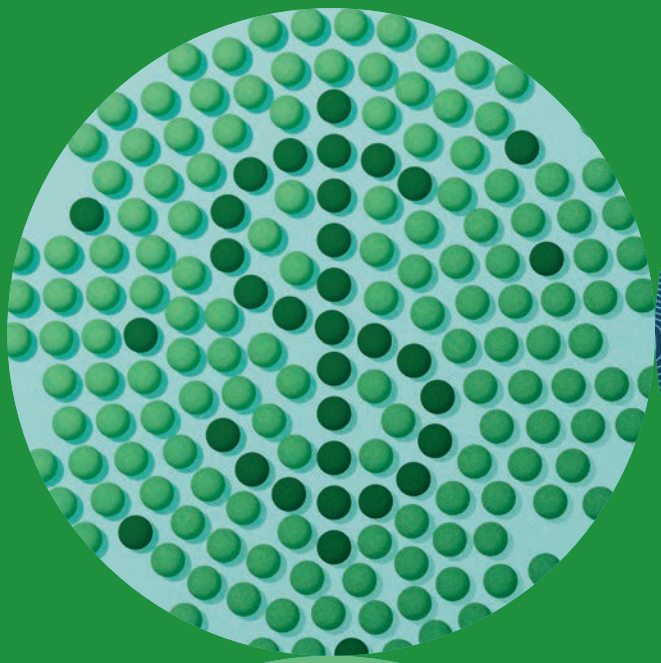
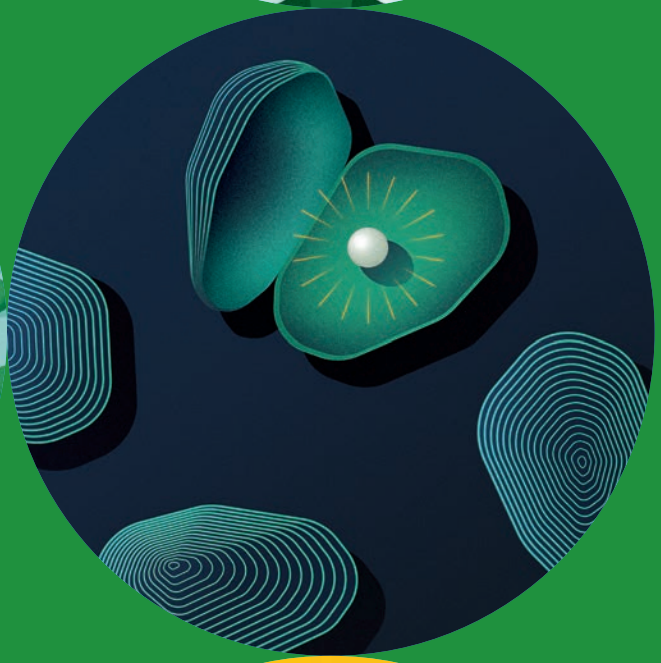
Deloitte University Press

Case studies in funding innovation





About the authors

Gabriel Kasper is a senior manager with Deloitte Consulting LLP at the Monitor Institute. For two decades, he has helped philanthropic funders understand the changing context for their work and clarify what those shifts mean for what they do and how they do it. His work is grounded in experience, as a program officer at the David and Lucile Packard Foundation and a program manager for the Berkeley Community Fund. A prolific writer in the social sector, he has co-authored "The re-emerging art of funding innovation," *What's Next for Philanthropy, On the Brink of New Promise, Intentional Innovation*, and *Working Wikily*.

Justin Marcoux is a manager with Deloitte Consulting LLP at the Monitor Institute. He focuses on innovative practices in philanthropy and has helped private, corporate, and community foundations challenge old assumptions and creatively imagine new possibilities. He also writes and speaks regularly about philanthropy and social innovation. His work has appeared in publications such as *Stanford Social Innovation Review*, *Alliance Magazine*, and *The Chronicle of Philanthropy*. Prior to joining Monitor Institute, he was with Cambridge Associates advising US and European foundations, nonprofits, and universities on investing their endowments.

Deloitte Consulting's new Social Impact practice helps clients harness a market-driven perspective to identify and co-create socially minded solutions that enhance value. The practice combines deep consulting expertise in the business, government, and nonprofit sectors with experience bridging domains and working at the forefront of social progress. Read more about our Social Impact practice on www.deloitte.com.

Contents

Introduction

INNOVATION has long been an essential part of philanthropy. But the process of searching for and supporting new approaches can be messy. The reality is that the path from idea to impact is often long, winding, and unpredictable, and there is no simple, step-by-step methodology for finding and funding new ideas.

That doesn't mean, however, that philanthropic funders can't be intentional about the approaches they use to seed and scale social innovation. In our 2014 *Stanford Social Innovation Review (SSIR)* article "The re-emerging art of funding innovation,"[1] we highlight the ways that the processes, strategies, and structures required to deliberately seek out and support early-stage, breakthrough ideas can be quite different from those used in more traditional grantmaking.

To further illustrate what it really takes to fund innovation in practice, we have developed five case studies that aim to capture the realities of the innovation funding process. Each looks at the process of supporting innovation from a different angle:

- *Reverberating impact: How the Robert Wood Johnson Foundation's Pioneer Portfolio helped seed and scale Project ECHO* dives into how a foundation can help an early-stage idea blossom into something that may grow to be transformative.
- *Can't do it a-loan: How innovation funding helped Kiva launch and develop* looks at the innovation process from the other side, starting with a high-profile innovation and looking back at how it was found and supported by philanthropy.
- *A few wild and crazy ideas: How the Gates Foundation's Grand Challenges Explorations program finds and funds radical new approaches from across the globe* looks at the deliberate processes that one innovation funder has developed to find and select ideas with transformative potential.
- *Keeping cool: How a coordinated ecosystem for innovation supported the growth of Promethean Power Systems* explores how The Lemelson Foundation has created the infrastructure and support to help many new innovations develop over time.
- *Diffusing innovation: How an ecosystem-based approach is helping social impact bonds to spread* examines a different sort of ecosystem—one designed to help diffuse a potentially powerful innovation more rapidly.

None of these cases alone tells the whole story of what funding innovation looks like; they explore a range of approaches that

emphasize very different aspects of the process. But we believe that the collective set of case studies begin to paint a well-rounded picture of many of the processes and approaches that innovation funders can use to nurture and scale new ideas with transformative potential.

It's important to recognize that these stories are *not* about the innovations themselves. They don't explore whether Kiva should actually be considered a truly game-changing financial innovation, or whether the Gates Foundation's Grand Challenges program should have hit a "home run" already after 10 years of operation. Those are questions for another time and place.

But each of the examples described in the cases is showing important signs of promise, and because creative funders were willing to embrace a different way of working, the innovations have been able to grow from the seeds of ideas to full-fledged experiments. It's still too early to answer whether they will ultimately prove to be transformative—but it's clear that if the funders involved had been wedded to more traditional grantmaking approaches, we might not even be able to ask the question.

The innovation processes described in the cases here are inherently complex, full of stops and starts, iterations, and failures. And one of the clearest takeaways looking across the stories is that there is simply no straightforward recipe for funding breakthrough ideas. But the cases do help to illustrate an emerging set of "innovation funding principles" that can allow funders to better identify and support early-stage, high-risk, high-reward projects:

- *Seek out ideas from new places.* Finding ideas with the potential to create lasting transformation means reaching beyond the usual suspects to find promising new solutions.[2]

- *Select ideas to support based on their potential for transformation.* As Eric Toone, vice-provost and director of the Duke University Innovation and Entrepreneurship Initiative, explains, "When you're doing innovation, the first question is not 'Is this going to work?' but rather, 'If it works, would it matter?'"[3]

- *Provide risk capital.* Many nonprofits and social activists operate with limited resources and are so focused on accomplishing their goals that they have little time and money available to experiment with new ideas. Providing flexible, unrestricted financing that can be used to try new approaches can be critical to promoting innovation.

- *Support innovations with more than money.* Virtually all funders try to support the work of their grantees, but early-stage innovations often require an especially hands-on approach to help mold emergent strategies, prototype new concepts, and build necessary systems and networks.

- *Build ecosystems for innovation.* Because foundations are rarely positioned or staffed to provide all of the different supports required to help an innovation grow and spread, it is often important to put infrastructure in place that can provide the necessary assistance required to move innovations ahead.

- *Allow for iteration and failure.* As Van Jones, a senior fellow at the Center for American Progress, has explained, funders need to "stop giving grants and instead start to fund experiments."[4] This means building an appreciation for iteration, failure, and learning—it's not necessary to know all of the answers and outcomes right from the outset.

- *Focus on learning and improving.* Funders need to be careful not to mistake wrong turns for roadblocks. Innovations often follow a long and circuitous path, and funders need to balance the tension between "failing

fast" and allowing enough time for ideas to iterate and develop.

- *Think about scale and spread of innovation from the start.* Innovation funders need to start thinking about scale and diffusion early by recruiting other funders to support later-stage innovation, exploring how to connect innovations to markets, soliciting support from government, and disseminating information and building capacity to help promote widespread adoption of new ideas.

Perhaps unsurprisingly, these principles mirror many of the key elements that were discussed in our 2014 *SSIR* article related to the sourcing, selecting, supporting, measuring, and scaling of innovation. As we explained in that piece, innovation funding shouldn't be seen as an alternative to, or replacement for, strategic philanthropy; funding innovation is actually an integral part of good, strategic philanthropy. And we believe that embracing these innovation funding principles can help with virtually all aspects of a funder's grantmaking.

For many funders though, taking risks on high-potential projects won't be necessary or appropriate for *all* of their work. Instead, the principles are better applied to just a subset of their giving activities. And much as financial investors try to build a diversified portfolio—placing the majority of their assets in investments with safe and steady returns, but using a smaller percentage for higher-risk opportunities with the potential to produce outsized rewards—funders, too, should consider using a portion of their resources to support innovation alongside their investments in more consistent and proven approaches.

Eric Schmidt, the former CEO of Google, used to describe what he referred to as his 70/20/10 rule: 70 percent of management's effort should be dedicated to core business tasks, 20 percent should be focused on projects related to or adjacent to that core, and 10 percent should be dedicated to unrelated but high-potential new businesses.[5] Using this type of portfolio approach allowed Google to focus the majority of its resources on proven strategies that formed the heart of its business while ensuring that it wasn't missing out on important new opportunities and impact.

For funders, 70/20/10 may not be the right ratio. Each foundation and donor will need to think about its own unique risk-reward profile. But imagine the potential impact if all funders dedicated 10 percent of their giving to experiments that may have a high likelihood of failure but that, if they succeed, could transform a critical system. With so many more ideas being supported, if 1 in 10, or even 1 in 100, of the innovations could succeed, it could change the world.

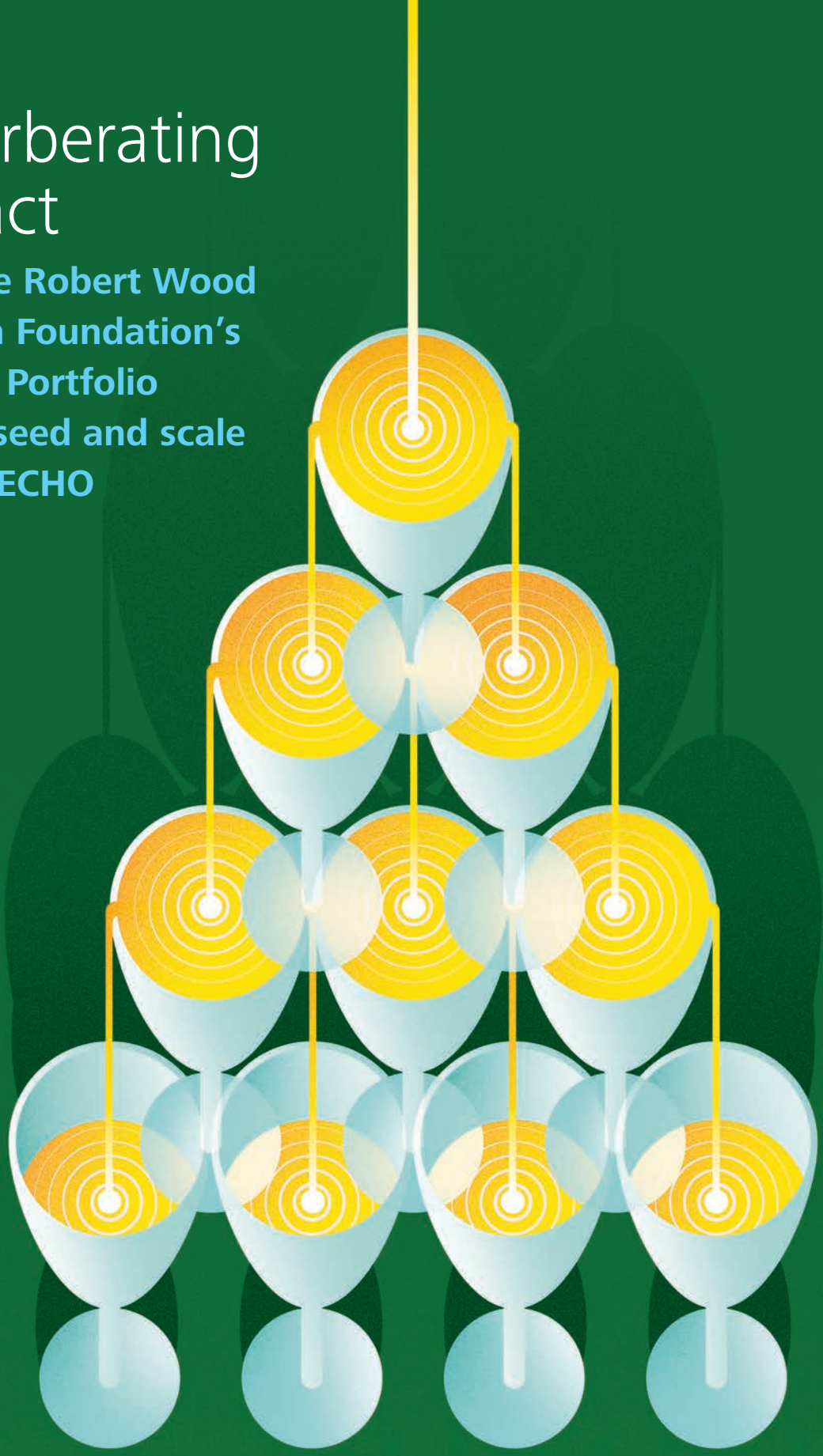
We hope you enjoy the stories of innovation funding that follow, and we hope that they illuminate some of the ways that your organization might embrace supporting breakthrough ideas as part of your funding portfolio in the future.

