Why Airbus 3D Printed This Motorcycle

PLUS:

OPEN INNOVATION AT ASTRAZENECA | GOOGLE'S IVY ROSS

HOW METLIFE AVOIDS THE DANGER ZONE

The $56,000 Light Rider Electric Motorcycle

INNOVATION LEADER
The New Age of Manufacturing
ISSUE Nº 3 — FALL 2016

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TABLE OF CONTENTS

1 FIRST

2 PEER PERSPECTIVES

ON THE COVER:
The Limited Edition Light Rider electric motorcycle from Airbus Group's APWorks spin-out.

3 CASE STUDIES

4 GUIDANCE

Fall 2016

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Not to be rude, but how much do you make?

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We're asking those rather impertinent questions as part of our 2016 Compensation Study for executives working in R&D, innovation, and new product development roles. The benefit to participating: You'll be completely anonymous, and we'll send you a summary of what other executives at your level of seniority, at similar size companies, earn. The quick, 10-question survey is at http://bit.ly/2016-comp-survey.

In this issue of the magazine, you can find a summary of our June 2016 research report on how large companies are using the "lean startup" methodology, and why. The top three benefits, according to our research: Making better decisions based on evidence; moving faster; and getting input from stakeholders sooner. Innovation Leader members can download the complete 83-page PDF from our site.

Stories and photo essays inside our fall issue take you inside MasterCard Labs in Manhattan, AstraZeneca in Waltham, Mass., ThyssenKrupp in Chicago and Essen, Germany, and Snap-on Tools in Kenosha, Wis. We also talk to former Disney-Pixar technology leader Greg Brandeau about the importance of physical space to creative teams, and to MIT professor Eric von Hippel about the powerful ideas in his latest book, "Free Innovation."

We love to cover people and initiatives that are moving the needle inside big organizations. If you have ideas for us, drop me a note at the address below!

Scott Kirsner, Editor & Cofounder
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FALL 2016 | ISSUE #3

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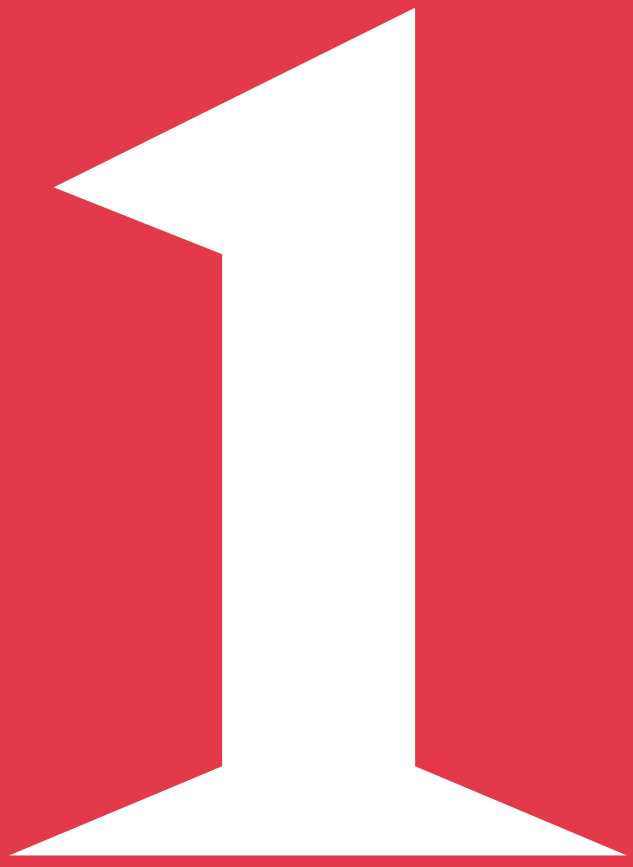


Fall
2016

QUOTED

Ivy Ross, VP & Head
Project Aura at Google

Ivy Ross spent the first part of her career designing eyewear and apparel for companies like Coach, Old Navy, and Calvin Klein, and overseeing development of girls' toys at Mattel. More recently, she joined the tech world, serving as Chief Marketing Officer at Art.com, an online retailer, and then moving in 2014 to Google, where she oversees Project Aura, a wearable computing initiative. She'll be among the speakers at the inaugural Harvest Summit this November.

Innovation
Leader

"When you have an advance team working on the new stuff, and they hand it off to the 'regular team,' the regular team doesn't feel ownership of the work. It's not very motivating to them."

ON TEAMS: "What doesn't work is to say, 'You, you, and you, you're a team.' I think creativity comes from trust. You have to be in that free zone in your mind—not the fight or flight zone. There are a number of things you can do to get people to that place, like learning new things together, bringing in speakers, having shared experiences, both in and out of the office. At Mattel, I brought in a professor of laughter from UCLA. When you learn new things together, you can co-create together better."

ON THE ROLE OF INTUITION: "I believe in art and science. I've always believed in using both the facts and research and intuition. We only take in and hold 10 percent of information in our conscious mind. Ninety percent is stored in our unconscious. When you get an intuitive hit, that's the unconscious working."

ON EXPLORING THE POSSIBIILITIES: "A lot of times companies say, 'We sold this product, and it brought in this amount of money. Let's do something like it. What's the next edition?' They invest in that, rather than exploring new possibilities. If you do that, you never get ahead of yourself. You can't just anniversary the realities of what you know to be true."

ON HAND-OFFS: "When you have an advance team working on the new stuff, and they hand it off to the 'regular team,' the regular team doesn't feel ownership of the work. It's not very motivating to them. To deal with that, I would take twelve people out of their jobs every three months, and say, 'Now you're the advance team.' After that, they would go back into the team they'd been part of, having had the experience of creating in a different way, and developing a different skill

set. Often, those people would bring ideas back to their group and they'd be the ones to execute them."

ON AVOIDING MEETING OVERLOAD AND BUREAUCRACY: "It's up to the leader to help protect people from that. Maybe you have a design lead who doesn't design, but goes to the meetings, gathers information, and protects the designer who is on the project creating. As a leader, you have to know how each of these creative people work best, and how to create an environment that allows creativity to happen, and not have your people in meetings and putting out fires."

ON THE RELATIONSHIP WITH THE CEO: "You have to prove yourself. It's important to be seen as a leader that has both a right and left brain, and is not pushing things because you love them."

ON EXECUTIVES WHO TALK ABOUT INNOVATION BUT DON'T PROVIDE SUFFICIENT SUPPORT: "I'm someone who is not afraid, in a lovely way, to confront people if what they say and what they're doing is not the same thing, if there's a disconnect. I don't have patience when that is happening. It's very hard to work in that context."

ON GETTING RESOURCES: "You have to learn how to back up the case you are making with facts, and sometimes go slow, taking small steps. 'Let me show you what we can do with eight people instead of twelve.'"

ON CEOS WHO SPEND A WEEK VISITING SILICON VALLEY: "Many times, they want to check the box that they've gathered some best practices, and gone to see the cool companies. 'We get it now.' But they don't have the capacity to change at the level of the change that needs to happen. They may have to reorganize the whole company, and change the way they work. Instead, they'll put a task force on it. They're not getting it a visceral level. Change is happening constantly, and industries are being rebuilt."

ON FACING THE SOMETIMES SCARY FUTURE OF YOUR INDUSTRY: "If you're a hotel, putting an iPad at the check-in desk probably does not count as really rethinking the model of your business. You need the bigger vision, even if you are moving toward it in smaller leaps. You have to look at things you're doing as a lot of quick iterations that get you to a new North Star. If you're in hotels, you want to be getting a diverse group of people together to imagine what a hotel room is going to be. Why would you stay at a hotel, versus in an Airbnb room? The answer might be horrifying to you, but better to deal with what is horrifying than deal with the alternative, which is that you're not here in five years. Otherwise, you're just managing what is manageable and ignoring how fast things are going to change." ●

"Better to deal with what is horrifying than deal with the alternative, which is that you're not here in five years."

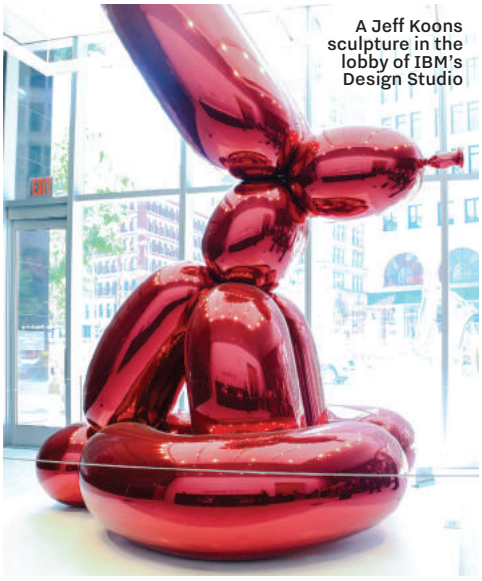
"What doesn't work is to say, 'You, you, and you, you're a team.' I think creativity comes from trust."

Group introductions at GrandCentralTech, a startup accelerator

Field Study New York City

June 2016

The latest in our series of Field Study learning expeditions brought participants to MasterCard Labs, Barclays Rise Accelerator, IBM's Design Studio, and startup spaces GrandCentralTech and Work-Bench. Execs from FedEx, Starbucks, Samsung, ExxonMobil, Pfizer, and CapitalOne led whiteboard sessions (no slides!) Our friends at Imaginatik and Moves The Needle helped make it all happen.


A Jeff Koons sculpture in the lobby of IBM's Design Studio


Mathilde Durvy and Onika Simon of Cisco


Neal Prescott of MRM/ McCann

OUR NEXT FIELD STUDY HAPPENS IN SAN FRANCISCO. FOR DETAILS, VISIT INNOVATIONLEADER.COM.

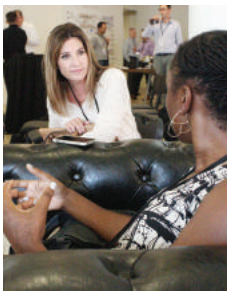
Joni Saylor of IBM Design

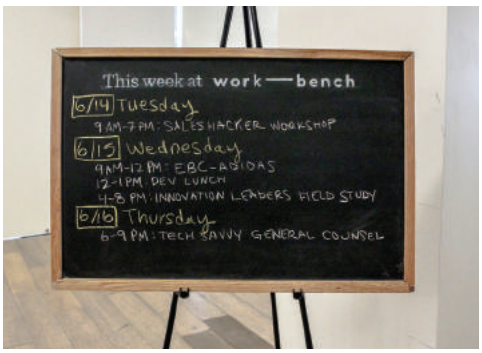
Schmoozing outside Lafayette, our Day One lunch stop

For most of this Field Study, we were on foot

Event organizers Nora Neustadt and Lisa Bonini

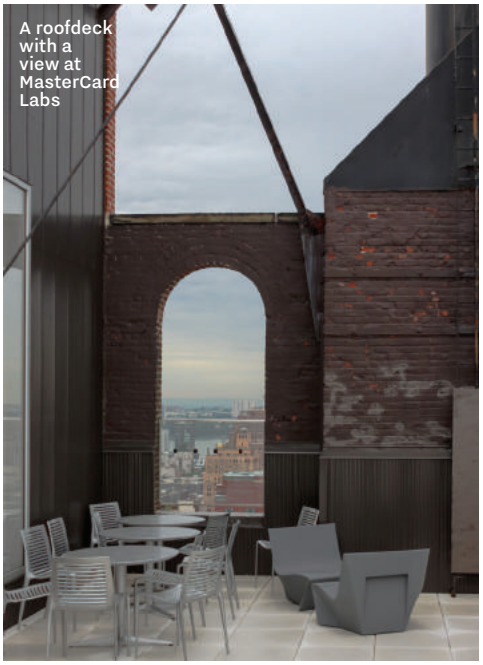
From left: Jerry Needel of Indiegogo, Moises Noreña of Allstate, George Leimer of ESPN



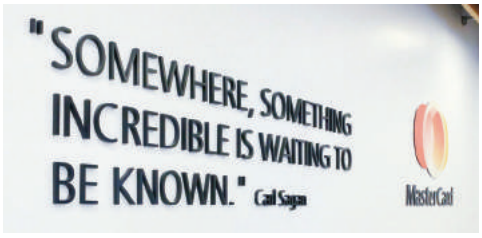


Announcing whiteboard session topics at Work-Bench in Chelsea

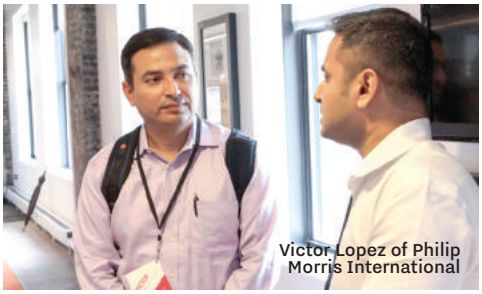
Day Two began with breakfast at MasterCard Labs



A roofdeck with a view at MasterCard Labs



Disney's Laura Kusumoto



Victor Lopez of Philip Morris International


Kevin Parsons of Northrup Grumman leads a whiteboard session


Chris Townsend of Imaginatik


Entrepreneurs and Barclays Rise executives talk about how the program works


Participants got a tour of Barclays Rise startup space


Session leader Melissa Kivett of Prudential

How Innovation Can Engage and Disrupt Your Workforce

BY **ALEX GORYACHEV**, SENIOR DIRECTOR, INNOVATION STRATEGY AND PROGRAMS, **CISCO**

IN TODAY'S RAPIDLY CHANGING, HYPER-COMPETItive digital economy, companies must either disrupt or be disrupted.

But first you must disrupt yourself—your employees, your culture, and your company.

To make a meaningful difference, companies must engage the full talent of their employees and empower them to innovate like entrepreneurs in a startup. Too often though, innovation programs get stuck in siloed business units, where they fizzle out like a meteor. Goals are unclear, outcomes are unfocused, guidance is missing, funds dry up, and there's no time off from the day job.

That's why it's crucial to organize innovation disruptions company-wide—across all functions, grades and locations. For example, we're rolling out My Innovation, a grassroots movement that empowers all employees to innovate everywhere at any time, by taking risks and cultivating their inner entrepreneurs.

This centralized innovation hub fosters a culture of cross-functional collaboration. It helps employees to connect with each other and the broader ecosystem of innovators inside and outside the company; access lean startup resources; and take steps to bring their ideas to life.

My Innovation sprouted from and links with our recent Innovate Everywhere Challenge, Cisco's first company-wide initiative. The challenge urged all 72,000 Cisco employees to tap into their inner passions, team up, and innovate together.

I'd like to share nine catalysts that were essential in igniting a company-wide innovation disruption. If you are building a comprehensive innovation program, these spark plugs can activate and accelerate innovation—no matter the size or sector of your company.

Community and Collaboration. No person is an island—so don't develop your plan on one. Build bridges with key allies to help shape your plans, including business unit leaders in all functions, disruptive rebels, and steady mentors inside and outside the company. I prefer to call them your "co-conspirators." This community will help to fuel a grassroots movement, overcome pockets of resistance, or break down functional silos once the games begin. We collaborated with 16 internal organizations, many with their own innovation programs. And let the outside in. External experts bring fresh perspectives.

Alignment to Company Priorities. Don't be a loose cannon aiming at every dream that streaks across the sky. Make sure your company-wide innovation program aligns with corporate priorities. In our case, we developed a Table of Strategic Innovation Elements, inspired by Adobe's Kickbox initiative, which focused innovators on specific markets, technologies, and business models.

Executive Commitment. Any grassroots movement needs strong and bold leadership. Without executive champions, especially the CEO and head of HR, such an ambitious cultural transformation will not survive the naysayers. Do your homework and win over the C-suite with the value proposition, game plan, and their roles as champions.

Engagement and Communication. Maintain and ramp up the buzz at each milestone of the challenge to stimulate participation, engagement, and enthusiasm around the teams—many of which will have their own feverish fan base. Blast out ongoing news, especially spotlights on teams, solutions, participants, and coaches across all of your employee communications channels. Make sure leaders reinforce key messages, such as the importance of forming cross-functional teams, following your passions,and taking risks.

Resources and Tools. Nearly everyone

I know has at least one brilliant idea for an app. Very few, however, know how to develop it. You must equip innovation newcomers with everything they need. Resources should encompass a broad scope of specially-packaged startup processes, technology tools, and examples of successful startups. At Cisco, we set up online resources through videos, a web site, links, workshops, and downloadable guides.

Development, Coaching, and Mentorship. Hands-on and in-person skills training, coaching, and mentorship can help your disruption gain momentum and scale. We set up three-day "boot camps" with semifinalists. Lean startup experts taught teams how to fine-tune their solutions, hone their messages, and sharpen their pitches. Make sure your mentors can be reached easily and quickly to overcome technical, business, or political challenges. Mentors who guide teams are more valuable than traditional managers, who can be roadblocks to innovation.

Incentives and Rewards. Gift cards just don't cut it here. To move the needle, you will need a combination of notable monetary rewards, public recognition, and job flexibility. Our three winning teams received $50,000 each in recognition and development funds, company-wide acknowledgement at our All Hands meeting, access to our nine Innovation Centers worldwide, and, most importantly, the option of three months off to develop their ventures. Be sure your organization continues to support teams after they have won.

Transparency and Metrics. Transparent communications enhance credibility and engagement throughout the journey. Invite employees to cast votes, make comments and form their own communities on an open platform, and communicate why certain teams advanced and others didn't. Traditional metrics don't apply to innovation, where failure can lead to success and uncertainty prevails. We used success factors such as employee participation and engagement by function, rank, and geography; formation of community networks; discovery of game-changing ideas; and attraction and retention of top talent.

Gamify It! Make this serious business a fun and exciting experience that inspires

employees, where the stakes and passions are high, and the winners celebrate victory with their colleagues. We haven't incorporated Pokemon GO-type features yet, but the lesson is to create dynamic interactions through collaboration technology and exciting live events.

The results of our Innovate Everywhere Challenge—fueled by these nine catalysts—exceeded our wildest expectations: Nearly 50 percent of our global workforce participated, generating 1,100 entries from more than 2,000 teams across 50 countries.

Here are some lessons learned:

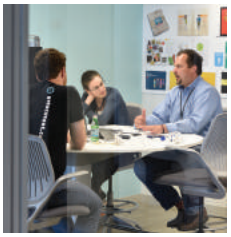
- Focus on the innovator—NOT the innovation
- Build a grassroots innovation community
- Remain flexible: Listen and learn from employees, and adjust course if necessary
- Passionate innovation is contagious.

Passion is an untapped force in many organizations, but when unleashed, it can transform your culture into a game-changing disruptor. Passion can bring new levels of value to your company, customers, and employees.

To me, today's successful companies must engage the full spectrum of their talent around innovation. Brilliant ideas for the next big thing can come from anyone, anywhere—especially when all employees feel engaged and empowered to unleash their passions around innovation. ●

EMAIL ALEX AT AGORYACH@CISCO.COM, OR FOLLOW HIM ON TWITTER: @AGORYACH. HE'LL BE AMONG THE SPEAKERS AT INNOVATION LEADER'S TEACH-IN THIS OCTOBER.

Altitude CEO Dan Ostrower describes "the Internet of Meaningful Things"

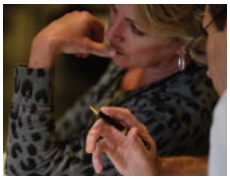


David Rose of Ditto Labs critiques several connected products

Connected Products Boston

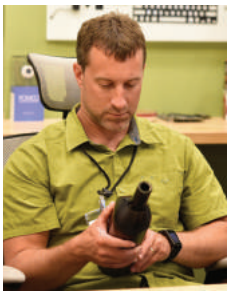
June 2016

In June, we convened 30 executives responsible for developing connected products and services, in collaboration with Altitude, the design and innovation firm. Participants sat down for off-the-record strategy discussions with analysts, investors, and entrepreneurs, and visited Bolt, an investment firm that runs its own makerspace.



C Space hosted the group in their Fenway Park-themed meeting area

Phil Leung of Altitude inspects a bulb from BeON Home that doubles as a security system



Adam Schouela of Fidelity Labs

Victor Jablokov of Wallflower Labs

The Lure of Lean

WHY BIG COMPANIES ARE GRAVITATING TO THE 'LEAN STARTUP' APPROACH

THE TERM "LEAN STARTUP" IS NOT VERY OLD. Coined by entrepreneur Eric Ries on his blog in 2008, lean startup built on the foundation of many earlier ideas, from Toyota and lean manufacturing to agile development methodologies to Steve Blank's philosophy of customer development. But it described a new approach to developing prototypes, learning from customers, gathering data, and pivoting until you've created something that people really want.

At companies like General Electric, W.L. Gore, Telefonica, and Viacom, executives are finding that the principles of lean startup can help them get customer input sooner—before millions of dollars are spent—and make decisions with actual data from the outside world, rather than forecasts and projections. (For that reason, even the CFO can be a major advocate of lean startup.)

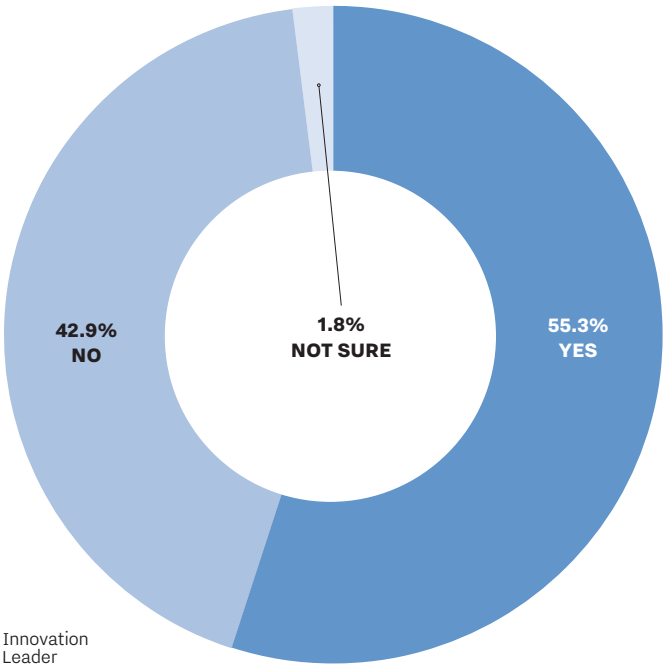
"Rather than filtering things through focus groups and surveys," GE vice chairman Beth Comstock told us, lean startup "encourages you to just get things in front of the customer."

For our June 2016 research report, we set out to ask executives at large organizations about the benefits they're seeing from deploying lean startup; the allies who've been helping them; the challenges they've encountered; the software and consultancies they've been relying on; and the advice they'd share with others.

For organizations willing to learn about and experiment with the lean startup approach, we believe there are major benefits to be gained, not only in closer ties with customers, increased speed and nimbleness, and less money wasted on pet projects that the market doesn't want, but also in employee engagement. One survey respondent cited a "more motivated and empowered workforce" as one of the surprising benefits of embracing lean startup. Another said it had improved her company's ability to attract and retain talent.

Here's a selection of some of what our survey found:

WE'VE CONDUCTED TRAINING FOR EMPLOYEES AROUND LEAN STARTUP



Innovation Leader

Getting Started

The vast majority of our respondents, 82.4 percent, told us they've already used some form of the lean startup methodology in their organization. The two most frequently-mentioned pieces of advice from survey respondents on getting started with lean were to start small and chalk up some early wins to show how the approach can work, and to get some senior-level support, but avoid trying to get everyone in the company to "buy in" before you deploy lean.

