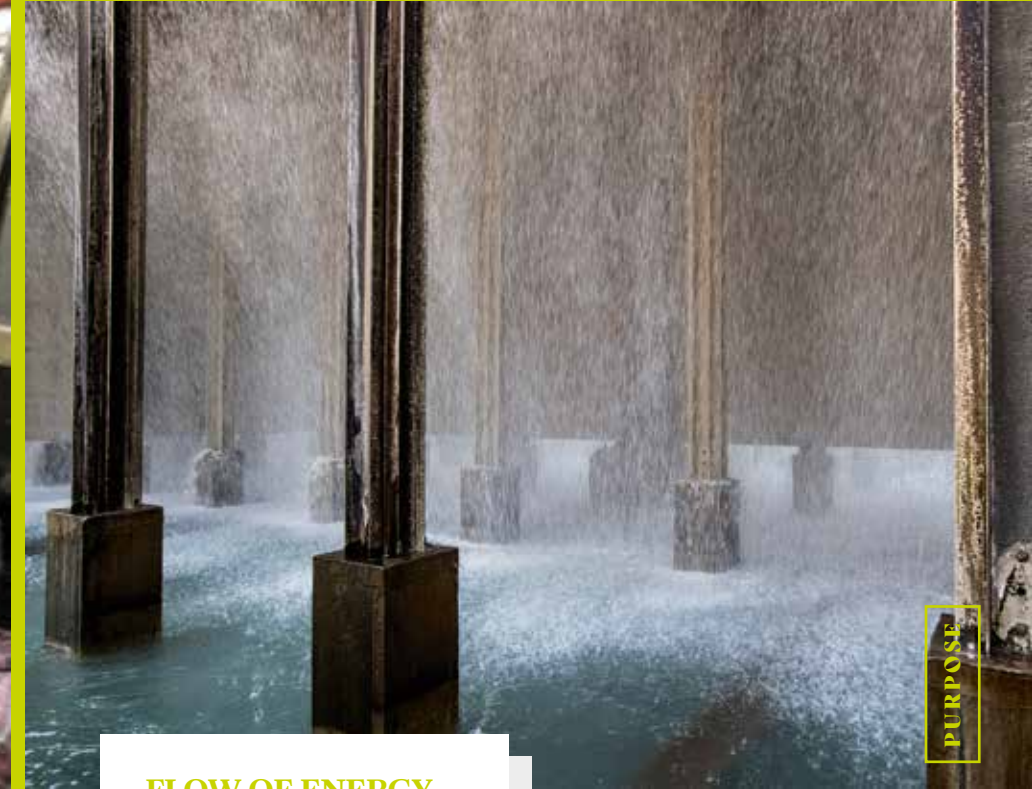
In the Netherlands, most of Amsterdam's waste is incinerated. Metals are saved for further use. Scrapped cars are compacted into cubes – about 750,000 tons per year – and then reused or exported.



PURPOSE

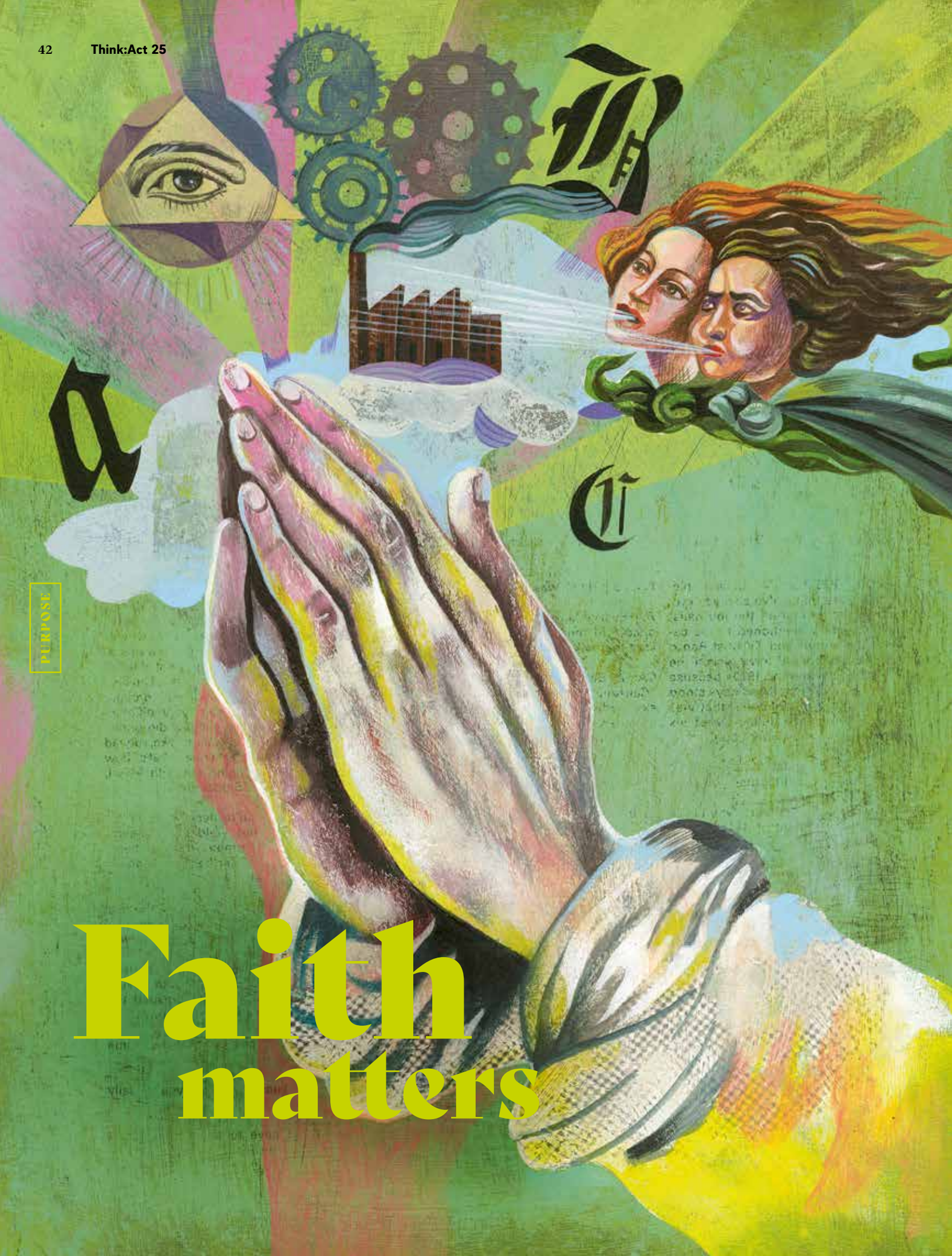
WASTE OPPORTUNITY

→ NYC IS NO.1 PRODUCER
It has a population of 20 million and is the world's biggest producer of waste – 33 million tons per year. This "canner" makes about \$20 a day picking up cans for the 5¢ deposit each carries, although the practice is not strictly legal.



PURPOSE

FLOW OF ENERGY
→ TRASH TRANSFORMATION
The Covanta Delaware Valley resource recovery facility incinerates 1.2 million tons of NYC's waste annually, converting the energy from the heat into electricity via steam from water-cooling installations.



Faith matters

Praying to God alone is unlikely to change the fortunes of your business, but the sense of purpose and other values embedded in various religions can be a dynamic, if not a spiritual, force for good – and they may even provide a competitive advantage.

BY **Detlef Gürtler**

ILLUSTRATIONS BY **Olaf Hajek**

W

HEN THE JAPANESE ECONOMY outshone the rest of the world in the late 1980s, an almost heretical thought was muttered throughout the (Christian) West: Could it possibly be that the Japanese religion, Shintoism, was a reason for the country's economic superiority? Not that European or US managers would ever want to build a shrine for their company god or make their whole workforce worship every morning, but if religion really were a key element in Japan's success, the country's economic dominance would be here to stay.

Whatever part Shintoism played in Japan's business boom – or didn't, as the case may be – it is still worth posing the question: Does religion matter? One of the hottest debates regarding the significance of religion for economic development was started in 1904 by Max Weber. The German sociologist argued that the Protestant work ethic was an important factor for the birth of capitalism in Northern Europe. The Calvinist branch of Protestantism in particular believes that individual economic success on Earth is blessed by God. Work is like a prayer, investment is like worship – and that's the mindset that kick-started capitalism.

Weber's thesis that religion matters became one of the most influential (and most quoted) papers in social sciences and has been heavily discussed ever since. Indeed there's a correlation:

The oldest capitalistic region in the world, England, is predominantly Protestant; in some countries, such as Switzerland or France, the Protestants were especially thrifty and attracted to business; and the economic rise of the United States of America was driven for the most part by Protestant immigrants from Europe.

But correlation does not necessarily mean causation. In 2015, 111 years after Weber, another German economist named Ludger Wößmann found compelling evidence for an underlying effect that caused the Protestant "economic miracle": education. The belief that every Christian should be able to read the Bible for himself led to an education boom and improved literacy across all Protestant regions. Martin Luther even →

"Work is like a prayer, investment is like worship – and that's the mindset that kick-started capitalism."

avored schools for girls – an incredibly progressive idea for 16th-century Europe. This pro-education bias became a competitive advantage: The data Wößmann analyzed from 19th-century Prussia showed a much higher level of education in Protestant than in Catholic regions. In addition, the Protestants had higher incomes and were more likely to work in modern sectors of the Prussian economy, such as commerce.

Another example for the long-term economic effects of education can be studied in Judaism, which enforced a religious norm requiring fathers to educate their sons from the end of the 2nd century AD. Economists Maristella Botticini and Zvi Eckstein are convinced that this had a major influence on Jewish economic and demographic history in the first millennium: "The Jewish farmers who invested in education gained the comparative advantage and incentive to enter skilled occupations during the urbanization in the Abbasid empire in the Near East and they did select themselves into these occupations." And as merchants the Jews invested even more in education – literacy and numeracy are the key preconditions for building up trading networks.

IF THE DECISIVE FACTOR FOR THE ECONOMIC SUCCESS of believers is not the belief itself, but the appetite for education, the trophy for the most economically successful religion can change hands. A 2016 study by Pew Research Center on religion and education around the world saw Judaism in a strong lead (with more than 13 years of schooling on average) followed by Christians (nine years), Buddhists (eight years) and Muslims and Hindus (both with less than six years). In the younger generation, however, Buddhists have reached almost the same schooling level as Christians.

"A shift of economic success is predictable: from predominantly Christian countries to regions with a high number of Buddhists and Hindus."

This picture can look very different if you focus on a specific region instead of the whole world. In the US at the start of the 21st century, for example, the world religion with the highest quota of college graduates were Hindus: 67% had gotten (at least) a college degree. They were followed by Jews, Muslims and Buddhists, all of them still above the US average of 33%. Far below average were the college degree quotas of Christian niche beliefs such as Baptists or Jehovah's Witnesses. With education as an early indicator for economic trends, a shift of economic success is predictable: from predominantly Christian countries to regions with a high number of Buddhists and Hindus.

In history, though, religion has not always settled for peaceful competition. There are well-known episodes showing a strong combination of religion and success – namely military. The Muslim expansion all around the Mediterranean from the 7th to 9th century AD was mainly driven by religious zeal, just like the crusades of the Middle Ages or the conquests of South America in the 16th century: The Holy Cross of Santiago promised victory (not to mention gold) to the Spanish adventurers. "The expansionary element is not typical for all



Religious attitudes and economic values

In a study for the US National Bureau of Economic Research, the economists Luigi Guiso, Paola Sapienza and Luigi Zingales looked at the relation between religious attitudes and social and economic values. They found that, on average, religious beliefs are associated with "good" economic attitudes, where "good" is defined as conducive to higher per capita income and growth. Religious people trust others, the government and the legal system more, are less willing to break the law, and are more likely to believe that markets' outcomes are fair. The team's research also showed that different religions have different effects on

people's attitudes. One example is their attitude towards private ownership. Observant Catholics support private ownership twice as much as Protestants, while Muslims and Hindus tend to be strongly against competition.

Finally, with the exception of Buddhists, religious people of all denominations are more inclined to believe that poor people are lazy and lack willpower. The effect is stronger for Protestants than Catholics. Overall, the study found that Christian religions are more positively associated with attitudes conducive to economic growth, while religious Muslims turned out to have the most anti-market attitude.

religions," says the German anthropologist Dieter Haller. He sees it as a feature of religions that define themselves as approaching an ideal or paradise, like Islam or Christianity: "This kind of teleologic or goal-driven thinking is dynamizing moral behavior and economic action. But you get completely different dynamics if a religion, like Buddhism, does not strive for an ideal, but sees life as an alienation from this ideal." So the difference between "paradise" and "nirvana" is more than just religious: A Buddhist conqueror would fight his battles not for his religion, but in spite of it.