Endnotes

1. Gabriel Kasper and Justin Marcoux, "The re-emerging art of funding innovation," *Stanford Social Innovation Review*, spring 2014, http://www.ssireview.org/articles/entry/the_re_emerging_art_of_funding_innovation.
2. For more information on this topic, see Gabriel Kasper and Justin Marcoux, "How to find breakthrough ideas," forthcoming as a blog post in *Stanford Social Innovation Review*.
3. Kasper and Marcoux, "The re-emerging art of funding innovation."
4. Ibid.
5. CNN Money, "The 70 percent solution," December 1, 2005, http://money.cnn.com/magazines/business2/business2_archive/2005/12/01/8364616.

Reverberating impact

How the Robert Wood Johnson Foundation's Pioneer Portfolio helped seed and scale Project ECHO



Deloitte University Press

Introduction

Project ECHO began in 2003 as a way of using connective technologies to help remote communities fight hepatitis C. But it had the potential to be much more. Over the next decade, the Robert Wood Johnson Foundation helped the project expand its vision and grow from seed to scale.

WHEN the Project for the Extension for Community Healthcare Outcomes (Project ECHO) first began in 2003, you wouldn't necessarily have recognized it as an innovation with the potential to fundamentally transform global models for health care delivery in underserved communities.

Back then, Project ECHO was an experimental approach for helping rural and remote communities fight hepatitis C, a deadly liver disease, by using secure videoconferencing technology to share the knowledge of leading medical specialists with dozens of local physicians treating patients in their own communities.

The idea lacked any of the types of technological breakthroughs we usually associate with innovation. It used modified videoconferencing and was shrugged off by many as an interesting, but ultimately ordinary, use of telemedicine. In fact, when Project ECHO originally applied to the Robert Wood Johnson Foundation (RWJF) for funding, it was rejected.

But embedded within Project ECHO was an idea about continuous, one-to-many training with the potential to transform care for hepatitis C, change systems for specialized health education, and even extend to *any issue* where expert knowledge is locked up in the minds of a few and needs to be shared widely.

The story of how this innovation emerged and has developed over the last decade with the help of the Pioneer Portfolio, the dedicated learning and innovation unit within the Robert Wood Johnson Foundation, can help demonstrate what it looks like for philanthropy to support a revolutionary new idea as it grows from seed to scale.

The origins of ECHO

HEPATITIS C is a liver disease that affects 3 million in the United States and more than 170 million people worldwide. The disease is the leading cause of cirrhosis and liver cancer in the United States and is responsible for 350,000 deaths globally each year.[1] Transmitted by blood, hepatitis C is often spread through needles—affecting intravenous drug users and prisoners with makeshift tattoos and piercings—and has been called a malady of "America's untouchables."[2] Back in 2003, hepatitis C was a grim diagnosis, but with new, aggressive, chemotherapy-like treatments, it could be cured in 45–70 percent of cases.

Administering the treatment, however, was not easy. The main drug used to address the disease, interferon, was highly toxic and was associated with a host of physical, psychiatric, and neurological side effects. Patients had to be monitored closely for adherence, diet, and side effects.[3] Because primary care physicians didn't necessarily have the skills to manage this treatment, it had to be handled by specialists like Sanjeev Arora, a hepatitis C expert at the University of New Mexico Health and Science Center.

It takes years of sophisticated training for doctors like Arora to develop their knowledge and expertise.

It takes years of sophisticated training for doctors like Arora to develop their knowledge and expertise, so there are relatively few specialists (or "knowledge monopolists," as Arora likes to call them) in the field. Hepatitis C specialists were so rare around the turn of the millennium, in fact, that patients were forced to drive from every corner of New Mexico to Arora's offices in Albuquerque, covering hundreds of miles for each of the 12–18 trips it would take to cure the disease. Patients could wait up to eight months to see him, some dying in the process because no one else could help. Many more would go undiagnosed.[4]

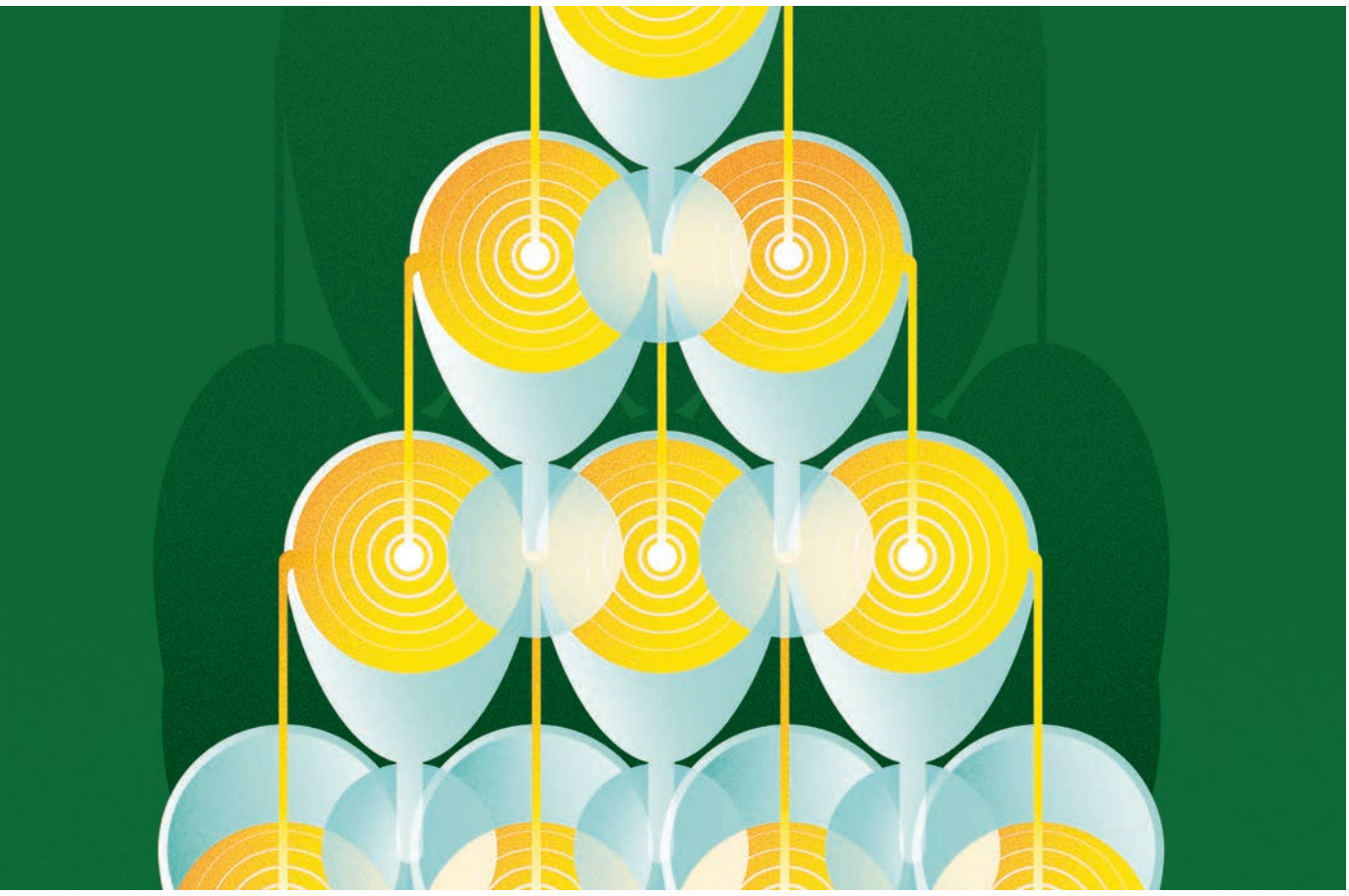
Arora knew that there had to be a better way. So, in 2004, he launched Project ECHO with $1.5 million in grant funding from the federal Agency for Healthcare Research and Quality. He recruited physicians from 21 local clinics (16 in rural areas and 5 in prisons) to join weekly video conferences (called teleECHO clinics) where the remote clinic doctors would share their cases with a team at the University of New Mexico that included Arora, a pharmacologist, and a psychologist who could collectively advise the local doctors

on how to treat the patient. The university team served as a hub for guiding treatment, and Arora and his colleagues would also present any new or relevant information about the disease to the group. Local doctors got access to the specialized expertise they needed and learned on the job while at the same time building a cadre of peers and mentors to help them through the process.

As Arora and his team built the capacity of these 21 clinics to serve patients with hepatitis C, the wait times to see him plummeted from eight months to two weeks because patients could now be treated closer to home. In addition, rural doctors were excited that they could now help their patients and that they had a community of other doctors and experts providing support.

Project ECHO continued to grow throughout New Mexico, gaining support from the State of New Mexico legislature and the New Mexico Department of Health. And because hepatitis C was not the only medical condition plagued by the problem of Arora's "knowledge monopolies," Project ECHO also worked to create additional teleECHO clinics to focus on rheumatology, substance abuse, and mental health disorders.

To expand any further, though, Project ECHO needed additional capital. And in the process of seeking additional resources, Arora crossed paths with the Pioneer Portfolio, the specialized innovation unit at the Robert Wood Johnson Foundation.



Supporting pioneers in health

FOUNDED in 1972, RWJF is the largest domestic funder of health and health care in the United States.[5] In 2003, it adopted a new "impact framework" that focused its giving on six critical targeted strategies (such as health care coverage, vulnerable populations, and childhood obesity). But the framework also created a seventh team, the Pioneer Portfolio, to search for fundamental breakthroughs in health and health care as a complement to the more targeted program areas.[6] "At the time, the other teams at the foundation were laser-focused on their goals," explains Brian Quinn, assistant vice president of research and evaluation at RWJF and a former Pioneer Portfolio director. "But when you've got your head down, doing everything you can to push toward a set of ambitious objectives, sometimes you can miss opportunities for impact that are emerging outside your areas of concentration. Pioneer helps the foundation continuously look up and look out into the future to see potential game changers."[7]

Pioneer helps the foundation continuously look up and look out into the future to see potential game changers.

For many years, Pioneer's goal was to identify and accelerate emerging trends, and to promote new ideas that could have far-reaching impact on people's health in America. To do this, it used a multipronged strategy of supporting processes that help source new ideas and innovations; making early-stage grants to explore new fields and accelerate promising new ideas; supporting emerging opportunity spaces that have the potential to produce important breakthroughs in health and health care; and introducing new thinking, insights, and approaches to the broader foundation.[8]

As part of these efforts, in 2007, the Pioneer Portfolio partnered with Ashoka Changemakers to run an online competition to search for "disruptive innovations" in health care—ideas that could help deliver high-quality care at a greatly reduced cost. Project ECHO was one of over 400 entries that applied, and it was selected by a panel of experts as one of the three contest winners.[9] Arora was invited to submit his full grant application to Nancy Barrand, a senior advisor for program development who was working with the Pioneer Portfolio at the time.

At first, Arora's proposal didn't go over well. Barrand shared the proposal with her colleagues, and the team was disappointed. "It was boring," Barrand recalls, because the proposal had lost the creativity that helped Project ECHO win the competition.[10]

As it turns out, an earlier proposal from Arora had been rejected by RWJF before the competition, so this time around he tried to write what he thought the foundation wanted to hear. Dismayed that the foundation seemed to be scaring away bold ideas, Barrand flew to New Mexico, where she was able to see the full scope and vision of Project ECHO and to work with Arora to better articulate its potential.

The Pioneer team found this sort of assistance was often necessary with early-stage efforts. As Barrand explains, "No innovation ever comes in fully baked."[11] And after iterating with Barrand on its concept in order to create a new proposal and a bolder vision, Project ECHO eventually received a grant from the Pioneer Portfolio for $5 million over three years—the first foundation grant in the project's brief history.

The grant had two goals: to scale up Project ECHO's operations in New Mexico, and to expand the Project ECHO methodology to more medical conditions and geographies. To do so, Arora needed more than just financial support. Looking back, he explains, "Clearly the money was important, but the other support that the foundation provided was even more valuable."[12]

The Pioneer Portfolio connected Project ECHO with additional consulting assistance that helped Arora develop a business plan and imagine some of the ways that the project could grow.[13] As the project solidified its strategy, Arora made an explicit decision to scale Project ECHO in a way that would keep it "open source"—allowing interested clinicians and university medical centers to get their staff trained on using Project ECHO's technology and playbook for free. In making this decision, Project ECHO needed to be able to clearly communicate to the right people what it had to offer.

So the Pioneer Portfolio brought in Ben Milder, senior vice president and director of public policy at Burness, a global communications firm. Milder and his team helped Arora tighten his message and tailor it to different audiences: clinicians who were considering signing up; university medical centers that might become hubs; and policymakers who would need to know what systemic changes would be required to support something like Project ECHO nationally. Burness also worked with RWJF to connect Arora to government officials who might be interested in replicating the model, such as leaders at the Department of Veterans Affairs and at the Centers for Medicare and Medicaid Services. The firm also helped Arora prepare a *Health Affairs* journal article in 2011 that helped demonstrate the efficacy of the model.

> Project ECHO's current vision is to touch the lives of 1 billion people by 2025.