Some key comments:

►"Start slow, build small successes. Ask for forgiveness, not permission."

►"Consider the program a Minimum

Viable Product. If you wait until the program is fully baked, then it will never get of the ground."

►"Use the lean startup mindset to begin implementing lean startup! Just start doing and applying the methods to an initial opportunity. Evaluate and measure against objectives."

►"Make sure you have a very strong product owner/product manager to lead the process, and that people are comfortable with showing works in progress."

►"Get your best team on the first few projects you do."

►"Be scrappy. Be a 'rounding error' in the G&A budget."

Biggest Ally

We asked an open-ended question about who has proven to be the biggest supporter of lean startup approach within the organization. The most common answer, from 21 percent of respondents, was the CEO, "executive leadership," the COO, or "the C Suite." But other top responses, in order of frequency, were:

►The innovation organization, the Chief Innovation Officer, or the open innovation team.

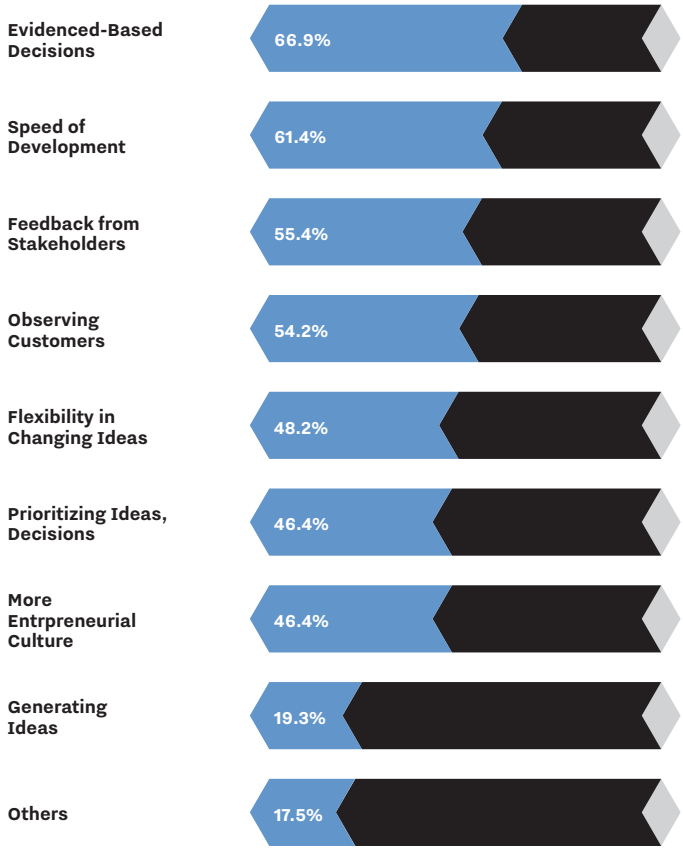
►The CFO or finance leader. One respondent explained, "Among the C-suite, whom we've engaged as an internal 'venture capital' board on this work, the CFO has been particularly supportive. He likes how the process provides visibility and informed spending."

►"The marketplace" or "customers," suggesting that once a company is practicing lean startup, it delivers results or a closer tie to the company that customers appreciate. One respondent wrote that "customers [are] excited to be a part of the development process."

►The R&D leader or R&D organization

►Middle Management. Said one respondent: "Surprising, right? Everyone wants to break through dependencies so the company can do cool things. Middle managers are the ones that are taking on the extra cycles to make it happen."

THE MAIN BENEFITS TO BE GAINED FROM THE LEAN STARTUP APPROACH



Get Out of the Building

The final question in our survey was an open-ended one: Do you have any advice on rolling out lean startup in a large organization, and overcoming resistance?

What rose to the surface of more than 100 responses was the need to cultivate supporters throughout the organization and to avoid introducing too much "lean lingo" that could "set off a corporate immune response," or brand lean startup as the "innovation flavor of the month."

Our favorite piece of advice? "Get out of the building and break the rules."

FOR MORE ON THE LEAN STARTUP REPORT, VISIT INNOVATION-LEADER.COM'S REPORTS SECTION. FOR SLIDES, VISIT SLIDESHARE.COM AND SEARCH "LEAN STARTUP SURVEY."

The Art of the Possible: Future Building's Crucial Role in Driving Innovation Impact

BY **RAMON SALINAS**, INSIGHTS PRACTICE LEAD, **IMAGINATIK**

NOT TOO LONG AGO, EXECUTIVES AT A FORTUNE 500 consumer goods company were facing a daunting prospect. Nearly all of their brands were struggling with stagnant or declining market share. They thought they needed a new growth strategy. But a time-consuming scenario planning process brought them no closer to salvation. What they really needed was imagination.

Analytical thinking alone does not produce innovation. Think about Elon Musk declaring war on fossil fuels, Robin Chase evangelizing the sharing economy, or Steve Jobs building computers for our pockets. All three were world-class problem solvers. But they also knew how to shape a vision of the future.

Legendary entrepreneurs tend to be gifted futurists. Yet the methods they employ subconsciously derive from talents wired into human nature, accessible to us all—creativity, imagination, the ability to dream. These skills are often overlooked or underutilized by innovation and R&D teams. Typically, there is a fear of time-consuming research efforts that are too expensive to be affordable, and too academic or too implausible to be actionable.

Future Building, by contrast, takes an agile and pragmatic approach. Taking a page from scenario planning and almost exclusively focusing on the "emblematic events" paths, it is a lightweight, yet structured, way for innovation and R&D teams to channel their imagination to productive ends.

There are two primary aspects of a strong Future Building practice—Ecosystem Scanning and Narrative Shaping. Both are integral components of the visionary innovator's creative process.

Ecosystem Scanning

Scanning the external environment is the foundation of Future Building. Its goal is to identify nascent clues about where, how, and when new value can be created in the ecosystem.

Each clue is a piece of information that illuminates an emerging trend—nascent shifts in the consumer's behaviors or values, cutting-edge scientific or technology developments, venture capital investment patterns, industry news coverage, partnership announcements, market launches, public research findings, etc. An obvious example is a clue from 2011—the public launch of Uber's ride-sharing service in San Francisco.

One common way to scan the ecosystem is through human effort. Many innovation programs, and some R&D teams, benefit from full-time staff who work as designated innovation scouts. Their mission is to identify and catalogue emergent trends across the ecosystem, as well as formulate viewpoints about what those trends may mean for their company or industry.

However, you don't need to have full-time innovation scouts to get going. For starters, you can crowdsource clues from elsewhere in your own organization. At most large corporations, if there's a groundbreaking new technology or market trend, someone is aware of it. Web-based collaboration tools can capture those insights from the field, and funnel them efficiently back to innovation and/or R&D teams.

Furthermore, there's now a dizzying array of digital tools that partially or wholly automate the collection of ecosystem clues. These tools go way beyond Google Alerts, ranging from web scraping and sentiment analysis to filtering, clustering, and pattern-matching. They help you develop an evolving database of fresh insights that can be mined continuously.

These digital-first approaches allow scanning and scouting to be an activity running in the background, rather than a resource

hog for the core team's activities. You need only monitor what the digital tools are finding, rather than digging up clues primarily through your own efforts.

Narrative Shaping

Deliberate focus and smart resource allocation across the innovation portfolio requires an understanding of where the world is headed, and what the future might look like. Narrative shaping takes raw insights, blows them up, and builds coherent views of what they portend for your innovation efforts.

Thus, for insurance and transportation firms, Uber's early successes in 2011–2012 could have yielded important insights about the future of transportation, urban living, and the sharing economy.

These insights are starting points for future narratives that are compelling, actionable, and flexible—and which serve as direct inputs into the innovation process. Fantasy fiction writer Neil Gaiman offers a useful narrative-building framework based on three key phrases:

"WHAT IF ... ?" to explore counterfactuals suggested by the original insight. For example, "What if autonomous vehicles completely replaced human drivers?"

"IF ONLY ..." to develop scenarios based on far-fetched wishes or aspirations. For example, "If only we didn't have to spend time commuting to work."

"IF THIS GOES ON ..." to explore the implications of extrapolating future extremes from current realities. For example, "If this goes on, location will no longer be a factor in real estate pricing."

Each of these three phrases force narrative-builders to breathe life into a speculative future world state. From there, a rich variety of creative and cognitive techniques can help your team build rich narratives that flesh out the vision for this possible future world. Each scenario should be rich and provocative enough to spark a variety of innovation strategies, inventions, and initiatives—so you can start shaping and capturing business value. ●

FUTURE BUILDING—A CORE INNOVATION SKILL SET

At first glance, creative facilitation and narrative building exercises may appear frivolous. But they play a crucial role in world-class innovation programs, for several reasons.

First, they force the team to think beyond what is already known or can be proven. By venturing into the world of speculation, you remove the team from the cognitive constraints of daily work. This translates into bigger, bolder bets for the innovation portfolio, and a much higher innovation yield for the corporation.

Second, Future Building improves on a number of ad-hoc, homespun innovation practices by structuring and formalizing them. Left to our own devices, most of us take shortcuts in the "visioning" process. When presented with a clue or insight, it is common to immediately formulate ideas about which innovation projects to launch. But this tendency of "jumping to solution" eliminates the majority of our innovative potential.

Finally, Future Building makes the entire innovation process more effective and more scalable. It provides steady guidance about strategic aiming points, uses the power of narratives to keep the team aligned, and offers an important aid to on-the-ground decision-making. It can also help the innovation team explain their guiding vision(s) to the rest of the organization, by converting future narratives into explainer videos, infographics, and other communication vehicles.

It's time for more companies to take Future Building seriously as a permanent and explicit part of the innovation program. If you're serious about seizing growth opportunities in a fast-changing, technology-driven world, you can scarcely afford not to.

THE THREE NARRATIVE PHRASES IN ACTION

TRIGGER PHRASE	COMPANY	ARTICULATION OF FUTURE NARRATIVE
What If?	Healthcare Provider	"What if we owned no assets and hired products and services on demand?"
If Only...	Tire Manufacturer	"If only there were no managers" and "If only there was no centralized decision-making"
If This Goes On...	Ingredient Provider	"If more people keep developing food allergies, eventually we won't eat any processed food at all."

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Peer Perspectives

2

Fall
2016

Achieving Innovation Balance

BY MOHAN NAIR
SVP & CHIEF INNOVATION OFFICER
CAMBIA HEALTH SOLUTIONS

In the five years since founding our innovation team at Cambia, we've built five companies from employee ideas, have engaged more than 29 percent of employees in innovation activities, and have begun looking at co-innovation and co-creation across industries. Perhaps most importantly, we've worked hard to establish a cutting-edge culture: 84 percent of our employees now say that Cambia encourages innovation.

But these successes do not mean we are successful...at least not yet.

Getting to this point has meant constantly maintaining a delicate balance of activities, focus, and relationships—something to which most INNOVATION LEADER members can relate, I'm sure.

Here are some of the lessons we've learned along the way:

1. Balance Starmaking with Talent Spotlighting Conventional wisdom has always been, "Put a spotlight on your intrapreneurs." As you shine a light on employees' innovation activities, you can eliminate barriers and normalize innovation activity for the rest.

We've done that well at Cambia. For example, we highlighted at every turn the efforts of one particular intrapreneur, who came to us with an idea that turned into a disruptive product and company.

But in promoting a single leader's efforts to create something transformational, we missed countless opportunities to promote those pursuing and acting on smaller innovation opportunities within their everyday jobs—arguably a more attainable goal for the majority of employees.

By focusing closely on a single intrapreneur, we actually missed some opportunities to democratize innovation, and might have created an unattainable expectation for others.

Here's how you can do it differently:

▸Highlight small innovations. Your innovation team has tremendous power in promoting your corporate intrapreneurs. Don't exclusively shine the spotlight on a few. Instead, use your starmaking ability to spread

the word about "micro" innovators as much as you do the "macro" innovators.

▸Promotional ownership. Give someone on your team the specific responsibility for internal marketing, tied to your corporation's internal communications function, and engage your whole team to look for and support promotional activities.

▸Set a baseline. Aim to promote a certain number (i.e., 20) of different employees each year in depth. With that, you turn innovation activities—even small process improvements—into your standards of operations.

2. Understand the Profile of Your Intrapreneurs Employees participate in corporate entrepreneurship activities for a variety of reasons—you'll see newly-minted MBAs looking to make a mark, and soon-to-be-fired employees looking to salvage their careers.

Hopefully, a significant number of your participants are top performers who are earnestly trying to improve the company and grow in their positions. In that sense, engagement in innovation can be a mechanism for creating an informal network of your high performers.

But it can also be a mechanism for understanding your workforce and your hidden management challenges, thereby improving the odds of innovation success.

For example, we came to understand that some employees were sharing their ideas with us because of barriers they faced in other parts of the organization. They were certainly leveraging our crowdsourcing platform appropriately, but it became apparent that there were other underlying management issues we needed to address. This has been invaluable in understanding where the allies—and obstacles—of innovation exist in the organization.

Similarly, it became apparent that some employees were sharing ideas in an effort to hide existing performance issues, or to spend less time on their core job function. Others submitted ideas out of a misguided pursuit of fame or fortune, and—as a result—were rarely open to the advice of others when it came time to refine or improve their ideas. Over time, we found that engaging with either of these types of employees can be problematic; in fact, we discovered that lack of humility is more dangerous than lack of skill or ability.

The more data you have to understand the profile of those who engage with you, the more you will understand how to tailor your approach. For us, it meant a vetting process in our initial engagement, and a coaching system for working with employees. This is where we were able to investigate true intent and ability, and determine how we should engage moving forward.

"Employees participate in corporate entrepreneurship activities for a variety of reasons. You'll see newly-minted MBAs looking to make a mark, and soon-to-be-fired employees looking to salvage their careers."

3. Operationalize Through "Servant Leadership" A productive working relationship with the business units has been a major challenge for many innovation programs. Some people on the operational sides of the business may either resist your efforts to work with them, or feel threatened.

This is normal. An organization is an organism, after all, and the operational arm of a company must, like a skeletal system, be strong and rigid enough to deliver on the core business offering. Its purpose is different from the nervous system of your company—the network of intelligence that informs your strategy. No matter the phase of maturity of your program, all of these systems must work together across the business to excel.

The businesses we have built have transferred over to the operational side of the business at various stages of maturity. In some cases, they have moved over when they were little more than a business plan; in other cases, there was a live product, a dedicated team, customers, and revenue. In all of the situations, the end of incubation and the beginning of operationalization requires close ties and coordination. I cannot say that we have always done this hand-off to my satisfaction; each time we learn how to do it better. But building trust in that hand-off is essential, and trust is the biggest indicator of how well it will go.

Your program's scale depends on the business unit leadership's trust in you. Your team might be staffed to execute on ideas you

develop from employees, but it's unlikely you can have a transformative impact without business leaders taking on the responsibility for execution of ideas.

We focused on building these relationships through a combination of tactics that propelled our success:

▸Servant leadership—My team treats all relationships as "servant leadership." Part of everyone's job is to serve the organization.

▸Challenges—We aim to ignite the organization through innovation challenges. For example, the innovation team ran an innovation challenge two years ago with just the leaders of the organization; it required each leader to submit an idea. We then worked with those leaders to refine ideas, coaching those who continued on to each stage of our innovation challenge. Ultimately, we had nine ideas for a "pitch day," and ended up incubating one as a new business with tremendous potential. But the real advantage of that process was more pervasive: my innovation team got to meet with those leaders, built trust, and nurture relationships that last to this day.

"It's unlikely you can have a transformative impact without business leaders taking on the responsibility for execution of ideas."

4. Show ROI Quickly to Gain Credibility Innovation activities have a series of intermediate and end outcomes. In the short term, you might have some runway to show how you are changing people's hearts and minds, engaging them, and inspiring them to be innovative. But it is a rare organization that will not be expecting you ultimately to impact revenue or cost savings.

If your innovation team is a revenue-generator or a cost-saver, rather than a cost center, you face an easier road ahead.

When we began, we didn't look for disruptive solutions to implement. Instead, we found a few multi-million-dollar incremental improvements and division-based ROI that gave us credibility for bigger projects. Usually, you will need to spend a year or more to develop the insights, products, and technology needed for truly transformative products and solutions. In the meantime, it's important to have material, albeit smaller, successes to which you can point.

One example: consider tools to accelerate your sales team, for example, where you could generate substantial revenue. Again, looking for business champions and partners will also help you uncover opportunities where you can rapidly succeed. And when you succeed, highlight those business partners so that others engage with you.

5. Innovation as a Value My experience in strategic business transformation (I actually wrote a book on the topic, published in 2011) has informed the way my team is recruited, organized, and directed.

Most innovation efforts and teams are objective- and revenue-based. This is reasonable, but limiting.

Our approach is different, and we aim for greater impact by starting with a cause: to transform the healthcare system. Our values reflect this cause, including innovation as a value.

Innovation as a value strikes deep chords for our employees and for my team. Striving to achieve a cause greater than ourselves creates passion for change that is unparalleled in the corporate world.

We can help employees with the mechanics of developing and pitching their ideas, but our true goal is to gain their commitment in helping our customers reach their best health. That passion with purpose is the key to our program. Once that passion is awakened, we have created the readiness to truly evaluate and explore opportunities, and to take the time to find ways to address them. Equally important, we have created the resilience needed to solve entrenched problems.

Remember that innovation is typically non-linear, unpredictable, and accelerated, as opposed to linear, predictable, and tied to quarterly rhythms, like the traditional business. Yet innovation systems, methods, and people must live in both worlds to achieve greatness. Achieving balance between the two is where the true benefits of innovation can be found. ●

Staying Alive: Keys to Longevity for Corporate Venture Capital Groups

BY KYLE FUGERE
PRINCIPAL
DUNNHUMBY VENTURES

PHOTOGRAPH BY Troy Caldeira

ONE OF THE BIGGEST knocks against corporate venture capital initiatives is that they are often a by-product of a booming economy and a pet project of the CEO. They're here today, gone tomorrow.

This reputation, unfortunately, is grounded in some truth, but it doesn't have to be that way. In fact, a corporate venture capital team can and should be a strategic arm of the larger corporation, helping to evaluate new market trends, advising on new business ventures, striking partnerships, and serving as the de facto innovation group. It's not an easy task, since each organization has its own intricacies and politics, but there are steps that can be taken to ensure your corporate VC program lasts—and help the organization grow.

Below are some of the strategies we have employed at dunnhumby Ventures and are still employing. Dunnhumby is a data science and loyalty company; it is ultimately part of Tesco, one of the world's biggest retailers, and we invest in innovations in retail.

KEY #1

Fight for independence. I have spoken to far too many corporate VCs who need endless buy-in in order to make an investment. This process not only makes investing in the most competitive deals near impossible (since you often need to decide a few days after meeting the company), but it hurts the long-term viability of the group. The ideal scenario is to report to a small investment committee, comprised of the CEO and CFO, who hold all the power necessary to approve the investment.

By fighting for independence, you are establishing yourself as the expert on evaluating investment opportunities (as you should be) and more significantly, the expert on new technologies and trends within your given industry. This last part is significant because if done correctly, it can be used to help guide the direction of the business. Without this independence, you'll be simply investing in the one company per year that you somehow get past every political hurdle and objection

in the company before eventually departing out of frustration.

KEY #2

Get political buy-in. Wait, didn't I just say that you wanted to be independent from internal politics? Yes, but this does not mean you don't need to play the game. You need a strong foundation of supporters within the organization. Without it, the house you are building is doomed to collapse.

One of the first steps we took after launching our fund was to create the "Strategic Sponsor" program. For each investment we made, we would seek out a director within the organization to help mentor the company, and to be the point person for helping that company navigate Tesco internally. Traditionally, we have chosen sponsors who have expressed interest in the company and will help us advocate for the investment. But if the deal is moving quickly, we sometimes assign the sponsor post-investment.

If done correctly, this should and can be a coveted role within the organization, providing many with a seat at the table and in some cases, a seat on the board, of an exciting young startup with tremendous potential. It's a role corporate executives rarely get an opportunity to play. It's also a channel that allows them to pass on some of the knowledge and industry expertise they have accumulated.

"I have spoken to far too many corporate VCs who need endless buy-in in order to make an investment… This hurts the long-term viability of the group."

We also regularly include internal experts on our diligence calls with startups who may be interesting to their department or product. By including others in the decision-making process, you are building a political base of support and more importantly, a sounding board to help you make smart investments.

KEY #3

Raise your hand. Volunteer your insights to the larger organization. Even with plenty of money and the greatest independence, you are only going to invest in one to two percent of the companies you meet. Sharing the lessons from the other 98 percent is incredibly important. At dunnhumby, we have approached this in a number of ways, taking a multi-channel approach to spreading the message internally.

First, we work very hard to remain transparent. We give many people within the organization access to the web-based software we use to track the deals we're considering, DealScout. (Full disclosure: I am also the founder of DealScout, which is a separate entity from dunnhumby Ventures.) We also create a monthly newsletter that goes out to client leads, executives, and directors at dunnhumby, discussing the companies we spoke to, as well as updates from our current portfolio. Our internal social network, Yammer, has also been tremendously useful, helping us maintain a more consistent dialogue with the organization. If at all possible, we seek expertise and insights via Yammer as opposed to e-mail because of its public nature and ability to be easily shared. We also work very closely with each arm of the organization, volunteering our insights and helping them identify market trends and understand how the competitive landscape is changing.

Another reality is that you will meet many companies who may not fit your investment criteria, but could be great partners. Sharing these insights will enable you to work hand-in-hand with your partnership group, or alternatively, act as the partnership group if you don't have one.

In many cases, the corporate ventures team will be the only group internally whose sole purpose is to identify market disruptors. Sharing those insights not only adds value to your group, but adds tremendous value to the organization.

FINALLY…

Working in a bubble, separate from the rest of the company, increases the likelihood that your corporate VC initiative will have a short lifespan—even if your portfolio companies are doing great. But if you can become the go-to resource for market intelligence, innovation, and links to the startup world, you will position yourself for success. ⬢

All Over the Place: Tips on Managing a Distributed Team

BY FARRELL CALABRESE
CREATIVE MANAGER
EASTMAN INNOVATION LAB

THE EASTMAN Innovation Lab is a strategic program that connects the material scientists of Eastman Chemical, a $9.5 billion global specialty chemicals company, with the industrial design community. It exists both to ensure that our materials and technology portfolio support the future needs of the market, and as a way to educate designers about the possibilities and constraints of the materials Eastman produces, from fibers to films to polymers.

The Lab itself does not exist in one physical place, but instead leverages the talents and capabilities of both the design community and the world-class technology experts who work for Eastman.

It also exists in digital form, using storytelling to inspire the design community to understand why materials matter. Last year, we relaunched the Eastman Innovation Lab website and began leveraging its content across social as well as traditional media channels with the objective of stimulating a conversation around why "#materialsmatter."

The website itself is a repository of case studies highlighting collaborations and applications born from new designs and innovations. These case studies link to an extensive materials library, helping designers understand what materials were used and why they were chosen.