IN BUSINESS, RELIGION CAN ALSO BE A DYNAMIZING FACTOR. There are a lot of entrepreneurs who identify themselves with a religion – from the Catholic Brenninkmeijer family running the C&A retail chain to Islamic banking or real estate agents with links to Scientology. As with military success stories, business cases linked to a religious attitude often take place in an early stage of expansion: The unifying effect of one strong belief can lead to a more coherent, focused, motivated workforce and can be a decisive factor in beating the competition as the company represents more than just an opportunity to earn money.

Devdutt Pattanaik, an Indian leadership expert and former "Chief Belief Officer" of a large Indian retail chain, even calls for a mythologization of companies. For him, a mythology is something that "tells people how they should see the world" – something a company with a strong mission can offer its employees. "When institutional beliefs and individual beliefs are congruent, harmony is the resultant corporate climate," Pattanaik says. He doesn't recommend the leaders to brainwash their staff, however. Quite the contrary: "When people are treated like switches in a circuit board, that's when disharmony descends."

There is a thin line between harmony and polarization whenever religion enters into secular affairs. What looks like heaven on earth when the beliefs of the workforce are homogenous can turn into a hell of a nightmare as soon as employees and/or management belong to different religions. This increase in diversity will definitely happen when a company starts to grow beyond the cultural sphere of its origin – and then it's too late to take religion, faith and/or mythology out of a company's DNA. So even if religion can be a driver of growth for smaller companies, it will be more like a limit of growth for bigger ones. Keeping the faith isn't as simple as it sounds. ■



Dream weavers

The sandy storybook landscape of the Indian state of Rajasthan has become the backdrop for a forward-thinking new business model. For Nand Kishore Chaudhary and his company, Jaipur Rugs, the reason behind its global success is simple: Stay focused on your purpose and rewards will follow.

BY **Kunal Talgeri**

PHOTOS BY **Florian Lang**



TOOLS OF THE TRADE

Jaipur Rugs delivers yarn and other raw materials directly to artisans in nearly 600 villages across rural India. The company calls its model "doorstep entrepreneurship."

PURPOSE

PURPOSE



A COMMON THREAD

Once struggling herself, Shanti (left) now oversees more than six looms and the 25 weavers that she can employ at a fair wage thanks to Jaipur Rugs' practices.



"She is the family breadwinner, earning more than \$75 a month."

A

LAND OF HEAT AND DUST. It's a lazy cliché sometimes used to paint an unimaginative picture of the sprawling diversity of India. But in Manpura, a village

in the northwestern state of Rajasthan, "heat and dust" perfectly describe the scene. Here, in one of the hottest subtropical desert regions on Earth, sand is a permanent fixture – and today the temperature is getting close to oppressive. It's only the beginning of summer and the thermometer is already north of 37 degrees Celsius and rising. Two camels lollop along the sandy track, slowly dragging cartloads of villagers behind them. But this lazy and languid impression is deceptive: There are lots of busy hands at work under the veranda of one of the houses here in Manpura. At Shanti's home, the heat is no excuse to slow down or take a break.

The gritty 36-year-old is hard at work at the loom, doing what she has done for almost 20 years: weaving. Her home is her factory and as she fiddles with a length of yarn, she shouts out instructions across the room to the six other women weavers working for her. That she has reached a position of financial independence and responsibility is no mean feat. Shanti comes from India's weaver community, people often in the lowest income bracket and frequently from the most oppressed societal group dubbed the "untouchables" in the exploitative and antiquated caste system that is still in place in many parts of India. Her rise to the top has as much to do with a forward-thinking business idea as it does to her own hard graft and diligence.

Shanti learned to weave at the age of 13 and, in keeping with the social norms of the region, was soon married off. She had her first child less than three years later. Life at the loom soon became a struggle made worse by middlemen cheating her

PURPOSE

39

thousand

The number of Indian artisans across nearly 600 villages now connected through Jaipur Rugs' network.



THE PERFECT PRINT
The patterns for the carpets are created using computer-aided design (CAD) at the company's headquarters in Jaipur.

PURPOSE

out of her wages. Like other weavers in Manpura, she had to borrow money to buy the yarn to make carpets and depended on go-betweens to find customers. She was rarely paid fairly for her work, making less than \$8 a month – hardly enough to feed a family. When one contractor didn't pay her for two carpets, she was forced to work as a manual laborer, breaking stones and carrying mud to construction sites in the desert heat.

TODAY, THE MOTHER OF SIX'S FORTUNE HAS CHANGED BEYOND RECOGNITION. She is the family breadwinner, earning more than \$75 a month. She now hosts more than six looms and employs 25 weavers who work at her house from 9 a.m. to 6 p.m. weaving award-winning carpets that sell across the world in the US, Europe and Turkey. The agent of change in Shanti's life – and the lives of a staggering 39,000 other Indian artisans – is principled entrepreneur Nand Kishore Chaudhary and Jaipur Rugs, his \$23-million company. Ignoring the social norms that paid them little dignity or respect, he made the "untouchables" a key component of his business – as they remain today. "We continue to plan for how to make the weavers' lives easier, ensure that they earn more, develop their capabilities and improve the supply chain," he says. "In the future, they will remain the core of our business. So to be competitive and efficient as a company, we have to focus on continuously developing them."



WOVEN INTO THE FABRIC
Whatever the design, each Jaipur Rugs product represents a fusion of contemporary approaches to social change and traditional hand-knotted artistry.

Chaudhary's vision on how to succeed in a business embedded with purpose was simple: Put the people at the heart of it. "Our job," he says humbly, "is to merely link the weavers to the global customers." Chaudhary enforced global standards on his products and processes right from the start. Had he not, he simply wouldn't have had any buyers. He ensured that Jaipur Rugs adopted healthy labor practices in the supply chain to differentiate it from the carpets business run by contractors and to earn the weavers' trust. And with more than 95% of its revenue coming from exports, Jaipur Rugs demonstrates companies can do social good without sacrificing growth or profitability. "This is about [building] human-to-human relationships," Chaudhary explains. "Focusing solely on business growth is a wrong concept. Growth should happen inside people – the people in your company. How much are they learning? How much is a business developing their leadership and capabilities? That is the only growth a business can sustain."

EMBRACING HIS WEAVERS AS INDEPENDENT ARTISANS RATHER THAN AS EMPLOYEES, Chaudhary pioneered a model he calls "doorstep entrepreneurship" when he began his business in 1978: Jaipur Rugs delivers the yarn and other raw material to rural artisans who can't travel for work – some haven't even traveled outside their villages, places scattered across the country with no real livelihood

"This is about [building] human-to-human relationships. Focusing solely on business growth is a wrong concept."

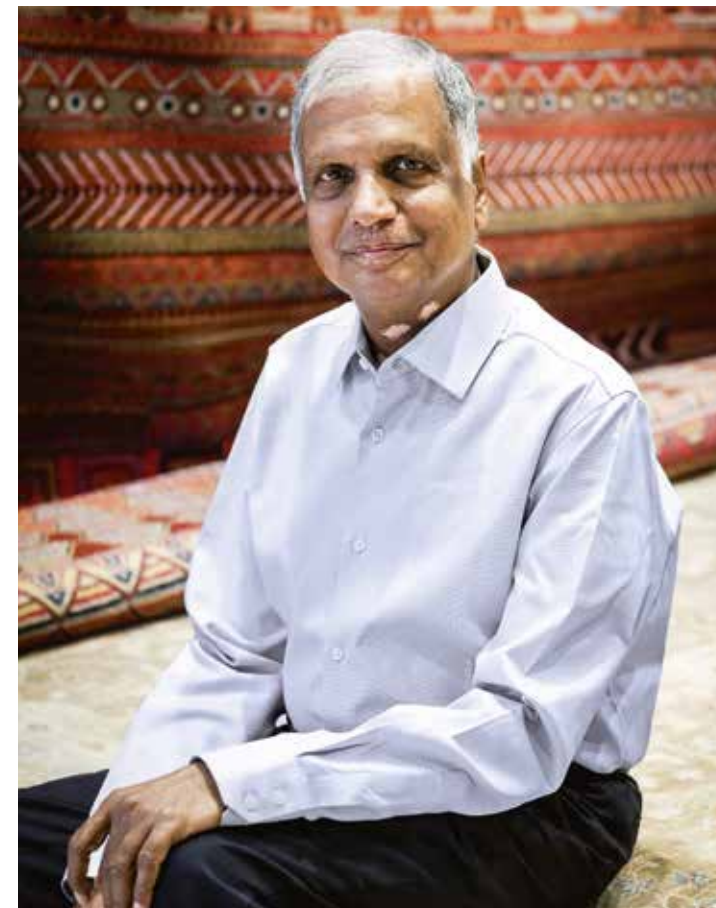
Nand Kishore Chaudhary, Founder and CEO of Jaipur Rugs

95%
and more of Jaipur Rugs' revenue comes from exports, a clear illustration of the company's global mindset.

opportunities apart from seasonal agriculture. After receiving careful training, they weave the yarn that arrives on their doorsteps into world-class carpets retailing at top outlets like Home Depot and Crate and Barrel.

A small-town boy himself, Chaudhary had no real exposure to management best practices. So he hit the books and over the years he taught himself key management concepts like Six Sigma and Zero Defects and then he implemented them in the company. "If we had to sustain business for the customers and serve them," he explains, "I realized we have to fulfill those three parameters: zero defect, zero wastage, on-time delivery."

His model has captivated business thinkers and commentators not just because of its profitability, but also because of its approach to putting people first and building a world-class business around a disorganized community of artisans. Chaudhary has been invited to address Ivy League institutes such as Harvard and Wharton, but the accolades and attention of business guru C. K. Prahalad speak volumes for the success and structure of the model: Jaipur Rugs was featured in the 5th anniversary edition of his celebrated book *The*



THE TIES THAT BIND
Nand Kishore Chaudhary attributes his success to treating his weavers like family and focusing on their growth as much as his company's.



Nand Kishore Chaudhary

Nand Kishore Chaudhary founded the business that would become Jaipur Rugs in 1978. His innovative approach to the carpet industry has earned him multiple accolades including the India Pride Award 2011.

Fortune at the Bottom of the Pyramid: Eradicating Poverty Through Profits. Prahalad said the company "focused on developing human capability and skills at the grassroots level, providing steady incomes for rural men and women in the most depressed parts of India and connecting them with markets of the rich." It is a source of pride for Chaudhary to be recognized. "It makes me happy that what I have managed to do in an organic way has become a benchmark." And other business academics have also taken notice. "The weavers have developed a sense of financial security and self-reliance," professors Kaushik Roy of the Indian Institute of Management (IIM) Calcutta and Amit Karna of IIM Ahmedabad wrote in their 2015 paper *Doing Social Good on a Sustainable Basis: Competitive Advantage of Social Businesses*, pointing out that Jaipur Rugs effectively eliminated the middlemen by directly procuring the carpets from weavers who had previously faced exploitation.

VITAL TO HIS SUCCESS, CHAUDHARY INSISTS, has been treating weavers like family and making them stakeholders – they want the company to succeed as much as he does. Before Jaipur Rugs was incorporated in the 1990s, he spent eight years in Gujarat mobilizing 15,000 tribal artisans to take up weaving. That helped him understand the needs of weavers and their families, which then spurred on another step in the evolution of a new leadership path for his "family": the Jaipur Rugs Foundation (JRF). The JRF builds on the socially progressive work embedded in the business. Shanti's six children are now learning English and math as part of the JRF's education scheme and her husband has enrolled in a skill development program as well. JRF has also ensured artisan certification for more than 5,000 weavers who will get "artisan cards," which is a positive step in bringing legitimacy to a sector like weaving. But as Shanti insists, speaking in her broad Rajasthani Hindi dialect, the

most crucial difference the company has made to weavers like her is this: "We get full payment – the money that is rightfully ours. There is transparency. That helps us." For her, the bottom line is that she has a reliable and fair source of income.