As Arora was working on his pitch to different audiences, articles like this gave him the evidence he needed to back up his claims. For instance, in a *New England Journal of Medicine* article, a prospective cohort study showed that patients treated for hepatitis C by primary care physicians at the local Project ECHO sites actually had *even better* outcomes than those treated by specialists at the University of New Mexico Health Science Center.[14] And the ECHO clinics achieved these outcomes all while saving hundreds of thousands of travel miles and empowering local physicians to better treat the disease in their own communities. The article

in *Health Affairs* showed that local physicians were happy with Project ECHO, with 90 percent agreeing that they were learning best-practice care.[15]

Measurement and evaluation were crucial for Project ECHO, but they were a means, not an end. Armed with the data, the project was able to better tailor its messaging and recruit additional university medical centers, local physicians, and funders. Between 2011 and 2014, Project ECHO exploded in size, adding partners such as the GE Foundation, Helmsley Charitable Trust, the US Department of Veterans Affairs, and the US Department of Defense to expand to new geographies and new areas of health.[16]

To help Arora keep up with all this demand, RWJF provided an additional $5 million of capacity-building support in 2013.[17] As it turned out, Project ECHO was a compelling platform that others were eager to join—but without this flexible support, it would have been easy for such a platform to collapse under the growing demand.

Today, the expansion of Project ECHO continues. It now has 52 hub replication partners globally (including 41 sites in the United States and 11 additional programs operating in nine other countries), covering 39 distinct medical conditions. Project ECHO's current vision is to touch the lives of 1 billion people by 2025.[18]

And Arora isn't stopping with health care. He is testing Project ECHO as an approach for helping special education teachers in Wyoming work better with students with disabilities, and teachers in India better recognize early signs of autism. He also has plans to use the ECHO model on topics such as generalized teaching training, clean water, sanitation, and workforce development.

Arora argues that Project ECHO's approach can change the way that society shares any kind of specialized knowledge. Existing strategies such as graduate school, apprenticeships, and specialized training are all effective at building specialized expertise, but they can also create a bottleneck where only a select few have necessary skills. As a result, shortages of experts are becoming a problem in nearly every industry and field. Arora believes that Project ECHO may hold the key to breaking these knowledge monopolies as a way to share specialized expertise and touch the lives of a billion people across issue areas and geographies.

Lessons for funders

ARORA notes that, without RWJF's support, Project ECHO wouldn't be where it is today. And without the foundation's Pioneer Portfolio, ECHO might have never even been discovered. The ways that Pioneer found, supported, and helped scale Project ECHO provide many important lessons for funders who want to better support early-stage innovation:

Seek out transformation. When the Pioneer Portfolio funded Project ECHO, the program had early signs of success but was still focused on only a handful of medical conditions in one state. Pioneer took a risk, knowing that Project ECHO could fail to take hold in new places or might not translate well to new medical conditions.

The Pioneer team believed in the transformative potential of Project ECHO, understanding that the project's combination of connective technology and a networked support structure could prove a viable model to disrupt health care in a positive way. Barrand and the Pioneer Portfolio encouraged Arora to articulate and pursue a grand vision, knowing that success wasn't assured—but that if Project ECHO could successfully spread, it could fundamentally change the delivery and quality of care for people living in remote, rural, and underserved places.

According to Barrand, "The reason Sanjeev's original proposal was 'boring' was because he was reluctant to promise us the world, which he didn't believe he could deliver for a more limited budget. When we opened the door for him to come in with a larger proposal, it freed him of some of that constraint. It showed we believed in him and the idea of ECHO, which helped bring out the bigger vision for what Project ECHO could become. It was innovation funding, not project support."[19]

Although the innovation initially appeared to be about telemedicine, the real breakthrough turned out to be rooted in Project ECHO's unique approach to solving the persistent problem of knowledge monopolies. A more conservative funder looking for just well-proven, immediate impact might not have been willing to take the time to explore the broader potential of that idea.

Provide more than money. RWJF's financial support was crucial in helping Project ECHO expand beyond New Mexico, but other types of assistance were also incredibly valuable.

Recognizing the Project ECHO was a promising concept, the Pioneer Portfolio wanted to do everything possible to help the idea develop. Barrand's visits with Arora encouraged him to articulate and share his broader vision to spread Project ECHO beyond hepatitis C, beyond New Mexico, and eventually beyond the United States. And to help bring this larger vision to fruition, Pioneer knew that it needed to bring in specialized

assistance to help with Project ECHO's strategic planning, financial model, and communications strategy. The Pioneer Portfolio also introduced Arora and his team to other funders and influencers in its network, which helped ECHO spread.

This type of investment in grantee capabilities is a key success factor for many grantees, but it is especially true for seed-stage innovations, which often require early intervention and support as their strategies are still solidifying. How foundations choose to step in at these initial stages to provide formative guidance and connections can have an outsized effect on ultimate outcomes. And for funders that can't provide this technical assistance themselves, having a group of "outsourced" consultants and support organizations in place can often pay real dividends.

Understand the difference between growing an organization and scaling an idea. When many funders think of increasing impact, their first instinct is to focus on growing an organization. Scaling strong organizations is often necessary for expanding the delivery of quality services. But sometimes *spreading an idea* can be even more powerful—and it can look quite different from the strategies traditionally used to grow an organization.

The ECHO model uses university health centers as hubs with spokes that reach out to local clinicians.

The ECHO model uses university health centers as hubs with spokes that reach out to local clinicians. But if the model was to spread, the University of New Mexico Health Sciences Center could never build enough capacity to centrally manage all of the thousands of different hub-and-spoke networks it hoped to create.

So Arora is trying to spread the model by teaching others to start their own networks. He has a five-person "replication team" that helps other university health centers adopt the model. The team conducts monthly video conferences for those who want to learn more about starting their own system and one-day orientation sessions where training materials are distributed freely. For those who sign up, Project ECHO provides additional onboarding support.[20]

This type of growth strategy was initially a difficult concept for RWJF. Barrand explains, "At first, the only way we could imagine that Project ECHO could sustain itself was to sell some level of the technical assistance that ECHO provided. But Sanjeev felt that it was hypocritical for him to make a big push to sell *his* knowledge while he was advocating for others to 'demonopolize' theirs. He helped us realize that we were too limited in our vision of how this could grow. And, as it has turned out, ECHO has spread so fast precisely *because* it was made open source."[21]

Funders that support innovative ideas in the social sector always want to see their investments grow, but they also know that their support can't last indefinitely. In many cases, it can make sense to recruit other funders to support later-stage innovation, connect innovations to markets in order to sustainably grow, or enlist the government's support to fund innovations that are true public goods. But Project ECHO shows how funders can also consider the way innovations sometimes spread more organically by explicitly opening up the ideas for sharing, and by helping create networks that share the word and build capacity in others to implement new approaches.

Arora likens it to the way organizations such as Alcoholics Anonymous have made their approaches openly available so the model can be replicated across the globe. "We're

not trying to build a large organization," he explains. "We're trying to build a movement."[22]

Consider the best structure for finding and funding innovation. Funding innovation in a systematic and repeatable way is extremely difficult. And it can be even more difficult for program officers in the midst of managing their regular grantmaking portfolios.

As a result, some funders have created specialized units dedicated to finding, funding, and learning from breakthrough innovation. The Pioneer Portfolio has served that purpose at RWJF since 2003, and its development and evolution over the last decade can also provide important lessons for funders looking to get more deliberate in their innovation efforts. (For more on the Pioneer Portfolio, see the epilogue that follows.) But managing an innovation unit like the Pioneer Portfolio takes special care.

Pioneer is managed more like a well-balanced portfolio of investments than a focused program area. Lori Melichar, the current director of the Pioneer Portfolio, maintains a topical balance in the portfolio and works with team members to ensure they cover a wide range of key emerging areas that have potential implications for health, such as the sharing economy, behavioral economics, or machine learning. She also looks at funding allocations, making sure that the portfolio finds the right balance between investing in the discovery of new ideas and growing the impact of ideas that have already demonstrated initial success. And Melichar balances the internal use of resources to ensure that the Pioneer Portfolio invests administrative dollars appropriately to allow the team to do the travel, networking, and conferences needed to identify a strong pipeline of new innovation.

Team management is also a big part of the role, as she must manage a collection of strong, independent, and often differing perspectives in order to effectively surface wild-card ideas and new innovation. Melichar notes, "Though I try to make sure all opinions are considered when we evaluate an idea, I can't really be consensus driven. I often let projects go forward that some people love and some people hate."[23] Consensus-based decision making can unduly weed out promising ideas, so she has developed systems that allow the Pioneer Portfolio to trust and systematically improve the intuition of team members.

Epilogue: The evolution of the Pioneer Portfolio

IN its early days, the RWJF Pioneer Portfolio focused mostly on finding breakthroughs like Project ECHO, providing them with early-stage seed investment, and then helping them grow. However, over time, the team has shifted its approach.

In particular, Pioneer has realized that with a limited budget, it is nearly impossible to both search for new breakthroughs *and* help existing ones grow. As former Pioneer director Brian Quinn says, "We were a good fit for exploratory ideas, but it was much harder to scale them. We found that helping ideas grow crowded out our capacity to search for new ones—both in terms of funding and in terms of staff energy."[24]

Today, the team still looks for breakthrough ideas, but it has developed a new strategy with a focus more on discovery and learning. Melichar explains, "We still seek projects with ambitious goals, but we won't make a grant unless we can learn something that can accelerate the efforts of others—within and outside the foundation's walls—working towards a goal of building a 'culture of health' in America."[25]

She gives the example of a recent grant focused on figuring out how to mass-produce custom-fit, 3D-printed prosthetics. While the project itself is pioneering and has breakthrough potential, a key motivation for the foundation was to learn more about the role of the emerging 3D printing space in health and to understand the barriers to and enablers for providing high-quality, lower-cost prostheses that can improve the well-being of vulnerable populations.

Connecting this sort of learning to other parts of the foundation is another crucial part of Pioneer's work under its new strategy. "When we were focused on finding breakthrough ideas from unconventional pioneers in unusual places," explains Melichar, "understanding what our colleagues were doing wasn't a top priority."[26] This meant that sometimes the work of Pioneer didn't feel well integrated with the broader work of RWJF.

As Pioneer has shifted, it has paid special attention to the work of the other, larger areas of the foundation and has found ways to support them. For example, Pioneer now hires "technologists in residence" to help other

teams explore the impact of new technologies on their grant portfolios; promotes "blue-tray lunches" (an homage to the cafeteria at the foundation) to share findings more broadly within the organization; and deliberately takes time to understand what other program areas are working on to better connect them to innovations and innovators in the field. The increase in the number of projects that Pioneer co-develops and co-manages with other foundation teams or portfolios marks another important shift for the Pioneer Portfolio. As Melichar notes, "An effective way to help new ideas grow is to bring others along on that journey, so that together we are waiting with bated breath, all invested in the outcome."[27]

And by more deliberately focusing on the learning and building these types of syndicates of support, Pioneer hopes that it will be able to do an even more effective job of finding and supporting the seeds of the *next* innovation like Project ECHO in the future.

Endnotes

1. David Bornstein, "The power to cure, multiplied," *New York Times*, June 11, 2014, http://opinionator.blogs.nytimes.com/2014/06/11/the-doctor-will-stream-to-you-now/.
2. Sara Solovitch, "Project ECHO: Bringing specialists' expertise to underserved rural areas," *To Improve Health and Health Care* XV, October 2012, http://www.rwjf.org/content/dam/farm/books/books/2012/rwjf404782.
3. Ibid.
4. Sanjeev Arora, "Changing the world, fast," TEDxABQ video, 12:14; http://tedxtalks.ted.com/video/Changing-the-World-Fast-Dr-Sanj, posted September 30, 2013.
5. Robert Wood Johnson Foundation, "About RWJF," http://www.rwjf.org/en/about-rwjf.html.
6. Risa Lavizzo-Mourey, "Of hedgehogs and flywheels," foreword in *To Improve Health and Health Care*, volume X of the Robert Wood Johnson Foundation Anthology (Jossey-Bass, 2006).
7. Brian Quinn, interview with the authors, December 3, 2014.
8. Lori Melichar, interview with the authors, March 25, 2015.
9. Ibid.
10. Nancy Barrand, interview with the authors, February 6, 2015.
11. Ibid.
12. Sanjeev Arora, interview with the authors, April 3, 2015.
13. Robert Wood Johnson Foundation, "Developing a business plan to support Project ECHO's transition to a 501(c)(3) charitable organization," http://www.rwjf.org/en/library/grants/2011/11/developing-a-business-plan-to-support-project-echo-s-transition-.html, and "Exploring Project ECHO's organizational options and scaling up its technical assistance offerings," http://www.rwjf.org/en/library/grants/2012/10/exploring-project-echo-s-organizational-options-and-scaling-up-i.html, accessed July 2, 2015.
14. Sanjeev Arora et al., "Outcomes of treatment for hepatitis C virus infection by primary care providers," *New England Journal of Medicine* 9, no. 364 (2011): pp. 2199–207, http://www.nejm.org/doi/full/10.1056/NEJMoa1009370?viewType=Print&.
15. Sanjeev Arora et al., "Partnering urban academic medical centers and rural primary care clinicians to provide complex chronic disease care," *Health Affairs* 30, no. 6 (2011): pp. 1176–84, http://content.healthaffairs.org/content/30/6/1176.full?keytype=ref&siteid=healthaff&ijkey=sADVfazNDiQYs.
16. Project ECHO, "Funders," http://echo.unm.edu/about-echo/funders/, accessed July 2, 2015.
17. Melichar interview.
18. Arora interview.
19. Barrand interview.
20. Project ECHO, "Orientation & training events," http://echo.unm.edu/start-an-echo/orientation-events/, accessed July 2, 2015.
21. Barrand interview.
22. Arora interview.
23. Melichar interview.
24. Quinn interview.
25. Melichar interview.
26. Ibid.
27. Ibid.