My career started off as a collegiate rowing coach, helping to select and manage a team of over 60 athletes. Then, I married a collegiate soccer coach and my career took a turn into marketing and brand management. My philosophy in team-building is founded in athletics, and as a result, I am always looking for the right player for the right role. As we kicked off the new content strategy for the Eastman Innovation Lab, I knew I needed a small but robust team that had a passion for design and were individually high performers. I also knew that because the nature of the job was digital communications, they all didn't have to sit at HQ. In fact, none of us do.

Managing a remote team—ours fluctuates between five and nine people—comes with

its own set of challenges. Below are six tips and tools I use to manage ours.

1. Hire The Best For The Job Eastman is headquartered in Kingsport, Tenn.; I live in Miami (though I worked at HQ for over 6 years.) We also have team members in South Carolina, London, New York, and Virginia. The reason I hired from such a diverse group of locations is the same reason Eastman kept me on when my family needed to move to Miami—you work with the best for the job. Our publicity team has to be in New York, where most of the media lives. Our production and web team happen to be in London. I don't think the "right" location should be a pre-requisite to being hired. Instead, the candidate's exceptional skill set and values need to align with the mission of the organization.

2. Playbook The first thing we created was a playbook to keep us all on track. First and foremost in our playbook are the team rules. We also have documented the Eastman Innovation Lab's tone for content, its look and feel, projected user personas as well as notes on how we want to engage with them, overall yearly objectives, strategies we will utilize to achieve success, and goals we will measure ourselves against. We spent a good month refining our playbook to make sure it would be there for us consistently when we had questions.

3. Weekly Check-In Calls Because we can't pop into our neighbor's cubicle, we need weekly check-ins to make sure each teammate knows what's hot on their plate (or maybe so they can tell me what's hot on mine!) It's a great time to give feedback and refocus on the tasks at hand. Every other week, we have a full team call so the left hand always knows what the right is up to. It can be easy to become a lone wolf; these calls make sure we're functioning like a finely-tuned pack.

4. Texting, Texting, Texting We are all busy people and things are bound to slip through the cracks. Generally, offices shun texting, but, surprisingly, for our team it is a true lifesaver. Everyone our team uses texting to give nudges about something they are waiting for, or schedule phone calls. I routinely communicate with direct teammates as well as the larger Eastman and design communities from my phone—and a response could be as easy as a thumb-up emoji. Being able to text with each other keeps us connected in a friendly, yet efficient way.

5. Outlook Calendar One of the tools we rely on more than anything else is our Outlook calendar. It syncs across everyone's calendar and keeps our numerous meetings and calls in order. When a call is scheduled, we instantly book it through our calendar app, and everyone gets invited. Call-in numbers are right there, along with meeting talking topics. It gives us structure where we need it most. We can also use it to put reminders of due dates for content being produced. I use my calendar (which, thank god, syncs with my phone) to get quick snapshots of days, weeks, and even months.

6. Get Together In Person Even though we have weekly calls, and constant communication through texting and email, I've found it's really important to make time for face time. About once a quarter we all fly to one place to brainstorm and figure out next steps.

At these gatherings, I am a strong believer in discussion guides. For me, what this means is having an outline of how we are going to use our time together—the meeting's objective, and then what the desired outcome will be. Because we have such limited time together, I want to be as efficient as possible. I am a creative and work with creatives—we like to chase shiny things! Discussion guides allow us to have the flexibility of conversations in a more deliberate workshop environment that ensures that we leave the get-together accomplishing what we set out to do, and knowing what we actions we have in front of us.

One last important thing: we socialize together. Making sure we maintain good team chemistry keeps the directness of phone calls and emails from being misinterpreted. I find these meetings create the space for us to talk about our personal lives and goals, make jokes, or share a meal that can carry over to the beginning of a call when we are working remotely. For me, working together is not just business, it's a relationship—and when you spend more than half your life at work, you should enjoy the folks you work with! ●

Leveraging Your Unfair Advantage

BY **ANDREA KATES**, **GLIDR**

HIGHWAY 101 RUNS FROM SAN FRANCISCO TO San Jose, right through the heart of Silicon Valley. Up and down 101, the Valley is now dotted with an increasing number of corporate innovation centers whose aim is to bring some startup mojo back to corporate HQ. Every week, we see executives from around the world coming to San Francisco, spending the week touring startups, accelerators, and shared work spaces in an effort to figure out the secret to the Valley's success. Is it something in the water? Is there a way to decode the formula for innovation and apply those lessons to corporate growth?

Since so much disruptive change has come from Silicon Valley, large companies have naturally looked at what makes them different in an attempt to replicate their successes. This has resulted in practices that lean innovation pioneer Steve Blank calls "innovation theater." Make the office space look more like Google. Throw in free meals, add bikes to ride around the campus, and build a café where teams can collaborate.

For all the innovation theater going on in the Valley, there is scant evidence that the return lives up to the promise. Save the millions spent on brightly-colored office space. Most of these endeavors provide more false hope and distraction than a strategic jumpstart to the true potential of innovation—new, sustainable sources of revenues. In isolation, they simply don't constitute an innovation strategy that a company should expect to yield results.

We've all heard the rumblings that disruption is happening to large organizations. The next Uber or Airbnb is just around the corner. But this article isn't about stoking more anxiety, it's about practical advice.

True, there is much to learn from startup culture. But for most large companies, trying to act like one is a fool's errand. Large enterprises exist for a reason. They have top-notch talent, global supply chains, and brands that keep customers loyal and help protect margins. Those and other assets constitute your unfair advantage against any startup that looms on the horizon. Instead of trying to be something you're not, the real secret to be learned from the Silicon Valley mojo is not to strive to impersonate a startup, but to cleverly leverage your assets with the nimbleness of a startup to lead your market.

Embrace Your Unfair Advantage

Redeploying assets in new ways requires a new skill set—systematically thinking like scientists and applying a test-and-learn approach to develop new ideas. What startups excel at is ingesting evidence and rapidly pivoting to best commercialize their ideas. Large companies, regardless of their track record in innovation, have to adjust their thinking to adapt this mentality. By moving from a rigid "plan and launch" cadence from the 20th century to a more evidence-based, agile approach, big enterprises can capitalize on the assets that allow them to achieve scale faster than any startup can. (Those assets are represented in the graphic on the facing page.)

Regardless of what industry you're in or how far your company has advanced in your innovation strategy, your unfair advantages give you a head start over any new entrant. Embrace these advantages, and use them to help you decide what separates a good idea from a great idea from your next billion-dollar idea.

What makes these advantages truly special is not how you can leverage them to capitalize on your existing business models, but how you can use them to find new and unclaimed territory. How can these resources enable your company to move into

ASSETS BIG ENTERPRISES HAVE

a competitive space? How can your insights into customer preferences inform your next product innovation?

Take a minute to think about your company's unfair advantages; write them down and think about how they can and should influence your innovation strategy.

Add a Dash of "Startup Magic"

Now that you know what positions your company for success, let's take a step back to talk about the advantage that startups do have over you: agility. When you lack for company history, culture, a (insert company name here) way of doing things, you can move quickly and change on a dime.

By the time startups are successful, it's rarely with what they set out to do in the first place. Uber was exclusively for hailing high-end, private transportation, not sharing a backseat with a stranger in a Toyota Corolla. Remember getting DVDs in the mail from Netflix? Being nimble is how you can go from a bad idea to a good idea to a great idea, and with some luck, to your next billion-dollar idea.

We always talk about the notion that "no idea survives its first contact with customers," but we're probably understating it a bit as well. In reality, you need to continuously speak to customers, and prove market viability through experimentation, all the while looking at the unfair advantages you just wrote down on a napkin. When you start acting like the company you are, utilizing your size as a strength and not a weakness while incorporating some startup agility, then you have a dangerous combination. Agility, or lack thereof, is your greatest weakness in innovation. If you can reduce, or even eliminate it, you'll be unstoppable.

Nintendo recently showed how it's done with the release of Pokémon GO. Nintendo leveraged brand, financial resources, and expertise in game development that enabled them to tap into a new market (mobile gaming) with incredible success. The result, Pokémon GO, hit 100 million downloads on Android in its first month and generated over $200 million in revenues.

Boldly Go...

Our hope is to give you a formula for success, but of course it depends on you to realize it. Continuous disruption requires continuous innovation built on a strategy that leverages your strengths, while accounting for your weaknesses. These practices may be outside your organization's comfort level, but complacency is the only thing scarier than change. So, enable your company to boldly go where it never has gone before. ●

TO LEARN MORE, DOWNLOAD THE "LEVERAGING YOUR UNFAIR ADVANTAGE" WHITEPAPER, AVAILABLE AT ADVANTAGE.GLIDR.IO. GLIDR IS A SOFTWARE COMPANY THAT HAS BUILT THE WORLD'S FIRST INNOVATION PORTFOLIO MANAGEMENT SOLUTION, ENABLING LARGE COMPANIES TO EXECUTE ON THE BEST IDEAS THEIR INNOVATION PIPELINE HAS TO OFFER.

Open Science

HOW ASTRAZENECA IS MAKING OPEN INNOVATION PAY OFF IN THE PHARMACEUTICAL INDUSTRY

INTERVIEW BY SCOTT KIRSNER

PHOTOGRAPHS BY TROY CALDEIRA

“THE PATIENT DOESN’T CARE WHO SOLVES THE PROBLEM.”

That, in the words of Scott Wilkins, is the big idea behind AstraZeneca’s push to open up its innovation process, creating ways for smart people outside the walls of the $25 billion British pharma company help it solve tough problems.

If there’s a new drug that can help patients, who cares how many of the people who contributed to its creation were on the AztraZeneca payroll?

As part of our Innovation Leader Live series of conference calls, we spoke recently with Wilkins, Enterprise Innovation Director at AstraZeneca, and his colleague Rob Albert, the Collaboration Delivery and Exploitation Lead. While AstraZeneca is headquartered in London, Wilkins and Albert work at the company’s Waltham, Massachusetts research and development site.

They talked about the history of the open innovation program at AstraZeneca; how they use recognition and financial rewards for people who help them with challenges; how they got legal and compliance leaders on their side; and how they're shifting the culture at AstraZeneca from feeling like every great breakthrough needs to come from an employee.

Worth a look is the AstraZeneca website for open innovation challenges that anyone in the world can respond to, at openinnovation.astrazeneca.com.

HOW OPEN INNOVATION GOT STARTED AT ASTRAZENECA

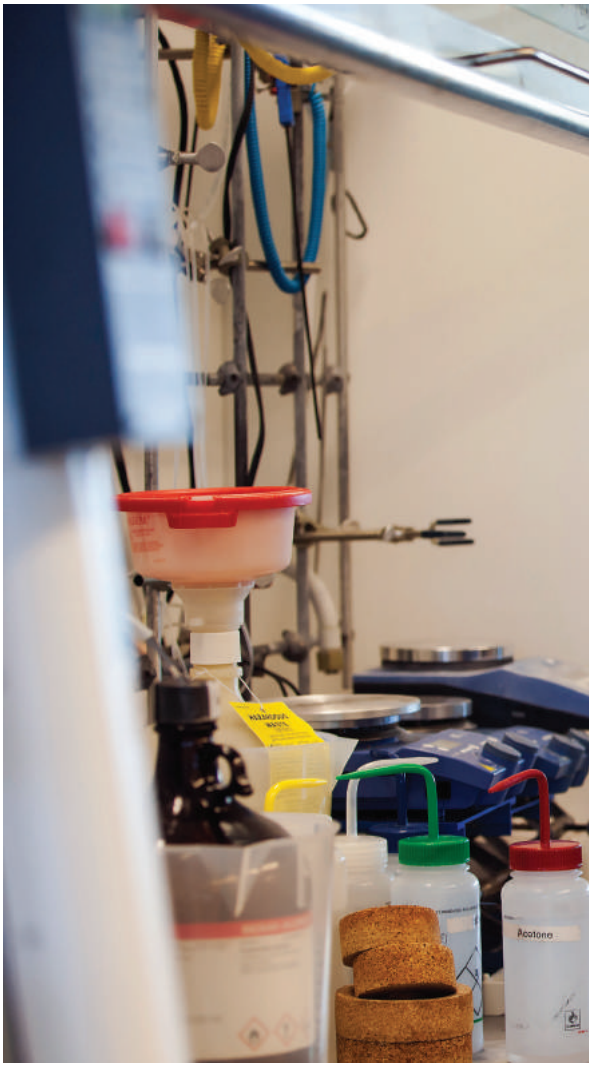
SCOTT WILKINS: It really started back in 2010. We were looking to build our pipeline up, to replenish the [products on the market] that were coming off patents.

There was a gap there, and we needed a step change in the way we did R&D. New leadership was brought in, and one of the top things that I heard from the leaders was that we're not working together enough in R&D. The therapeutic areas aren't working together, and there are too many silos. We have 10,000 people in R&D, and a large R&D budget. How can we do things differently?

One of the things that I saw was around crowdsourcing. You [could] get someone in the cardiovascular therapeutic area that's a chemist, and someone in oncology, and they can help each out with their problems and their challenges. The issues are that they're in different therapeutic areas, so they're not necessarily in the same circle. They might be spread out geographically, too. One could be in Sweden, the other could be in the UK or the US. How do we get these people together? We piloted some tools and we decided to go with one called iSolve. That was our internally-branded internal collaboration tool [built in partnership with InnoCentive, a crowdsourcing platform.] That was around connecting the 10,000 people that we had globally.

Oncology was interested in getting some of their problems out to the different therapeutic areas. When we did the pilot with oncology, we would send [challenges] out to pretty much everyone in R&D.

We started with internal innovation. Then we thought, "How do we do open innovation [externally]?" We built up confidence, ran a bunch of events, solved some significant R&D problems, and that set the stage to [create] an open innovation business case that was supported by the R&D leadership team.



That launched in 2014, and has been going well. The team actually won a CEO award. It's a company of 60,000 people, and there's a handful of these awards to go out each year.

SOURCING PROBLEMS TO WORK ON

We had support of the R&D leadership team, and so we had representatives for each of the [therapeutic] areas, and they would go out [and] would look for challenge owners.

[Challenge owners] are people with problems who would raise their hands and say, "I need some help," and they would post it out. The reward for them is, they get their problem solved. They would be able to make a decision from there, to either advance [a project or] to stop a project, because you have new information that the project's probably

Beginning in 2012, scientists at AstraZeneca began asking colleagues in other departments and other geographies for help on vexing problems. In 2014, they started inviting the rest of the world to chip in, offering monetary rewards for the top solutions.

not going to make it into a drug, or make it to the next phase.

We launched iSolve and the internal platform in 2012. It was in 2014 that we launched the open innovation site. It was in development for about a year... We wanted to be careful. It's getting the right problems out there, the ones that we can't solve internally. The other thing is around intellectual property transfer, legal implications, [and] compliance.

There were just a lot of groups we had to work with, and I guess my advice is to involve these folks early, and try to partner with them, and have a balanced, risk-versus-reward discussion. I think that helped us move the conversation forward, rather than just focusing on risk [and] potential IP issues.

You can have that conversation, but also balance that with the benefits. The benefits are that we've got 10,000 scientists, and we've got hundreds of companies, and academic institutions, and government institutions that we partner with. But there's several billion people in the world, and those answers to our problems could be beyond our current scope right now, with the partners that we have and the folks in our R&D facility.

GETTING THE RIGHT PEOPLE BEHIND IT

We had examples of other companies doing [open innovation externally.] I think the key was that we had the top scientific leadership on board with this, including the heads of R&D. In our process, it's the person in charge of a therapeutic area that reports into either the head of research, or the head of development. They're the ones who sign off on any challenge that goes outside.

The next thing, after we got scientific leadership and senior scientists on board, was getting legal on board. Scientists know a lot about the IP, and they know what risks are there, so it was about explaining to legal that, "OK, we have the head of the therapeutic area, and the senior scientists who are comfortable with putting this problem out there."

Then, if something came up with compliance, we would have our colleagues in legal talk to the people in compliance on why this should go forward, and what the benefits are to the company. It's getting your ducks in a row, so to speak, which is helpful for us.

ROB ALBERT: Really, the only other company opening the door at that time [was Eli] Lilly. If you look back, actually, the founder of InnoCentive came from Lilly, and he's back at Lilly now. But we, AstraZeneca and Lilly, are really the pioneers in opening up this kind of innovation, and open collaboration.

SUCCESS STORIES

One of the examples that Scott and I generally like to share is that we were asked a question from the manufacturing group in the UK. They were trying to manufacture a clinical [drug] candidate, and they needed some help. They weren't getting any traction through the normal means, so we posted the challenge on iSolve, and one of the scientists from our Waltham [site] actually logged on and said, "I did this kind of work as a grad student. This is what you need to do. You can take out these two steps, you can eliminate this expensive catalyst. By the way, you're going to cut down on multiple gallons of severely toxic waste." That had the potential to save millions of dollars. It was a huge success. He was actually recognized at the end of the year, at a dinner... That kind of success breeds success.

AstraZeneca Collaboration Delivery and Exploitation Lead Rob Albert

"What we've decided to do—which is a complete about-face for pharma—we said [to outside parties], 'Come take our compounds, repurpose them, and tell us what you want to use them for.'"

[Another] of the things that I like to talk about is...we have compounds [that] went [into clinical trials] and failed for one reason or another. Now, it could be they failed for efficacy for their intended target, or it could be they failed for safety margins.

What we've decided to do, which is a complete about-face for pharma, is instead of just allowing those compounds to sit on a shelf and serve no purpose, we said [to outside parties], "Come take our compounds, repurpose them, and tell us what you want to use them for." Out of that are going to be delivered two new medical entities for cancer treatment, which is awesome, because that's two compounds that were literally put on the shelf, and now they're going to be delivered to change people's lives. It's really, really cool stuff.

Some people suggest that open innovation and crowdsourcing tools are really only useful for incremental problems and solutions, and not for breakthrough or disruptive ideas. One

of the paradigms that we're trying to challenge is the view that this can only be helpful in certain situations. My own take on that is, that can be true if you don't have an overarching program with an overarching goal.

We're not just paying lip service to open innovation. We're actively promoting our open innovation. We are partnering with people like the Medical Research Council in Cambridge, England, and we're partnering with tons of [other] academic institutions. We're partnering with other pharma and other biopharma [companies], so there's a lot of collaboration that's coming directly out of this open innovation platform. I'm sure that you are all facing budget constraints, and budget cuts, and travel restrictions, and [the need to] do more with less. Open innovation is one way to do more with less. This is one way to take advantage of expertise and best practices that we all have in our own companies.

BEST INCENTIVES

With internal innovation, we tried [offering financial rewards to employees who participated] in the beginning. It was just that the recognition, when [we followed] up with the challenge winners, they said that the recognition was more important. If you look at his TED Talk, Dan Pink has a nice video on [how] at the poverty level, money is an incentive, but when people are getting paid, it's not going to do much.

We have year-end iMed, or integrated medicine, awards. We have year-end CEO awards, we have year-end CIO awards. This past year, we were encouraged to submit a video explaining why we deserved to be considered for the CEO award. I'll use the innovation team. Out of a hundred main entrants, we were in the top three. That, to me, was really awesome. We got a plaque, and we had dinner, and we got recognized at the CEO awards, which was broadcast via webcast.

Our video was shown. It was a 90-second video, and it talked about the cool things that we do. We saw an uptick in that, and interest in our website, and people coming to us. Like anything, recognition and communication go hand-in-hand, and at the end of the day, we're a company of scientists... We like to solve problems, for solving problems' sake. We're not motivated by money. We're motivated by recognition from our peers.

With external challenges, what InnoCentive [our partner for those challenges] has seen through their postings is that if you post a challenge, and you don't post an award that's appropriate for the type of challenge that you're posting, you're going to get garbage responses. What it shows is that we're putting skin in the game. We are going to reward you for well thought-out answers to our challenges. That makes a big difference to external parties, because the top solver at InnoCentive pretty much does this as his full-time job. He solves lots of challenges on the InnoCentive website, because he's just a brilliant thinker.

POTENTIAL PITFALLS

You have to get legal and compliance to be your friends, first. You have to make them understand why you're doing [open innovation], you have to show the clear cost benefit, and then I would take that one step further. You have to show the reason why, if you don't do this, what the drawback is going to be. I would seriously consider communicating why not doing it will be a failure. For the pharma industry, not doing it would lead to your competitors doing it, and having an edge over you. That's just an oversimplification, but that's one argument in favor of doing it.

SCOTT WILKINS: In the past, people may have looked at putting a problem out there as a weakness, right? If I put my problem out there, [my competitors are] going to know that I don't have the answer. What we talk about [now is that] the patient doesn't care who solves the problem. The business and the shareholders don't care who solves the problem, so you're not responsible for solving the problem. You're accountable for solving the problem. I've seen a lot of lights go off with scientists when we say that, and it's almost like they're able to let go of any fear that they had once they get that. ●

LISTEN TO THE COMPLETE CALL AUDIO ON INNOVATIONLEADER.COM. UNDER THE "EVENTS" MENU, SELECT "INNOVATION LEADER LIVE."

BBVA
Madrid

Startups Wanted

Innovation Leader

ADVICE ON RUNNING A GLOBAL STARTUP COMPETITION FROM SPANISH BANK BBVA

STORY BY
SCOTT KIRSNER

PHOTOGRAPHS BY
JULIA ROBBS

BBVA
Madrid

Lots of large companies are launching competitions to help them connect with startups operating in and around their industries. ¶ But Scarlett Sieber, Senior Vice President of Open Innovation at BBVA, the Spanish banking giant, says they often underestimate how much effort it will take to make sure the best startups want to participate—and to get them working with the right business leaders in the company. ¶ Sieber, a former entrepreneur herself, also says it's essential "to provide value for the companies. That doesn't only mean the winners or the finalists. You need to work for the companies, and help them find other opportunities." ¶ The bank, headquartered in Madrid, has 50 million clients in more than 30 countries; 2014 revenues were $35 billion. It has run the Open Talent startup competition for seven years.

BBVA
Madrid

WORK TO PROVIDE THE MOST VALUE FOR STARTUPS THAT PARTICIPATE

"We focus a lot on what can we do to get people and startups excited about this. Try to put yourself in the position of the startup. If you're just getting off the ground, a $10,000 prize could be a big deal, but there are hundreds of competitions going on. How do you differentiate which ones are worth applying for? They want to know, 'How is this going to be helpful to me?'"

To be helpful, BBVA made sure that the finalists in its competition got plenty of face time with company executives. Before they came to an in-person event called BBVA Day, Sieber's team sent out surveys, asking them who they wanted to meet with. "Most of them said they wanted to talk to people from compliance, legal, and risk, so we made sure those people were there," she says. "They all gave presentations, and startups could have a kind of speed-dating conversation with them."

"This year, we got the executives involved very early on. We asked many of them to be an initial screener for applications."

Finalists got to dine with top bank executives and have more free-form conversations over the course of the meal. They also got help honing their presentations. And the six winning startups participated in a two-week long Global Immersion Program—one week in Mexico City and one week in London—which gave them even more access to bank executives.

Sieber says that startups think carefully about applying to accelerator-style programs when the organizers make a small seed investment and get equity in return. As a result, with Open Talent, BBVA doesn't ask for a slice of equity, and it offers 30,000 Euro to each of six winning companies.