THE BOTTOM LINE FOR JAIPUR RUGS is similarly rewarding. Having built a capacity of 6,685 looms in 576 villages, its operating profits soared by 35% between the 2013 and 2016 fiscal years. That was an impressive \$2.65 million in 2016 – up from less than half a million in 2013. "Our villages have the talent and a range of capabilities," Chaudhary says. "To harness that, India must develop its own models." So, as Jaipur Rugs expanded its reach to 576 villages, it did not invest in office space for weavers and looms. Instead, it variabilized capital expenditure by empowering branch managers to find weavers who could host looms in their houses. The house owners are compensated for hosting looms. "While this appears to be a logistical challenge and complex at first, how else will we tap into the artisans' creativity?" he says.

Besides progressive work done in recognizing artisan skill and lifting people like Shanti out of poverty, Chaudhary's maverick attitude to business growth also plays a part in helping to sustain a



35%

The growth in Jaipur Rugs' operating profits between the fiscal years of 2013 and 2016. In 2016, the company recorded an impressive \$2.65 million.

positive new business model that has purpose and social improvement at its core. He is almost evangelical about the purpose of business: "I feel the social issues [in India] can be resolved only through business. There is no other way for organizations or government to redress these issues. The capabilities required to solve these issues are available to a businessman. If we create jobs, then the issues of clothing and housing also get solved."

But that doesn't mean business at all costs or unbridled growth. Chaudhary says that as the business grows, there is a danger of distancing the core weaver base. "That's where the business starts dying." He maintains that keeping an eye on what matters and bringing about positive change are also aspects of the purpose of business. "Purpose is the only thing that is important because without that a business will ultimately lose its way. Purpose," he emphasizes, "is everything." And as the business becomes bigger "it becomes about keeping its soul alive," he adds with a kind of steady certainty. For Jaipur Rugs, that soul is the weaver community, and it's a soul that sings. As the weavers' fingers knot the threads at the loom, they raise their voices in song. And in the heat and dust, Shanti keeps an eagle eye on quality, overseeing the weaving of a carpet that could change all their fortunes. ■



Going far: German Design Award winner Bimla Devi

Bimla Devi is a weaver from Aaspura village in Rajasthan who has worked with Jaipur Rugs for a decade. Her carpet design won the German Design Award 2018 and she went to Frankfurt to receive it. This is her story.

When I'm at the loom, I just want to weave and weave and weave. The big change with working for Jaipur Rugs is that we have an equal opportunity, regardless of our gender and caste. I am in a position where I can take care of my family and my children – aged 12 and 13 – can now go to school.

It took me two days to decide on the design for the rug that won this award and the image I came up with was of a *shakarpara*, a local snack. That's what I imagined. I found out I had won the award in November last year when the branch manager told me that I needed to get a passport.

My family was worried about me going because it involved traveling so far away and I had never traveled outside Aaspura.

I had never seen so many seats for people in just one vehicle before I got on that plane! In Frankfurt there were so many shops and I was surprised that people pay even for water. I found that unusual. And then I noticed that alcohol was more easily available than water!

It felt good for our work to be appreciated and when I came back from Frankfurt every family from the village came to ask me about my experience. Others now want to follow

my path. I do work in other villages to bring more weavers into the system and share my experiences with them.

Before I went to Frankfurt, many women came to my home, worried, and kept asking me how I would manage in a country so far away. But when I returned they were proud that somebody from our little village of Aaspura had gone so far. I had never been to another city in Rajasthan, let alone in India or to Europe! Now when I see Mr. Chaudhary after winning the award, I tell him about my aspirations to work with the main design team in Jaipur with CAD!



W
For me,
what's really happened is
that in almost every
aspect of life,
I keep coming back
to the idea that
the who is
ultimately more
important than the
what."

JIM COLLINS

Author of *Built To Last* and *Good To Great*
→ read the full story on page 30

Wide angle



Read on for diverse insights into the wider world of business and ideas.

CONTROLLED ENVIRONMENT
To maintain their delicate quantum nature, qubits are kept in vacuum at the bottom of the cylinder where the temperature is close to absolute zero.

THE RIGHT SIGNALS
Microwaves are used to manipulate qubits, the basic units of information in a quantum computer.

Quantum leap

With IT giants, governments and startups all investing in quantum technology, are we standing at the dawn of the next computer revolution?

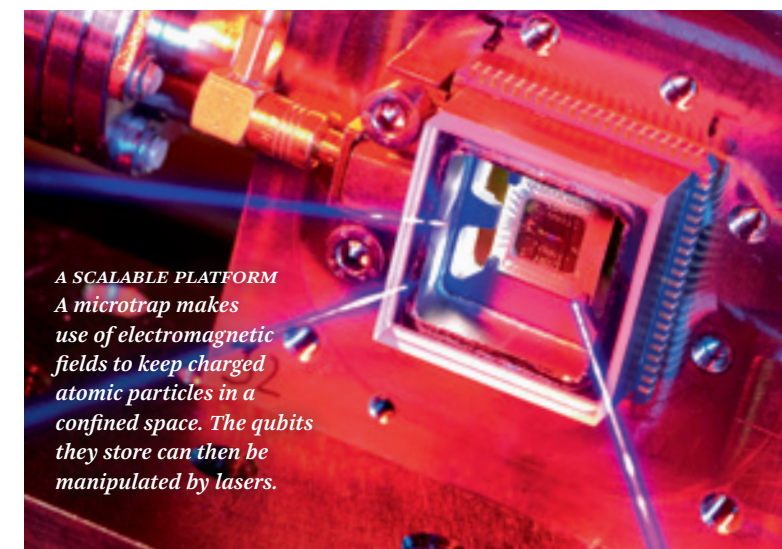
BY **Janet Anderson**

CLOSE TO ABSOLUTE ZERO, LIKE BEING IN OUTER SPACE: That's how cold it is inside the cylinder, a dark vacuum that holds the information units that form the building blocks of quantum computing: qubits. If that sounds like the future, that's because it is. This new breed of computers will open up possibilities that are beyond our grasp today.

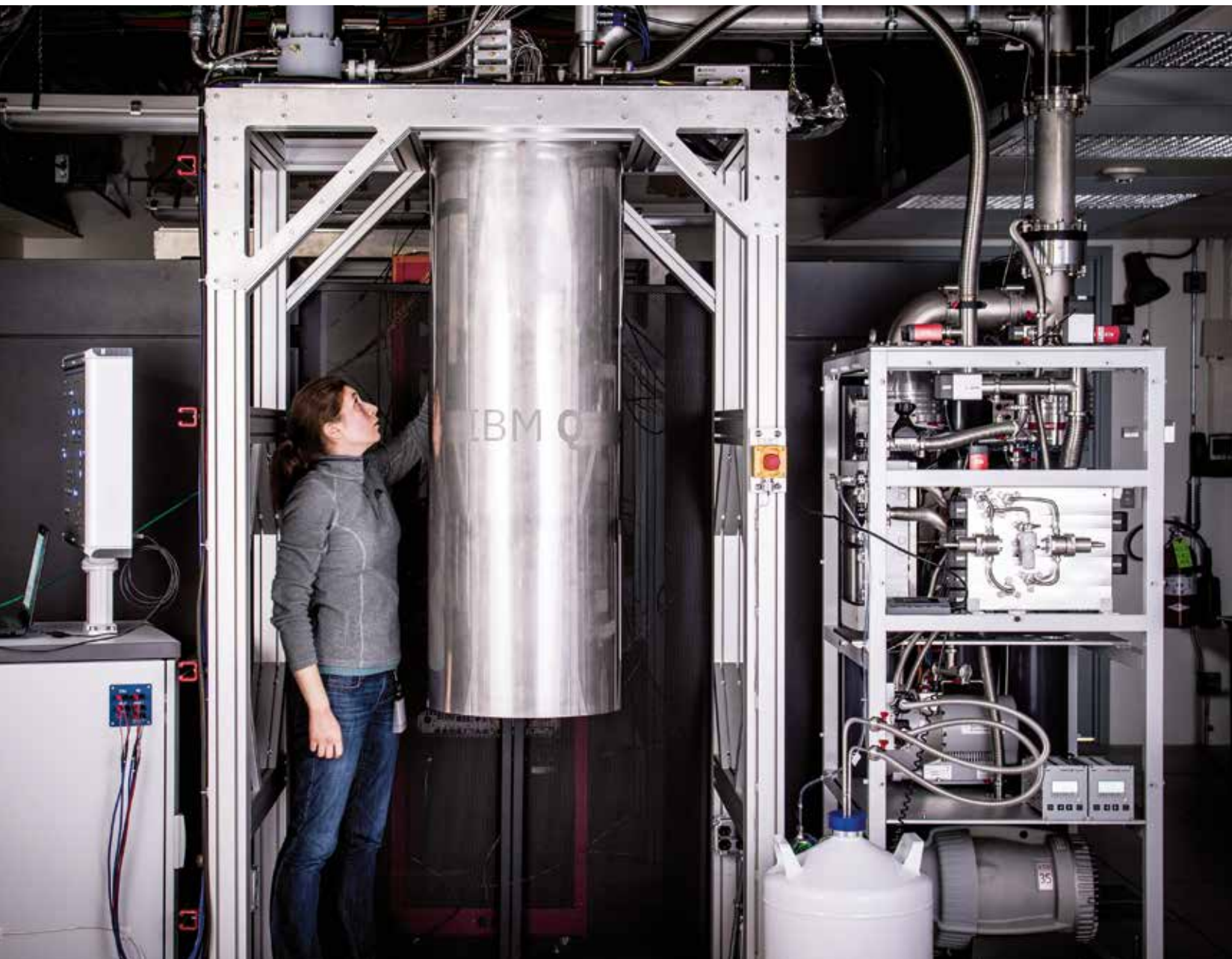
Quantum computing is based on the peculiar principles of quantum mechanics, which not only allow a particle to exist simultaneously in two states at once – known as "superposition" – but also for two particles at a distance to instantaneously influence each other – known as "entanglement." Einstein may have described the idea as "spooky," but these principles are now being exploited to take computing to the next level. According to Anthony Annunziata, the associate director of IBM Q, quantum computers harness laws of nature that are always there but usually remain hidden from view. "By doing so, they are able to process information more holistically," he says.

IBM Q is a network of companies, startups and academic institutions with a shared mission to bring quantum out of the lab and into the world. Over the past few years, scientists have succeeded in building and running ever more powerful machines to create and manipulate qubits. The machines may still look like sci-fi fantasy, but with IBM, Microsoft, Intel, Google, Alibaba, Baidu and others pouring billions of dollars into research to develop robust systems with real-life applications, they are on their way to becoming part of a present-day, commercial reality.

The cause of current excitement is the potential of quantum computers to become more powerful than established computers for the first time. The advent of such computing power could lead to being able to complete highly complicated calculations that were previously impossible. The new breed of computers is able to do this by using superposition and entanglement to achieve exponential power: If one qubit can be in two states, two qubits can be in up to four states, three qubits in eight states and so on. By the time you reach 250 interacting qubits, this would provide the equivalent computing power of 10^{80} classical bits – more bits of information than there are atoms in the universe. These mindboggling numbers show the potential involved. Progress in recent years has →



A SCALABLE PLATFORM
A microtrap makes use of electromagnetic fields to keep charged atomic particles in a confined space. The qubits they store can then be manipulated by lasers.



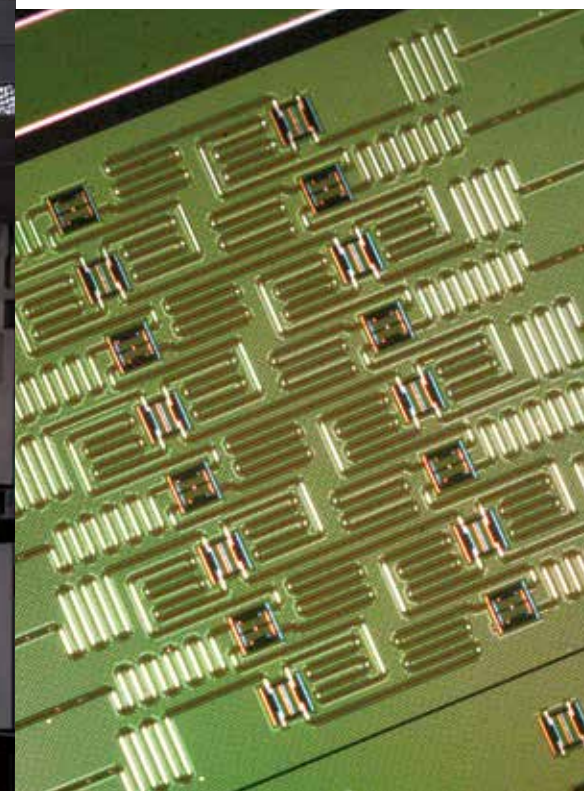
REACHING THE REAL WORLD IBM Q team member Katie Pooley examines a cryostat containing a new prototype for a commercial quantum processor.

been rapid – we have moved on from machines with five qubits to 20, 50 and, most recently, Google announced a general-purpose machine with 72 qubits.