Can’t do it a-loan

How innovation funding helped Kiva launch and develop

Deloitte University Press

Introduction

Kiva, an online platform that connects lenders and borrowers across the globe, is often cited as one of the most exciting social innovations of the last decade. Here, we look back at the history of how the innovation was discovered and supported.

"When we started, we wrote letters to about 35 foundations describing our idea," says Kiva cofounder Matt Flannery, "but we didn't get very far with that approach."[1] In fact, only one wrote back.

It's easy to see why Kiva struggled to gain traction. In 2005, cofounders Flannery and Jessica Jackley were inspired by the promise of microlending and decided to build an online platform that could connect lenders and borrowers across the globe. But they had neither a product nor a market, they lacked formal finance training, and they weren't even certain that their idea was legal.

Ten years later, Kiva now boasts an online platform with over 1.3 million lenders, who have provided over $600 million in loans to more than 700,000 budding entrepreneurs around the world.[2] In its efforts to alleviate poverty and improve lives, Kiva partners with microfinance organizations to find entrepreneurs across the globe, and connects them electronically with investors who lend as little as $25. The platform allows farmers in East Africa to access the capital they need to buy fertilizer for cultivating food, shopkeepers in Honduras to regularly restock inventory, and taxi drivers in Kosovo to upgrade their vehicles. And as the support helps businesses like these grow, entrepreneurs are able to repay their loans, allowing online lenders to recirculate their dollars and make new loans. To date, the repayment rate for loans on Kiva's platform is over 98 percent.[3]

But Kiva's journey from obscurity to mass-market microfinance was full of twists and turns. As Flannery and Jackley struggled to create the organization in their spare time, they needed seed capital for their unproven idea, and they needed help building the organization from scratch. Taking this sort of experimental, early-stage innovation from idea to scale required something different from a traditional grantmaking approach.

While the jury is still out on whether Kiva will ultimately prove to be transformational for underserved communities in the developing world, looking back at the organization's path to scale and building a better understanding of what it takes to help an organization like Kiva grow can provide important lessons for philanthropists interested in funding high-risk, high-reward ideas.

The beginnings of Kiva

THE seeds of Kiva were planted at a speech given by Muhammad Yunus at Stanford University several years before he won the Nobel Peace Prize for the development of microfinance in 2006. Matt Flannery had completed his undergraduate studies at Stanford, and Jessica Jackley was working at the university's Center for Social Innovation, when, on a whim, she decided to pop in on Yunus's talk.[4]

Jackley had long been conflicted by the way charity to the poor had been traditionally described—that the only way to help was to *give* the poor the things they needed, such as food, clothing, and shelter. Yunus, however, spoke differently. As Jackley recalls, "He was talking about strong, smart, hardworking entrepreneurs who woke up every day and were doing things to make their lives and their family's lives better. All they needed to do that more quickly and to do it better was a little bit of capital."[5] In March 2004, a few months after hearing that speech, Jackley packed her bags and traveled to East Africa to work for the Village Enterprise Fund to help entrepreneurs start and grow small businesses.[6]

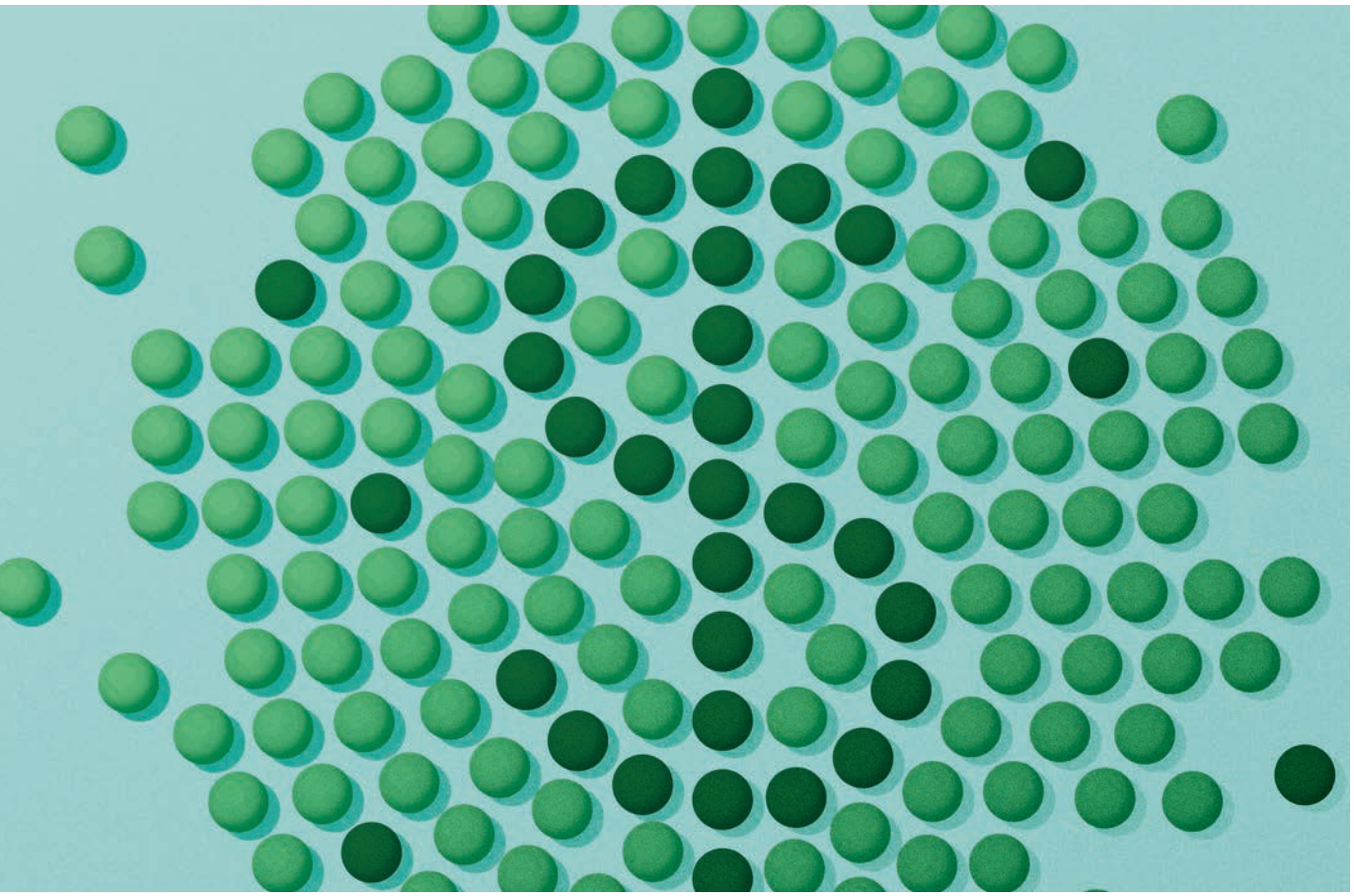
All they needed to do that more quickly and to do it better was a little bit of capital.

Back in California, Flannery was working full-time but also hatching his own Internet start-up ideas. When he spoke with Jackley, he connected the business issues that East African entrepreneurs were facing with his own experiences. Flannery and Jackley, who had previously donated to sponsor children in Africa through church groups and with their own families, asked what it might look like to "sponsor" a business through loans. Soon after, they created the plans for "an innovative online platform," Kesho (Swahili for "tomorrow"), with the goal of creating a better future for entrepreneurs and their families.[7]

During 2004 and early 2005, Flannery and Jackley built out their idea but struggled with a number of formative questions. They weren't sure whether their platform should be a for-profit or nonprofit, whether they would return interest to their lenders, and whether their model was even legal. In fact, Flannery cold-called the US Securities and Exchange Commission, where a representative said that as long as they didn't return interest, Kiva would probably be fine.

Pushing forward, Flannery and Jackley created a working online prototype and, with the help of a Ugandan pastor, uploaded pictures and stories of seven businesses that were looking for a total of $3,500 in loans. They officially launched in fall 2005 and changed the start-up's name to Kiva (which means "unity" in Swahili). Flannery traded his electric guitar to a designer in exchange for creating the new logo for the fledgling organization.[8]

Things grew quickly for the expanding team. In January 2006, Premal Shah, an expert in mobile payments from PayPal, joined Kiva, providing some of the business acumen and experience needed to help Kiva grow. Along with an army of volunteers, the Kiva team recruited and vetted microfinance partners to distribute even more loans, primarily in Africa. Despite this activity, by the fall Kiva was running low on funds (from the $125,000 it had raised from donations, some from supporters on the website and some from its board). By October, the organization had about $15,000 left in the bank and wasn't sure that it would be able to meet its payroll in the coming months.[9]



The first injection of innovation funding

BACK when Flannery was writing letters to foundations explaining the idea of Kiva, the one foundation that expressed an interest was the Draper Richards Kaplan Foundation (DRKF).[10]

The foundation had been established four years earlier, in 2002, by venture capitalists William "Bill" Draper and Robin Richards Donohoe, along with executive director Jenny Shilling Stein.[11] DRKF operated differently from most: It was set up like an early-stage venture capital fund—raising resources and investing in new social entrepreneurs with transformative potential, taking a very hands-on role in helping the entrepreneurs succeed.

The foundation was looking into the microfinance space and had its eye out for promising new ideas. Shilling Stein invited the Kiva team in to share its vision. DRKF staff helped Flannery and the Kiva team refine their early strategy, business plans, and financial projections in a process that was at times grueling, but, as Flannery noted, "They actually helped us shape our model."[12] As DRKF grew more comfortable with Kiva's model and the team behind it, Flannery and Shah were invited to make a formal pitch to the foundation, and, in February 2007, Kiva received its first-ever institutional grant.

DRKF's grants to social entrepreneurs come with clear guidelines. The foundation will support the organization for three years, giving $100,000 each year in general operating support and often taking a position on the board. After three years, DRKF's financial support ends, and its board member steps down so that foundation staff can help the next set of social entrepreneurs in its portfolio.

During the initial three years, DRKF works to ensure that the recipient organization can be sustainable after its formal funding period ends. A key step in this process is to help the organization form the right relationships. Shilling Stein joined the Kiva board and worked to help strengthen the group, as well as assisting in the recruitment of additional board members. And the foundation's investment served as a seal of approval that Kiva used to attract other high-profile philanthropic backers. As Flannery recalls, Draper and the DRKF staff spoke up for Kiva, convincing a number of other foundations that the team was really on to something. Within a year, the organization had received six large foundation grants of $200,000 or more.[13]

DRKF also helped connect Kiva to people and organizations that could help with necessary operational functions such as accounting, pro bono legal support, communications, and marketing. As another DRKF grantee describes the deep involvement, "It's not 'Here's a check, tell us what you did.' It's 'Here's a check and tell us what else you need.'"[14]

Taking Kiva to the next level

FOR a time after DRKF's first grant to the organization, Kiva was in both growth and survival mode at the same time. The team measured progress against metrics such as new site users, new borrowers, and new grants and donations to the organization. But really just staying afloat was a win. "Our real goal was to escape death," says Flannery.[15]

Other foundations also provided critical support to help Kiva tip the scale toward survival. The Skoll Foundation, whose mission is "investing in, connecting, and celebrating social entrepreneurs and the innovators who help them solve the world's most pressing problems," had actually learned of Kiva's work back in late 2005. But at that early stage, the organization didn't yet have the evidence of impact required for the type of "mezzanine level" funding that the Skoll Foundation typically provides. In an effort to support Kiva's early growth and development though, in 2006 Skoll connected the Kiva team to staff at *PBS Frontline/WORLD*, which was doing a story about microfinance that ended up prominently featuring the new start-up.

The story generated so much traffic that Kiva's website was down for three days.

The story generated so much traffic that Kiva's website was down for three days. But for such a new organization, the early press was crucial. "I think it was the most important thing that ever happened to us," says Flannery, "and I'm not sure that we would have survived without it."[16] Later, in 2008, after the organization had built more of a track record, the Skoll Foundation awarded Kiva the three-year, $1,015,000 Skoll Award for Social Entrepreneurship.

Another innovation funder that supported Kiva's growth was the Omidyar Network. In 2010, after an extensive period of discussion, Omidyar gave Kiva a three-year, $5 million core operating grant to support its growth by improving the organization's technology platform and expanding its network of field partners.[17] The grant, the largest that Kiva had received, marked a new period of expansion. "We had such a scarcity mindset for most of the organization's history," says Flannery. "Now we had the luxury to innovate again."[18] Beginning in 2011, Kiva used the new resources to launch a number of new experiments, including Kiva Zip, which allows small

businesses in the United States and other parts of the world access to zero-interest loans with a unique reputation-based "social underwriting" system, and Kiva Labs, which coordinates nontraditional, longer-term, or higher-risk loans. Omidyar Network also provided other non-monetary support as well, with Omidyar partner Amy Klement taking a seat on the Kiva board and Omidyar Network's human capital team providing advice to the organization on senior leadership recruiting, executive coaching, and organizational talent review.

With all of this early-stage risk and expansion capital in place, Kiva now stands on solid ground with a core of 2 million users and $600 million in total loan volume, as well as a series of new experiments to deliver more impact.[19]

Lessons for funders

LOOKING back at Kiva now, it is hard to imagine the long, winding, and unpredictable journey that the organization took. And the journey almost never began.

The early forms of Kesho and then Kiva did not fit neatly into a traditional grantmaker's portfolio. The organization was brand new, it was led by people new to the nonprofit space, and its loan vehicle was only "probably" legal in the United States. Funders using a traditional due diligence process would likely have been quick to write the organization off. That's why, when funders interested in innovation consider early-stage, high-risk, high-potential ideas, they often need to draw upon a different set of practices and principles than more traditional funders do. Some of the key lessons from the story of Kiva's growth include:

Consider the stages of the funding cycle. New innovations can take years or even decades to develop from seed to scale. Kiva, for instance, is a Web-based platform that took several years to grow into a sustainable organization. For other innovations that require physical inventions or products, the timeline can be even longer. It is important for innovation funders to remain patient and understand these timelines, although it can also be difficult for funders to commit to funding a new idea for 5–10 years.