GET BUSINESS LEADERS INVOLVED EARLY IN THE COMPETITION

"Initially, when we had the winners, we'd go to business units and say, 'Here's a lending company, you're in lending, why don't you work with them?' This year, though, we got the executives involved very early on. We asked many of them to be an initial screener for applications. There was a small group of 10 of us—including representatives of many of the relevant business units—who went through the top 40 [applications] for each region and winnowed them down to top 20." Sieber and her colleague Marisol Menendez, Open Innovation Manager, also interviewed business unit leaders about technologies and topics they found exciting, things they found frustrating, and the types of startups that they might want to partner with.

Those conversations led to Sieber putting together a spreadsheet that included not just the startups who won the competition, but other entrants who are working on things that may be relevant to those business units within BBVA, so they could consider who they might want to collaborate with once the competition had wrapped up. "I want to provide value for the companies," Sieber says. "That doesn't only mean the winners or the finalists. You need to work for the companies, and help them find other opportunities."

EXPLAIN CLEARLY WHAT KIND OF STARTUPS YOU'RE LOOKING FOR

In the first six years of the Open Talent competition, any sort of startup could apply. In 2015, BBVA decided to make the program specific to financial services, or fintech, ventures. Here's how it described the types of startups it was looking for:

DON'T UNDERESTIMATE THE NEED TO PROMOTE

Sieber says one of her objectives in 2015 was to get more U.S. startups applying to Open Talent. That meant getting out to events around the country, and promoting Open Talent in e-mail newsletters that entrepreneurs read, like *GarysGuide* in New York and *StartupDigest* in cities around the country.

Sieber poses with winners of BBVA's Open Talent competition, right and above

"Face to face interactions were really valuable. I'd go to a big event in Chicago and speak to 2,000 people. Our message might only resonate with 100 people, but fifty would come talk to me afterward, and it gave me a chance to talk about why it's worth applying to."

In talking with entrepreneurs, "you don't have to give them the secret sauce," or inside information about how to win. "But you can tell them it's good to explain what your company can do for the bank, and why we should be excited about that," she says.

Of the 166 applications that came in from U.S. companies, Sieber says she'd met or spoken on the phone with a majority of those. "It does take a lot of hand-holding. You can't just put up an application page and hope good people will apply."

MEASURE WHAT REALLY MATTERS TO YOU

"The number of pilots and proof of concepts that come out of Open Talent is an important metric for us, and it's one of the reasons we shifted [the competition] to be fintech-specific. Before, there wasn't an obvious fit within the bank" for many of the companies that came out on top. Of the six winners from the 2015 competition, "there are four very obvious opportunities for pilots and proof of concepts," Sieber says, and she knows of at least one that will get started this month.

"Face to face interactions were really valuable. I'd go to a big event and speak to 2,000 people. Our message might only resonate with 100 people, but fifty would come talk to me afterward."

BBVA also has an internal program that can connect the startups with bank employees willing to be beta testers for new services or technologies, she says. "We are a bank of over 130,000 employees, so this is a great test case to get more data and feedback on how your idea is working," she says.

Metrics, she says, are key to most innovation initiatives in large organizations. "This isn't just about startup competitions, but it's about venture funds or innovation centers," Sieber says. "Not knowing why you're doing it is a big problem. What does success look like? What can you measure to tell if you're getting there?" ●


- Blockchain
- Alt lending
L consumer
L SMB
- payments

Four Leadership Changes Vital to Enterprise Innovation

BY **BRANT COOPER**, FOUNDER OF **MOVES THE NEEDLE** AND AUTHOR, *LEAN ENTREPRENEURSHIP*

EVERY NEW YEAR BRINGS OPTIMISM. IN JANUARY, we declare our resolutions, even if they're the same as last year's. And each year, large enterprise CEOs inspire employees with a call to action: "This is the year that we're doing a big push to innovate."

It's a necessary first step to enterprise innovation, but that alone will not be an organization's saving grace. If you want employees to innovate, they need to work differently, and it's up to the leadership to create an environment that enables them to do so.

Here are four of the biggest leadership changes that drive real results:

1. Walk Back Wall Street

In the 1970's, Milton Friedman argued the role of business was to maximize value for shareholders. Unfortunately, when the primary focus of large corporations is hitting quarterly earnings, it's like leaving Michael Jordan in the game for all 48 minutes, every game, all season. Inevitably, he'll burn out.

What you do to maximize profits today is different than what you'll do to maximize quarterly earnings, yearly earnings, etc. Take Honda: they have a 500-year plan. Larry Fink, CEO of BlackRock (the world's biggest investment firm, managing $4.6 trillion), recently shared a letter to all CEOs in an effort to combat short-termism. "Many companies continue to engage in practices that may undermine their ability to invest for the future," Fink wrote.

Making Wall Street happy through the next earnings report incentivizes lower operational costs, increased productivity, increased sales, and ultimately quarterly profits. We ask questions like "what's the return on investment?" and "when will we see the return?" This is valuable for existing products and short-term profitability, but when venturing into unknown and innovative territory, that's not what we want to incentivize.

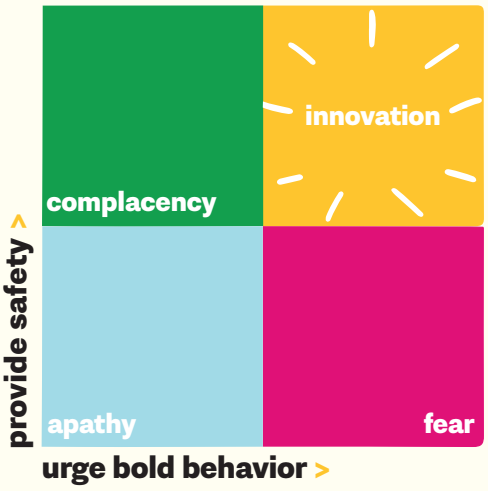
In order to innovate, we need to incentivize things like understanding customers' needs, taking risks, learning, and iterating on ideas to get them right. This is why companies like Amazon have publicly stated they're not about profitability. Instead, they reinvest profits back into the business to grow and explore new markets and products.

So ask yourself, are we going to maximize shares over value, or are we going to maximize creating value for our customers and for our employees, and then also for our shareholders? Have you truly maximized shareholder value if your company is disrupted because you were only focused on the next quarter?

2. Creating a Culture of Safety

It's a humorous contradiction when senior leadership goes around telling people to "be more innovative! Be bold! Take action!", but the culture in place makes doing that seem foolish.

Without instilling a culture of safety, the existing structures and success metrics in place will lead to fear and inaction, not



successful new products. Instead, the push for bold behavior needs to be coupled with a culture of safety.

For example, instead of a top-down mandate, General Electric deployed a program called FastWorks. They started a grassroots culture that embraced nimble experimentation and failing small, instead of failing big. As a result, they've had lots of success and a massive internal transformation.

The CEO of another one of our clients had a team come up on stage at their leadership summit to share a story of a new product initiative that was put to sleep after some discoveries that invalidated the product. The CEO showcased their "failure" to encourage similar behavior.

In order to create new wins, your organization needs to embrace learning instead of fearing failure.

3. Mentor, Not Manage

Managing people makes a lot of sense when there are very specific tasks and outcomes. It makes sense on existing products that need repeatable processes.

But that's not how innovation happens. Embracing learning over execution and instilling the right mix of people and process around the 3 E's of innovation (empathy, experimentation, and evidence) is vital. In order to instill those values and processes, mentoring is the key, not managing.

Keep in mind that when we say mentor, we're not simply talking about how can you help young employees manage their career path. That's part of it, but it's really about how we mentor inside the unknown part of our businesses. How can we guide teams to expose their own assumptions, run experiments to generate data through customer interaction, and use that data to make evidence-based decisions? That's what creates the environment for insight, and gets teams to work in this new way. (See graphic at right.)

4. Innovation is for the Many, Not the Few

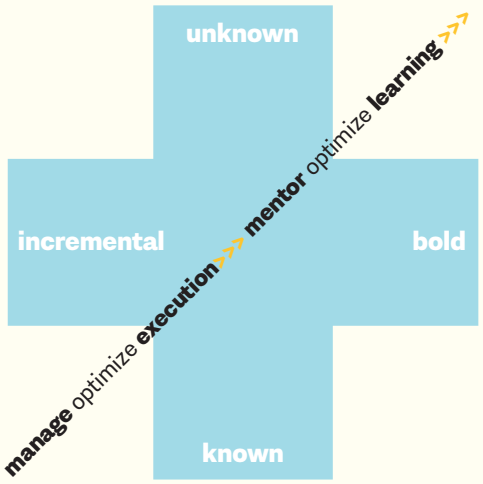
Too often, we see big companies try to solve the innovation problem by leaving it all up to a five-person innovation lab. This is a step in the right direction, but one team won't be the saving grace of an entire organization.

Innovation needs to be everybody's responsibility. All employees should be closer to the customer and capable of not only finding new insights, but taking action upon them. We saw a finance team within Intuit unlock tens of millions of dollars, after they interviewed customers to learn that even though their credit cards had expired, they still wanted to continue their subscription. Marketing people who learn entrepreneurial skills can test new customer acquisition and conversion ideas. HR folks can improve internal processes.

Innovation can (and should) start small and then snowball into creating a culture of innovation and experimentation. Form one team, then use that to begin shifting the way other teams work. Use small wins and growing evidence to inspire others to work in a different way, and soon that new way can become the norm. Not everyone will be an innovator, but innovation can come from anywhere.

Innovation isn't guesswork, nor are there any silver bullets. What we do know is that we have the power to create environments where innovation is more likely to emerge.

Through creating a culture of experimentation, and paying keen attention to the four leadership changes outlined here, we're excited to see the way corporations like yours innovate and evolve in the coming years. Happy innovating! ●



TO LEARN MORE, DOWNLOAD THE GUIDE "5 WAYS TO SPARK INNOVATION AT YOUR ORGANIZATION," AT MUVZ.ME/5WAYS-GUIDE.

Case Studies

3

Fall
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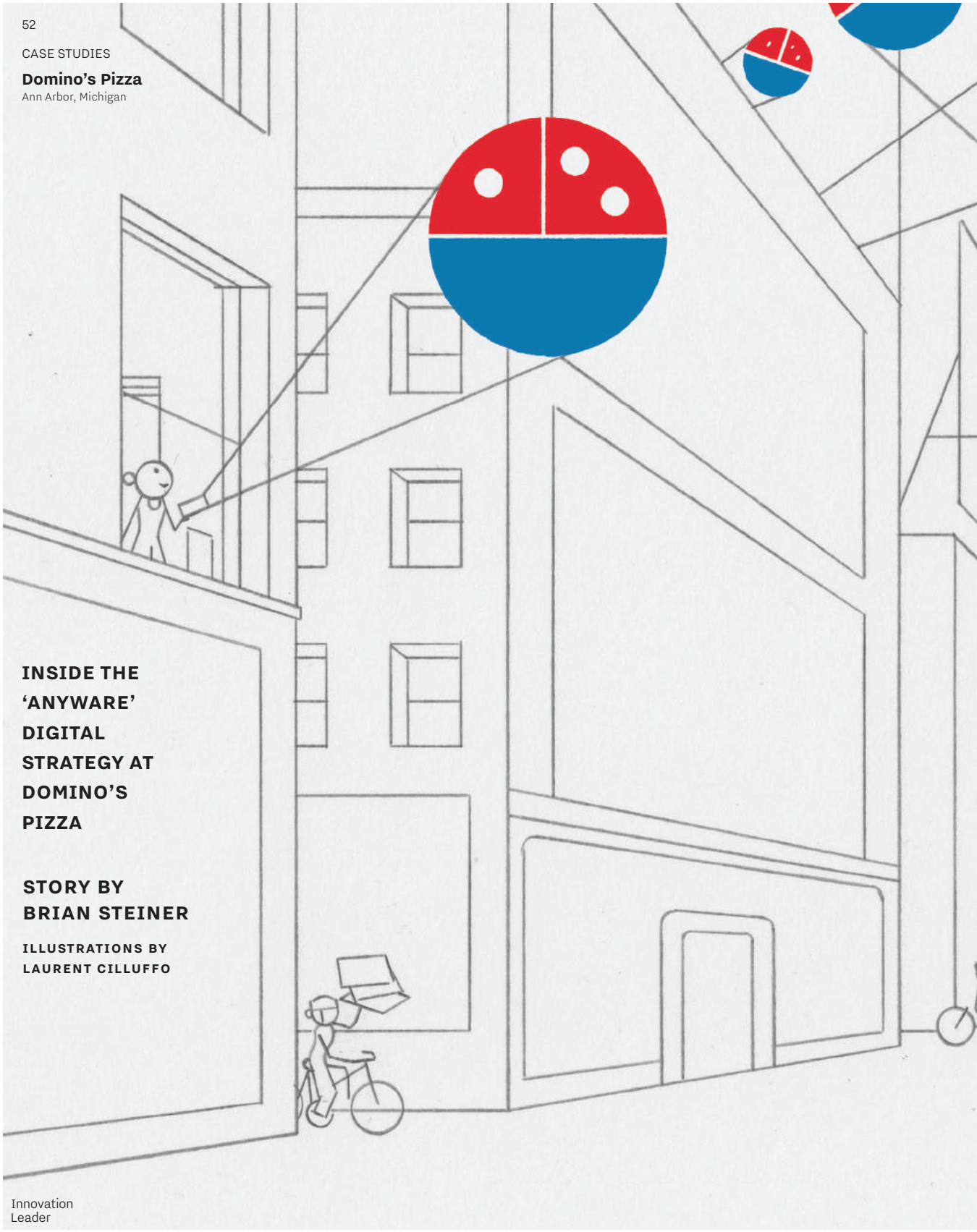
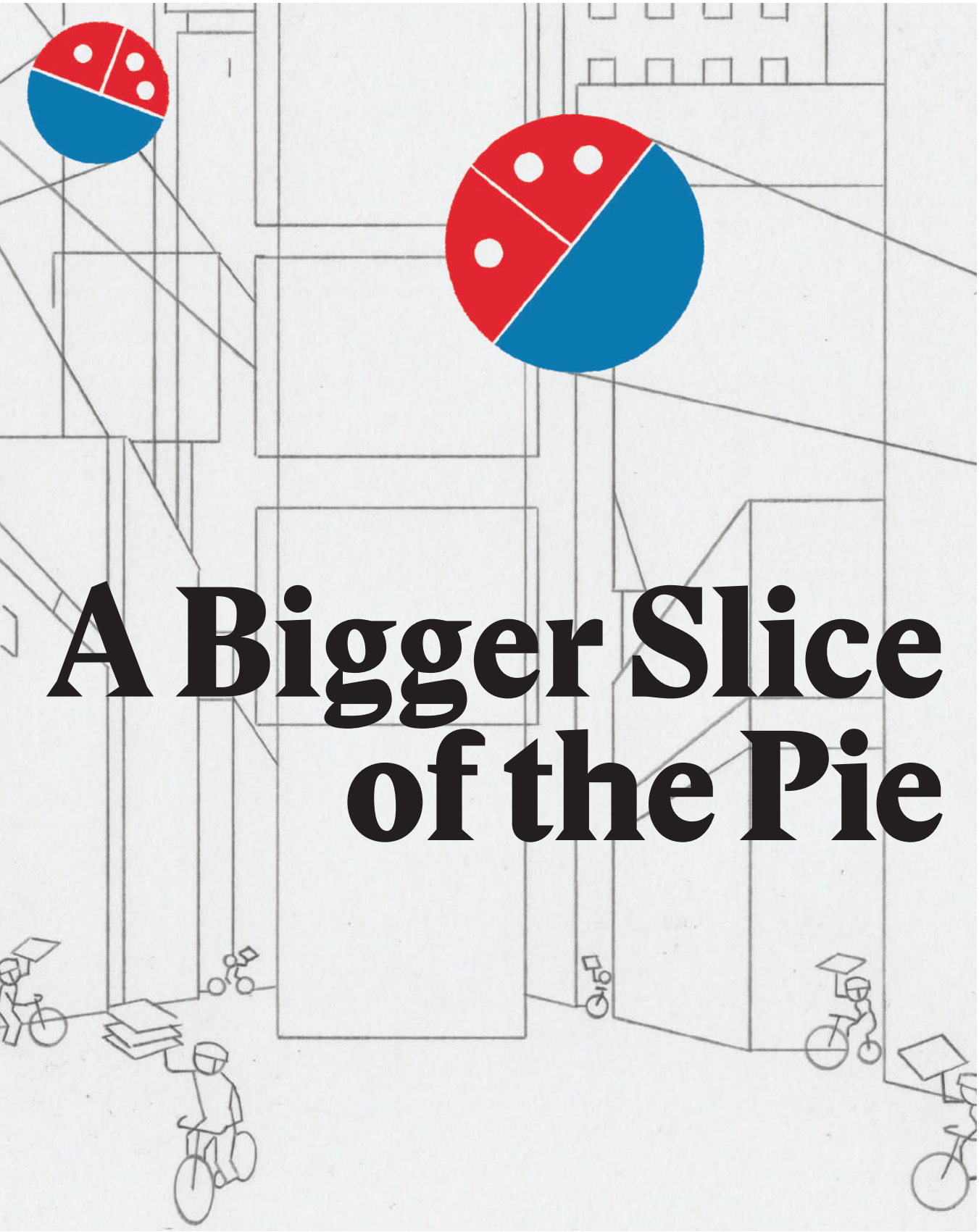


INSIDE THE 'ANYWARE' DIGITAL STRATEGY AT DOMINO'S PIZZA

STORY BY BRIAN STEINER

ILLUSTRATIONS BY LAURENT CILLUFFO



A Bigger Slice of the Pie

The recipe for success in the hotly competitive pizza industry isn't just about the best sauce, crust, and toppings. For Domino's Pizza, it's also about new digital channels that let customers order its food as soon as the thought occurs to them, regardless of where they are.

Betting big on digital has been very good for Domino's Pizza, the nation's second largest pizza chain by sales and locations, after Pizza Hut. In its latest quarterly earnings report, the Ann Arbor, Michigan company said same-store sales grew by 9.7 percent at its domestic franchise locations. (By contrast, Pizza Hut's same-store sales numbers have been stagnating.) And for the full fiscal year in 2015, Domino's said orders placed over digital channels hit $4.7 billion. Domino's chief executive J. Patrick Doyle attributed those solid numbers in part to the company's steady investment in technology.

"About five years ago we were a pizza company that sold online. We are now an e-commerce company that sells pizza."

Overseeing much of that investment is Dennis Maloney, Domino's Chief Digital Officer. "We are now at the point where more than half of our orders and our sales are coming through our digital channels — which makes us a very big e-commerce company," Maloney says. "And that's really about the way we think of ourselves. About five years ago we were a pizza company that sold online. We are now an e-commerce company that sells pizza."

Maloney discussed the transition from neighborhood pizza shop to e-commerce innovator and emoji proponent in a recent interview with Innovation Leader.

Emoji? Yes, in mid-2015, Domino's made it possible to send a text message with a pizza emoji, and have your previously-stored usual order show up at your door. Customers can also place orders on the web or even by speaking to an Amazon Echo device.

But rewind the clock a few years, and most orders were placed with an old-fashioned phone call.

"Customers have always been pretty satisfied with the pizza ordering experience on the phone. But...you may have a situation where the person in the store is the only person in the store, so they're dealing with three or four things and they're really rushed," he says. "When you place an order online, you have ultimate control. You get to see the entire menu, you get to browse, you get to add products to your cart... So it's just a much more controlled experience."

The company had an ideal opportunity to grow its online presence in late 2007 and 2008. At the time, it was undergoing a consolidation of several regional ordering systems into a single national online ordering platform, Maloney says. In addition to desktop and mobile websites, customers can place orders through specialized apps for iPhone, Android, Windows, Kindle, and iPad devices, Maloney says. The apps allow customers to not only custom-build a pizza, but track its progress through every step of the process, from assembly and baking to quality assurance and delivery. The company calls these new apps "AnyWare" platforms.

Over the past year, the company's own programming teams have built AnyWare apps for Ford cars and trucks equipped with the SYNC in-vehicle communications and entertainment system; Samsung smart TVs; smart watches from Apple, Pebble, and Android Wear; Twitter and text messages using pizza emojis; and the Echo, an Internet-linked device that is controlled by voice commands. Each of the product launches has been a driver of steady digital growth for Domino's, and a source of repeat customer business.

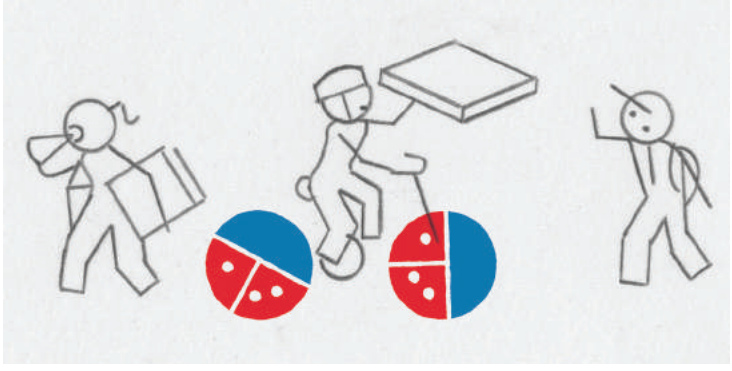
"A lot of our customers are using platforms and technologies that, while they still have screens in them and still have very interactive capabilities, have not been what has been considered a traditional ordering platform," Maloney says. "We want to make it as easy as possible for people to order pizza using whatever platforms or technologies they're comfortable using."

About 70 people work on Domino's enterprise e-commerce team developing the various AnyWare apps; the company doesn't rely much on outside vendors. Maloney says that access to customer data and feedback allows his team to continually improve and fine-tune the company's digital sales platforms.

"Our digital orders have higher customer satisfaction, and actually result in higher profit because our customers have [access to] a better mix of products," he says. "They actually end up getting the products they want. So customers are happier, our franchisees are happier, Dominos as a corporation is happier. It really winds up being a win-win-win all around."

While Domino's 12,119 locations are largely operated by franchisees, Maloney says, "We're very fortunate. By definition we own a very good part of the experience in the entire value chain... [This] gives us a very good set of data around what's important to our customers, the best way to talk to them and market to them, give them special offers, introduce them to new products, basically create really good ordering experiences."

Maloney says that while it was gratifying to see more than 50 percent of all sales taking place over digital channels in 2015, he doesn't think the company is anywhere close to the finish line when it comes to innovation. "I was a little worried when I started [working at Domino's six years ago] that we would eventually run out of really cool things to be doing either for our [customers] or the business," Maloney says.



"Our digital orders have higher customer satisfaction, and actually result in higher profit."

"I can tell you we've got a long list of things coming," he says. "Digital just continues to play more and more of a role, and [become] a bigger and bigger percentage of the sales. ... It really does come down to whoever wins the digital space in pizza is going to win pizza." ●

BEYOND THE BOOK

CLAUDIA REUTER IS HELPING PUBLISHER HOUGHTON MIFFLIN HARCOURT BECOME A PLATFORM PLAYER

INTERVIEW BY SCOTT KIRSNER

PHOTOGRAPH BY MELISSA MAHONEY

Houghton Mifflin Harcourt
Boston

Before there were digital platforms like YouTube and iTunes that efficiently distribute bits around the world, there were publishers that excelled at the efficient distribution of books. Houghton Mifflin Harcourt, headquartered in Boston, traces its lineage back to that era. Not only was it responsible for many of the textbooks that you toted around in your grade school backback, but in the 19th century, the company published iconic American writers like Nathaniel Hawthorne and Henry David Thoreau, and the Curious George books your parents may have read to you at bedtime. ¶ But now, as reading and education shift to tablets and laptops, the company is working to remake itself. Can it become a digital platform, too, distributing content, software, and cloud-based services to schools? That's the question that led to the creation of HMH Labs in 2014. The fifteen-person group was formed in the aftermath of Houghton Mifflin Harcourt's acquisition of a small software company called SchoolChapters, Inc. That company's CEO, Claudia Reuter, was chosen to lead HMH Labs. We spoke with her in late June, on a day that she was hosting a meetup for Boston-area software developers at HMH headquarters.