The motivation driving this progress is that there are some kinds of problems that classical computers, no matter how large, cannot solve or would take far too long to solve. For example, how many different ways can you seat 10 people around a table? When you realize that there are 3.6 million possibilities for just 10 people and that the number of possibilities grows exponentially as more people are added, you see the challenge. Any problem with many different possible

combinations of outcomes is well-suited to quantum computing. Industries ranging from logistics to pharmaceuticals, finance and energy supply face these kinds of problem. Because qubits can be in multiple states simultaneously, they can be used to check multiple options at the same time. Classical computers have to do the job sequentially, often taking far too long to be of practical use.

With Moore's Law – the prediction that computers will become smaller and faster over time – beginning to run out of steam, the hope is that quantum systems can step in and help us understand the complexity of



OPEN FOR TESTING IBM made its 16 qubit processor available at no cost over the IBM Cloud in May 2017. 1.5 million quantum experiments have been run so far by students, researchers and enthusiasts.

molecular and chemical interactions. This in turn would enable us to discover new medicines without the need for costly and risky real-life testing, new materials with useful properties to tackle urgent challenges such as climate change and new ways of producing enough food for the world's growing population. Any business that relies on big data analysis or hopes to exploit machine learning could benefit.

Quantum computing has reached an inflection point, according to IBM's Annunziata. "Modest-sized, approximate quantum computers now exist in the real world and the next generation of these devices may be too big to simulate on a classical computer. A quantum computer which is too big to classically simulate has an inherent computational advantage of sorts," he says. The "quantum advantage" – the point where a quantum computer can perform a practical function that surpasses the capability of a classical computer – is what IBM is seeking to achieve. To do so will require a machine with more qubits than the current machines – somewhere between 50 and 100 qubits or more. One long-standing obstacle is "noise," meaning anything that can interfere with the qubit's stability. That is why they have to be kept at near absolute zero and isolated from all vibrations. Any disturbance can cause the qubits to "decohere," or collapse out of superposition and stop working, causing errors in the calculations.

PHOTOS: ANDY AARON / IBM; IBM RESEARCH

Another challenge is the short coherence time of qubits, meaning the time a qubit is able to process a request before collapsing out of superposition. IBM says that the coherence times of their qubits lead the field with an average 90 microseconds. This might not sound like very long, but it is already enough to carry out computations. Nevertheless, there is room for improvement. "In order to use a quantum computer to solve the problems we're interested in, the qubits have to be protected from noise, and the effect of errors inherent in their operation must be suppressed," explains Annunziata. "Can we achieve these goals without incurring large overheads such as those required for fault-tolerant quantum computation? These are the central challenges."

MANY OF THE LEADING COMPANIES working on these challenges are technology giants like IBM. Microsoft has been working on developing a programming language for quantum computing. Google is working with NASA on applying quantum computing to artificial intelligence and machine learning. In China, the search company Baidu has invested \$10 billion in a research center. One of the first quantum computers to be available for real-world applications was the D-Wave, created by a company in Vancouver, Canada. There are now growing numbers of startups, too. One of these is Rigetti Computing in California, which offers general-purpose cloud-based quantum computers and a full-stack software development toolkit.

The Chinese government is showing particular interest in the emerging field of quantum cryptography, which is drawing attention from security experts around the world. The challenge – or threat – is that quantum computers will be fast enough to crack encryption codes. This worry has spurred on →

"For many years quantum computing was just an academic exercise – many even doubted it would ever work."

Doug Finke,
Managing editor of The Quantum Computing Report

research into quantum-resistant cryptography to enable hack-proof communications via a quantum internet. In China, dedicated quantum communication channels via optical fibers have been laid between Shanghai and Beijing and, alongside researchers in Austria, they recently succeeded in using a satellite to carry out the first quantum video communication.

Meanwhile the European Union has announced it will invest approximately \$1.2 billion over the next 10 years into research in quantum applications in the areas of computation, communication, simulation and sensing. This last aspect is overlooked by many, according to Max Riedel, part of the team preparing

"We still need to do a lot of engineering to make them robust, cost-efficient devices. It's a young field ..."

Max Riedel, Project manager of the European Flagship Project on Quantum Technologies

the EU flagship program, yet it is furthest in terms of application. "Muquans, a French startup, has developed precision quantum sensors to measure absolute gravity – the first commercial gravimeter of its kind. It can be used in oil and gas exploration, for example, to search for cavities underground," he says.

THE FIRST REALLY USEFUL MACHINES are clearly a few years away – but how many years? "It's a very interesting time because we are transitioning from research to the commercialization phase," says Doug Finke, managing editor of *The Quantum Computing Report*. "For many years quantum computing was just an academic exercise – many even doubted it would ever work because of its fragility." Finke believes that within the next two years we will see a demonstration of the technology on a commercially useful problem that could not have been solved classically. Will quantum one day replace classical computers? That seems unlikely. "In order to provide the necessary shielding of light, heat, magnetic waves, electromechanical emissions and anything else which might cause a qubit to collapse, quantum computers will always be large and bulky," says Finke.

So we won't use quantum computers to send email or browse the web. They will be used behind the scenes. Will they upend business models? Finke thinks it's unlikely. "But businesses in various sectors will want to leverage the technology to create new products and services or calculate better optimizations in ways that were previously not possible," he says. Finke lists machine learning, computational chemistry, financial portfolio optimization and logistics as some of the most promising applications. As Riedel says: "We still need to do a lot of engineering to make them robust, cost-efficient devices. It's a young field – the first useful quantum algorithm was discovered in 1994. Compared with the development of classical computing, quantum computing is in the 1950s or 1960s when the machines filled a whole room. But the next phase of development will happen quickly."

For many who have been involved in the field for decades, their main worry is that expectations will be driven too high. "When the buzz dies down, people will see that it's a promising technology," says Riedel. "What we need now is to connect the people with the problems with the people with the solution." ■

BUILDING EXPECTATIONS
It remains to be seen if quantum machines like the D-Wave system pictured here will live up to the hype.

PHOTO: D-WAVE SYSTEMS

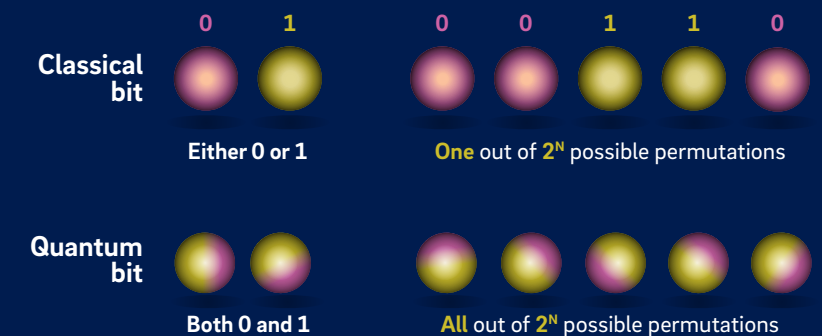


Calculating a computing revolution

Quantum computing is not just a case of adapting classic approaches to a new system. It requires a different way of thinking altogether, one that recalculates the building blocks of computing based on the complex principles of quantum mechanics.

What's so special about a qubit?

Superposition. While conventional computing uses bits that work in binary code, 0s and 1s, qubits have the peculiar ability to be in two states at once – both 0 and 1. This mirrors nature: The electrons of a molecule are in a superposition of all possible states available to them. It is only when we observe or measure them that they are in a particular location.



Entanglement. The quantum state of individual particles cannot be described independently of the state of others, even when the particles are separated by a large distance. The particles instantaneously influence each other.



Astronomical potential

250
qubits
= **10⁸⁰**
classical bits
= more bits of
information than atoms
in the universe

Quantum-powered

How long would it take to work out which two prime numbers are multiplied together to get a 2048 bit number, like those used in encryption?

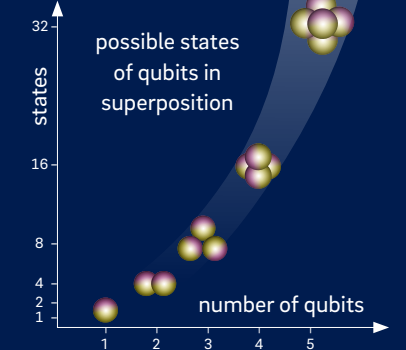


Classical computing
= a billion years



Quantum computing
= 100 seconds

Exponential growth

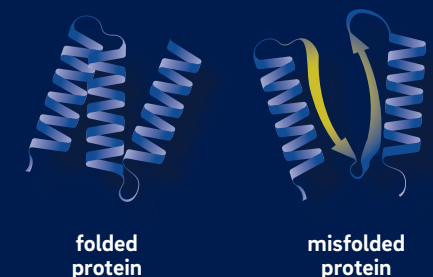


Real-world applications

Quantum computing is just stepping into real-world use, where it could be used to help us develop:

- catalysts that enable carbon capture and boost clean energy
- new ways to produce artificial fertilizer that outperform the current process

- a better understanding of how proteins misfold and lead to both Alzheimer's and Parkinson's
- new chemistry that could improve batteries used in e-mobility
- a room-temperature superconductor that can transport energy without loss





Charles Handy

The author of some 20 books spanning four decades and the initiator of the Sloan Programme at London Business School, Charles Handy received the Thinkers50 Lifetime Achievement Award in 2011.



THOUGHT
LEADER

Handy observations

*Visionary thinker **CHARLES HANDY** has always been ahead of the curve. Here, he shares his thoughts on the future of business and explains how we need to reinvent capitalism.*

BY **Neelima Mahajan**

ILLUSTRATIONS BY **Børge B. Bredenk**

THE CURRENCY OF THE FUTURE: If it's ideas, then self-styled social philosopher Charles Handy should be a gazillionaire. He has a knack for coining concepts ahead of their time. His groundbreaking observations over the last 40 years include the rise of outsourcing, the "portfolio career" and the "shamrock organization," which uses the three leaves of the celtic symbol to represent the three kinds of workers: employees, contractors and temporary workers. He's also a prolific writer. He blasted into the management firmament in 1976 with *Understanding Organisations* and has written some 20 books in the years since, including *Gods of Management*, *The Elephant and the Flea* and *The Age of Unreason*.

Now in his 80s, his grandfather-like demeanor is at odds with the fact that he's showing no signs of slowing down. His most recent book, *The Second Curve*, tackles nothing less than how to reinvent society and in this interview he shares some fresh observations about today's organizations. As he talks he smiles at the one thread that binds all his work together: the important role that human beings play in business. "Organizations are full of human beings," he explains, "and I get worried when we forget that, when we call them human resources. What worries me at the moment is that we are trying to replace human beings with digital technology because it's cheaper." It's a good start to what will turn out to be a freewheeling conversation with *Think:Act*. →



"Making shareholders rich is not really a motivating purpose. Making society rich is better."

Are businesses prepared for the brave new world of automation and technological advances?

I don't think they are. Some are, of course – those are the new Silicon Valley fashionistas, the Ubers and so on. They are effectively platform organizations and don't have customers. They have users, instead. I believe organizations are beginning to think: "Why don't we think of our employees not as human resources, but as users of our platform, and facilitate them to do their work?" Now, how many organizations are thinking like that? Very few. But I think more and more will begin to think like that because they'll see the idea that you own these workers as if they were your family and you tell them what to do is not going to work with the new kind of people that are coming up. You have to give them the opportunity to be creative and to do their best on your behalf – but also for themselves. Thinking of them as users of your platform is another way of doing it. You should not be surprised to find these big organizations suddenly becoming lots of little projects that are connected through this platform: They tell the platform what they are doing and ask the platform for the resources they need.

Speaking of the platform model, is it necessarily a good thing?

I think it is. And that's because it allows individuals to motivate themselves and to create their own work themselves instead of being told what to do.

The do-it-yourself economy and self-responsibility are two things you talk about. Are we prepared to take charge?