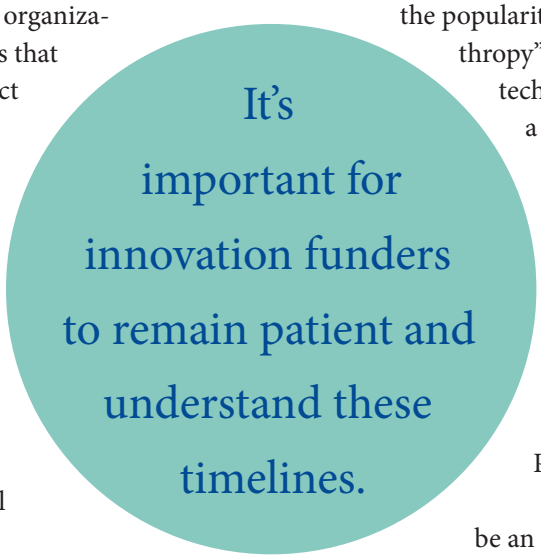
Fortunately, it is possible for funders to take on a more bite-sized piece of an organization's growth by defining where in the funding cycle they want to provide support. For example, when funding Kiva, DRKF made a deliberate decision to invest just as the organization was forming, providing funding and taking a board seat for a limited three-year start-up period. In this way, the foundation helped to "seed" Kiva just as it was forming. Other innovation funders such as the Skoll Foundation and the Omidyar Network still chose to invest early in the organization, doing so within the first five years of its existence, but their role was to provide "growth" capital to help the newly formed organization expand.

Unfortunately for funders, there isn't a clearly delineated "capital market" structure for philanthropy as there is in the venture capital world. So it can be difficult for funders to figure out exactly when they should step in and when they can wind down their investment. As Jim Bildner, the managing partner of DRKF, puts it, "We're in the business of taking risk for profound social change. We understand that there are no clear exit vehicles for foundations who invest in these kind of social enterprises, which is why it's so important for funders like us to play such an active role. Funders in this space need to understand the day one challenges and opportunities they face at the beginning of the investment cycle so that they have a clear transition plan for their grantees to ensure that they're sustainable and that they

grow their brand, build a strong board, and think dynamically about the long term."[20]

Get engaged. Looking back at DRKF's initial grant, while the funding was crucial in helping to get Kiva on its feet, the foundation's other forms of support were equally valuable. DRKF helped connect Kiva to lawyers, accountants, and media, as well as to other funders. For a new organization with its head down focusing on creating impact, some of these crucial organizational functions can become somewhat of an afterthought. By quickly helping newly formed organizations build these skills, funders can play a more active role in the organization's success.

For DRKF, one critical way that it gets involved in its grantees' success is by taking a seat on the board for three years. With a short window to help emerging organizations, the foundation finds that it can have the most impact in the shortest amount of time by becoming deeply involved and being a thoughtful voice on the board. And with each successive organization it has worked with in this way, DRKF staff has been able to build experience and provide even more helpful advice and support.[21]



The practice of a funder taking a board seat, while common in venture capital, is less common in organized philanthropy. That's because many foundations actually prohibit staff from taking board seats on the nonprofits they support to avoid any potential conflicts of interest when making future grants. And many foundation staff members simply can't dedicate the time necessary to serve on the boards of the organizations they fund, especially if they are responsible for large portfolios of grants and focus most of their time reviewing grant applications, conducting due diligence, and tracking progress. For many funders, staff time, not money, is the limiting factor. But for those interested in supporting early-stage innovation, assistance often can't be limited to just making a grant; figuring out how to best provide ongoing support to help recipients succeed is an essential part of the process.

Fund in packs. DRKF is different from many other philanthropic funders in that it raises funds from more than 15 different donors in addition to the organization's founders.[22] This approach more closely resembles a venture capital fund and allows donors to outsource the responsibility of finding and supporting new ventures. The appeal of this type of structure—working through an intermediary to find early-stage ideas and help them grow—was a large part of what fueled the popularity of "venture philanthropy" during the late 1990s tech boom. Today, there are a number of philanthropic venture funds that can help donors with the intensive efforts of growing new organizations, including New Profit Inc., the NewSchools Venture Fund, and Venture Philanthropy Partners. While these funds can be an effective way to aggregate capital and centralize efforts, they are not right for all givers. Some donors struggle to give up decision-making rights, especially when looking to support specific issue areas, geographies, or approaches that may be only partially aligned with the broader fund's focus. Additionally, the specific tactics and strategies employed by these funds can be a bit of a black box, making it hard for donors to access learnings or to fully integrate fund investments with their own work. And many donors are looking to support more than a portfolio of isolated solutions, also

wanting to address issues at more structural or systemic levels.

Nevertheless, many donors have come to recognize that supporting early-stage innovation is quite difficult, and that it helps to invest in "packs." Whether using pooled funds, formal or informal funding syndicates, distributed networks, or approaches not yet imagined, funders may find that there is benefit in innovating alongside others.

Balance the people and the idea. When funding new and experimental approaches, it can be hard to weigh the quality of the idea and the quality of the people who are executing, and harder still to understand which aspect matters more. Some open competitions, such as the Gates Foundation's Grand Challenges Explorations, actually delete any personally identifiable information so that the ideas stand on their own and everyone applying has a fair chance, regardless of who they are. Other approaches, such as the entrepreneurs-in-residence program at the Robert Wood Johnson Foundation or the MacArthur Fellows Program, prioritize the people even if their ideas are only partially formed, or sometimes not formed at all.

According to Shilling Stein, DRKF tended to focus first on people. "With more traditional foundations, it's about alignment—whether you're achieving the goals they want you to achieve," she explained. "For us, it was more bottoms-up. We wanted to fund innovation, and we were pretty open about the direction it headed. We cared about what you did, but we wanted you to follow your passions and instincts about what would make a difference."[23]

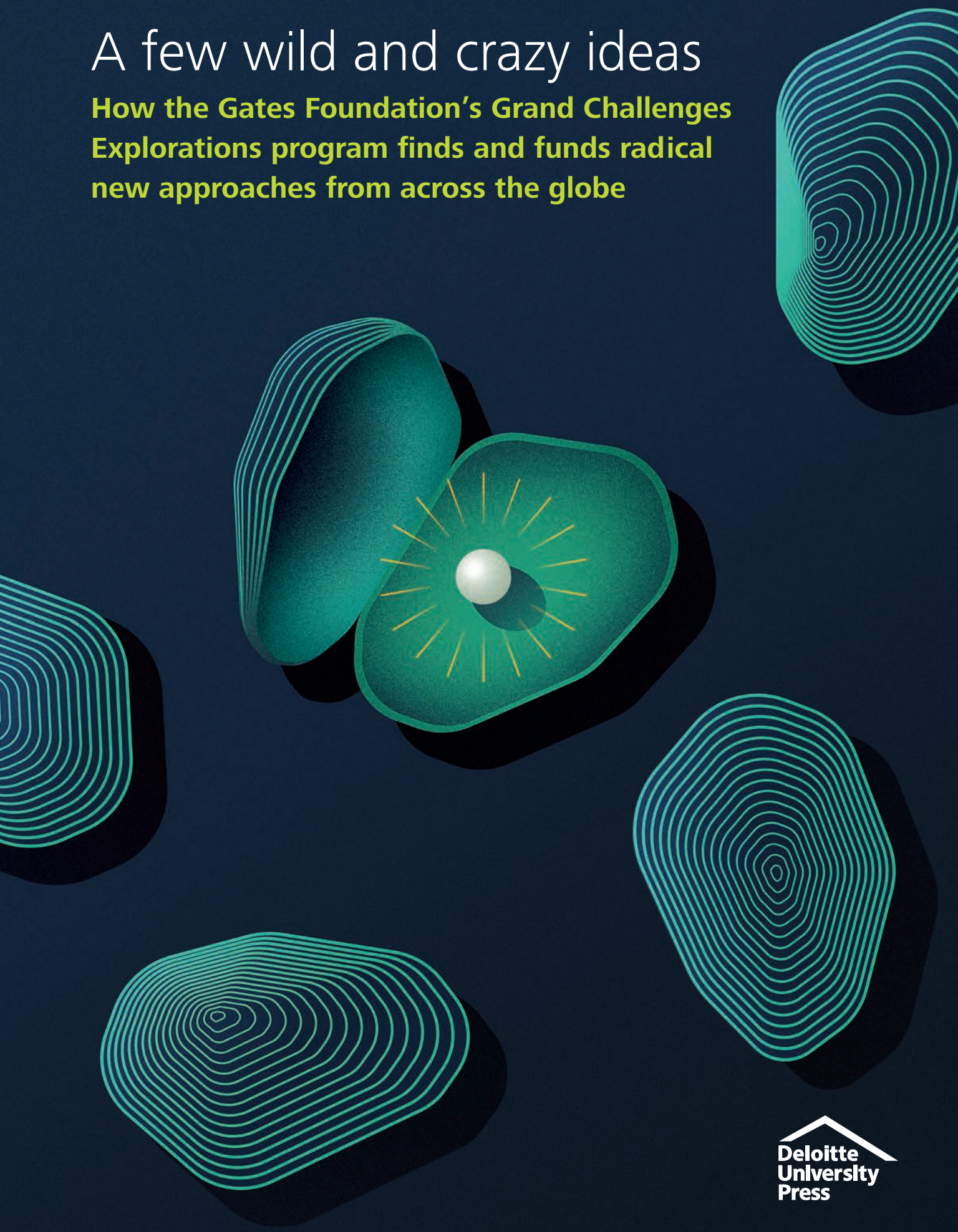
In the case of Kiva, it was a mixture of both the people and the concept. The idea was groundbreaking, and the entrepreneurial team of Flannery, Jackley, and Shah was a crucial piece of Kiva's success. It is important to note that timing and context also played a key role in their success. Kiva emerged at a particular moment in history: It was able to ride on the wave of the growing popularity of microfinance when Yunus won the Nobel Peace Prize, the established infrastructure of microfinance lenders that allowed Kiva to grow more quickly, and the increasing ubiquity and security of connective Internet technology that allowed for mass connection and large-scale money transfers. (In fact, the first submarine fiber optic cable connecting Europe, East Africa, and Southeast Asia was only laid in 2000, and was upgraded in 2005.[24]) In Kiva's case, it's hard to say whether the team, the idea, or the timing contributed the most to the organization's success. But funders looking to support early-stage ventures should think explicitly about the extent to which they are searching for great people, great ideas, or proposals that pass both filters.

Endnotes

1. Matt Flannery (cofounder, Kiva), interview with the authors, November 4, 2014.
2. Kiva, "About us: Latest statistics," http://www.kiva.org/about/stats, and "How Kiva works, the long version," http://www.kiva.org/about/how/even-more, accessed July 1, 2015.
3. Kiva, "About us: Latest statistics."
4. Stanford Graduate School of Business, "Kiva and the power of a story" (case study), January 1, 2010.
5. Jessica Jackley, transcript of "Poverty, money—and love," filmed July 2010. TEDGlobal 2010 video, 18:33; http://www.ted.com/talks/jessica_jackley_poverty_money_and_love/transcript?language=en, posted October 2010.
6. Stanford Graduate School of Business, "Kiva and the power of a story."
7. Matt Flannery, "Kiva and the birth of person-to-person microfinance," *Innovations*, winter–spring 2007.
8. Ibid.
9. Ibid.
10. Matt Flannery, "Bill Draper invests in Kiva." VCTaskforce video, 2:42; https://www.youtube.com/watch?v=WW09hAMCNcY, posted October 21, 2012.
11. Richard Kaplan, a former vice-chairman of Goldman Sachs, joined the foundation later, in 2010.
12. Nicole Wallace, "A grant maker builds a record of helping nonprofits innovate," *Chronicle of Philanthropy*, May 31, 2012.
13. Matt Flannery, "VC Taskforce: Draper takes Kiva from concept to funded company" [sic]. VCTaskforce video, 2:02; https://www.youtube.com/watch?v=vq2sotr_caU, posted October 21, 2012.
14. Renée Frojo, "Draper backs 'big idea' social entrepreneurs," *San Francisco Business Times*, October 19, 2012, http://www.bizjournals.com/sanfrancisco/print-edition/2012/10/19/draper-backs-big-idea-social.html?page=all.
15. Flannery interview.
16. Ibid.
17. Kiva, "Omidyar Network awards $5 million grant to Kiva to spur growth of microfinance in underserved markets," August 12, 2010, http://www.kiva.org/press/releases/release_20130114-12.
18. Flannery interview.
19. Ibid.
20. Jim Bildner, interview with the authors, November 14, 2014.
21. Jenny Shilling Stein, interview with the authors, May 28, 2015.
22. Nicole Wallace, "Foundations woos new donors with its rigorous style," *Chronicle of Philanthropy*, May 31, 2012.
23. Shilling Stein interview.
24. http://www.smw3.com/smw3/SignIn/Background.aspx.

A few wild and crazy ideas

How the Gates Foundation's Grand Challenges Explorations program finds and funds radical new approaches from across the globe



Deloitte University Press

Introduction

How can a philanthropic funder make sure it is taking smart risks rather than just gambling on every crazy but exciting idea that comes its way? Here's the way the Gates Foundation's Grand Challenges Explorations program does it.

PHILANTHROPISTS talk a lot about taking risks.

But what does it really mean for a funder to take a chance in the pursuit of outsized rewards? And how can a funder make sure it is taking smart risks rather than just gambling on every crazy and exciting-sounding idea that comes its way?