Innovation Leader

Houghton Mifflin Harcourt worked with participants in the TechCrunch Disrupt Hackathon (pictured here and above) earlier this year.

Tell us about the mission of HMH Labs. Your company was acquired by Houghton Mifflin Harcourt.
After our product got integrated into the core HMH offerings, our mission became, "What else can we do to leverage technology or create new solutions that could foster and facilitate innovation?"

It's not that the Labs team is the center of innovation. We're facilitating innovation via technology.

Our first step was deploying a set of APIs [application programming interfaces] to the developer community, so that we could extend HMH's offering and allow developers to integrate more with us.

This year, we launched a marketplace, which is really an environment for the creators of other solutions, whether those are supplemental lesson plans or new apps, to have a commercialized environment [that makes them available] to our customers.

It's a platform for anyone who is out there trying to improve the educational experience to have an opportunity to come to one place to do that. We've already seen folks come in, ranging from individual teachers who are making their own resources in a new way all the way to big providers. Microsoft is in our marketplace now.

"Our first step was deploying a set of APIs to the developer community, so that we could extend Houghton Mifflin Harcourt's offering and allow developers to integrate more with us."

Is there a business model like the iTunes Store, where you guys take a little slice of the revenue?
Yes. Right now, it's in beta, and there's no fee to participate. There is a revenue share on paid transactions. It's completely up to the providers to set their own price, but it's really an opportunity to engage with a larger education ecosystem, to let our customers see what else is going out there. At the same time, it's a way have it be in the confines of appropriateness for the classroom.

The API, can you go back to that? Give us a concrete example of how people are using it.
Two really easy examples. There's a company called Spritz. They developed a software application that extracts text from a paragraph one word at a time, and their mission is to help learners who struggle to be able to focus on one word at a time, and then help measure the speed at which they're reading. They're not makers of content, but their solution needs to interact with content.

It sounds like the mission today is, "We want to develop technologies that benefit the company as a whole," but not to be a new product development group or a skunkworks that's going to invent new products or new pieces of software.
Right. We're really focused on developing technology solutions that can facilitate innovation around the company. One of the things we're doing in the marketplace this year...is a way for teachers to submit different ideas that they have, and things they're looking for, and then help connect that feedback to what's happening in the developer community.

Sort of a wish list, basically?
Yes, but we're really just helping to make those connections, and then [our product development groups and other companies will] take it from there, in terms of what gets made.

Are there some ways that you are responsible for interacting with the world of startups that are creating educational technology?
Yes. We've been working with groups like LearnLaunch here in Boston [an accelerator program], participating in their annual conference, and going to some of their different

events. We've been hosting events here in Boston, like developer meet-ups. There's actually one here tonight. It's just an opportunity for developers to get together, and learn more about some of the things HMH has been working on. We've also been participating in events like TechCrunch Disrupt in New York, and we were there as one of the [companies] people could build with in the hackathon there.

We got to see what people could do in 24 hours. They used our APIs, plus IBM Watson, or plus Amazon Alexa. It was pretty exciting to see.

Obviously, you want these relationships with other software developers to use the APIs and to potentially sell their products in the marketplace. Are there other benefits, maybe in terms of trend-scouting, and seeing what's happening out there?
Absolutely. HMH is just first and foremost a global education company. That's our mission. It's to reach learners around the world, and our mission in Labs is to find ways that technology can help facilitate these interactions.

Your team is mostly software developers. You said you've added to it a little bit since the acquisition. Is that more software developers, is it user experience people or designers?
There's a variety of skill sets on the team. We have some folks who are primarily focused on design, and working cross-functionally with the core design team at HMH to make sure we have a unified visual identity.

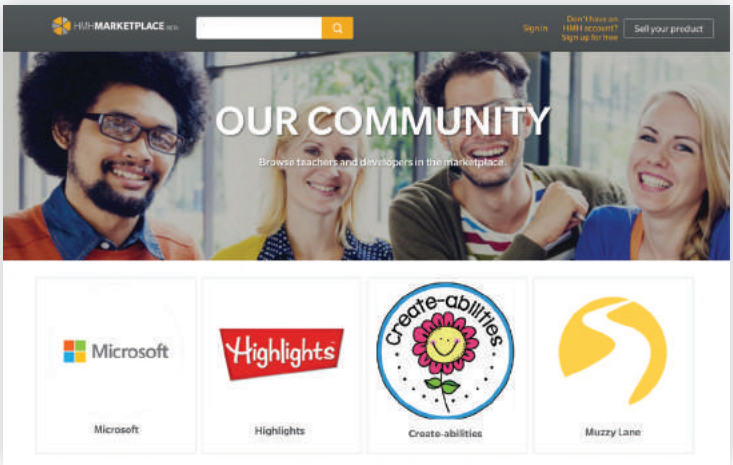
We also have two folks on the team who are purely working in the developer relations capacity, making sure that, if someone chooses to use the API, they have a good experience, that we're onboarding them correctly and, if they choose to commercialize, that we're holding their hand in that process.

There's a set of engineers who are on the team who are full-stack, and can do everything from the DevOps component all the way through the launch and design.

It's interesting... I don't think that every company needs to think about cultivating an ecosystem, but it feels like a lot more companies need to think about it than are thinking about it today. A lot of established companies will look at Apple and say, "Oh, yeah, obviously they need an ecosystem of apps, because they make an iPhone and an iPad."

I do feel like you could look at a lot of industries and say, "Well, why aren't you interacting with startups and software developers to get them building stuff?"
HMH provides an amazing core set of resources for the classroom through a core curriculum and we know that people are looking for supplemental [materials and software], so why not help cultivate an ecosystem where we can help folks find this supplemental stuff?

What's an area that you're still trying to learn about, or something that is potentially on the horizon?



The HMH Marketplace is an online destination that offers teachers, edtech developers, and technology companies the opportunity to share resources and solutions with an audience of educators.

Every day, we're looking at how are people actually using some of the things we've already put out, like the developer portal. How are they using the marketplace? We're trying to base our decisions on what to do next based on what we see them do, with the real data we have in front of us.

Hiring is really tough for anyone with technology skills in Boston right now. It's often tougher for big companies, versus the startup that can say, "Oh yeah. Shorts and a t-shirt are great. You can come in at 11:00 and leave at 8:00." How have you addressed the challenge of hiring?
We have worked really closely with Human Resources, and we go to a lot of the local events. Part of the reason we do meetups here for software developers is so we can stay in tune with the community. It's also a great recruiting opportunity for folks who want to see what it's like and see what the people are like here. That has worked really well.

And if you're a developer, an engineer, you have a certain skill set that is so valuable that lots of different companies want it. But I think there's a lot of people right now who like to feel that they're building something for a greater cause. We really are trying to make a difference in education. ●

CLAUDIA REUTER OF HMH LABS WILL BE AMONG THE SPEAKERS AT INNOVATION LEADER'S TEACH-IN EVENT THIS OCTOBER. FOR MORE INFORMATION, SEE INNOVATIONLEADER.COM/TEACH

ELEVATOR GIANT THYSSENKRUPP IS REMAKING R&D FOR THE ERA OF THE SMART CITY

Going Up

INTERVIEW BY SCOTT KIRSNER

PHOTOGRAPHS BY PAUL ELLEDGE

It

was Roald Dahl, the celebrated children's writer, who first imagined a glass elevator that could travel "sideways and longways and slantways and any other way you can think of" in his 1964 book "Charlie and the Chocolate Factory." ¶ Just over fifty years later, in late 2015, the $47 billion German conglomerate ThyssenKrupp introduced an elevator, the MULTI, that could do precisely what Dahl had envisioned. The benefit? Elevators that could move horizontally would make new kinds of building designs possible; allow elevators to switch from one shaft to another; or transport riders from a skyscraper and then down into a subway station a block or two away. An early version of the MULTI elevator is being built into a research center in Rottweil, Germany that will be nearly as tall as the Eiffel Tower, opening later this year. ¶ The MULTI is just one way ThyssenKrupp, headquartered in Essen, Germany, is envisioning the future of buildings and cities. The company, which makes steel and automotive components in addition to elevators and escalators, traces its roots back to the early 19th century. But the future, according to Patrick Bass, chief executive of ThyssenKrupp's North American business, will be all about open innovation, gathering data from Internet-connected products, tackling new opportunities like a startup would, and innovating differently in different parts of the world.

Artist rendering of test tower in Rottweil, Germany.

Bass, who came up through the R&D ranks at ThyssenKrupp, is the first American to head the company's North American subsidiary. In the US, he says, "business model innovation is a way of life. It's part of our embedded culture. That's not so much the case in Germany or in Europe. There, innovation is often process-based. It's, let's take the business model that exists and really drive the process to make it really tick."

"Those two cultures, if you can bring them together, in harmony, can be pretty powerful," he says.

We sat down with Bass at the recent Fortune Brainstorm conference to talk about how he's working to change the way ThyssenKrupp thinks about itself—and what's possible.

This is a big generalization, but many companies that have research and development organizations feel like the cycle time of R&D is too slow for 2016. They feel like the culture of R&D can be a little bit too insulated. There aren't enough openings to the outside world — do they know about a startup that is here at this conference that they should know about? Probably not...
They don't.

...Because they're not leaving the building enough. What are you doing, or what do you think needs to happen, to change that equation?
There's been the buzz around about open innovation. I think it was just a buzz for a long time, but companies have figured out now that they really want to break down the walls, you have to go into an open innovation [model.]

Some companies now say, "Let's do some university partnerships." You literally are saying, "Look, I'm going to give the university X dollars for research in this space, and it's going to be open research, but we're going to both gain value out of that. We can't do everything all by ourselves."

"Why shouldn't we be linked into a smart city? We're a transportation provider."

But to your point, especially in North America, a lot of the innovation is business model-based, and you have to be looking at the startups. You have to know what's going on in Silicon Valley.

How does ThyssenKrupp get to be in a strategic partnership with Microsoft? This 200-year-old, German-based, very stodgy kind of company, all of a sudden comes on the map to say, "We're a strategic partner with Microsoft. We're both transforming our companies [in the realm of] IoT." That's a pretty radical shift.

Does open innovation, and new partnerships, require you to think differently about how you're organized, and the business you're in?
Absolutely. We're not an elevator company, we're transportation company. To be a transportation company, we have to understand buildings. We have to understand cities. Why shouldn't we be linked into a smart city? We're a transportation provider.

[In the past, for us,] everything was product, product, product. Forget the product. The product's really not important. The product fuels your [revenue], but really you have all these competencies. As a diversified industrial company with engineering at your core, these competencies could be quite powerful if you pull them together.

One example was realizing [that] the elevator systems are limiting building design today, based on heights, based on flexibility of movement, based on just a couple of cars and a hoistway. If you have to take [the elevator] out of service, you lose all that capacity.

We said, "How can we change this? How can we look at this differently? You know, geez, we have one division over here that has mag-lev technology. We have one division over here that has bearing technology, and bearing and motor integration from wind power generation. Gee, we can start taking these blocks and put it together into something radically different." That became MULTI, an elevator system that moves in just any direction you want it to. You can change building design radically.

Is that spec'd into buildings, or live in buildings today?
Well, what we did on top of that is said, "Look, if we're going to be a transportation company, we need our own high-rise building." We built not just a test tower, we built an entire high-rise building that's actually being completed by the end of 2016. It's 240 meters tall, in Rottweil, Germany. It will be a showcase, and it's also for us to understand how does a high-rise building work, how is it constructed? We're the owner, we'd helped design it...

I supply components to the automotive industry. People don't get to the building without infrastructure. I actually have an insight and a play into that infrastructure. I supply electric-based power steering systems that enable autonomous driving. Why

The new Thyssen-Krupp test tower in Rottweil, designed by German architect Helmut Jahn, features a dozen different elevator shafts that can be used to test new technologies like the MULTI system. It also features the country's tallest observation deck for visitors.

couldn't I connect some of the data [about] autonomous driving and start thinking about the [intersection] between building transportation and city transportation?

Are there some concrete ways, whether it's in North America or in other parts of the company, that you're trying to get beyond just funding academic research, which lots of companies know how to do?
Absolutely. The partnership with Microsoft is one. Before, we had our kind of preferred couple of universities [that we collaborated with.] Now, every region has at least two university relationships.

Is that a goal you set? "You can't be doing development or research without knowing what's happening in the academic world and getting some help from them?"
Absolutely. Focusing on getting out there—positioning the brand. We want to advance our customers by technology, quality, all these things.

We took our whole executive team to Silicon Valley and said, "What's going on here?" Not, "Oh, here's this product or that product." But, "What's the buzz and why?"

What was the benefit of that, from your perspective?
It changed the mindset. It's easy to focus on product, because that's the monetary value today. It shifts you from that [mindset] to more of a competency player.

We are in Germany. We're seen as "the steel company." It was a radical shift for us to go into carbon fiber reinforced plastics. Basically, we pulled a few people out of steel, we pulled some people out of material services, out of components. We put this nucleus of a dozen people together and did a startup.

"The customer is one of the biggest innovation opportunities there is. The idea of 'build it and they will come'—when it happens, it's spectacular. But it also fails more often than it is spectaular."

Were there things you did that you felt worked really well, or didn't worked well, in terms of trying to create the freedom of a startup, but inside a large, publicly-traded company?
One of the things that worked well is we really pulled resources from all the different groups. It wasn't so straight and easy in the beginning, because they were coming at us saying, "No, no. This is the direction we go, because I'm the materials expert and we go in this direction."

But when you co-locate, and you put those people all together and say, "Look, we want you to discover," and you read the people to say, who's fulfilled by discovery? There's kind of two different engineers. There's an engineer who's fulfilled by saying, "I helped create this tangible product..."

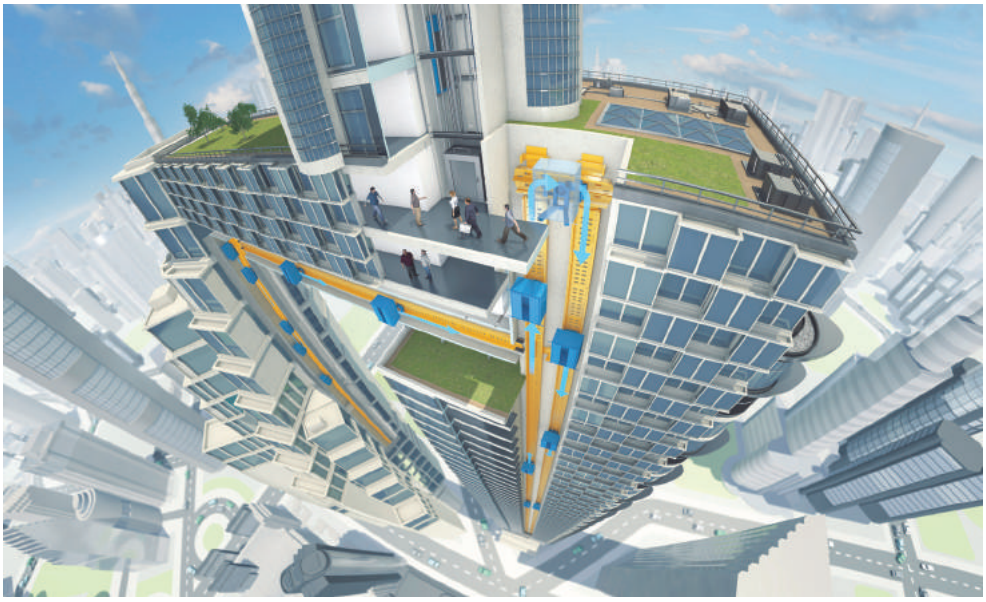
And I made it perfect and precise.
Right. Then there's the engineer that is very fulfilled by discovery. "I failed today, I learned something and I'm fulfilled by that." You have to know those two different types of engineers. In the startup mode, you have to find that fulfilled person, the latter kind, and then once you have the discoveries and you have the competencies established, then you mix in some of the [first kind to] bring it to conclusions and products, because... you can get caught in this endless loop of, "We can always find something new, and make it better." You don't give the time to [creating] the business value. It's a mix.

Did you let them interact with customers in some way?
Absolutely. In the very, very early stage. As soon as we actually started learning how to process the material in some form, we immediately started engaging with our current customer base to say, "Do you have a need? Here's what we think carbon fiber reinforced plastics could do in regards to weight savings. Is this real? Is this interesting?"

We started that roughly four years ago. Today it's a spun-off, separate business with orders. It's a P&L that is driving value.

How else have you been changing the way you approach innovation, as a company with a global footprint?
When I was [at the elevator division], one of the first things we did was separate development and research. We have dedicated research and innovation centers—decentralized and placed regionally—because you're exposed to different things.

What's happening in China in regards to technology is much different than what's being innovated on in North America, and much different than in Europe. And yes, technology is definitely progressing and happening in China. A lot of people say, "They're the copiers." No, they're not. The copiers have become the innovators.



ThyssenKrupp's MULTI system dispenses with cables and uses linear induction motors to move cars vertically—or horizontally. More than one can travel in a single shaft.

What was the significance of separating the R from the D?
Development is dealing with product. They have set timeframes and deliverables, and then they have to maintain that product. You feed off of competencies from the research centers, you disrupt your development cycles, and you rotate people. If you separate it, you have to rotate people—otherwise you get stale, and they don't understand each other. If something comes out of the research, and is handed over to development, they may say, "Oh, sorry, it's crap, it won't work."

The not-invented-here syndrome...
Exactly. I think today, to close the gap, you have to decentralize. You have to think global, but develop local. You really have to embrace open innovation, not only with universities, but with other companies, with startups, with partners—like a steel company and a software company in a partnership.

What's the goal of the Microsoft partnership?
It was the fact that we wanted to get into the IoT field. Our board has said, "We have to put digitization at our core. Every one of our businesses could be disrupted, so we need to become an IoT company." We're not an IoT provider, but we wanted to have IoT solutions.

We went through a number of different companies as far as potential partners, and we landed with Microsoft in the end. With our MAX system, we are connecting somewhere between 100 and 150 elevators a day here in the US alone, to be able to do preventative and predictive maintenance.

You said, "Look, we're not going to build this software competency within our company..."
No, even if we could, we probably wouldn't do it that effectively or efficiently. We didn't know what we didn't know. Microsoft was, at the same time, interested in enterprise partners and they wanted to really promote a platform.

IoT, in a lot of cases, is an app, or it's some nice-to-have differentiator. It's, "I can make your experience a little bit nicer."

But with your example, the upside is reducing elevator downtime and probably other tangible things?
We're providing customer value through better uptime, less disruption. When [a maintenance person] goes to a facility now, they know what they need to bring. We know what we need to do, and we know what we need to do before it breaks, so we don't have to have an unscheduled emergency visit that is costly.

We hear a lot of companies these days talking about innovating with customers. Is that something you practice?
The customer is one of the biggest innovation opportunities there is. The idea of "build it and they will come"—when it happens, it's spectacular. But it also fails more often than it is spectacular.

Does your customer always know what they want or need? No. In fact, if you're really open and honest with customers, your customer will say, "I need you to tell me what I don't have and what I need, and then we can decide if there's enough value for what needs to be invested." ●

HOW MASTERCARD ADAPTED ADOBE'S KICKBOX INNOVATION KIT TO ITS CULTURE

60 DAYS

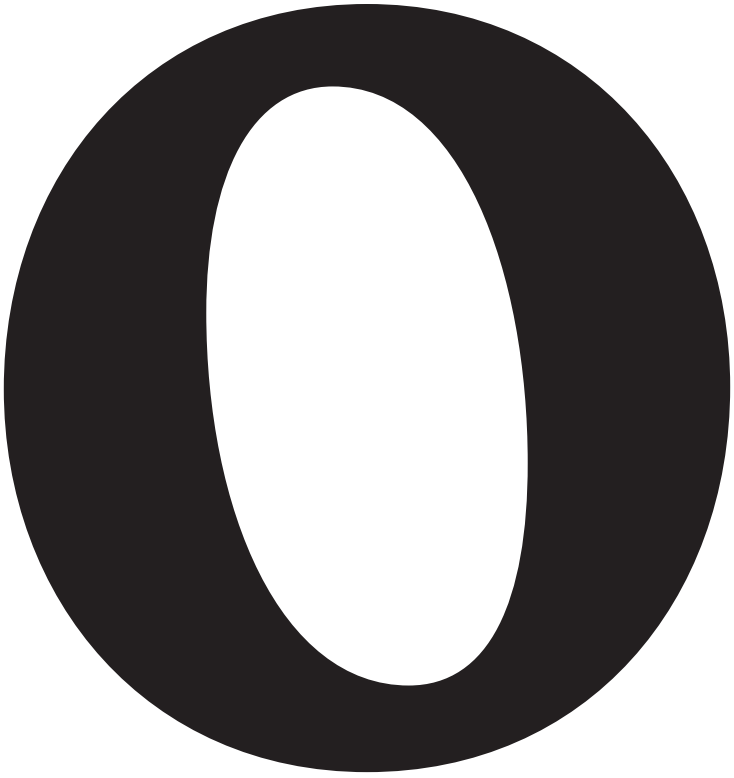
Innovation Leader

STORY BY PATRICIA RIEDMAN YEAGER

PHOTOGRAPHS BY BREANNA BAKER

to Pitch

MasterCard
Purchase, New York



One of the newest additions to the long-running innovation effort at $9.7 billion MasterCard is IdeaBox, which launched earlier this year. It was inspired by Adobe's Kickbox ideation and pilot-testing kit, but adapted to fit MasterCard's culture. ¶ "Our intention with our innovation management programs is to try different angles to shake things out of the tree," says John Sheldon, Global Senior Vice President of Innovation Management at MasterCard. "We have some programs that are long and reductive in nature, with high-fidelity outputs," he says. By contrast, IdeaBox is more focused on innovating at the individual level, and trying to surface and cultivate new innovators within the company. It's also designed to solicit the kind of employee ideas that could potentially grow into a startup venture within MasterCard.

"Whenever you ask people to work above and beyond their day job, you run into some conflicts there. We had two teams where their managers came to us and said, 'I love this person working on the box, but I need them to work on something first. Can we put them on pause for 30 days?' We accommodated them. These are people who are taking their own personal time to advance ideas that they believe in for the company, and it's something we support and reward and value."

Innovation Leader

Individuals or teams (almost all participants partner up because the time commitment is so big) with promising ideas are awarded an Orange Box containing a $1,000 pre-paid card and tools to help them explore their idea and hone a pitch in 60 days. If the pitch is approved, the team receives a Red Box, which contains $25,000 and 90 days to develop their project further, with the intent to ultimately present the concept to the MasterCard Innovation Council. Finally, the projects that win the council's approval receive the ultimate prize: a Green Box, which means their idea has been accepted for incubation, with MasterCard committing to adopt the idea and put appropriate resources and funding behind it.