Not at all. Young people – the best of them – are more prepared. They do not want to join big organizations, unless they go to platforms that is. But we need to change our education and encourage people to think for themselves. Schools should provide learning opportunities for people to practice what life's going to be like, which is forming groups and creating their own opportunities.

What about organizations? What should their responsibilities be?

The main responsibility is to contribute to the society in which they operate. I'm really worried about where the money is going to come from to support the welfare states we have. More and more people will be independent in this gig economy. They will be busy, but they won't be rich, so they won't be paying many taxes. [So the money] has to come from the corporation. In the past the corporation provided this money through the salaries of workers, who then paid tax ... If they can't have a lot of people paying taxes, they've got to find another way of supporting society. If society goes down, then they go down. They've got to see themselves as partners in society, not as some independent activity that occasionally pays rent in society. They've got to be much more involved.

The business of business has got to be society. That might make them much more "human" places. People want a purpose in life. Making shareholders rich is not a really motivating purpose. Making a society rich is better.

You talk of a very interesting concept in your new book: the citizen organization. What is that about?

It's just an idea. If we treat people as a citizen, then they have certain rights and responsibilities. Their rights are to help in taking big decisions. If you're a citizen of a country, your responsibility is to keep the law, to contribute, to behave properly. You're not just a tool – you are rather important. Citizenship is something that we prize in any country and we should say the same for organizations. So you wouldn't become a citizen [of a company] unless you've been there for three years or

something like that. Like becoming a citizen of Britain: To do that, you have to pass a little exam and you have to swear that you'll obey the laws and then there's a ceremony. I think we could do the same.

But nowadays people seem to be less loyal to organizations.

Well, they will say that we don't feel loyal to the organization because the organization doesn't offer us any loyalty. Somebody's got to start the bargain, and I think it's the organization that has to say: "If you become a citizen, we give you certain privileges." We've got to recreate that kind of bond.

This idea also calls for active participation from the employees in key decisions. How does one maintain efficiency without risking this participation and slowing things down?

It's like the works councils they have in Germany. I was talking to somebody who started as a manager working for a German company and he said: "I have to appear before the works council every year to explain what I'm doing and they question me." It's an important ritual. They're not taking decisions for him, but they are questioning him. He says: "I feel accountable to them. I have to justify my actions." [One is looking for that] kind of two-way accountability rather than participation in the actual decisions, which of course they're not equipped to do.

You've long been a critic of the idea of shareholder value. What happens to this notion within the citizen organization? Because it seems it's something that the shareholders would oppose.

They have no right to oppose. Shareholders own shares, but they don't own the company in any sensible way. They can elect the directors, but they cannot tell the director what to do. They cannot even ask to see the long-term plan. They have no control over directors at all. If they don't like what we're doing, they can sell their share.

In today's environment, do we need to change the lens with which we view progress and growth?

We need to have a much wider focus of what progress is. I don't think growing bigger is necessary if you want progress around what an organization is. The idea of "growing better" might be more interesting. Doing work that you are proud of is terribly important.

In the 1970s and 1980s, you told us what the future looked like and we can see that happening now. What can you tell us about the next 50 years?

It's going to be difficult. We've got to keep control of the digital world, not let it run away with us. One of the duties of an organization is to give money to its people so that they can actually buy products from other organizations or from ourselves. When Henry Ford was criticized for paying over the rate for his workers, he said: "But who else is going to buy our cars if we don't give them the money?" One of the mechanisms of organizations has always been to pay into the economy in some way. We've got to find a way that still allows them to be competitive with organizations that are largely digital, which is much cheaper. I don't honestly know how we're going to solve that problem. Take an organization like Danone, which employs, I believe, 480,000 people around the world. That's pushing out a lot of money, a lot of consumer buying power. If we reduce that to 100,500 – something we could do with digital technology perhaps – that's impoverishing society. Danone makes more money, but society loses. This is a big dilemma. Danone then gives a chunk of its profits back to society, which distributes it in welfare payments or something, or it continues to employ those people in some way.

We've got to begin to redefine the purpose of a company so that it's not just making money for itself, but creating a life for its people. I don't see any models yet of that. We've got to change the capitalist idea so that it's more human-based and less money-based. ■

Progress through the "second curve"

①

Find your golden seed:

Your organization or career may be at its peak, but is there something that has so far been neglected?

Now is the time to start growing those skills and preparing to make a transition.

②

Don't leave it till too late:

The key is to make the jump before the curve of your current success begins an inevitable dip. It takes courage and around two years to grow your second curve, but the reward is a redefined sense of purpose.



The importance of self-responsibility

You are ultimately responsible for the growth cycle of your career or organization. Professional fulfillment requires taking the time to ask "why?" and "how?" and determining how to act accordingly.



READY TO ROAR? All eyes are on Russia as it moves toward redefining its geopolitical role.

PHOTO: FRANK HERFORT / INSTITUTE

Russia's growing pains

Wherever you look right now, Russia is in the headlines – and not always for the best reasons. But as the recently re-elected president looks to boost the economy, is Russia's "resurgence" a force to be reckoned with, or simply a busted flush?

BY **Noah Snider**

AS RUSSIA'S ELITE GATHERED IN A GILDED HALL, Vladimir Putin strode onstage in a crisp black suit and took his place behind a white lectern emblazoned with Russia's two-headed eagle. It was early March, just weeks before the 2018 presidential elections and Putin had come to deliver his annual Presidential Address to the Federal Assembly. In lieu of real campaigning, the speech served as the articulation of his vision for the country. He spoke of delivering "high-quality health-care," "technological development" and of how he will be looking to "promote small business." He promised to curb rising poverty rates and make Russia one of the world's top five economies in

the coming years. Then his tone shifted sharply. He announced that Russia had developed a new array of what he called "invincible" nuclear weapons. "There is simply nothing in the world capable of withstanding them," he declared standing before the crowd. A video screen played animations of missiles blazing into the sky and tracing a trajectory seemingly bound for the United States. "Nobody wanted to listen to us," he said of the West, "so listen up now." The audience erupted with applause.

Putin's speech encapsulated where Russia stands after 18 years of his rule: It is resurgent on the world stage, if not belligerently so, with a sputtering economy and a series of mounting challenges at home. In recent years, —>



CAREFULLY CURATED Thirty Russian artists contributed a piece illustrating Putin's "unique popularity" to the SUPERPUTIN exhibition at Moscow's Museum of Ultra-Modern Art in 2017.

A NEW IMAGE Fashions by John Galliano displayed in Moscow's GUM, a shopping mall known during the Soviet era for its lines of shoppers stretched across Red Square.

FACING DISSENT Hundreds were detained at rallies in support of opposition leader Alexei Navalny in January 2018.

Russia has annexed Crimea, propped up Bashar al-Assad in Syria and fueled a war in eastern Ukraine; its secret services stand accused of meddling in the 2016 US presidential elections and of poisoning an ex-spy with a nerve agent in the center of the English city of Salisbury earlier this year.

Yet geopolitically, Putin is punching above his weight: Russia's economy remains a shade smaller than Canada's. "Putin talks about healthcare, education and social spending, but how does that fit together with all these new rockets?" says Andrei Kolesnikov, chair of the Russian Domestic Politics and Political Institutions Program at the Carnegie Moscow Center, a prominent think tank. "When on the one hand he talks about the benefit of the digital economy, and on the other hand launches missiles, the system doesn't really work."

PROPELLED IN PART BY PATRIOTIC SENTIMENT, Putin sailed to re-election on March 18, 2018, although his victory in the absence of any real challengers was less a vote than a coronation. The win entitles him to another six years in power, after which he will have ruled for nearly a quarter of a century. His next term will be shaped largely by the paradox between his geopolitical ambitions and Russia's economic realities. "Since 2014, geopolitical aims have contradicted economic goals," says Natalia Akindinova, director of the Development Center at the Higher School of Economics in Moscow. It was

2.5%

The level of inflation in Russia at the end of 2017, a historic low for the post-Soviet period.

in 2014 that Russia responded to the Euromaidan revolution in Ukraine by annexing Crimea and fueling a war in that country's east. The oil price collapsed and the West slapped Russia with sanctions that restricted borrowing and technology transfers. Russia's economy slipped into recession.

A new social contract formed in the wake of those momentous events. During his first two terms in office, Putin had offered his people a straightforward arrangement: The state oversaw a rise in living standards, while its citizens kept out of politics. Booming oil-fueled growth made this



PHOTOS: MAXIM SHEMETOV / PICTURE ALLIANCE / REUTERS; LAUREN GREENFIELD / INSTITUTE; TATYANA MAKEYEVA / PICTURE ALLIANCE / REUTERS

"Macroeconomics is like a stoplight, and ours has turned green, but a green light isn't enough to generate movement – you still need an engine."

Evsey Gurvich, Head of the Economic Expert Group

an attractive proposition – GDP expanded by an average of 7% between 2000 and 2007. That petrol-powered model had already begun to falter by 2012, when Putin returned to the presidency after a constitutionally required stint as Prime Minister. Even with oil prices hitting \$100 per barrel in 2013, Russia's economy grew only 1.3%. With Crimea, the Kremlin offered its people a sense of identity and status – what Russians call being a *velikaya derzhava*, or "great power" – at the cost of a dip in living standards. The patriotic euphoria helped ease the sting of the economic crisis.

THE TWIN SHOCKS OF FALLING OIL PRICES AND WESTERN SANCTIONS were mitigated to a certain extent by prudent economic policy on the part of the finance ministry and central bank and Russia returned to modest growth in 2017. After hitting 16% in 2015, inflation has been brought down to 2.5%, a historic low for the post-Soviet period. Budget deficits are at manageable levels. Ratings agencies recently upgraded Russia's sovereign bonds from junk status. A new fiscal rule decrees that any revenues gained from oil prices over \$40 per barrel will be set aside to boost reserves depleted in recent years.

Macroeconomic stability alone is not enough to spur new growth, however, and the glow of geopolitical glory is no longer keeping economic concerns at bay. "Macroeconomics is like a stoplight, and ours has turned green," says Head of the Economic Expert Group Evsey Gurvich, who is also a member of the Economic Council under the President of the Russian Federation. "But a green light isn't enough to generate movement – you still need an engine." Without significant reform, the World Bank reckons that growth will hover around 1.8% in the coming years, far behind world averages and trailing even developed Eurozone economies. "We have entered a third phase in our post-Soviet development," says Evgeniy Yasin, former minister of the economy and an architect behind Russia's transition to a market economy. Following the "transformational crisis" during the 1990s and the "restorative growth" of the 2000s, Russia has now entered what Yasin simply calls "stagnation."

Putin tasked his advisors with drawing up plans to boost the economy in the run-up to the election. "[He] is thinking about what state he will leave the country in," says one senior official. The efforts have been centered around former Minister of Finance Alexei Kudrin at the Center for Strategic Research, who himself has said: "The main problems lie within Russia and they are structural and institutional." Years of underinvestment in human capital has left Russia overreliant on natural resources; predatory government officials cast a pall over the business climate; confrontation with the West has made investment and technology harder to secure; and, most crucially, the state has come to play an outsized role in the economy again, stifling innovation and competition. The share of Russians' income from social payments has risen from 13.9% to 19.8% since 2000, while the share coming from entrepreneurial income has halved, from 15.2% to just 7.6%. —>



Even the country's own anti-monopoly service believes the state's share of the GDP to have risen from 35% to 70% over the past decade alone, an outsized presence extending beyond its traditional purview: natural resources. Take the case of Sergei Galitsky, who rose from humble roots to become a billionaire by building his grocery chain Magnit into Russia's largest retail network with more than 16,000 stores. Galitsky was praised as a visionary for building a sophisticated logistics system that allowed Magnit to operate in far-flung towns and small cities that large retailers typically ignored; some called him Russia's Sam Walton. When he looked to cash out early this year, the buyer he found was not another private entrepreneur. It was, tellingly, VTB, a state-run bank.

PUTIN'S TERMS HAVE ALL BEGUN WITH A REFORM PLAN, and Kudrin and his allies hope that their program will be adopted. "The future government has only two years to realize an agenda of change," Kudrin wrote following the election. "It's less a window of opportunity than a crack." But the signals coming from the Kremlin so far suggest that the government favors a far less ambitious agenda. "The chances that our new-old president decides on radical reforms are quite low," reckons Yasin. From Putin's perspective, altering the underlying system on which his power rests carries too great a risk. More economic freedom, the logic goes, will beget

35th

The position Russia holds on the World Bank's Doing Business 2018 report on a list of 190 countries, an impressive jump from 120th when it ranked 120th among 183 countries.