There is no single correct answer to these questions. But for about a decade now, the Bill and Melinda Gates Foundation's Grand Challenges in Global Health Initiative—and in particular, its Grand Challenges Explorations (GCE) program—has grappled with these issues. While many parts of the foundation pursue more proven approaches, such as bed nets to fight malaria or traditional family planning to improve maternal health, the GCE program specifically seeks out and supports high-risk, high-reward approaches, such as an effort to genetically modify mosquitos so that they can't transfer the malaria virus, or a project to fundamentally reimagine the condom.

A number of years in, the program has yet to hit its first innovation "home run," although it has numerous promising ideas in the pipeline. It's not clear whether the GCE model will ultimately produce a steady stream of the types of breakthroughs that it aspires to create, but understanding the process that has been developed and capturing the lessons that the program has learned can nevertheless offer important guidance for any funder interested in finding ideas from new places, taking smart risks, and investing in breakthrough innovation.

The Grand Challenges model

WHEN Bill Gates first announced the Grand Challenges in Global Health initiative at the 2003 World Economic Forum in Davos, Switzerland, he was using a model inspired by mathematician David Hilbert's grand challenge nearly a century ago. Hilbert's list of important unsolved problems spurred innovation in mathematics for generations. The goal for the Gates Foundation and its partners was to open up innovative thinking from across disciplines and fields—including many that historically have not been involved in health work—to develop new solutions that could lead to radical improvements in health in the developing world.

To encourage even broader participation and even less conventional approaches, the foundation then launched the Grand Challenges Explorations program in 2008. The GCE program identifies health and social challenges and allows anyone in the world to submit a two-page application with an idea for addressing that challenge: The first page describes the idea and why it is important, and the second page lays out what the applicant will do to make it happen. The program provides those with the most promising new ideas $100,000 in phase I funding to prove their concept, and up to $1 million more in phase II funding to continue successful explorations.[1]

To date, the foundation and its partners have received more than 50,000 applications from 182 countries around the world, and they have awarded more than 1,000 initial exploration grants in 61 countries, with 97 promising projects receiving phase II support.[2]

The sheer magnitude of challenges, applications, and awards managed by the GCE team over the last seven years has helped the program identify its own "formula" for surfacing global innovations. That formula consists of three distinct elements—topic generation, challenge design and launch, and selection—each of which offers important lessons for other funders interested in finding and funding breakthrough ideas.

Crafting the challenge

Crafting a good challenge is at the heart of the GCE and Grand Challenge model. Successful challenges attract new problem solvers with different perspectives and expertise to focus on a particular problem in global health. Issues that can't be well defined, that don't benefit from global reach, or that already have well-defined solutions typically don't make for the best challenges.

The program has also tended to focus on issues where a new invention or technology could make a meaningful impact. One of the first explorations, for example, in 2008, focused on how to "create new ways to prevent or cure HIV infection," and responses to the challenge included ideas for new vaccines, drugs, and

delivery methods.[3] But while scientific discovery remains the dominant type of exploration, challenges can have a nontechnical focus as well. In 2012, the GCE team partnered with the Cannes Lions International Festival of Creativity to communicate the effectiveness of international aid in a challenge called "Aid is working. Tell the world."[4] Submissions ranged from e-books to mass branding and engagement strategies.

To choose which challenge the GCE will put forward, the team works closely with leaders of the Gates Foundation's other program areas. Together they identify a potential challenge and quickly conduct initial research to understand basic feasibility, ensuring that the challenge is on strategy for the foundation, that meaningful progress can be made with the initial $100,000 grant, that the teams can clearly articulate the challenge, and that the challenge would benefit from the creativity of a global and diverse set of solvers.

When the teams agree that a challenge make sense, a unique financial agreement with the program area ensures that funds are available for both the phase I and phase II experiments. The GCE project team generally funds most of the phase I explorations through its own dedicated budget, but it requires that the partnering program team set funds aside for phase II funding for projects that prove successful. This system encourages program teams to use phase I GCE challenges as a low-cost way to surface a number of new ideas, monitor their progress over time, and commit major resources once more information is available. A well-constructed system for funding innovation like the GCE program can "derisk" early-stage ideas for other foundation program areas. Equally important, though, is that other program leaders are bought into the process and are ready to continue funding for ideas that show particular promise.

For instance, under the challenge to "explore nutrition for healthy growth of infants and children," one project applied a new brain imaging technology—using harmless infrared light and a cap-like device—to determine the impact of under-nutrition on the developing brain in Gambian and British infants. Subsequently, the nutrition team at the foundation funded the project's GCE phase II award to continue the progress. In addition, another Gates unit—the Family Health Discovery team—also integrated the new developments into a separate project focused on links between under-nutrition and the poor performance of oral vaccines.

Designing and launching the challenge

Once a general challenge concept is agreed upon, the GCE team and a topical leader from the relevant program area begin to craft the call for proposals. This process remains more of an art than a science. Calls start with a clear description of the problem that someone unfamiliar with the content could readily understand and, hopefully, be inspired to act on. Calls also provide some framing to the applicants, including attributes of the solution that the foundation is looking for and types of projects that it will *not* fund (either because they are currently being funded, have been tried before, or are otherwise unfeasible). The team works to balance brevity, clarity, and inspiration, all while providing enough guidance to elicit proposals that are on track, but not so much guidance that the team inadvertently prescribes a particular solution.

However, no matter how much work goes into crafting the call, it can never be perfect. So the GCE team builds into its launch process an opportunity to adjust the call if needed. After a call has been open for two to three months, the program records the submissions and reviews them for any relevant patterns. Then, six months later, after tweaking the challenge call, the GCE team reopens it for another two to three months. By maintaining flexibility and iterating quickly, the GCE team can help ensure that it receives a broad enough range of solutions. The team notes that, while it

receives fewer submissions from revised calls, the new proposals are often more aligned to the challenge.

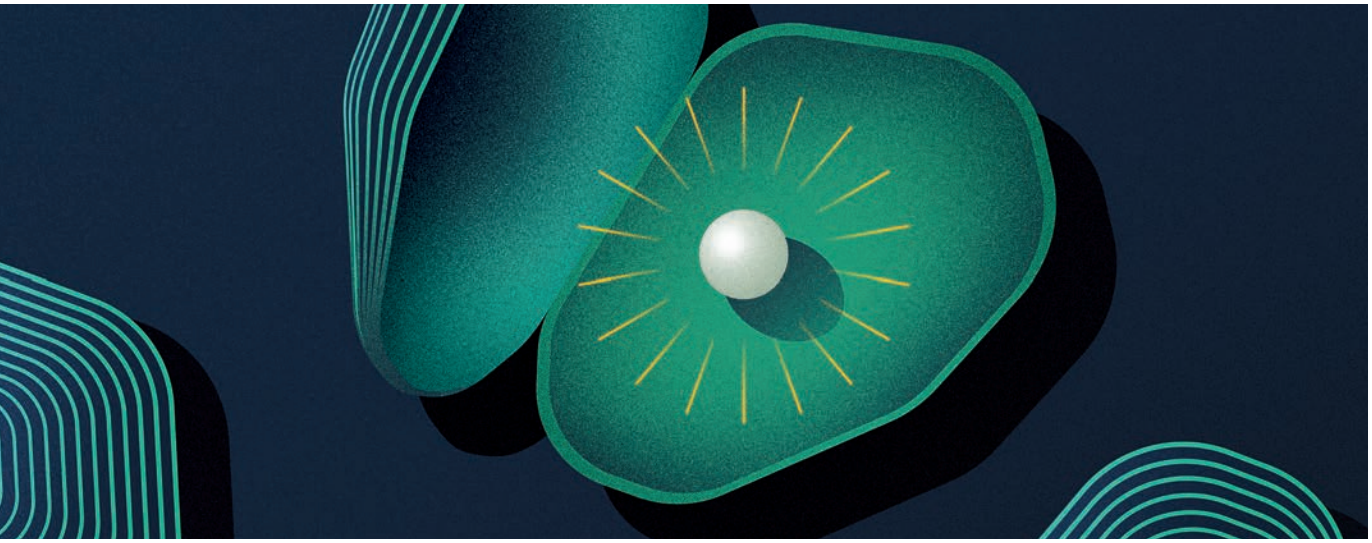
Beyond the ideas that are funded, there are additional benefits to the thousands of applications that are generated. Looking across all the applications and creating a synthesized view of the breadth and scope of submissions gives the foundation an interesting map of the landscape of possible solutions. In 2013, for example, the GCE program launched a challenge to "develop the next generation of the condom," asking potential solvers to rethink the condom in a way that would increase usage. The call suggested that designs could incorporate new materials, take new shapes, or apply knowledge from fields such as neuro- or vascular-biology to improve user experience and thus condom desirability.[5] When the GCE team received the applications and recorded the data, they had also essentially mapped the current state of innovation in condoms. And when an important condom manufacturer heard about the challenge, it reached out to the foundation to share notes about innovation and explore potential partnerships.[6]

Launching a challenge in a way that generates thousands of applications itself is a massive effort.

Launching a challenge in a way that generates thousands of applications itself is a massive effort. The team has a 200,000-person email list, about half of which is generated through organic sign-ups, and half through purchases from marketing firms, which serve as the primary channel of communication. The call is published in five languages: English, Spanish, French, Portuguese, and Chinese. And the team bolsters its email campaign by writing on the foundation blog, *The Impatient Optimist*, as well as on partners' websites to further spread the word. Occasionally when applications from a certain country or region are under-represented, the GCE team will travel to that region and meet with local community leaders and researchers to explain the particular challenge as well as the GCE model more broadly. Outside the United States, the team also works to address potential cultural barriers to the challenge model. For instance, in some countries, junior researchers may not apply out of deference to more senior researchers, so the GCE team would connect with the head of universities and research groups to communicate explicit "permission" for everyone at the organization to consider applying. In total, the GCE team receives about 3,000 applications for each challenge and selects about 100 for phase I awards.[7]

For some challenges, the foundation also finds that mass media can play a critical role in publicizing the calls. The GCE team has formal media arrangements that help it publicize calls, especially in country-specific publications targeted at scientists. But sometimes the foundation's challenges go viral. When the program ran its Next Generation Condom Challenge, one gentleman made a YouTube video explaining his idea—a modified slingshot that could apply a condom in less than a second—which garnered more than 5 million page views.[8] Web traffic for the challenge jumped by a factor of 40, phase I applications more than doubled, and visitors from virtually every country in the world viewed the challenge's website.[9] More importantly, the media message also provided important visibility and brought the general public into the conversation about reproductive health in the developing world.

The GCE team is also diligent about tracking the attention that each challenge generates. The team follows Web traffic, response rates, media mentions, and the focus areas of the



submitted applications. The GCE team can then use that information to track the pattern of response and further adjust the call if needed. For example, if the team notices that it is getting a proportionally greater amount of submissions for male condoms versus female condoms, it might consider revising the outreach strategy or the call language in the second submission six months later.

Selecting recipients

Once the calls are closed, the Gates Foundation begins the rigorous phase 1 selection process. The first step is to screen out the applications that do not actually respond appropriately to the call. Because the program offers a $100,000 grant and has such low barriers to entry, the foundation receives many applications that are either frivolous or otherwise do not meet the criteria in the challenge. (With the Next Generation Condom Challenge, for example, the GCE team received an application from an American college fraternity offering to test the newly designed condoms.) Other nonresponsive applications are more nuanced. Because the GCE team was looking for a technical solution to the condom challenge, it noted that it would not fund projects that were solely focused on educating people about condom use. While the GCE team is careful not to eliminate proposals unnecessarily by reading each application at least twice and regularly consulting with the topical lead, it also wants to ensure that reviewers' time is well used.

The GCE program then utilizes two separate review panels to decide which projects to fund: an innovation panel and a topic expert panel. Members of the innovation panel are not necessarily experts in the subject matter of the challenge, but rather are serial innovators with a track record of creating important new products or approaches. Expert panel members, on the other hand, are chosen by the foundation's program area topical lead in consultation with the GCE team.

As a first step, each innovation panel member receives a subset of the applications that does not contain any information that would help to identify the applicants; the submissions are to be judged solely on the quality of the ideas. Each innovation panel reviewer rank-orders the six most innovative proposals. The top-ranked project for each member receives a gold award and is automatically funded (barring any administrative or legal hurdles). The remaining five receive a silver award and garner further consideration.

It is important to note that the foundation does not ask the innovation panel to meet,

discuss the proposals, and reach some sort of consensus, as is common with many grant processes. Too often, the program finds that consensus kills risk. So the GCE team trusts the individual intuition and judgment of each panel member by funding each member's gold award choice, regardless of whether other reviewers or even the GCE team agrees with the assessment.

Running parallel to this process, the panel of topic experts also reviews the applications. This panel augments the innovation panel and focuses on which approaches seem most promising and feasible. Then the GCE staff and topical leader take the input of the topic expert panel, the innovation panel's silver awards, and their own judgment to complete the list of awardees.

At this stage as well, the GCE doesn't require consensus. In fact, the GCE often looks for proposals that have "bimodal" support—they are loved by some reviewers and hated by others. The GCE team has found that supporting such ideas often leads to more learning and more innovative outcomes than selecting ones that are generally agreed upon, but have lukewarm support.

After a legal and administrative check, the grants are processed, and teams receive 18 months and $100,000 to test their ideas. During the phase I period, the foundation remains at arm's length, allowing researchers the space to test their ideas. It doesn't require detailed reporting or evaluation, just a final grant narrative that focuses on what the researcher learned. In addition, the grant recipients can claim any intellectual property discovered, though they must agree that discoveries are "created and managed so that they are available and affordable to people most in need in the developing world."[10]

This freedom is largely welcomed by grantees. "They essentially give you the money and let you work with it," noted one recipient, which he said contrasted with other, more burdensome foundation grants that he had previously received.[11]

After the 18-month exploration window, grantees have the option to apply for additional, larger phase II funding of up to $1 million. During this phase, the program team at the foundation plays a more central role by helping to shape the project and hone in on what metrics will be important to track. Ultimately, the program area reviews the phase II application and decides whether to move forward with the project.