Sheldon points out that they made several tweaks to Adobe's Kickbox to make it more "MasterCardy" in nature. So, in addition to the standard things found in Adobe's Kickbox (more info on at kickbox.adobe.com), such as scorecards for assessing ideas, accompanying each Orange Box is a:

▸**Mentor**: Inside a packet emblazoned with the warning "In case of emergency, break seal" is the name of a mentor assigned to the participant. Coaches are assigned to teams to actively guide them through the first 60 days with the box, Sheldon explains, noting that his team holds the mentors accountable for the quality of the output. "There's an element of ownership that ... is really intended to ensure a high-quality output," he says. "And I don't just mean the presentation. The production of the prototype, the commercial model diligence, as well as ultimately how the concept is presented when people are going for a Red Box."

IdeaBox participants get a countdown timer, set to the moment when they'll present to MasterCard's Chief Innovation Officer."

▸**Timer**: A countdown timer is set to when the presentation is going to be in front of Sheldon and Gary Lyons, MasterCard's Chief Innovation Officer.

▸**60-Day Guide**: The box contains several booklets with titles like *Bad is Good: Go on, get the bad ideas out of your system*. Another booklet outlines what makes a good idea. For instance, Sheldon says, contestants need to make sure their concepts are unique, or that they can scale.

▸**Check-ins**: Even though each team has a

Groceries by Mastercard is an ordering and payment service developed by MasterCard Labs that is integrated with Samsung's Family Hub refrigerator. It allows users to build shopping lists and place orders from the fridge's touchscreen.

mentor, they still have mandatory check-ins with Sheldon's team. "The intention is to ultimately make sure we have something tangible at the end of the 60-days to react to, so we can decide if we're going to give them a Red Box, which has 25 times the money in it. It's stepping them toward the idea of an incubation."

Sheldon recalls that several decades ago, IBM Corp. proved that at each step in the software cycle, fixing mistakes cost you 10 times more. "Something similar occurs in the innovation world, where as you advance ideas through the process from prototyping to piloting to incubation, the costs go up somewhere in the neighborhood of 25 times, so we fund boxes accordingly," he says.

Sheldon's crew is now issuing monthly requests for ideas focused on niche topics, such as travel, big data, and retail, and how to appeal to the Millennial audience in retail banking.

So far, a dozen Orange Boxes and four Red Boxes have been issued. Several of the Red Box recipients will present soon to MasterCard CEO Ajay Banga for the chance to get to the Green Box stage. Sheldon was reluctant to go into details of all the contestants' concepts, but he says one team had a promising idea involving the gamification of corporate spending, to encourage frugality.

GETTING MORE FOCUSED

While the first distribution of Orange IdeaBoxes sought general submissions of interest to MasterCard's business, Sheldon says, his crew is now issuing monthly requests for ideas focused on niche topics, such as travel, big data, and retail, as well as how to appeal to the Millennial audience in retail banking. Compared to Baby Boomers, who are "more likely to get divorced than change their bank," Sheldon says about one-third of Millennials "don't understand why banks have to exist. They would rather go into a dentist than go to a bank. Using that brief, what innovations can be created that would allow for a perception of value in the banking system with Millennials?"

It's also natural for teams competing for the Red Box to grow. "The teams get to a point where they realize that completing and delivering their ideas require additional skillsets or talent," says Paulo Molina, VP of Innovation Management at MasterCard Labs. "In most cases, they expand their team and find other partners themselves. But in some cases they approach us, asking for help in finding those skillsets, and adding them to their existing team."

But perhaps the greatest lesson to be learned is that even when teams don't advance to the Red Box stage, that "doesn't mean everybody drops it and goes home," says Sheldon. "Getting the Red Box is significant. It means the next presentation you're giving is to [CEO] Ajay Banga and the innovation council, which is made up of the top 10 product people in the company. It has to be something that can be meaningful to the business—substantively meaningful to the business. That's a really high bar."

FINDING OTHER HOMES FOR IDEAS

But individuals and teams that don't clear the bar also have the option to seek support from another MasterCard division. One team that didn't make it past the Orange Box phase proposed a new way to analyze restaurant data and tips to help quick-serve restaurants better understand what drives success.

While some of the evaluators felt that the scale of the idea was a little bit limited, and there were some other very tactical challenges, Sheldon says, "We saw there was enough there to get over to the business unit where it could be used."

The idea was passed along to MasterCard Advisors, the consulting arm of MasterCard, and that unit is finding ways to use the data to drive merchant success.

Sheldon says people can be rewarded within MasterCard in many different ways, including getting their names on patents, which they're urged to pursue when they accept their Orange Box. (So far, two patent applications have been filed related to the program). There's even a new MasterCard Patent Portal, an internal resource site, to help them understand the patent process.

Rolling out IdeaBox has not been without challenges. One stems from the time commitment involved. "Whenever you ask people to work above and beyond their day job, you run into some conflicts there," Sheldon says. "We had two teams where their managers came to us and said, 'I love this person working on the box, but I need them to work on something first. Can we put them on pause for 30 days?' We accommodated them. These are people who are taking their own personal time to advance ideas that they believe in for the company, and it's something we support and reward and value." ●

The MasterCard Labs outpost in Manhattan's Chelsea neighborhood features several demo stations focused on the future of payments, like a gas station, connected car, and restaurant booth.

Cre-ative Cata-lyst

AT METLIFE, SUPPORTING INNOVATION WHILE SURVIVING THE 'DANGER ZONE'

STORY BY STEVEN MELENDEZ

PHOTOGRAPHS BY JULIA ROBBS

Defining the mission is essential for innovation teams, and John Geyer, Chief Innovation Officer at $71 billion insurer MetLife, can clearly explain what his is. ¶ "We think of ourselves as catalysts who work with the businesses around the world, helping them think more creatively and deliver unique solutions to both the customers, business partners, and associates within the company," says Geyer. "Unlike other [companies'] innovation functions that are more like R&D labs, we are not the innovators." ¶ That has meant coming up with techniques and processes that MetLife executives can use to promote innovation in their own divisions, from internal crowdsourcing software to workshops that let employees brainstorm and cultivate new ideas.

Enterprise Innovation VP Terrence Luciani with John Geyer, MetLife's Chief Innovation Officer.

Often, Geyer's team will lead an initial session—last November, for instance, the team organized a 40-person workshop in Santiago, Chile, for employees in MetLife's Latin American region—and simultaneously train that group's executives in how to run future workshops of their own.

Geyer says his group's role is facilitating innovation throughout the 66,000-employee company. "Obviously we want to drive innovation throughout our company and throughout our industry, but the way you do that is through driving culture and process change through the company, and that's what my group is largely focused on," he says.

He shared some insight into how he's making change happen—and also on how to avoid what he terms the "danger zone" of innovation, when all the resources and energy that you're pouring into a new project have yet to deliver tangible results.

HOW METLIFE'S INNOVATION WORKSHOPS ARE STRUCTURED

MetLife calls its innovation workshops FRIES sessions, for Facilitated Rapid Innovation Experiences. They address particular challenges selected by regional leaders, and explore potential solutions, which can range from small process tweaks to entirely new products. Workshop participants are deliberately chosen for diversity.

"In Chile, we [had] young people and old people; men and women; people who have been with Met a long time, people who have been with Met a short time," he says. "We [had] attorneys, HR people, IT people, underwriters, salespeople."

The workshop attendees divide into groups to work on particular ideas, which they ultimately present to the group in a session Geyer compares to ABC-TV's *Shark Tank* show. To make sure the best ideas don't get lost, corporate leaders participating in the workshop immediately pick projects to prioritize.

"They come back out on stage and basically say, 'Here are three ideas we're moving forward with, here's the leader that's going to run each one of them, here's the budget, and here's the time frame,'" Geyer says.

Previous FRIES sessions have led to the creation of new insurance products, like a bundle of life insurance options tailored to women and dubbed Life for Lucy, and an insurance package for parents and children called Snoopy Cares, both named in honor of MetLife's Peanuts character mascots.

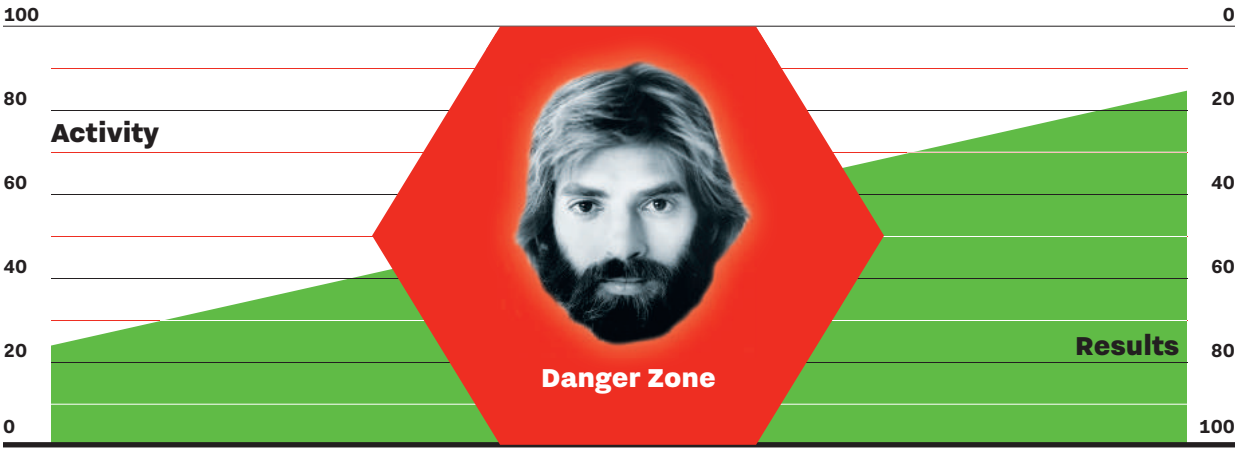
"For example, if a child becomes sick, and is unable to go to school, Snoopy Cares will pay for a tutor for the child while the child is sick," says Geyer. "It has been very successful in many European countries, and we're looking at bringing it to the United States."

Keeping the sessions targeted to particular challenges helps keep things focused, and makes it more likely that the ideas will actually come to fruition, says Geyer. Simply asking for suggestions just doesn't work, he says.

"You get thousands of disparate ideas, and it's impossible to implement or prioritize, and everybody becomes disenfranchised," he

Surviving the Innovation Danger Zone

MetLife's John Geyer defines the "danger zone" as the period after an innovation team has been formed and kicked off some initial activities, but when it hasn't yet delivered substantial results. To survive it, Geyer suggests running small tests; speaking the same language and using the same metrics as the rest of the business; and forging friendships with innovation supporters throughout the organization.



says. "We learned that you have to be much more precise—you have to be more targeted."

COLLECTING AND PRIORITIZING EMPLOYEE IDEAS

That's the same approach the company takes on some broader innovation challenges. MetLife uses crowdsourcing software from Mindjet's Spigit unit to pose challenges to anywhere from 100 to 10,000 employees at a time. In keeping with the company's Peanuts theme, MetLife's Spigit implementation is named Linus, after Charlie Brown's blanket-toting friend, who Geyer says is "the deepest thinker of the Peanuts gang."

"The platform is available to all 66,000 MetLife associates around the world," says Geyer.

And once comments are closed, employees can vote on which proposals to tackle first.

"They can read other people's ideas and collaborate on them—say, 'Wow, I really like your idea, and if we add this dimension to it it can be even more powerful,'" he says. "We run these Linus campaigns for three weeks. What we get at the end of the three weeks are a couple hundred ideas that are prioritized by the people in the organizations."

The company has run about 50 Linus campaigns so far, often finding easy fixes for customers and staff problems that might not otherwise have gotten attention.

MEASURING PROGRESS AND SHARING SUCCESS STORIES

Since his team was founded in 2011, as part of a renewed push by MetLife toward innovation in the wake of the financial crisis, he has also advocated a measurement-driven approach to innovation, setting quantifiable goals for projects, whether it is sales growth or increased employee engagement.

Geyer's current team includes eight full-time staff, plus a handful of contractors who help on particular projects, though he says there are other innovation-focused employees throughout the company. They meet quarterly to share ideas and successes, he says.

Innovation success stories have also helped the team win supporters throughout the organization. In the beginning, the team worked with leaders throughout the company who were most excited about innovation. But they have gradually won over some skeptics through their initial successes.

They've had help from the corporate communications department, which has documented some of those success stories in posts to the MetLife intranet.

Geyer has also encouraged company leaders who've seen success with innovation challenges to present those successes in corporate meetings, which helps to spread the word about what his team has to offer.

"I don't want to be the person in the front of the room talking about the successes; it's much less powerful when I do it," he says. "I want the business leaders who I work with to be up in the front of the room talking about it."

And those leaders, says Geyer, can spread the word and his team's teachings throughout their own divisions.

"We find that leaders from around the world, particularly the regional leaders, find what we do to be extremely valuable," says Geyer. "For example, in our EMEA region—Europe, Middle East and Africa—the leader in that region has sort of mandated that the top 200 people in that region go through a FRIES session, or multiple FRIES sessions, and take back that methodology and go to run those sessions in their regions."

THE INNOVATION DANGER ZONE

Geyer says that innovation teams need to be focused on helping partners in the business produce meaningful results in four areas: generating revenue, cutting costs, increasing customer satisfaction, or making employees feel more engaged in the business. That, of course, can take time—a period that he calls the "Danger Zone," when the effort and money being put into new projects has yet to pay off, and the work that innovation teams do can be undermined.

Geyer offers these tips on making it through the danger zone:

- Tightly link innovation efforts to the company's strategy
- Target the right "friends" within the organization (it can sometimes be easier to help an innovative leader be more innovative than it is to convince a non-believer)
- Speak in business terms—projected revenue, customer satisfaction, and expense savings, as examples—and build a portfolio of projects
- Use failures as learning opportunities that lead to new actions that are more successful
- Run small tests to verify your assumptions over days and months to avoid big failures. ●

HOW CUSTOMER INTERACTIONS GUIDE INNOVATION AT TOOLMAKER SNAP-ON

Good Listeners

STORY BY BY STEVEN MELENDEZ

PHOTOGRAPHS BY PAUL ELLEDGE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Snap-on
Kenosha, Wisconsin

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Snap-on, the publicly-traded tool-maker based in Kenosha, Wis., has 11,500 employees around the world. But the $3.5 billion company, which sells its products predominantly through franchisees, is increasingly looking to customers to help guide its innovation efforts. ¶ Case in point: the company's EPIQ line of high-end professional toolchests. ¶ Input from Snap-on's customers shaped everything from the configuration of the toolboxes' drawers to the inclusion of particular features, like powered compartments for storing and charging laptops and tools.

Innovation Leader


Snap-on

“There’s at least four or five times in the process where we check in with customers, some times as many as a dozen.”

Snap-on’s EPIQ tool storage chest includes a locking compartment with built-in charging outlets for pricey diagnostic tools.

Industrial designer Kyle Nagelkirk. Designers at Snap-on often visit repair shops to watch technicians working on cars, planes, tractors, and other machinery to find opportunities for new products.

"This was a ground-up design really driven by customer input, not by what we wanted to do, but really driven by what customers wanted us to do," says Bennett Brenton, the company's chief innovation officer.

"We checked in with customers all along the way," says Brenton. "We had them evaluate the prototypes and give us feedback."

That's typical for product development at Snap-on, where Brenton says his innovation team of six spends more days out of the office, talking to customers and the company's scattered product teams, than they do in it. They talk to the technicians who use Snap-on's tools to work on cars, planes, farm equipment, and other machinery, shadowing them at work to learn how their current equipment is working and what opportunities exist for new products.

"We're watching somebody work on a specific vehicle type, or we're watching them do something like align a vehicle or change a tire or pull engines out," says Brenton. The engineers and designers working on Snap-on's various product lines often come along too.

Two members of Brenton's team are charged with recruiting test participants, through a mix of finding customers who meet specific requirements and random sampling. "We want to make sure we're not just talking to fans of Snap-on," Brenton says.

The requirements vary from project to project, and the company will sometimes even reach out to users of competing products to get their perspective on new designs and overall industry needs, Brenton says. And they work to find customers using equipment in different conditions, like auto mechanics working in hot, dry states and those in cold regions where cars encounter snow, ice and rock salt.

After the visits, they help the product development teams prioritize feedback and turn customer input into concrete concepts.

"Basically, we're debriefing in the car," says Brenton. "Over dinner, we're coming up with ideas."

They also share what they've learned with the relevant development teams throughout the company. "We have a process where once we've done the insight, we create summary documents, [which can sometimes include] videos," he says.

During a typical product development cycle, Snap-on will frequently check back with customers, showing them 2D and 3D models and letting them test working prototypes.

"There's at least four or five times in the process where we check in with customers, some times as many as a dozen," he says.

Within the company's 20,000-sq-ft. innovation center, Brenton and his team can help prototype products, creating computer-aided design models or printing three-dimensional prototypes for quick testing, he says. The center, which opened in 2009, includes a photo studio, a design lab, and a room with a one-way mirror for monitoring product tests. It also has a fully-functional automotive repair garage and one of the company's signature vans—the traveling professional hardware showrooms that thousands of franchisees use to sell Snap-on products.

Snap-on
Kenosha, Wisconsin

In one case, the innovation team was able to help test different designs for handles for striking prybars, which are essentially crowbars designed to be struck with a hammer to apply extra force. They're often used in truck repair. The company was testing a handle that would deflect a glancing blow off to the side, away from the user's hand. The metal bars were made off-site—the innovation center doesn't have metal-forging capabilities—but experimental handles were 3D-printed and tested at the center.

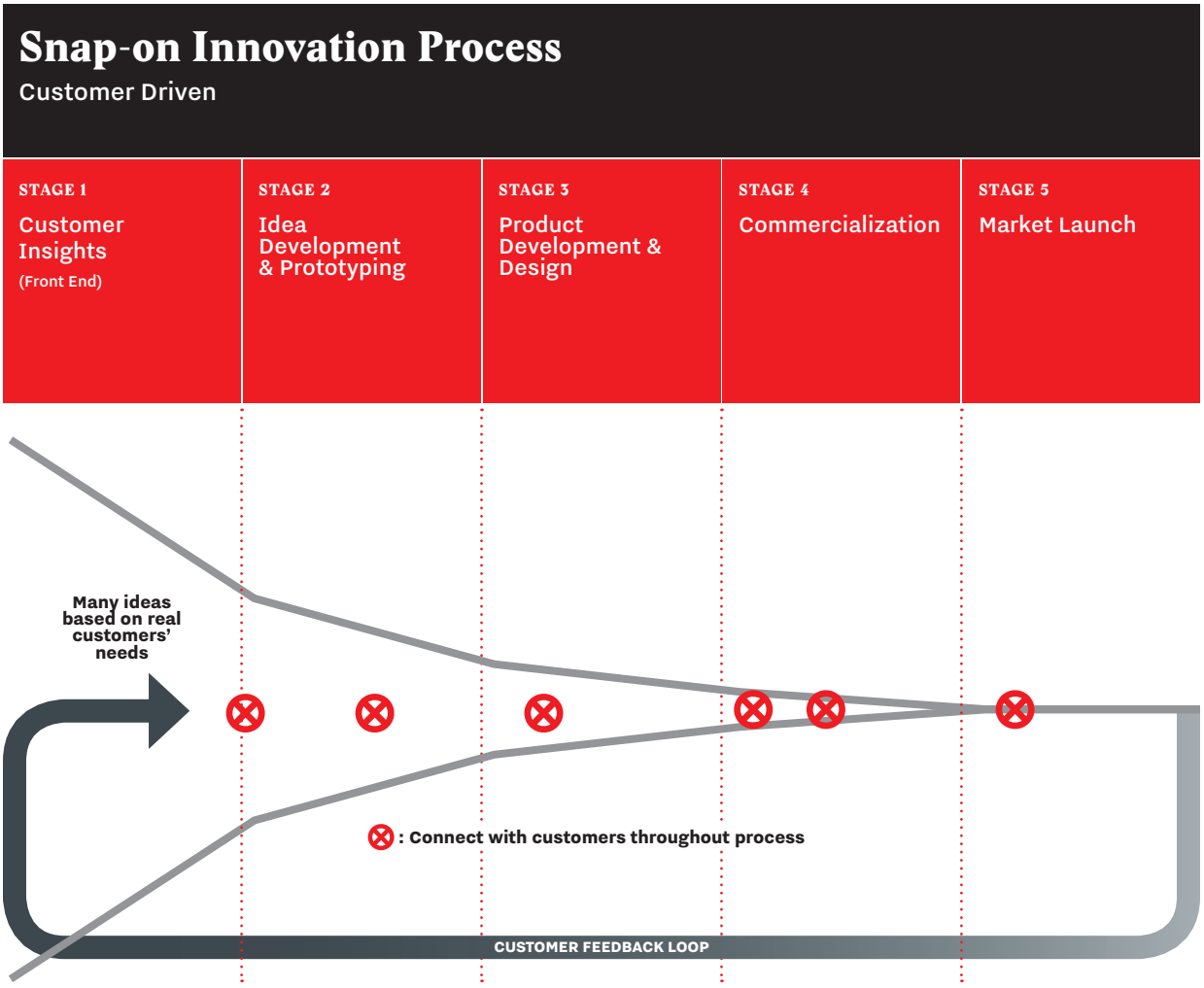
"We had a full-size semi truck in the innovation center," says Brenton. "We had people trying out different prybars with different handles."