TELLING SIGNS
VTB, a state-run bank, acquired 29.1% of the Magnit retail network in February 2018.

AN EYE TOWARDS REFORM
Former Minister of Finance Alexei Kudrin is clear that Russia's main problems lie within itself.

more political competition. Stakeholders within the elite have a lot to lose, as well. "If an imperfect institutional system exists, it means someone benefits from it," says Gurvich of the Economic Expert Group. "And why would they back away from it?" Indeed, a more likely path involves less invasive changes to spiffy up existing institutions without altering their underlying foundations. "Structural reforms remain a topic of discussion in the expert community, but they are not the lighthouse for economic policy," Natalia Orlova, chief economist at Alfa-Bank, Russia's largest private bank, explains.

The government hopes that better staffing and business conditions and targeted investments will spur development. Thirty-five-year-old Minister for Economic Development Maxim Oreshkin points to the World Bank's business ratings: The country jumped from 120th to 35th place between 2012 and 2018. By that measure, it is now easier to start a business and enforce contracts in Russia than in the United States. Putin also appointed a swathe of young "technocratic" governors touted as more efficient than their predecessors. Such adjustments may help keep the stagnant system afloat. The question is if it will be enough to get Russia's economy flying like its rockets. ■

PHOTOS: ANDREY RUDAKOV / BLOOMBERG / GETTY IMAGES (2)



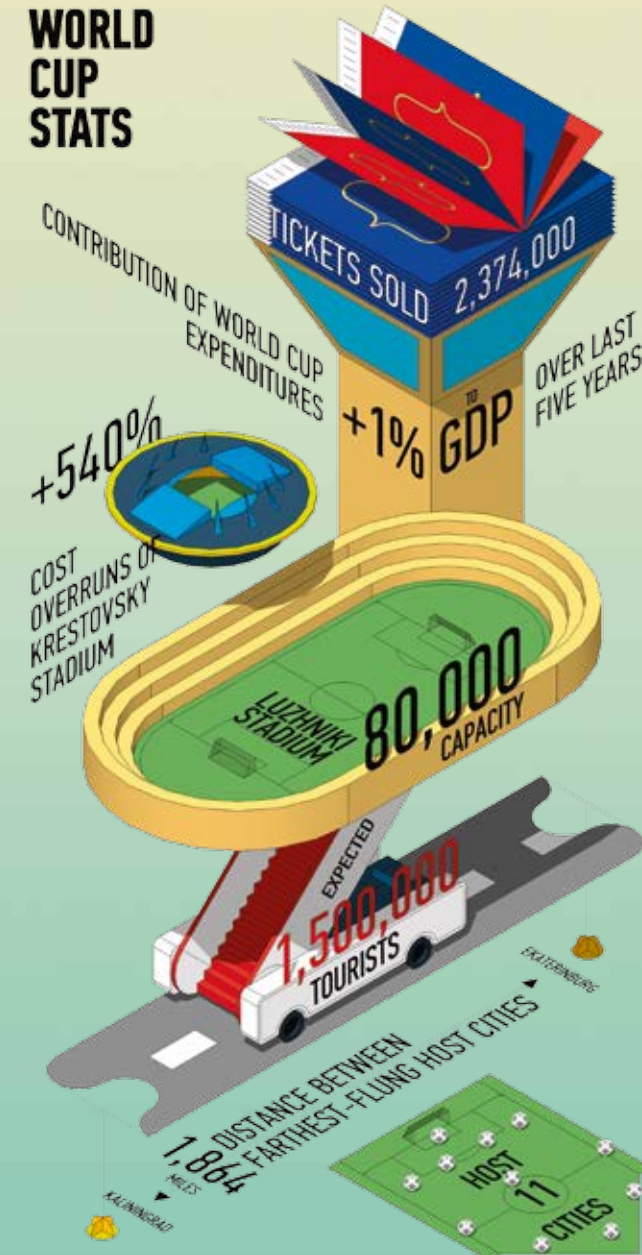
Economic goals: Russia and the World Cup

The global spotlight on Russia will intensify this summer when the World Cup comes to town – or rather, to 11 cities stretching from the enclave of Kaliningrad on the Baltic Sea to Ekaterinburg at the edge of Siberia. In all, the cup is expected to cost some \$13.2 billion. Roughly half of the funds will have come from the federal budget.

Preparations are on schedule, but have been marred by concerns over corruption and efficiency. Construction of the stadium in Saint Petersburg, one of the main host cities, ran eight years over schedule and 540% over budget. The government reckons that spending on the World Cup has added roughly 1% to GDP between 2013 and 2018. Most analysts expect the economic boost from tourism this summer to be minimal: The Gaidar Institute reckons an influx of jobs and consumer demand connected with hosting could add 0.2% to GDP in the second and third quarters.

Yet economic return was hardly the point of hosting an international spectacle like the World Cup. Instead, the government sought dividends of a less tangible character. "In the eyes of the population, it brings a sort of symbolic added value," says Andrei Kolesnikov, chair of the Russian Domestic Politics and Political Institutions Program at the Carnegie Moscow

WORLD CUP STATS



Center, a prominent think tank. Under Putin, Russia has embarked on a host of such megaprojects, most notably the 2014 Winter Olympics in

Sochi. "These mass projects are emblematic," says Natalia Akindina, director of the Development Center at the Higher School of Economics

in Moscow. "They emerge from wanting to create an impression of strength and power, rather than from the position of aiming to improve living conditions and the economy." World Cup ticket holders will be allowed to skip Russia's onerous visa process, chipper volunteers have been recruited and much effort has gone into improvements in air and rail networks to help fans traverse the vast distances between host cities.

Those efforts to put forward a strong – and smiling – face may be undermined by tensions stemming from Russia's aggression abroad. After the poisoning of Sergei Skripal, a former Russian spy, in Salisbury, England, Western countries expelled a host of Russian diplomats. And while a boycott of the World Cup looks unlikely, the atmosphere surrounding it has begun to "look more like the 1980 Olympics," said Kolesnikov, referring to when America led a boycott to protest the Soviet Union's invasion of Afghanistan.

But perhaps the greatest risk to Russia's image lies on the pitch. The national team bowed out of Euro 2016 in the group stage and failed to advance in the 2017 Confederations Cup. Even Putin had to admit after the Euro Cup flop: "We haven't seen beautiful play from the national team for a long time."

ILLUSTRATION: MAXIMUS CHATSKY / EGGER GREY. SOURCES: THE KREMLIN; RG.RU; FIFA; WORLD CUP 2018



READY. GET SET. GO!
Roland Auschel
is helping Adidas
prepare for the
biggest race facing
today's companies:
digitization.



Sprinting to a digital future

World-famous German sports brand Adidas has a bold plan for tackling the challenges of digitization head on. Head of Global Sales Roland Auschel explains why he thinks the company's three-point strategy can edge out the competition.

BY **Titus Chalk**

PHOTOS BY **Dirk Bruniecki**

ROLAND AUSCHEL COVERS A LOT OF GROUND, both literally and metaphorically: He sets the pace with his long stride and as he walks, he talks with unwavering enthusiasm about Adidas. He's been with the company for almost 30 years and in that time he's seen it grow beyond all recognition.

Today, you can hear children shrieking with delight at the on-site kindergarten. But otherwise, the former barracks is leafy and peaceful, dotted with trees, sports pitches and the ever-growing number of buildings that house one of Germany's youngest major companies – the average employee age here is only 37. Inside the gleaming Laces building where walkways criss-cross beneath a glass canopy, you can see exactly what that means: scores of hip, young netizens clutching laptops and sporting company track pants, beanies or sweatshirts. In this environment, Auschel seems avuncular and one of the team, energized by the

youthful talent he and his fellow executive board members have attracted to Herzogenaurach, the village where founder Adi Dassler grew up and trained as a cobbler.

Auschel, the head of global sales, has the look of someone who spends plenty of time in the company gym: He's trim, silver-haired and keeps this interview with *Think:Act* running, rarely slowing down as he conducts a bounding walk through the complex and answers some questions on how the company is getting on track for the challenging years ahead.

You are halfway into Adidas' new strategic plan called Creating the New, which was launched in 2015. It highlights three key areas: speed, cities and open source. Can you explain what makes these things so important to Adidas?

We developed the strategy in 2014, just after we had to declare that our previous strategy →

"If we implement these things correctly, they should lead to brand desire – and it's brand desire that will make us win in this industry."



A BOLD MOVE Adidas will become the first sports brand to go open source and invite athletes, consumers and partners to be part of its brands.

cycle, Route 2015 [the strategy launched in 2010 that aimed to grow the business by 40–50% to €17 billion by 2015], wouldn't yield the expected results. So we had to ask ourselves what would make a difference. We thought: "Where does the consumer live today?" We believe in key cities: New York, Los Angeles, London, Paris, Shanghai and Tokyo. We asked: "How do we want to create products?" That led us to the speed choice. And finally: "How do we want to build the brand going forward?" And that took us to the question of open source. If we implement these things correctly, they should lead to brand desire – and it's brand desire that will make us win in this industry.

What has all of that meant in terms of your digitization program?

It's had a huge impact on it. Because if you ask yourself what brings these factors together, you quickly come to digitization. How does the lifestyle of our consumer work? It's all digital. It's Facebook, Snapchat, Instagram and so on. And that's where our entire activation effort is shifting.



Roland Auschel

Adidas Head of Global Sales Roland Auschel began his now decades-long career at the company in 1989 as a strategic planner. He was appointed to the executive board in 2013.

Then you look at the notion of open source and the opportunities digitization provides there. That's probably the most radical decision we took in 2014. We were a 70-year-old company that was very proud of its history. We wouldn't have had the guts to pursue an open-source strategy if we hadn't just had a moment of failure. It gave us an opportunity to take a risk in allowing others to influence our creative process and contribute to our brand's DNA.

How much is the company investing in digitization? Are there particular areas that Adidas is looking to focus on?

We approached this whole notion by saying whatever can get digitized, will be digitized. We had said e-commerce would be worth \$2 billion under the previous plan, but when we came back to the market, we doubled that to \$4 billion by 2020. We are also hiring hundreds of engineers and software engineers to help us figure this out. We're turning ourselves into much more of a software company than we used to be.

designers, product experts and people who we have fully dedicated to making the future happen. They work two, three, sometimes five years out in terms of technologies, materials or approaches to design. They also have a higher degree of independence in the company, so they can really go far out – and bring ideas back to us. We think of them as our beacons, our pilots, showing us the way to the future.

Looking to the near future – and the 2018 World Cup: How big of a marketing opportunity does the tournament represent to Adidas every four years?

It's very significant. We've produced the official ball since 1970 and we're very proud of that relationship. It ties us to the world's biggest participation sport. The World Cup is a sensational brand activation platform: You can show off your latest innovations, your latest designs to the world, on the field of play, on athletes who are very aspirational for people around the world – be it Lionel Messi or others. We can't wait for the World Cup to start.

\$211 million

was invested by the Adidas Group in 2017 in research and development alone.

57%

The percentage by which the Adidas Group increased its e-commerce sales over the course of 2017 as a result of its Creating the New strategy.

Given Adidas' success in the past few years, what ambitions do you still have for the company?

We want to be the best sports company in the world. That's our ambition, what binds us together. We all believe that sport has this power to change lives. It's not about being the biggest or even the most profitable. It's about being the best. That's what inspires us, and I would love to contribute to that. That's why I've just signed up to the company for five years – a big decision at my age.

So it's not just about selling sneakers, it's about changing lives?

We see the positive impact of sport on not just our lives, but all lives. Look at the obesity problem in the world, at other cultural and environmental challenges. I was at a big sales meeting in Miami last week where we had an hour-long presentation from Parley for the Oceans. They clean up plastics from the sea, which we then turn into a knitted upper – from a threat into a thread. If we can help make the world a better place, that's the best future for our company. ■



1,354,051,854

pairs of eyes in India*

It is the world's most audacious national biometric identification program, and it was rolled out in record time. Nandan Nilekani, the architect of India's Aadhaar ID, explains how the project's success had as much to do with sophisticated technology as it did with navigating political uncertainties.