FUNDS TO EXPLORE A CRAZY IDEA

"I had this crazy idea," explains Miguel Prudêncio, a Portuguese researcher who received a GCE grant to explore a new approach to preventing malaria.

"Rats and mice get malaria—not just humans," he explains, "but it is a slightly different form of the parasite." He goes on to describe his idea of injecting humans with the safe, rodent form of the parasite in hopes of eliciting an immune response. Could the human immune system's response against the rodent form of malaria ward off the deadly human version? That question remained in the back of Prudêncio's mind for years as he worked as a researcher at Instituto de Medicina Molecular in Portugal. He notes, "I knew it was a high-risk, high-reward idea, and I wasn't sure that anyone would fund it. If it weren't for the GCE program, it would still be an idea."[12]

Prudêncio's idea proved to be promising during phase I of the GCE program and was awarded phase II funding. He continues to explore this discovery with hopes of creating a truly effective vaccine against malaria.

Applying the GCE model outside of Gates

ONE of the key successes of the GCE model is how it has been adapted to fit a range of needs. For instance, the Canadian Institute of Health Research partners with the GCE program to cofund phase II Canadian researchers, allowing the institute to benefit from the program's robust sourcing and selection processes while also narrowing its scope to the work of Canadians.

Grand Challenges Canada, a separate organization that is funded by the Canadian government, furthers Canada's global aid interests by cofunding phase II researchers from select low- and middle- income countries. More recently, Grand Challenges Canada created the Stars in Global Health program, which is modeled on the GCE challenge model, though with several important tweaks. To further Canadian interests, only applicants from certain countries are invited to submit applications, ideas must be more market-based, and typically the program looks for ideas that are slightly further along in their development.[13]

In New Delhi, India, the nonprofit research park IKP also runs a modified version of the GCE program. In a new pilot, IKP partners with the GCE program to run an independent application and review process for applicants in India. Recognizing that some Indian researchers need more support after they have been selected, IKP augments the GCE funding with mentorship, access to technical consulting, networking opportunities, and access to lab facilities.[14] In addition to providing funding, GCE's partnership with IKP also highlights how it is possible to create a community of researchers and mentors around a key challenge area.

At its core, the GCE model is a way to draw diverse and nontraditional problem solvers into an underserved area of global health and development. But the model's use in places such as India, Canada, Brazil, and parts of the US government (such as USAID) shows that it can be adapted to fit a wide range of needs. For funders that can clearly identify an area of need in an issue they care about, create a challenge that will inspire diverse problem solvers to respond, and help successful ideas continue onward, the GCE model can be a promising way to reach beyond the usual suspects to find radical new ideas.

Lessons for funders

THERE are a great many advantages to using a challenge model like GCE's. The approach can clearly help funders identify solutions from beyond their normal circles, bringing in unusual players and wildcard ideas from outside traditional grantmaking channels. And the broad visibility of an open call can draw much needed attention to critical issues and catalyze new activity.

In addition, the GCE team is able to collect a wealth of data about the topics, including the overall level of interest, the geographical spread of the applications, and detailed information on how the applications propose tackling the challenge. With these data, the GCE team can map an emerging field, deduce where pockets of innovation may lie, and use this knowledge to shape future efforts.

Another benefit of the GCE approach is cross-pollination—bringing in problem solvers with diverse backgrounds to work on a problem with which they might have otherwise never engaged. In some cases, the challenges have served as the impetus for these problem solvers to develop their ideas and seek funding from addition sources even if they weren't selected.

Despite these benefits, the challenge model isn't right for all funders or all circumstances.

For example, challenges seem to be best suited to specific types of problems—most often those with clear, known causes or those in search of more technical or scientific solutions. Clearly and crisply defining a challenge for more complex social issues such as educational underperformance and entrenched poverty can be difficult. And even on issues that are well suited for a challenge, it can take a significant amount of work to structure a good call, requiring deep thinking and effort to define the problem in a way that produces the right types of solutions.

Despite these benefits, the challenge model isn't right for all funders or all circumstances.

Others question whether challenges are as efficient an approach for surfacing new ideas as other sourcing strategies, such as creating deliberate networks to identify new ideas, hosting generative convenings, or supporting social innovation labs. While they can attract a great many submissions, there is no guarantee that the ideas that come in will necessarily

be innovative or have the potential to create real breakthroughs.

Another concern for funders is whether the challenge approaches used by large, global, established foundation like Gates will translate well for a smaller funder with more limited visibility and capacity. These funders may not have the global reach to solicit applications from hundreds of countries, the staff to manage the "idea flow" from a competition, or the resources to fund several six-figure experiments while also providing follow-on funding for successful efforts. However, several key partnerships in countries such as Canada, India, and Brazil suggest that the model can be adapted to suit different needs.

Regardless of whether a funder wishes to adopt a challenge model, the GCE program can offer several important lessons for funders interested in pursuing breakthrough innovation:

Understand benefits beyond the breakthroughs. For funders considering innovation in a structured way, it's often not enough to commit large amounts of money and then just hope for a breakthrough. Instead, funders may want to consider the interim or ancillary benefits that accrue not only to the funder, but also to others in the system. For the GCE program, such benefits include being able to map an emerging field using the data contained in applications, bringing in new problem solvers for an under-studied issue, and raising global awareness around key social issues. In the end, these ancillary benefits can add up and may ultimately be as valuable as any individual breakthrough itself.

See innovation as part of a portfolio. It can often be difficult for funders to balance a focus on innovation with support for more proven approaches that make incremental progress on key issues and problems. At the Gates Foundation, the GCE program is only one part of the foundation's broader portfolio of work, and working with the other components of that portfolio is crucial to GCE's success. The GCE model fosters this collaboration by bringing other program areas into the process very early on to help design the calls, select the grantees, and monitor progress. The GCE team also establishes clear funding arrangements that shifts the responsibility of follow-on funding for promising projects to the larger programs so that GCE can continue to focus on early-stage experiments. Without a clear plan for how different parts of an organization find and support innovations and the transitions between those parts, innovation efforts may not live up to their full potential.

Recognize that breakthroughs don't happen overnight. Innovations that create fundamental change can often take years, if not decades. For some funders, this time frame is simply too long, so they instead focus on scaling ideas that have already demonstrated promise. But those funders that choose to provide early-stage capital should do so with a realistic set of expectations about the time it will take to test and scale an innovation. The GCE program itself has existed for about 10 years and, in the estimation of the Gates Foundation, has yet to hit a "home run" with any of the 1,500 projects that it has funded (to the tune of nearly a billion dollars spent)—although many promising ideas are still developing. These are sobering figures for would-be innovation funders, and it will be important for any foundation interested in innovation to think carefully about its (and its board's) patience and tolerance for failure along the path to transformative change.

Endnotes

1. Grand Challenges in Global Health, http://gcgh.grandchallenges.org.
2. Steven Buchsbaum, interview with the authors, May 31, 2015.
3. Grand Challenges in Global Health, "Create new ways to prevent or cure HIV infection: Grand Challenges Explorations Round 1, March 2008," http://gcgh.grandchallenges.org/CureInfection/Topics/PreventEliminate/Pages/Round1.aspx, accessed July 1, 2015.
4. Grand Challenges in Global Health, "Aid is working. Tell the world: Grand Challenges Explorations Round 9, February 2012," http://gcgh.grandchallenges.org/Explorations/Topics/Pages/GHCommunicationsRound9.aspx, accessed July 1, 2015.
5. Grand Challenges in Global Health, "Develop the next generation of condom: Grand Challenges Explorations Round 11, March 2013," http://gcgh.grandchallenges.org/Explorations/Topics/Pages/NextGenerationCondomRound11.aspx, accessed July 1, 2015.
6. Steven Buchsbaum, interview with the authors, June 16, 2015.
7. Bill & Melinda Gates Foundation, *Grand Challenges Exploration: Fall 2013 report*, http://gcgh.grandchallenges.org/GCGHDocs/GCE_Report_2013.pdf.
8. Slingshot Channel, "Bill Gates calls - The Slingshot Channel answers." YouTube video, 3:03; https://www.youtube.com/watch?v=tFISeJ1N5CQ, posted April 7, 2013.
9. Gates Foundation, *Grand Challenges Exploration*.
10. Ibid.
11. Interview with authors; subject requested anonymity.
12. Miguel Prudêncio, interview with the authors, October 30, 2014.
13. Grand Challenges Canada, "Stars in global health: Round 7 – phase I," http://www.grandchallenges.ca/grand-challenges/stars-phase-i/, accessed July 1, 2015.
14. Gates Foundation, *Grand Challenges Exploration*.

Keeping cool

How a coordinated ecosystem for innovation supported the growth of Promethean Power Systems

Deloitte University Press

Introduction

The story of Promethean Power Systems, a technology start-up that is helping transform the dairy industry in India, illuminates the critical role that a coordinated "innovation ecosystem" supported by The Lemelson Foundation has played in nurturing emerging social enterprises.

HOME to more than a billion people, India is both the largest producer and largest consumer of dairy products in the world.[1] Yet when dairy farmers in rural India milk their cows each day, they know that their livelihood and the well-being of their families hinge on a very tight race against time. If milk doesn't get chilled within four hours, it will likely spoil, and when it does, the milk loses its nutritional quality, drops in commercial value, and becomes a significant food safety threat.

Fixing this supply chain problem is a daunting task. Lacking the resources to build traditional storage facilities capable of cooling the milk at the source, farmers have to rush their fresh milk to a village collection point, from where it is then hurried by rickshaw or truck, often in India's searing heat, to a distant cooling and processing facility. Repeat this process twice per day—once for the morning milking and once for the afternoon—for every farmer in each of India's 300,000 milk-producing villages, and the scale of the problem quickly balloons to unmanageable proportions.[2]

So when Sorin Grama and Sam White saw this environment, they knew that they could help farmers and their families. The duo developed a new technology that could keep milk chilled, even in the unforgiving conditions of rural India. Their new refrigeration system uses a special, super-chilled coolant that can stay cold for an extended period to keep milk safe and cool despite the unpredictable and intermittent power supply from India's electrical grid.

The story of Grama and White's company, Promethean Power Systems, is a tale of how technological innovation is helping transform the dairy industry in India, helping more than 3,000 dairy farming families in the last two years to produce safer milk and improve their livelihoods.[3]

At the same time, for philanthropic funders, Promethean's narrative is about more than just an individual breakthrough in refrigeration; it's a testament to the power of investing in a coordinated "innovation ecosystem" that can help nurture and support many different innovators and entrepreneurs over time.

The importance of ecosystems

IT is easy to view innovations like Grama and White's as a single lightning strike of creative genius, followed by the tireless efforts of heroes or heroines to make the concept a reality. The insights and hard work of the Promethean team show that there is real truth in this narrative. But it's an overly simplistic story. No matter how hard a social entrepreneur works, innovations like Promethean Power Systems can rarely succeed entirely on their own. Instead, they benefit from the existence of a supportive infrastructure that helps connect new entrepreneurs with the capital, mentorship, and assistance they need to succeed.

Promethean Power Systems benefited from this kind of support on several occasions. White and Grama, in fact, met through a program run by VentureWell,[4] a US nonprofit that focuses on stimulating science and technology invention, innovation, and entrepreneurship at universities and colleges.[5] The two men were part of a larger student-led team at Massachusetts Institute of Technology (MIT) that used mentorship and exploratory capital from VentureWell to help investigate a range of solar solutions in the developing world. Out of this exploratory soup, the duo emerged with an idea to push forward.

Out of this exploratory soup, the duo emerged with an idea to push forward.

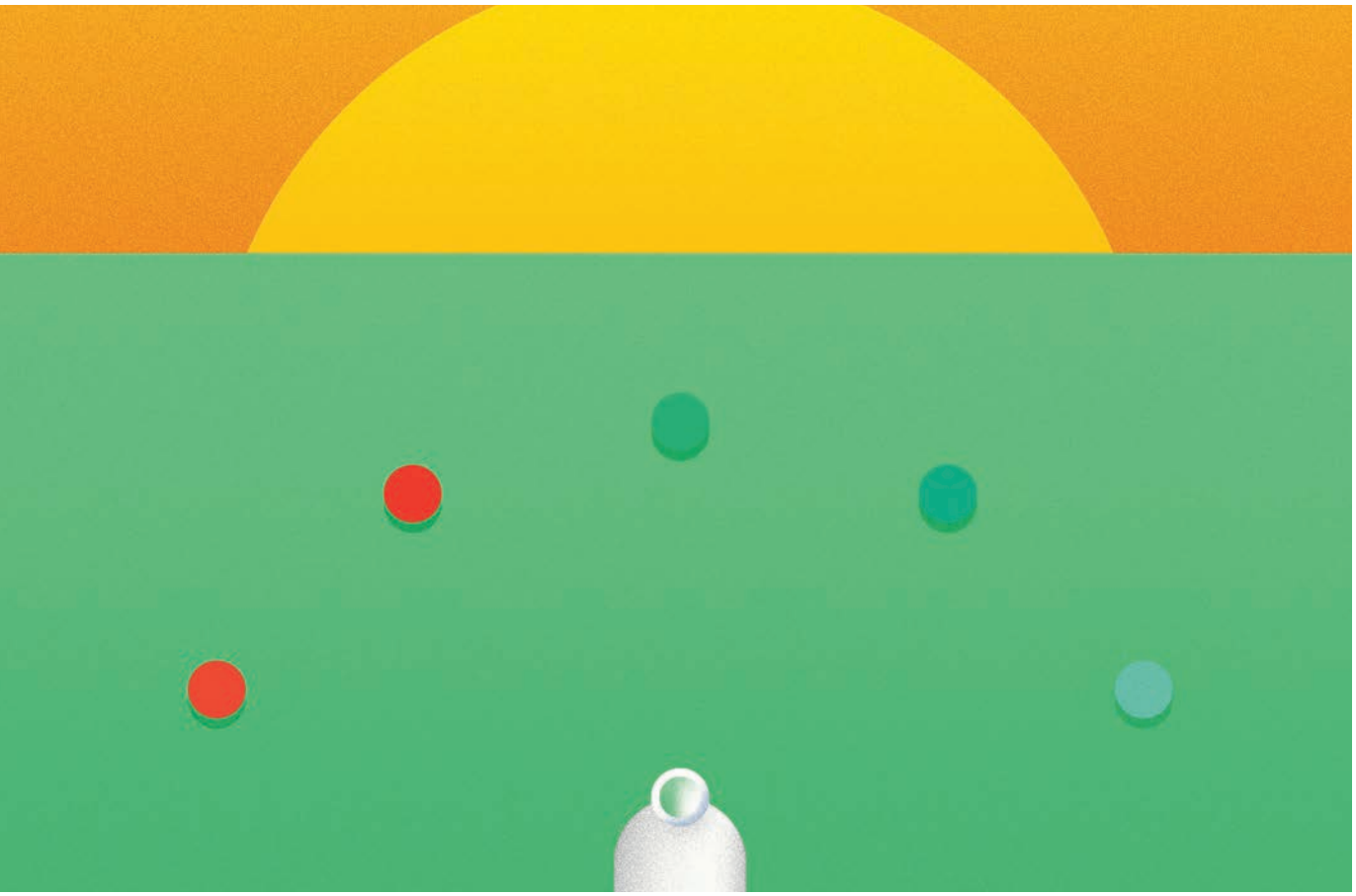
Later in Promethean Power Systems' journey, the pair connected with the Indian social enterprise incubator Villgro. Villgro's in-country expertise helped non-natives Grama and White better understand the local Indian context. Villgro injected capital into the organization, allowing the team to build important prototypes after a major challenge required it to significantly shift direction, helped it negotiate investment terms, and provided local talent to expand the team.