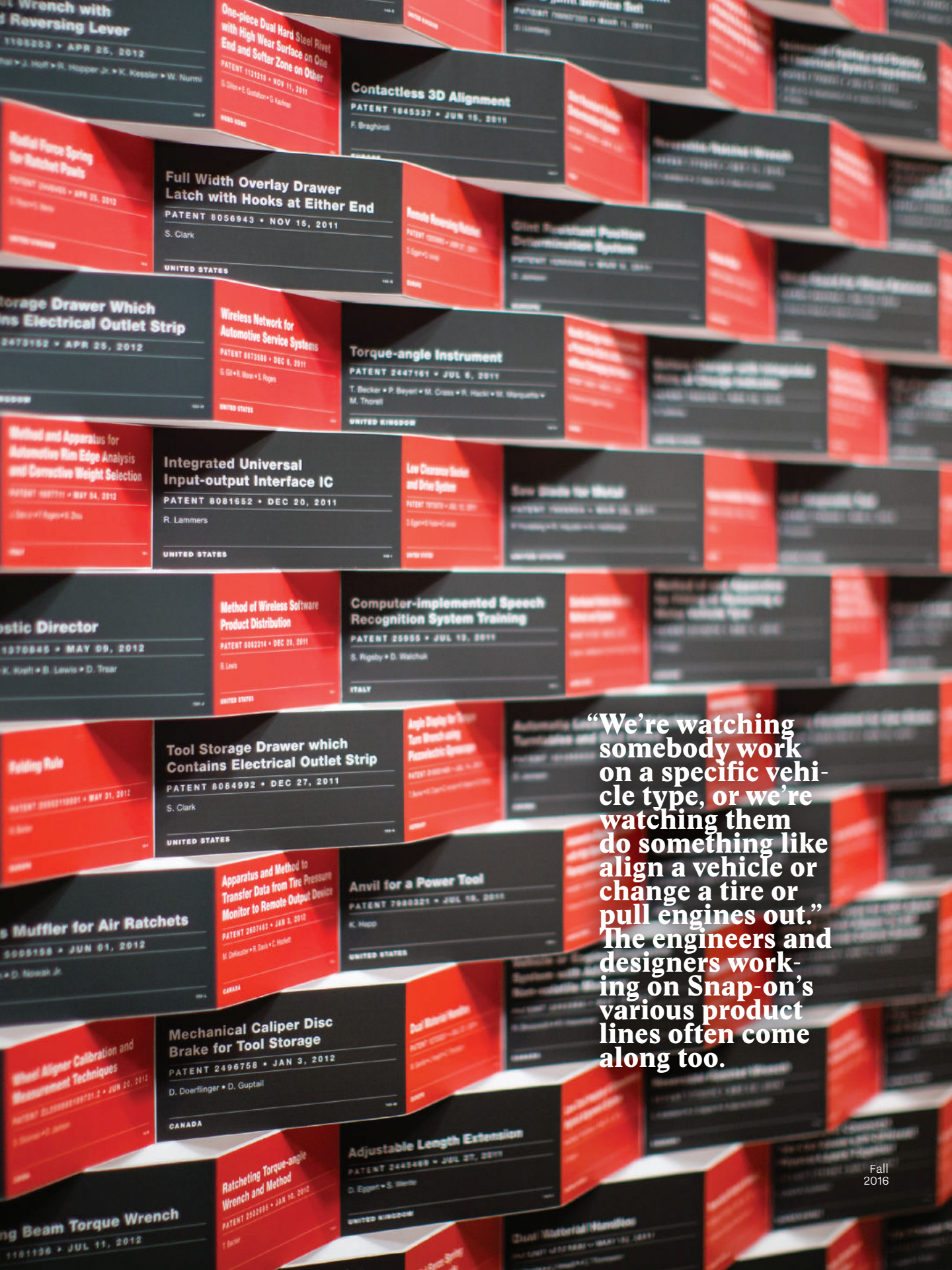
Innovation is considered a core part of the culture at Snap-on, which sells more than 22,000 different products worldwide. And the company is continually working to gather more input from the company's end-users and the franchisees who sell to them.

A franchisee, for instance, might report that a customer is dealing with a new model of car that takes longer to fix than previous models. That can lead to the creation of a modified tool that speeds up the repair process. The franchisees also look forward to new merchandise that can serve as a conversation starter when they visit loyal customers.

"The first thing their customers ask them is what's new," he says. So the franchisees "want to have something new on their truck."

That desire for a constant parade of new products provides a powerful motivation for Snap-on's innovation team. "We're always looking for how do we do things better—how do we do things in a new way," Brenton says. ●





"We're watching somebody work on a specific vehicle type, or we're watching them do something like align a vehicle or change a tire or pull engines out." The engineers and designers working on Snap-on's various product lines often come along too.

If I Knew Now What I'll Know Then: Data-First Innovation

BY **VIKKI NOWAK** AND **DOUG HOPKINS**, **NOTTINGHAM SPIRK**

NO ONE DISPUTES THE VALUE OF DATA. Google, Facebook, Uber, and many far-smaller companies have proven that data is a precious commodity, especially within platforms. Internet of Things products are flooding the market, and generating new kinds of data. But oddly, while the widespread recognition of the value of data capture is influencing innovation, it has not yet noticeably changed the *ways* we innovate. As a result, companies are missing out on potentially transformative white-space opportunities.

Virtually everyone who works in consumer product development lives by the mantra of user-centricity (or customer-centricity) in the early stages of product ideation. User-centered research grounds and defines the problem and shapes the target market personas. We work this way because it's proven, straightforward, and tangible: first research pain points, then brainstorm solutions, and finally design products.

Data capture is still overlooked. The ingrained innovation methodologies of focusing on the consumer's pain points are blinding many companies to bigger solutions. Too many are not thinking early enough or strategically enough about data collection. Even those that are thinking about data early tend to default to using the native capabilities of current generations of smartphones and tablets as their starting points ("we need an app for that.")

We propose a new method, which we call Data-First Innovation. This method does not replace user-centricity—it remains as important as ever—but moves it further down the timeline. Data-First Innovation challenges companies to begin the ideation with the abstract, rather than the tangible, and to fully realize the three-fold promise of data collection—better solutions, new revenue streams, and new value networks. This is the path to true white-space opportunities, especially for traditional consumer products or service companies.

Ideating without a user-centric focus can feel uncomfortable. When we help parner-clients ideate in this way, the process includes:

- Identifying global trends that align with corporate goals, core competencies, and supply chain relationships.
- Defining the richest and most valuable data that you would like to collect, agnostic of any feasibility constraints at first.
- Identifying entities—inside or outside your organization—that would put a premium on that data.
- Using data consumer personas to generate blue-sky ideas and map all of the data points that would be most valued by these personas.
- Mapping customer-centric and data-

centric design concepts to see where they align. (In a Venn diagram, where do these two key constituencies meet, in terms of needs?)

- Outlining a value exchange ecosystem. (Determine what interactions would make your company the link between consumers' unmet needs and the data personas you've developed.)
- Ideating on how to collect the data based on user-centered design principles.
- Validating the data value chain and, if relevant, the monetization model.

The ecosystem then leads to ideation of products and services, and results in much richer solutions for all end users in the value chain. By stepping back and speculating first—articulating and thinking through the "wouldn't it be great if" scenarios—you can develop products and services that deliver value to the end users, generate the desired data, and then deliver the data (and inherent value) along and up the value exchange cycle, with your company as the hub. That centrality is why we advise thinking beyond what current phones and tablets can do. We believe that consumers will embrace new devices if their capabilities exceed those of app-based alternatives, and if they too benefit from the data.

That latter point is key. Mutual benefit is essential to a successful ecosystem. Progressive Insurance's SnapShot device plugs into a car's onboard computers and collects data related to driving habits. This gives customers the chance to reduce their insurance rates by proving that they are careful drivers. The device also beeps when the driver brakes hard, providing real-time feedback that can help the driver improve. This feature was not chosen randomly; data gathered by SnapShot devices has shown that hard braking is the most powerful indicator of high-risk driving.

The lessons from gathering data can be sold or traded outside an ecosystem, or used to incubate whole new ones. Healthcare innovator GlaxoSmithKline partnered with a Grand Prix racing team to learn how it gathers and manages data at races, which "has helped us improve how we capture clinical trial data in real-time," they say, with wearable or remote biosensors.

As more and more of our clients seek solutions that are Internet of Things (IoT)

based—business models and concepts that infuse their core capabilities into externally connected smart devices unlocking far more powerful methods of data collection—we've found this data-first thinking approach to be extremely powerful.

John Nottingham, one of our firm's co-founders and its co-president, frequently shares this observation when speaking with our clients:

"Having been involved in the business of innovation for over 44 years, you certainly see enough to understand that innovation is a very 'adapt or die' space to operate within. Our successful track record and ability to adapt our processes over such a long period time is an essential trait."

"Harnessing the power of a more outside-in, data-first point of view—and connecting that with the well-established and well worn path of customer-centric design, has yielded new, unique solutions. We are helping our client partners see and define completely new lines of business and multi-year product roadmaps, rich with collected data and ancillary data service based revenue streams. The horizons and vistas we are jointly exploring with clients that IoT has unlocked is a transformative, evolutionary leap forward for all industries and market categories."

The guardrails of user-centric focus can help prevent catastrophes, but they also keep everyone in the same lane. Data-first thinking offers companies the chance to forge new paths, transforming themselves, and perhaps their industries, in the process. ●

TO LEARN MORE, VISIT NOTTINGHAMSPIRK.COM OR FOLLOW THEM ON TWITTER: @NOTTINGHAMSPIRK.

INNOVATION LESSONS FROM AIRBUS GROUP'S FORAY INTO 3D-PRINTED ELECTRIC MOTORCYCLES

STORY BY PATRICIA RIEDMAN YEAGER

Airbus
Toulouse, France

3D Printed Touch

Fall
2016

Airbus
Toulouse, France

You expect to hear about sleek new cabin designs or fuel-efficient aircraft from the $70 billion Airbus Group. But heads turned when the aerospace giant introduced the world's first 3D-printed motorcycle in May. ¶ The story of how and why Airbus brought the bike to market offers useful lessons for other large corporations. ¶ It begins in 2008, with the birth of an internal incubator now known as the Airbus Group Nursery, which is run by Airbus SVP of New Technology Ventures, Denis Gardin. In Gardin's first job at Airbus, he had served as Chief of Staff for the CEO. Later, he was responsible for establishing and managing research and technology partnerships for Airbus. In those roles, Gardin noticed that there was a backlog of promising business plans on the desk of the CEO and other high-level executives. "There were extraordinary ideas and proposals," Gardin recalls. But he realized that "nobody was making any decisions, so I said you need to organize a way to funnel all these opportunities."

The Light Rider's frame, which weighs just 13 pounds, is made of aluminum particles melted together by a laser. Only 50 of the electric motorcycles will be produced.


APWORKS
by Airbus Group

To address the backlog, Gardin helped Airbus create the Nursery, an incubator that provides support for exploring and developing new concepts and projects within Airbus.

Among the projects that took began life in the Nursery was APWorks, now an independent subsidiary. Located outside of Munich, APWorks has a full-time staff of 15 and focuses on metallic 3D printing for industries ranging from aerospace to robotics and automotive.

However, Airbus quickly discovered that, despite their extraordinary patents and products, few people knew that APWorks existed. Gardin realized they needed an extraordinary innovation to demonstrate their capabilities.

Enter the Light Rider, a lightweight but high-performance electric motorcycle.

And, yes, Gardin acknowledges that creating the motorcycle had elements of a publicity stunt. "It's difficult to tell people what you can do with APWorks," says Gardin, "so if you can show them, 'I can design a completely new motorcycle,' it's very visible to people."

In fact, APWorks created 50 collector's edition motorcycles, all 3D printed, which are now available for preorder, at a price of about $56,000.

And while Airbus has no intentions of competing with Harley Davidson, the development of APWorks and the Light Rider provide lessons that other innovation executives may find useful.

INNOVATION LEADER spoke with Gardin about the company's foray into motorcycles, and some of the things he's learned from shepherding companies through the Nursery over the last few years.

1. Market Immersion

Too often, innovation teams are kept away from prospective customers and the marketplace.

"It's difficult to tell people what you can do with APWorks, so if you can show them, 'I can design a completely new motorcycle,' it's very visible to people."

With APWorks, Gardin says "immersion," or working directly in the market, was critical. This is very different from the extended technical R&D that most corporations pursue. "The technical part is [only] one part," says Gardin, "but what is also very important is to understand how people are using the technologies, what are the constraints, what are the benefits?"

To accomplish this, APWorks was established as its own separate subsidiary, where it could act independently, without the constraints of the larger corporate entity.

It was even staffed differently. APWorks CEO and Managing Director Joachim Zettler, a former Airbus researcher, hired 15 people who had never worked for Airbus Group before.

All that enabled APWorks to adopt a more flexible approach. For example, APWorks discovered it could serve clients best by producing either one-off materials, doing serial production, or helping clients set up their own in-house production facilities.

2. Treat It Like a Startup

Airbus and the Nursery treat APWorks as a startup, and he advises that other companies do the same with their subsidiaries. "It's important to give the maximum signal that it's like a normal startup," he says.

Independence, separation, and some amount of risk can create the do-or-die urgency that large companies often lack—not to mention an appreciation for cashflow. It also forces the startup's CEO to look at the parent company as a traditional investor, not an overly-patient benefactor. "The CEO understands if you don't get money in by that month, they're out of money, and he needs to go back to convince investors to reinvest," says Gardin.

A greater sense of urgency and pressure force the subsidiary to be both aggressive and cost-conscious. "This leads to frugal innovation," he says. "They can better understand and compete with other startups, and they're in the same world."

The upshot is that, by treating the subsidiary as a startup, it avoids becoming a profitless research center. "The goal of the Nursery, the achievement," says Gardin, "is when people are selling products."

3. Organic Approach

Gardin has become an advocate for organic innovation, as opposed to just pursuing mergers and acquisitions. "I would recommend every company to have an organization to kick off business organically," he says. This is especially important in large, research-intensive industries, where there may not be a plethora of M&A targets. "Even though you're going to grow through M&A [when] you want to grow faster and be bigger, in some fields there are not a lot of M&A targets because they're so new."

To help with that strategy, Gardin focuses

Airbus CEO Tom Enders astride the Light Rider at its introduction. The bike weighs just 77 pounds and can travel about 37 miles on a single charge.

his organic innovation on adjacencies that are closely aligned to Airbus' future. "We're limiting our investments in the Nursery to domains that are useful potentially to our core business," he says.

At the same time, Airbus is also active in the venture capital arena. In 2015, it set up a Silicon Valley venture capital fund as well as an innovation center, called A³. Based in San Jose, Calif., the venture fund has $150 million backing from Airbus to invest in emerging companies in the aerospace arena. Its first investment was in Local Motors, a Phoenix-based company with a focus on using an open innovation process to design vehicles, and subsequently building them in micro-factories.

4. Venture Out of Your Industry

The aerospace industry is, by its very nature, extraordinarily slow-moving and safety conscious. Market-shifting technology advancements require massive investment, and the R&D cycle is measured in decades, not months. "You need to do a lot of proof in regard to safety, qualification of materials, and so on," Gardin says.

As a result, APWorks knew its technologies and expertise would have to be leveraged in other industries, and that's exactly what happened. "APWorks' first customers were not from aerospace," says Gardin.

But by going outside of aerospace, Gardin says, the company needed to explore how different industries could benefit from 3D printing. APWorks now serves automotive manufacturers such as Formula One race teams; it is creating robotic parts for medical companies; and it is manufacturing other parts for high-end industrial companies.

5. Create New Incentives

Incentivizing entrepreneurs and startup employees is very different than creating incentives within a large corporation.

There is no single right way to incentivize employees, and Gardin admits that Airbus is just starting to figure out how to reward key people based on the valuation of a startup. "We're making progress," he says.

He also acknowledges that employee expectations may change over time. For example, in the early days of APWorks, incentivization wasn't as important because people "were happy to be part of the startup and appreciated the startup experience."

But that has changed over time. He—and other companies—will have to identify the right incentives for retention and promotion. "For this next stage, it's very important." ●

Guidance

4

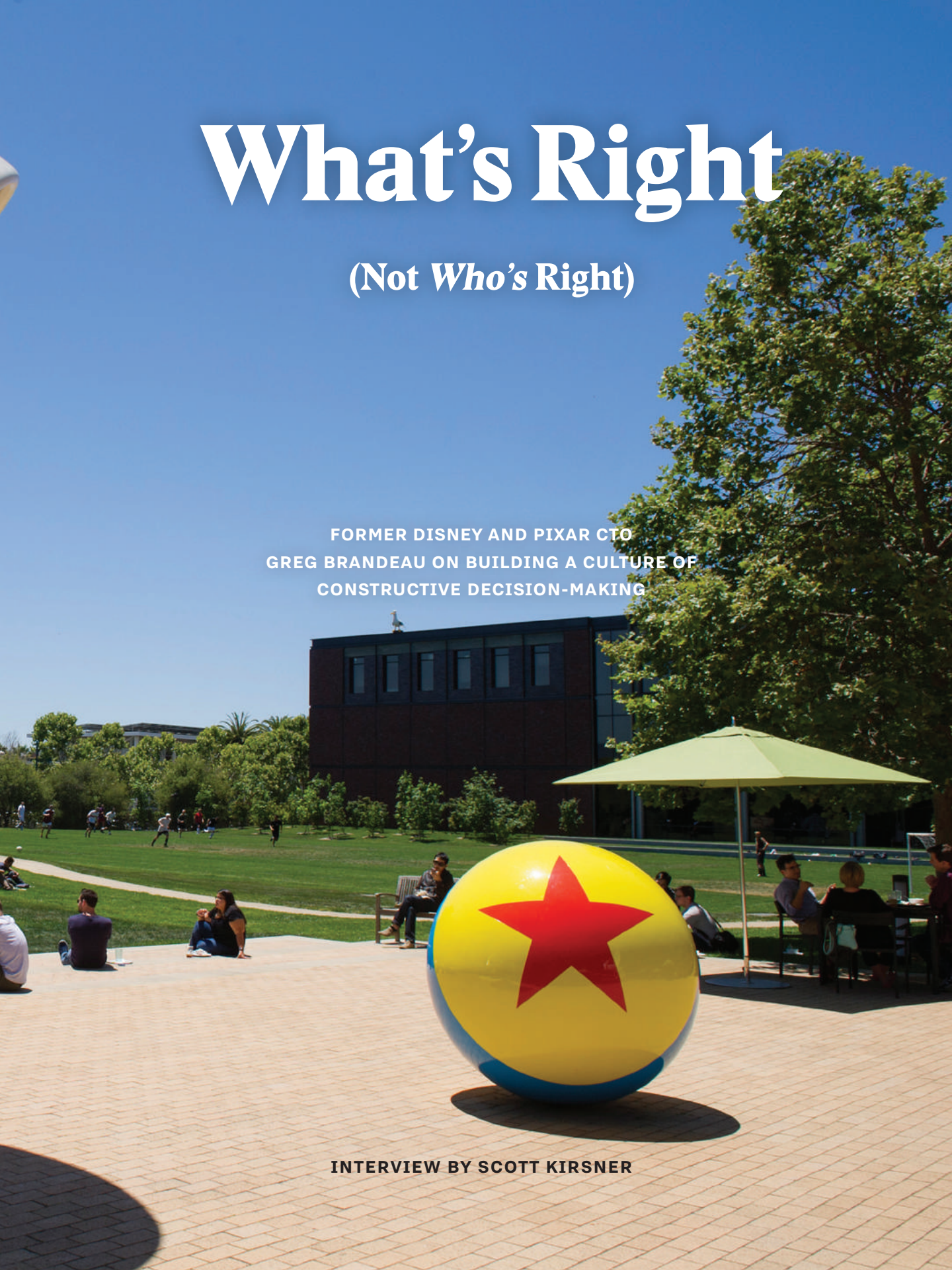
Fall
2016

Greg Brandeau
Los Angeles

What's Right

(Not *Who's* Right)

FORMER DISNEY AND PIXAR CTO GREG BRANDEAU ON BUILDING A CULTURE OF CONSTRUCTIVE DECISION-MAKING

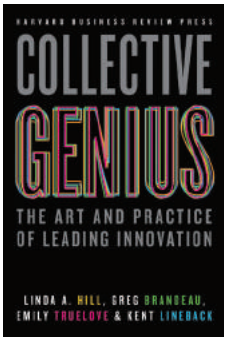


INTERVIEW BY SCOTT KIRSNER

Greg Brandeau
Los Angeles

Greg Brandeau spent three years working for Steve Jobs at NeXT Computer, and then more than a decade building Pixar Animation Studios into one of the most successful creative businesses in the world. Brandeau served as SVP of Technology at Pixar, and then became Chief Technology Officer at Walt Disney Studios following Disney's acquisition of Pixar in 2006.

He's also one of the co-authors of the book *Collective Genius: The Art and Practice of Leading Innovation*. INNOVATION LEADER editor Scott Kirsner spoke with Brandeau recently about why conflict is essential to meetings; the importance of physical space, and letting employees have an imprint on it; and why so many companies think about "who's right" instead of "what's right" when making decisions.

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Greg Brandeau
Los Angeles

WHY PHYSICAL SPACE IS SO IMPORTANT

When I've visited Pixar, one of the things that is clear is just how much thought went into the physical space. Why was that so important—was it just [former CEO] Steve Jobs' obsession with design?

Steve had the brilliant insight that it's chance encounters that cause innovation to happen. When I'm walking down the hall daydreaming, and I see somebody who I've been meaning to talk to, I stop that person. "I was thinking about X." And they say, "I was thinking about that, too," or, "I hadn't even had thought of that." It's not a structured meeting where we're going to talk about this one thing.

At Pixar, we built the building so all the food, restrooms, and conference rooms were in the center of the building. There is no way to be in the building without going into the center at some point. It forces the mixing of people who would not otherwise necessarily see each other.

You can easily imagine you could have stovepipes if you had the story and art people and the computer scientists and network engineers not bumping into each other. When you do, someone can say, "Here's what is frustrating me about trying to make this new character," and an engineer might say, "Let me look into how you could do that."

You have all sorts of bizarre conversations happening in the atrium that cause people to think differently. It's not an enforced thinking differently—it's an organic thinking differently.

There's also a culture at Pixar of being able to do extreme office decorating—someone showed me one of the secret bars the last time I was there.

We used to be in these crappy buildings in Point Richmond. Every time a tenant would leave, we would get their space. People sat wherever we could cram them in. The animators were in a giant room, and they built a luau bar. Everybody had to outdo their peers.

When Steve built the [new] building, his version of the building would've been nice, modern, austere—all black and white, like the NeXT computer. He could be very inflexible and dictatorial.

At the time, we were in the middle of the production of *Monsters, Inc.*, and we had a week to move from Point Richmond to the new building [in Emeryville, near Berkeley.] We were looking at this building and thinking, "This is going to be the death of Pixar." Inside, every office was going to be white.

So [just before we moved,] we sent people down to Home Depot, and told them, "Go buy the paint you want, and paint your space whatever color you want." ... One of the first offices we painted ended up a dark maroon. The architects came in and almost burst into tears.

The Lucky 7 Lounge came about because there were places where there were voids in the building, behind the sheetrock. [It was a space that was] not quite big enough to put an office in, and it had no windows. People said, "We could have our own little secret hideaway." So they did.

COMPARING THE DISNEY AND PIXAR CULTURES

Pixar was acquired by Disney in 2006. What did you observe about how the Disney and Pixar cultures were different?

[After the acquisition,] we'd go down to Disney Animation [in Glendale, Calif.], and they had 700 people there, just like Pixar.

I had an office in the hat building [shaped like Mickey's hat in the film *The Sorcerer's Apprentice*], and I would see ten people every day, at most. It was built as a bunch of rat warrens. There was no mixing going on. Zero. You'd never see anybody else. And there was a horrific hierarchical culture of who was in charge and who was not.

At Disney, the highest-level people were the story people, and the lowest people below everybody else were the technology people—and they were trying to make computer-generated films.

You'd go into a meeting, and very few people would talk. Nobody would contradict each other—ever. Then you'd get out of the meeting, and it's like, "I don't agree with that at all." Then everybody would go and do their own thing.

What we did—we being [Pixar President] Ed [Catmull], [Chief Creative Officer] John [Lasseter], me and [Pixar CFO] Ali [Rowghani]—was try to change the culture. First, we took the center of the building, cut out all these offices, and made a mini-atrium. We put in tables and a coffee bar and games, so people would come and sit and talk to each other.

[We also said that] you can't have meetings where you don't argue. Directors have to critique each others' films, or else how ar eyou going to learn from each other? Wouldn't you want to go to a colleague and say, "Hey, what do you think?"

Roll the clock forward, and Disney put out *Frozen* and *Big Hero 6* and other blockbusters. They're putting out amazing films.

Were there some factors that you think made Disney more open to cultural change, more

PHOTOGRAPH BY SHARON RISEDORPH

Greg Brandeau
Los Angeles

willing to make changes at that point?
[CEO] Bob Iger was at one of the Disneyland parks, maybe Tokyo, and he was watching the parade. He noticed that most of the characters in the parade were Pixar characters. He knew that the engine that drives the company is characters and story—from there, everything else is derived. [Disney Animation] had nowhere further down to go. They were so broken ... their films at the box office were losing huge amounts. It wasn't a two percent leak in the life raft.