BY **Neelima Mahajan**

INDIA IS SO MUCH MORE THAN JUST A COUNTRY. The degree of diversity running through it demands that it be seen as many different countries rolled into one, a complicated tapestry of troubling contradictions: It has both the fourth-highest number of billionaires in the world and abysmal levels of poverty. Governing a country this complicated is a colossal challenge, especially as perceived certainties can change in the blink of an eye. The 2011 census estimated 139 million Indians migrate from one part of the country to another every year, making it hard to keep tabs on this constantly shape-shifting population.

So far, India had lacked a nationwide ID card system. While US citizens have a Social Security Number and the UK uses the National Insurance Number, there was no such system in India. Different identity documents existed, sure, but none of them were universal: Only those who planned to travel abroad would acquire a passport, those who paid taxes would get a PAN card or those who voted would bother to enroll for a Voter ID card. And none of these documents matter very much to the approximately 270 million people that represent the some 20% of the population living on —>

* UN PROJECTED POPULATION DATA FOR 2018 Iris scans are one biometric feature used for Aadhaar registration. Some 1.14 billion Indians have now enrolled for this national ID program.



"When you have the opportunity, the quicker you build something and roll it out, the less the risk that something will happen to it."

Nandan Nilekani, Co-founder of Infosys and the architect of the Aadhaar ID program

BETWEEN TWO WORLDS
Nandan Nilekani was able to bring experience leading one of India's premier IT companies to the public sector.



PHOTOS: RAGHU RAI / MAGNUM PHOTOS / AGENTUR FOCUS; JONATHAN TORGONNIK / GETTY IMAGES

less than \$2 a day. The one document that they were most likely to possess would be a ration card, a relic of the post-World War II era entitling those with low incomes to receive subsidized food, fuel and other items from the government – hardly a proof of ID and often misused or misappropriated.

The government was facing a real challenge: how to ensure that social welfare programs could reach the people needing them the most. But until recently, the government just didn't or couldn't know who or where they were. Moreover, estimates suggest that the lack of an underlying ID system meant that between 10–40% of government funds were being wasted, diverted or simply embezzled. That paints only half of the ID picture, however. Basic services, like banking, remained out of reach for a vast section of the population simply because they had no way of telling the bank who they were. The first step was to give people a proper identity document that was universal, portable, digital and, most importantly, foolproof.

ENTER NANDAN NILEKANI, co-founder of Infosys, the company that can take some of the credit for spearheading India's IT revolution. "Seattle has Bill. Bangalore has Nandan," author Tom Friedman wrote, likening him to Microsoft's Bill Gates. In fact, it was a discussion with Nilekani that inspired Friedman to pen his now famous book, *The World Is Flat*. In a sense, Nilekani – and the company he helped create – highlight the contradictions that exist in India: A world-class IT sector rubs shoulders with systems and processes that are more in tune with the 19th century. In a hope to change that, Nilekani stepped into the uncharted waters of Indian officialdom in 2009 and became the chairman of the UIDAI (Unique Identification Authority of India), a government body tasked with implementing the world's biggest biometric national ID program, Aadhaar. After five years at the helm, he is now back at Infosys as chairman, but his story about how he steered Aadhaar into existence is fascinating and it began with identifying the goals and breaking down the problem.

The first goal behind Aadhaar, he declares, was inclusion. "If we can create a single identity platform which is portable across the country, which is digital and online, then people will be able to advance their life," he says. The second goal was fiscal: More and more government programs were directed towards individual entitlements such as unemployment insurance, healthcare, pensions and scholarships.



The biometric features used to create an individual's Aadhaar profile include scans of all 10 fingers, both irises and a photograph.

10×

The largest biometric deduplication database had previously held 100 million records. Aadhaar increased this tenfold – to one billion.

85%

of India's population was enrolled in Aadhaar by March 2017.

AADHAAR WAS AN AUDACIOUS EXPERIMENT from the word go. Often there was no "root" document to base all this on, something like a birth certificate – in rural India, most people didn't bother to register births at all and so for many Indians, this was the first time they were getting any official proof of their identity. Nilekani had to figure out a way to roll out the machinery that created a foolproof identity for India's 1.3 billion people, and in record time. "This was a project of unprecedented technological sophistication ... We had to have a fairly solid and robust way of identifying a person and making sure that a person did not claim more than one number," says Nilekani. To do that, UIDAI used biometric deduplication: digitally representing an individual via 10 fingerprints, both irises and a photograph of the face. "Then the largest biometric deduplication database was about 100 million, so this was uncharted territory – to go from 100 million to one billion."

Nilekani understood that he needed to work fast. India is a democracy and with elections every five years, political considerations can derail even the best-laid plans. Policies and projects are often tied to political motivations, so initiatives started by one government are quickly scuttled by the next. "When you have the opportunity, the quicker you build something and roll it out, the less the risk that something will happen to it," he says. A regular at global events like the World Economic Forum at Davos, Nilekani is used to rubbing shoulders with the world's movers and shakers. He is a savvy networker and knows how to get deals done. He brought that skill with him and exploited it to get the Aadhaar project off the ground. In the 14 months that it took to launch the Aadhaar platform, he made sure he had a trustworthy CEO who could handle the day-to-day affairs while he managed the complex environment.

India has a federal government structure which meant that apart from managing expectations at the central government level, Nilekani also had to network with the ministers and bureaucrats from India's 29 states and seven union territories. Apart from that, he met all the central government departments, the Reserve Bank of India, the World Bank, various multinational institutions and major companies. "By reaching out to all these people and convincing them about the merits of what we are doing, we were able to build a nationwide consensus around this platform," he says. The second thing he did was keep the design simple, even minimal, so that it would be easy to roll out. →



Nandan Nilekani

Nandan Nilekani co-founded Infosys, one of India's premier IT companies, in 1981. He left the company in 2009 to serve as chairman of the Unique Identification Authority of India before returning as non-executive chairman in 2017.

"There's a temptation to solve too many problems in one solution. If you make a solution too heavy, it sinks under its own weight. We had to keep the solution simple and lightweight and we designed it as a set of layers," says Nilekani. So the first layer was about getting everyone to have an ID.

The system was designed for scale in order to reach a billion people in a reasonable amount of time and could enroll 1.5 million people a day. To achieve those kind of numbers, UIDAI created an ecosystem of partners who would work with set technology and process specifications and help with the actual enrolments while it remained as the central number-issuing authority. "At peak we had something like 35,000 enrolment stations across the country," says Nilekani. Nilekani had achieved 600 million Aadhaar enrolments by 2014 and by March 2017 the figure stood at 1.14 billion, or around 85% of India's population.

In 1985, then Indian Prime Minister Rajiv Gandhi famously said that of every rupee spent by the government for the welfare of the poor, only 15% reached the intended beneficiary, highlighting the level of corruption in the system. Three decades later the situation hadn't improved much. The introduction of Aadhaar upended many of

these corrupt ecosystems. Today more than 500 million Indians have their bank accounts linked to their Aadhaar ID – as a result, they can electronically receive money from the government or anybody else within 48 hours. "Using technology, we are able to make sure that 100% of the rupee went to the person intended and so it is a dramatic increase in people getting what they were entitled to," explains Nilekani. Estimates suggest that the government has ended up saving \$9 billion in reduced fraud – all on the back of the \$1.5 billion investment in putting Aadhaar in place. As World Bank President Jim Yong Kim once remarked: "This could be the greatest poverty killer app we've ever seen."

Apart from streamlining government subsidies, there have been other benefits too. For instance, Aadhaar has given a huge boost to financial services by making it dramatically easier to open a bank account, buy a mutual fund or acquire an insurance policy. In telecom, it's become easier to acquire a SIM card. These might seem to be very simple things, but the fact is that these services were out of reach for large portions of the population simply because they were unable to provide a valid proof of identity.

THE POTENTIAL APPLICATIONS of Aadhaar are huge. It could be linked with India's healthcare system to digitize and link medical records across hospitals, laboratories and pharmacies. It has potential applications in education to track and authenticate academic performance of students. Issues remain, however, the biggest of which are concerns about the creation of an Orwellian state where the government is able to track everything citizens do. Nilekani dismisses such concerns. "There has been a lot of care taken in the design of Aadhaar for privacy. So, the financial records are in the financial system, the health records are in the health system. [We] deliberately designed it as a federated data architecture," he says, adding that the data in the Aadhaar system cannot be shared unless it's an exceptional requirement for, say, national security.

The other hot-button issue is about exclusion: Aadhaar is supposed to be a voluntary platform, but has become de facto mandatory because it is linked with so many day-to-day things. For now, this matter is in the Supreme Court. But what does Nilekani think about it? "I think Aadhaar itself is becoming almost universal. The exclusion is coming down," he says. "Attention has to be paid to make sure that if there is a particular social benefit

which Aadhaar is used to authenticate; in the event that the person does not have Aadhaar, or in the event that the Aadhaar authentication is not going through, then there has to be a fallback mechanism to ensure that genuine beneficiaries are not denied their benefit. That needs to be done in all the systems that use Aadhaar."

Nilekani is optimistic. He sees Aadhaar as a platform for innovation, just like the internet and GPS were. "The GPS answers the question: Where am I? And Aadhaar answers the question: Who am I? Today there is so much innovation in the world which is a combination of the internet and GPS and companies like Google, Facebook, Uber and Apple all exist because of these fundamental technologies," he says. "We think that Aadhaar will be a platform for huge innovation and we are going to see lots of innovative applications in the coming years." The applications are huge and exciting, to be sure, but public policy has to play its part, working in a way that the privacy and rights of Indian citizens can remain secure. How this is done will determine whether Aadhaar will indeed help India leapfrog into the next century, but for now it has given this complex, multifaceted country the sense of what a new identity can bring. ■



Although data privacy concerns are being raised in the face of huge numbers of potential future applications, Nilekani remains positive in his outlook that the system will prove a platform for innovation.

PHOTO: NARINDER MANU / GETTY IMAGES



Aadhaar: How it works and how it's evolved

An ID program to reach every demographic

With many Indians having never had formal ID, Aadhaar is especially helpful in providing those living under the poverty level better access to social welfare programs.

1,263,065,852
total population in 2012

270,000,000
living in poverty*

80%
of those in poverty live in rural areas

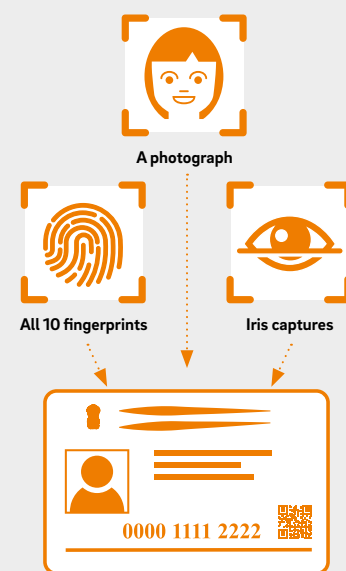
*PEOPLE LIVING ON LESS THAN \$1.90/DAY (WORLD BANK). SOURCE: WORLD BANK SNAPSHOT 2012; UNITED NATIONS

The enrolment process

To ensure that each person receives only one Aadhaar number, the UIDAI (Unique Identification Authority of India) set up a deduplication database built on three features.

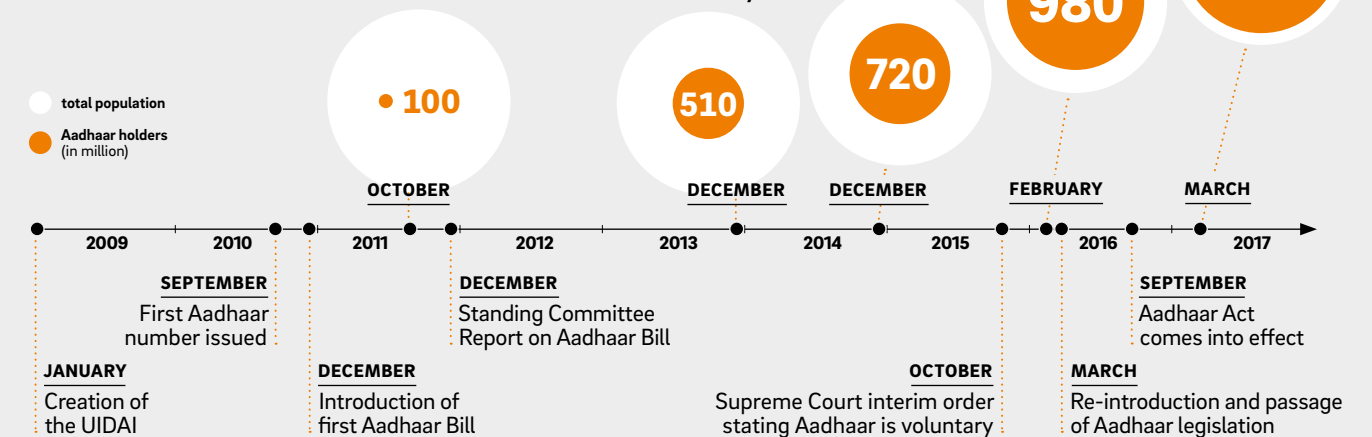
The Aadhaar Card is primarily a means of individual identification.

An Aadhaar ID is:
- Universal, digital and secure
- Linkable to multiple applications
- Suitable for use as a banking address



The Aadhaar system: on the path to universal coverage

While the Supreme Court of India has emphasized that enrolment into Aadhaar cannot be made mandatory, it is increasingly required for a wide range of government schemes and benefits. As of March 2017, some 85% of Indians had enrolled in the system.



SOURCE: STATE OF AADHAAR FULL REPORT 2016-17

Food for thought



Take a deep dive and find out more in related articles, studies and magazines.

STRUCTURAL MANAGEMENT

Think you can't? Copy the ant.

Building agility and resilience into your organization is easier than you think – if you think small.

AN INDIVIDUAL ANT is not very smart. Collectively, however, ant colonies build some of nature's most remarkable structures. Following five simple rules can help your organization achieve similar feats:

1 ANCHOR YOUR PURPOSE.

Understanding the larger goal makes it easier for groups to align their efforts and even to keep working. As Nietzsche wrote: "He who has a why to live can bear almost any how."

2 TEST. More and more, businesses today have the ability to make

decisions based on data and experimental results rather than instinct. Whether the analytics are as simple as A-to-B testing – or as advanced as regression analysis – let the facts drive your decisions.

3 SWITCH JOBS. Breaking your organizational structure down to its smallest possible components can make adapting to change much easier.

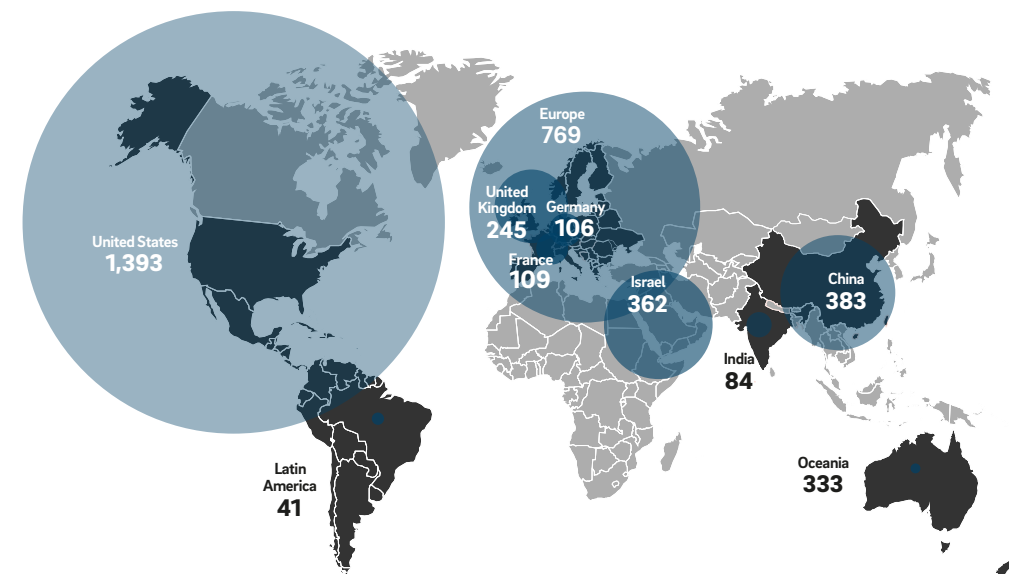
4 FOCUS ON THE BIG PICTURE. Keep managers focused on genuinely strategic issues and away from micro-management opportunities to help stay focused on what matters most.

5 TAKE THE SHORTEST PATH. Over time, as businesses evolve, certain processes and business units lose their purpose. Deciding what you need to stop is often as important as deciding what you need to start.

(From the Roland Berger report *Simple Smarts: Five design principles for building resilient and agile organizations.*)

→ LEANING INTO CHANGE

Become a quick-change artist and set your organization apart: <https://rb.digital/2xkeZim>



ARTIFICIAL INTELLIGENCE

AI startups across the world

Right now AI is provoking a startling shift in innovation. Roland Berger and Asgard's global investigation of startups charts the state of play. The US dominates and although the EU sits ahead of China, no single European country achieves critical mass on its own.

→ **ON THE RISE**
Get unique insight into the trend that's reshaping the world: <https://rb.digital/2INXNpL>

SELF-DRIVING TECHNOLOGY

Will old MacDonald have an autopilot?

MOST TALK ABOUT AUTONOMOUS DRIVING tends to focus on cities. In fact, the more profound impact may be in the country where the elderly, the disabled and school-aged children are all currently underserved because their transportation needs have been very expensive to meet – until now. Preliminary studies suggest that driverless vehicles would improve the lives of all three groups while strengthening the rural economy. "Managed fleets of shared autonomous vehicles – once we have overcome the technical difficulties – would be an enormous help in rural areas. They would cut operating costs while improving service quality," said Gunnar Heipp,

former director of the Strategic Planning Department for Munich City Utilities. The low labor costs of new mobility providers would mean that in many places, heavily subsidized public buses that now run on extremely limited routes with limited frequencies could be replaced by profitable private shuttles that could be called wherever and whenever they are needed. As a bonus, open spaces would pose fewer technical challenges, giving autonomous taxi companies the test market they need before they take on city roads.

→ **RECONNECTING THE COUNTRYSIDE**
Shift your perspective on autonomous cars' potential: <https://rb.digital/2EPBWlw>

MOBILITY ON DEMAND

New designs for new consumer needs

COMING SOON TO your next ridesharing pickup: cars with a flexible interior that can be individually configured to your preferences. By 2020, a many as one million of these specially designed vehicles, many of them electric, may be on the road in Europe, the United States and China. Large orders and falling component costs could translate into halving the price of ridesharing. "What this new vehicle category does is put the passenger, not the driver, firmly center stage," explains Jan-Philipp Hasenberg, partner at Roland Berger. The new vehicles could give automotive OEMs an exciting new product line, given that the reduced complexity of these vehicles will allow them to be manufactured for about half the cost of a conventional car.

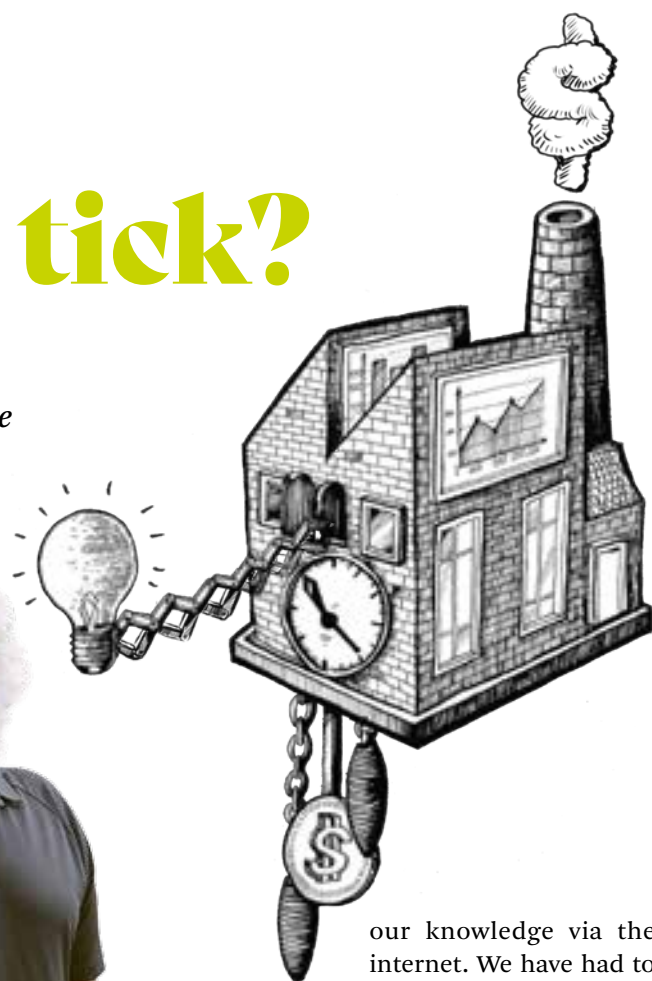
→ MAKING PASSENGERS HAPPY

Consumers are changing. Say hello to the new breed of cars: <https://rb.digital/2skpMDb>



What makes capitalism tick?

Stakeholder theory pioneer **R. EDWARD FREEMAN** has dedicated his life to helping organizations create a culture that brings out the best in everyone. Here he answers three questions concerning **purpose**.

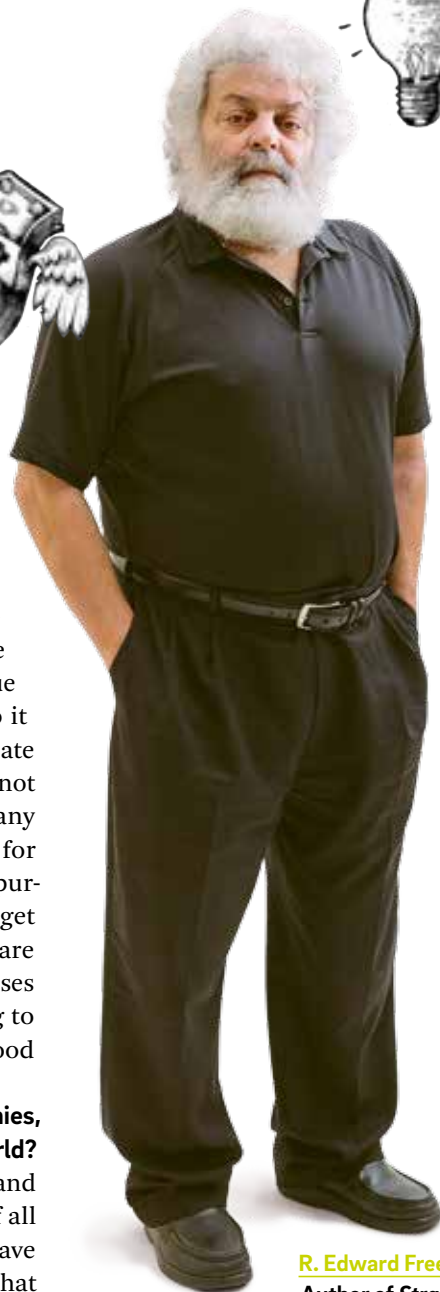


PURPOSE

1 You once said that "if you just focus on financiers, you miss what makes capitalism tick." What is it then, in your opinion, that makes capitalism tick?

Almost all entrepreneurs want to create something bigger than themselves. Capitalism works because we can cooperate together to create value for each other – none of us can do it alone. It is our human desire to create that is the spirit of capitalism. It is not greed and lust for money, as many believe. Of course there are some for whom making money is the only purpose, and doing whatever you can get away with. But these bad apples are dwarfed by the thousands of businesses and businesspeople who are trying to do the right thing, create some good with their businesses.

2 Should business, or companies, be seeking to change the world? Yes, that's what capitalism and business is about. Think of all the vocabularies that we have invented to solve our problems so that most of the world has access to all of



R. Edward Freeman
Author of *Strategic Management*

A Stakeholder Approach, Freeman is a professor at the University of Virginia.

our knowledge via the internet. We have had to solve problems like the physics of semiconductors and countless others. Business hasn't done all of it, but it has had a major role. Now we are seeing companies from Unilever to Whole Foods to thousands of "social entrepreneurs" around the world explicitly trying to act on purpose to create value for their stakeholders. The possibilities are virtually unlimited.

3 What do you think business can become in the future?

It's really very simple: We need to enact a new story of business. We need to elevate our thinking about purpose, values, ethics, stakeholders and cooperating with our stakeholders to create value all within a framework of a free, competitive and democratic society. If we can do this, we can make business an institution of hope. We can create a nation of entrepreneurs and we can focus on those people who have lost hope and been shut out of participating in business. We can be the generation that makes business better. We must be. ■

PHOTO: ASHLEY FLORENCE / UNIVERSITY OF VIRGINIA. ILLUSTRATION: SASAN SAIDI

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