WHY CREATIVE ABRASION IS A GOOD THING

In the book, you talk about the importance of "creativity agility" and "abrasion" and "resolution." Can you explain how those work?
Creative abrasion is the ability to have difficult conversations. It's like taking sandpaper and polishing something. You have a number of diverse points of view in the same room, and everybody is riffing off of each other's ideas. You're doing [the improvisational comedy approach of] "yes, and" instead of "yes, but."

Creative agility involves trying something that has never been done before—"we'll do tests, and some may not work." You need to know that you are not going to get fired if [the test] doesn't work.

The next piece is creative resolution: how do you make decisions? In many companies, the people with the [most senior] title get to decide. But in the best companies, decisions flow to the people with the most knowledge about what should be done. You want people to do what's right, not who's right.

One choice by a leader that nobody challenges can cause a company to go down. But if people anywhere in the company can respectfully disagree, you can avoid that.

LEADERS SET THE STAGE FOR INNOVATION

We talk to innovation leaders who work in many different parts of the company—some technology, some R&D, some strategy. Is there a common thread you see among them?
What do leaders of innovation do? They see themselves as stage-setters or context creators. They hire a bunch of smart, diverse people and let them have at it. It's not that the leader has the idea of what to do; the vision is an emergent property of the organization.

Companies like Pixar are lucky to have at least some of the founders still involved. What's an example of a non-founder-led company that has cracked the code on innovation?
W.L. Gore. These guys are just unbelievably good. They've thought about how to keep the culture going, and what is it that makes people want to do a great job and think up great ideas.

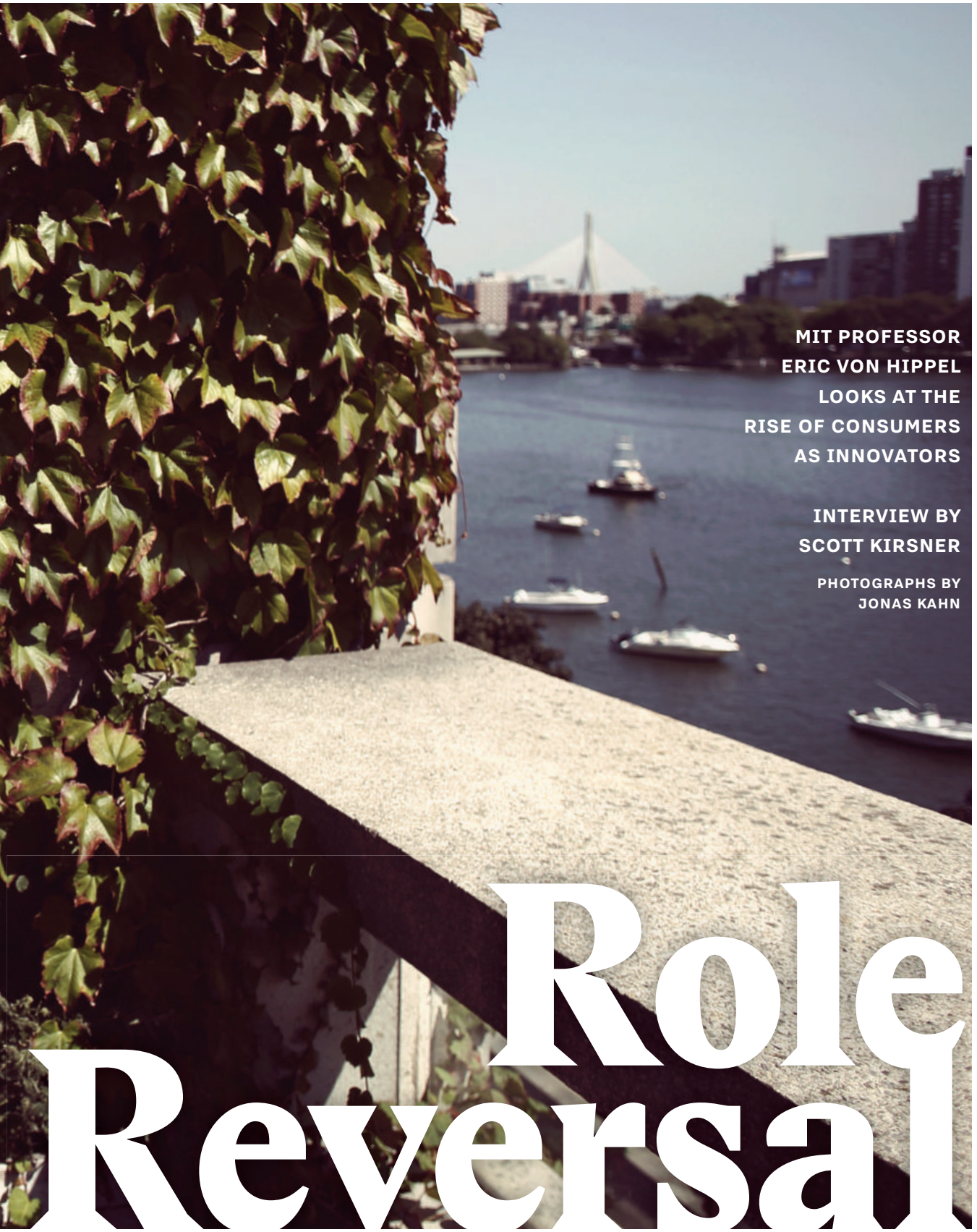
They realize that you work best when you know the people around you. When your office building gets to be more than 250 people, you can't know everybody, and you just become part of a blob. When an office becomes bigger than [250], they split it up into smaller pieces. That keeps it feeling like a small company, even though it's big. ●

ASSESSMENT TEST

		NEVER	SOMETIMES	ALWAYS
ABRASION				
1	We assemble diverse teams to make sure we all do not think alike.	■	■	■
2	We amplify rather than minimize our differences.	■	■	■
3	We encourage debate over ideas.	■	■	■
AGILITY				
1	We know how to run rapid yet thoughtful experiments.	■	■	■
2	We see reasonable missteps and intelligent failures as learning opportunities.	■	■	■
3	We adapt our thinking and actions on the basis of evidence.	■	■	■
RESOLUTION				
1	We keep opposable ideas under consideration until the best solution is reached.	■	■	■
2	We do not allow one group or individual to dominate when making decisions.	■	■	■
3	We do not compromise just because it is the path of least resistance.	■	■	■


WHAT DO INCREDIBLE
INNOVATION LEADERS DO??
“Instead of trying to come up with a vision and make innovation happen themselves, leaders of innovation create a context, an environment, where people are willing and able to do the hard work that innovative problem-solving requires.”
Greg Brandeau

Eric von Hippel
Cambridge, Massachusetts



Role Reversal

MIT PROFESSOR ERIC VON HIPPEL LOOKS AT THE RISE OF CONSUMERS AS INNOVATORS

INTERVIEW BY SCOTT KIRSNER

PHOTOGRAPHS BY JONAS KAHN

Eric von Hippel
Cambridge, Massachusetts

WHO'S A PRODUCER, AND WHO'S A CONSUMER?

In the 20th century, the boundary was clear: companies made stuff, and consumers bought it.

But in 2016, observes Eric von Hippel, a professor at the Massachusetts Institute of Technology, you can miss a lot if you expect those two parties to remain in their established roles. Consumers are designing and manufacturing their own products, from network-connected glucose monitors for diabetics to videogame modifications. Often, they solve problems or spot opportunities before a company does.

Von Hippel, an economist who has studied open innovation since the 1980s, explores the phenomenon of consumers as innovators in his forthcoming book, *Free Innovation* (MIT Press.) In a recent conversation in his office overlooking the Charles River in Cambridge, von Hippel pointed out that there are far more consumers innovating today than there are R&D engineers working for companies.

Von Hippel has spent much of his career studying the way that people who have problems to solve often innovate on their own; he coined the term "lead user" to describe people who create a product to address their own need.

I thought I would start by asking you a little bit about the Nightscout example that you start with in Chapter One, because I think it's a really nice way to get a handle on the idea of free innovation. Could you talk about that?
It has always traditionally been thought that the producer is the innovator. "What we do as producers is we find a need and we fill it."

Companies are very much not used to the idea that consumers are innovators. They say, "We'll study what you want in a toothpaste." They come to you and they do focus groups, and they say, "Ah, you want rum-flavored toothpaste." Then they go to the R&D lab and they make it. It would never occur to them that you might have mixed some up already.

We've done national surveys, and we know that about five percent of national populations actually innovate for themselves. Which is a massive number. It's much more than all the R&D people put together—it's about a hundred-fold more than [R&D people employed by companies.]

Could that be either somebody who develops a new recipe for jam and goes to the farmer's market, or somebody who's tinkering in their basement on an electric bicycle that they hope to patent?
Or something they hope to not patent, but just use. It could be all of that, but we [focus on] functional novelty, so the jam wouldn't hack it. It has to do something better than is now done on the market. It has to be a better bike.

With your focus on functional you would leave out, for instance, people who have their own channels on YouTube, and they are basically an entertainment company unto themselves. They're producing novel kinds of content that doesn't exist on any cable channel, or TV network. That wouldn't necessarily fall into your definition.
No, because what we're focusing on is innovation. It is true that user-generated content follows a lot of the same patterns, but in fact, what we're talking about here is just plain the R&D function that people assumed [only existed] in corporations.

The example that you were talking about, with Nightscout, is an example of that behavior. The specific story was that children [who suffered from Type 1 diabetes] could not be

sent on sleepovers. They had continuous glucose monitors. On your belt, [the monitor] would show what your glucose numbers were, but if the kid was three [years old], he doesn't know what to do about that. He's just running around with this thing on, and the parent occasionally grabs him and takes a glance.

You couldn't send these kids on sleepovers. It was, and is a really frightening issue, especially at night, because kids can die, and regularly do, because their blood sugar drops too low. Anyway, one person said, "I'm going to create a remote reader, so that my kid's numbers are transferred to the web, and then to my phone, or watch, or whatever."

Other people said, "Whoa, I need that, too." It took off as a movement, and now has thousands of participants, entirely outside of [the realm of commercial medical device] producers.

It's fascinating, because it has to [happen] outside of producers. In the case of medical care, the FDA can regulate it if commerce is involved. They cannot regulate it if what you do is non-commercial.

Is your belief that the medical device industry didn't see that opportunity, or saw that opportunity and said, "We're not sure that there's enough of a market demand for that to make it worth jumping through all the hoops of FDA approval?"
It's a mix. In this case, the engineers at the companies didn't necessarily see the problems. They think, "Adult user, readout, simple."

Then, as soon as the users began to do it, they saw it as an issue, and they put it through the FDA, because everybody wants it, but it was a follow-on.

"This is about the users solving their own problems, and then the company climbs aboard."

I've got to tell you a wonderful story, by the way, with respect to that. Over at my condo [in Cambridge], there are cracks in the basement garage. They have to fill the cracks with waterproof stuff. I passed by there a couple days ago, and I saw these workers. The first thing they do is that they grind out the crack, so that you can have room to shove in the new waterproofing stuff.

What they had was a hand tool, a little grinder, but they had attached a broomstick to it, and they were standing upright, and they were guiding it down the crack. I said, "Why'd you do that?" They said, "Well, it hurts my back when I'm down there on the ground." I said, "Well, is that commercially available?" They said no, and I said, "Why do you suppose the producer didn't do it?" The guy said, "It ain't their backs."

That's great.
Isn't that fabulous?

"It ain't their backs," and also so few companies probably do that sort of post-release anthropology about, how do people use our product out there in the real world?
Exactly. This happens again and again. The user does it first, before the company, because he only has to know about his own need. He doesn't have to know about a market. He doesn't have to do a market study. He just does it. Then, that starts to spill through the marketplace.

With the broom handle example, that's not necessarily patentable, so any smart person observing that sort of free user innovation could say, "Hey, we should build that into our product." Are there other ways to do that?
They still might sit there and say, "We don't know how many people there are out there... unless we go to the effort of a market research study, which we might be too lazy to do, or it might not be high-priority."

To answer your question, "What are the models for bringing that back to companies?" All of these opportunities, some of them will be of commercial interest, but then the question is, "How does a company find them?"

What the company often does, or is learning to do nowadays, is hosting something of use to these people [who are innovating outside of the organization.] Do you know Valve Corporation? They post Steam Workshop. All these other users are hacking [and modifying videogames.] Who knows what's any good? Valve creates Steam Workshop. They say, "The tool's here. Come on, you can play."

The tools are for modifying existing games?
Yes. Here's some tools. Modify the games. Other people can download it. It's all free; isn't this wonderful? Then they can see the levels of activity. They say, "Whoa, this one is a hit." Because we're doing something for the people, giving them tools, they aggregate around us.

Then, we can see what they're doing, and

what of that stuff we might want to commercialize. "Hey, we ought to build that into our games." Other times, they might say, "Look, this is a free complement [to one of our games.] We don't have to commercialize it. People who want it can download it for free, [and] it adds value to our product."

All this activity, by the users, generates value for those users, but it also diffuses to the companies when commercial value is generated. It's cool.

If you go to a lot of large companies today, they may have an open innovation group. They may have a group called consumer insights. They may have somebody who's a trend-spotter. It seems like what we're talking about is related to, but also somewhat different from, those activities.
It's different. This is about the users solving their own problems, and then the company climbs onboard.

We should spot trends, but in fact, if you look at fashion for example, grunge fashion and so on, it's developed in the street. What I want to say is that users are solving their own problems with or without the companies.

We talked about this idea, with the Valve example, of producers learning to support free innovators. You say in the book that it's possible to "channel their work into privately profitable directions." Are there other examples of how you've seen that happening?
Take LEGO. They make Lego Mindstorms, a robotics set. They had spent seven years [developing] it with seven engineers. Three months after its release, a thousand hackers were [buying and improving the set.]

Then LEGO said, "OK, we see where these people are. They're out there. They're self-organized. It's 40,000 people now. Some people like robots. Some people like trains. Maybe we can work with those people."

By the way, the reason [their group is] called LUGNET, it's the LEGO Users Group Network. I asked them, "Why the hell did you call it that?" They said the only person from LEGO that contacted us was a lawyer. We used to call to call ourselves LEGO Users Group. They tried to sue us.

Anyway, what they did was exactly what Valve did—we'll create a site where you can post your stuff. You can sell stuff on our site. We'll watch and we'll see what sells. If we really want to publish it ourselves, we'll give you one percent. [That idea has since] been supplanted with a [different approach:] if 10,000 of you vote for the design, we will build it for you.

In the 20th century, it seems like the ultimate CEO fantasy was to have this vertically-integrated, insular, high-powered R&D group. Let's own our own factories. Let's control it all. What I've read of your work and what we're talking about today makes it feel like in the 21st century, we're talking about an organization that's much more permeable to the outside world.
It has to learn to be. The outside world can increasingly do without them. You know about Shapeways? You can go and you can [get your own product designs printed by a service bureau.] When they print, they say, "By the way, you want to sell the thing? If so, just put a price on it and we'll handle everything." So they become like publishers.

One of the things we often observe is that at most big companies, there's so little incentive for anybody to get outside the building. You go to meetings all day, there's lots of incentive to be in those meetings, but if you talk about going to visit a user group, or a meet-up, or a swap meet, what's the incentive to be out there, in the outside world?
The really big companies still own huge markets. What they basically do is ignore all those early signals, and [instead] acquire companies. The sequence is that users do it, then companies form from within the communities who can see this thing—[startups that can] be satisfied with a small market.

Right, Apple being an example of that.
Apple in the early days, yeah. Then, eventually, [the large companies] get in there and they'll say, "This is big enough now. We can acquire a fair-sized company that is doing this, and hopefully it is big enough so we won't crush it."

And hopefully it hasn't gotten too successful where you can't buy it, like an Amazon or an Apple. What else should I have asked you about? I only had one chapter to read before today, and the book has eleven chapters.
What's happening is you've got a grassroots innovation system that is growing up underneath the company's visibility, and it'll substitute for some things the companies do. But where there are economies of scale in production, companies can pick it up, and do something with it.

Everybody, you included, tends to focus on the companies. "What does this mean for the companies?" But you know what? In the end, it's the people making it for themselves. If consumers are making something, look at these things. ●

The Secrets to Innovation Growth with Speed

BY **ANDY MICHUDA**, PRESIDENT AND CEO, **SOPHEON**

TODAY'S BUSINESSES ARE EXPECTED TO EVOLVE as quickly as the markets they serve. The golden age of the consumer and the digitization of business have been highly disruptive, compelling transformational corporate change which directly impacts business strategy, planning, and realization. As management consultant Peter Drucker said, "The greatest danger in times of turbulence is not the turbulence, it is to act with yesterday's logic."

Sustainable growth: Revisiting three corporate capabilities. The nexus of the consumer-driven world and the digitization of business has disrupted three central operational business capabilities in the competitive enterprise:

The concept of the Annual Operating Plan (AOP) is outdated—reviewing and updating operating plans just once a year simply doesn't equip an enterprise to act or respond quickly enough.

The execution of corporate strategic plans leaves ample room for improvement—if 91 percent of corporations have a gap in alignment between product development and growth strategies, as Consumer Goods Technology reports, then many of the resources invested in product development are being wasted on non-strategic activity.

Companies can no longer continue to invest $500 million to $2 billion in new product development and innovation annually without a return on investment. Innovation investments, status, and results are playing a more critical role in enterprise success and therefore require transparency, alignment, and accountability at the enterprise level.

If you haven't yet re-hauled your AOP Process, you will. The traditional corporate AOP process involves a time-consuming prioritization of forward-looking objectives, initiatives, and budgets. The market is moving too fast today to support the traditional lengthy planning cycle. Chances are that by the time tactics are operational, the market has already moved, on or a competitor has swooped in to claim a first-mover advantage.

According to the American Enterprise Institute, a whopping 88 percent of the Fortune 500 firms in 1955 were no longer in business by 2014. In an effort to avoid a similar fate, many of our clients are moving from a static, protracted AOP practice to one that is dynamic and responsive. These market leaders are implementing a quarterly cadence for recalibrating their strategic priorities, syncing them with their operating plans and reassessing quarterly.

An example of transformation through the introduction of agility and iterative planning:

$13B fast-moving consumer goods client
BEFORE: Planning process that was completed halfway through Q1 of the following fiscal year.
AFTER: After automating their process and introducing iterative update processes throughout the year, many of their business units are updating their strategic plan and initiative priorities every 90 days. Some are modifying them monthly!

Business strategy voyages beyond planning and into realization. Generally speaking, strategic planning speed isn't the only problem. Communication and execution of these plans in a timely manner is where organi-

zations typically run into trouble. Fifty-five percent of managers can't name one of their organization's top five priorities. Further, a meager three percent of firms successfully align growth strategies with product development, while the overwhelming majority are aware of a gap between strategy and development. Enterprises are not realizing their own strategic targets, and this new era is quickly sorting the business winners from the business losers. The question to CEOs around the world is, *"What are you DOING to win and grow in the face of these new norm market conditions?"*

Companies generally fail to realize their strategic initiatives for the following reasons:

- There is a lack of strategy alignment across the masses.
- Organizations don't treat strategy alignment with the same priority as quarterly financial performance.
- Initiatives become outdated and irrelevant before making an impact.

An example of transformation through introducing enterprise-wide visibility, transparency, alignment, and status metrics:

$40B industrial manufacturing client
BEFORE: Investments were allocated across 16 siloed business units, each with a standard AOP process and independent growth goals. There were no global metrics or visibility into progress against initiatives. Objective-setting was incremental and cycle times long.
AFTER: Enterprise growth initiatives all roll up, investments are allocated across 74 growth entities, and status is provided monthly. Objectives are focused on "Step-Change" and "Breakthrough." Overall enterprise visibility has been established and speed to market has improved.

Scalable, enterprise-wide innovation management. It's not uncommon for companies to struggle with products being late to market, not meeting revenue and volume targets, missing the mark on customer needs, and being more "me too" rather than new-to-world or new-to-market innovations. Here is a hard reality many of us forget regarding the impact of innovation management on business performance: Research by Booz & Company repeatedly showed over nine years that there is "no correlation between how *much* companies spend on R&D and their financial performance. *How* companies spend their innovation dollars is much more important." These same studies have consistently shown that "innovation investments in select capabilities, tools, talent, and culture which are tightly aligned with a businesses' strategy are what drive sustained success."

Easier said than done. But many innovation leaders are creating a new competency to make this real. Enterprise-wide Innovation Management (EIM) is proving to be the new driver of competitive advantage in making innovation a repeatable and sustainable business competency.

$13B+ world leader in motion and control technologies/systems
BEFORE: Grew through acquisition to 128 independent business units. No common process, no common method for evaluating investment across BUs. Poor visibility into status on key innovation investments. Objective was to grow organically by five percent per year.
AFTER: Created an enterprise-wide innovation process and established a "single source of truth" for innovation investments. The value of their portfolio increased 500 percent in three years, exceeding the organic goal by 60 percent. Percentage of revenue from cumulative new-to-market/new-to-world sales increased from six percent to 19 percent over a three-year period.

The time to act is now. Challenge yourself to imagine what your work environment would be like if you could cut out all the corporate infrastructure requirements, tedious administrative processes, and hierarchical cycles that have historically served as an anchor for your company. Imagine a scenario where all of your strategic objectives can be driven, managed, and realized through all areas and levels of the enterprise at a pace that is faster than the outside environment. Envisage an interconnected organization where harmonization, integrated cross-functional work streams, and transparency are the order of the day. You can no longer afford to ignore the new reality, because your competition is already living it! ●

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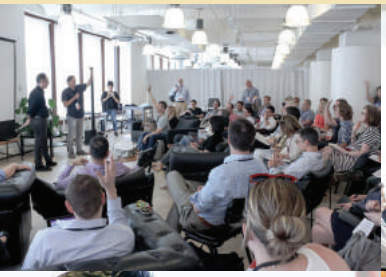




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Frank Hertz
Co-Founder

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We're sending you this complimentary copy of Innovation Leader magazine because you work (we think!?) in an innovation, strategy, R&D, or new product development role inside a big company. In other words, you're one of the people responsible for making new stuff happen.

We know that's an incredibly challenging job. We started Innovation Leader specifically to help people like you — spreading around best practices, demystifying new approaches and techniques, and building a community of people willing to share what is working in their organizations (and also what isn't.)

Most of what we do exists on our website, InnovationLeader.com, and in our weekly e-mail newsletter. I'd love for you to check it out, and tell us how we can be even more useful to you. A big part of what we do is guided by what our members need to know about and get better at.

Thanks,

P.S. See the back of this page for a bit more about what we do.

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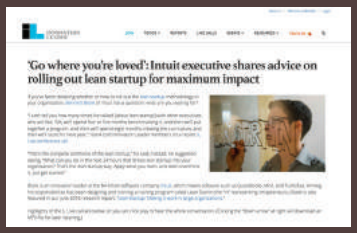
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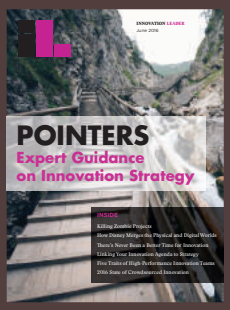

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