The support of VentureWell and Villgro has been an important component of the success of Promethean Power Systems. But that assistance wasn't in place just by chance. Both groups are part of a deliberate network of organizations that support invention and entrepreneurship around the world, funded in part by The Lemelson Foundation, a philanthropic organization established in the early 1990s by prolific inventor Jerome Lemelson and his wife Dorothy.[6]

Since its inception, The Lemelson Foundation has focused on expanding the pipeline of new ideas and supporting the ecosystem that helps entrepreneurs bring those ideas to fruition. As part of this work, the foundation has formed deep relationships with organizations such as VentureWell and Villgro: It seeded the creation of VentureWell in 1995 and has supported Villgro for more than 10 years.[7] These investments highlight the foundation's broader strategy to invest in organizations that inspire young people to solve problems through invention, provide inventors with knowledge and tools, and help launch and incubate invention-based businesses. The foundation believes that this "invention pathway" is what transforms nascent ideas into viable, tangible, life-improving products, and ultimately into successful businesses that stimulate the economy.

Without support organizations like VentureWell and Villgro, even the best ideas can fail to have impact. Carol Dahl, executive director of The Lemelson Foundation, gives an analogy: "Imagine a bridge. On one side is a solution to a problem worth solving, and on the other is a sustainable organization that is improving lives. A robust ecosystem for invention, innovation, and entrepreneurship are spans along that bridge and, without them, it's impossible to get across."[8]

By investing in those "spans," the foundation is working to create a fertile ground from which innovations like Promethean Power Systems can grow.



VentureWell and Promethean's early days

THE origins of Promethean Power Systems are actually quite different from where the company is today. In 2007, Sam White was working full time in Cambridge, Massachusetts, while helping a team of engineers from MIT, which included Sorin Grama, work on a new solar technology—unrelated to chilling milk. The team developed its invention with the needs of the developing world in mind: The product could be built out of common car parts and plumbing supplies,[9] and the company's early goal was to bring electricity to rural villages in India.[10] To develop their solar idea further, a group that included White and Grama applied to VentureWell's E-Team Program.

VentureWell has long supported invention, innovation, and entrepreneurship on college campuses around the country, and it helps rapidly move the strongest ideas that emerge forward to commercialization.[11] Phil Weilerstein, president and CEO of VentureWell, notes that the organization's work tends to revolve around two key themes: "The first is that the college or university can be a home for inventions and innovations that are economically sustainable. And if you think back to 1995, this was not a forgone conclusion. The second theme is about learning by doing. We believe that the best way for entrepreneurs to learn is to work together with professors and other mentors to try and create something new."[12]

These themes are evident in how the organization builds its programing. VentureWell has helped cement the university's role in innovation by supporting nearly 600 new collegiate courses and programs where students develop inventive ideas and gain the entrepreneurial skills they need to bring inventions to market. And to encourage "learning by doing," the organization has funded over 500 student teams to kick-start their new ventures. More than half of these teams have gone on to form companies that are still operating today, raising an additional $620 million dollars in investment capital in aggregate.[13] Alexander Nicholas, The Lemelson Foundation's program officer who supports VentureWell, adds, "Beyond the numbers, VentureWell helped in creating a fundamental shift that recognizes that young inventor entrepreneurs can move great ideas from academia to industry."[14]

One of these companies is Promethean Power Systems. Early support from VentureWell included funding as well as dedicated mentorship, entrepreneurial training, and faculty coaching. With this help, the team spent most of 2007 developing its business model and pitching its idea. Later that year, the team won second place at MIT's $100,000 business plan competition. White quit his job, Grama finished his master's degree, and the two traveled to India to explore where their

new solar technology might have the best market fit.

A product that captures heat from the sun to make electricity had many potential uses, and the two met with representatives from a wide range of industries. But they had overlooked the dairy trade. By chance, they met with one of the largest dairy producers in Bangalore to learn about the industry and the problems that plagued it, especially in the rural supply chain. The Bangalore dairy producer explained how much milk spoiled before it reached the dairy because of improper refrigeration, and that traditional approaches to cooling didn't work. The villages were too small to install commercial-grade milk chillers, and, even if they could, the power supply was so unpredictable that the chillers couldn't operate reliably. After the visit, White and Grama agreed that India's $10 billion milk market offered a great business opportunity and returned to MIT to iterate upon their idea.[15]

Iteration and failure

Back in Cambridge, White and Grama tested a number of different tweaks to the technology to best convert solar energy into a reliable system to keep milk chilled. In 2008, the team tried to utilize the Peltier effect, where electrical current passes through a special substance and creates heat and cold, but couldn't make the system cold enough to keep the milk from spoiling.[16] In 2009, the team explored the possibility of delivering ice to the villages and using a solar pump and advanced insulation to chill the milk, but the logistics of delivering ice quickly became untenable. In 2010, after two years of promising ideas and unsuccessful attempts, the team got a big break: The largest private dairy in India, seeing the potential of this technology, placed an order for a prototype of its latest solar-powered milk chiller.

The team was ecstatic and spent the rest of the year perfecting the design. In February 2011, White and Grama traveled to the village of Karumapuram, in the Indian state of Tamil Nadu, to install the solar-powered chiller. As they were finishing the installation, R. G. Chandramogan, founder and chairman of the company that owned the dairy, entered the room, inspected the machine, and told the team that the system, as designed, would not meet his needs. The contraption was far too large for the sheds that would house the system, and it was twice as expensive as the dairy could afford for large-scale implementation.

But Chandramogan left the team with a sliver of hope. He encouraged the team not to give up and to continue exploring ways to reduce cost and increase capacity. If White and Grama could alter their design, Chandramogan and other dairy owners like him might again be interested.

The painful pivot

After the meeting with Chandramogan, White and Grama sat on a curb until the wee hours of the morning pondering their next move.[17] They were devastated. They had spent years developing their invention only to be rejected before they had installed the first unit. Now, with only three months' worth of cash reserves remaining, they faced nothing but hard decisions in front of them.

White and Grama spent the next few weeks exploring an idea that some of their colleagues had been pondering: If utilizing solar power made the system prohibitively large and expensive, could the team just use India's electrical grid instead? While working in the country, they saw that rural India *did* have electrical power; it just wasn't very reliable. And as the team spoke with potential customers and investors, it slowly realized that an electric-powered, rather than solar-powered, option would make the most sense if it could solve the challenge of how to keep the milk cold with no solar power to back up the unreliable grid.

The cofounders struggled with the shift. The new idea was far from their original concept of generating electricity from the heat of the sun's flames. This vision was at the core of the company, and even inspired its name. After all,

Prometheus was the Greek Titan who dared to steal fire from the gods, not to chill their milk.

And, as a social enterprise, the team struggled with questions about clean energy. Promethean Power Systems' original solar design was engineered to be a green solution that didn't consume any carbon-based energy. Now that it was considering connecting the machines to India's electrical grid, it could expect nearly 60 percent of the power to be generated by coal.[18] "We were this close from just giving up. We just didn't think it was worth the effort if it wasn't going to be solar," explained White.[19] Grama added, "I had to ask myself: Am I going to be as passionate about this business if it is not about renewable energy?"[20]

Ultimately, they decided that solving the milk spoilage problem was their priority—and that meant figuring out how to handle the unreliable power grid.

The solution, as it turned out, was already embedded in the earlier iterations of their product. Solar power itself can be unreliable at times, since it's only available during the day and can be extremely spotty during monsoon season. So any solution would require some way to store energy. By necessity, the team had already designed this type of storage system for its solar-powered milk-chilling system. Grama and White didn't think much about it. It was just a necessary component of their earlier concept. But the same energy storage system required to back up the unreliable solar system might also be used to supplement grid power as well.

This was the final breakthrough that allowed them to see the answer to their problem: a thermal battery for backup during times when grid power is not available. In some ways, the team had been blinded by its dedication to renewable energy. Only when it dropped the solar element and took a more pragmatic approach was it able to see the answer to the larger problem.

The team quickly decided to modify the design and reengineer the system to work off the electrical grid using the thermal battery as a backup. Even if it wasn't solar, the new product could have a huge impact on the livelihood of India's dairy farmers.

But first White and Grama needed to get the company off the ground. To make the finances work, Promethean Power Systems cut its two US-based engineers (White and Grama helped both find new jobs) and refocused its engineering efforts on the new thermal battery idea. Fortunately, the team received a grant from the National Science Foundation to further research and improve on the new technology. Within six months, it had a new prototype and was ready to test it in the field. And with their first misread of the Indian market still fresh in their minds, White and Grama knew they needed more on-the-ground local help.

The solution, as it turned out, was already embedded in the earlier iterations of their product.

Expanding with Villgro's help

The first time that the Promethean team reached out to Villgro back in 2010, it didn't go so well. PR "Guns" Ganapathy, the president of Villgro, explained, "Sam and Sorin came to us with a solar-powered milk chiller, and we told them that the idea wasn't a good one. We simply didn't think that dairy owners needed solar."[21] The prediction turned out to be true.

Villgro is an India-based nonprofit whose mission is to enable innovations to impact the poor through social enterprise. It works with early-stage businesses before they have

a developed product, enterprises that are not yet earning revenue, and growing companies that are looking to achieve scale. To help these firms, Villgro provides experienced mentors, successful entrepreneurs that know the Indian market. And it provides access to Villgro's robust network of local talent, suppliers, and investors. But perhaps most importantly, Villgro offers an invaluable understanding of the rural Indian market. Ganapathy explains, "Entrepreneurs wishing to serve the bottom of the pyramid in India need to be grounded in reality."[22]

With White and Grama now officially grounded in reality from their early experiences, Promethean Power Systems was accepted into Villgro's program, and Ganapathy became their mentor. Ganapathy helped White and Grama build an Indian team, interviewing potential candidates and vetting them by checking references through his network to help avoid bad hires and missteps. Villgro also helped Promethean evaluate and select Indian manufacturers, as well as work through thorny issues such as intellectual property rights and quality assurance, while conducting site visits to ensure that the manufacturer could deliver as promised. And Villgro provided the company with capital and connected the team to other investors to help finance its operations.

With Villgro's help, continued technological and manufacturing improvements between 2010 and 2012 allowed the team to create a system that could chill twice as much milk and fit in a smaller space, all while cutting the cost in half to $9,000 per unit.[23]

What comes next

In February 2012, White and Grama brought their newly improved system back to Chandramogan, the dairy owner who had rejected their earlier model. He gave them four months to prove their design could work in rural villages. It did, and nine months later, Chandramogan placed an order for 50 Promethean Power Systems milk chillers. Other dairy owners soon followed. To date, Promethean has installed almost 100 chillers across India (each serving about 20–30 farming families), helping to reduce milk spoilage, create a safer product for consumers, and empower dairy farmers to earn more income for their higher-quality milk.

White and Grama recognized that they needed to pivot away from their original ideas about solar power, and, in the process, they developed a new, cost-effective system that could keep goods cold even with unreliable power. Promethean is now looking to utilize this technology in other industries, including agriculture (to reduce food spoilage) and health care (to keep vaccines chilled). And with remarkable advances in solar power over the past few years, White and Grama are still exploring ways to incorporate solar energy in future versions of their product.

Lessons for funders

THE story of Promethean Power Systems and the ecosystem of supports that The Lemelson Foundation helped develop offer a number of important lessons for philanthropic funders looking to support more innovative projects.

Understand that innovation can follow a long and winding path. Even with a talented team, promising technology, and support from organizations such as MIT, VentureWell, and Villgro, Promethean Power Systems took seven years from conception to its first major order. Because White and Grama were creating a new physical (as opposed to digital) product, they had to source materials, build prototypes, test them in the field, collect customer feedback, and refine the product. Each iteration meant new materials, technologies, and constructions—elements that take time to procure and put into place.

As a result, funding this type of innovation can be unpredictable and often takes an extremely long time, which is why it's so important for the boards, senior leadership, and staff of innovation funders to have a clear understanding of, and tolerance for, these realities. Promethean's seven-year path included a number of failed attempts and ultimately required the team to pivot dramatically from its original plan. It shifted from designing a low-cost system for generating solar power to an electric-powered milk chiller. A funder with a more narrow focus might have balked at such a pivot, and funders with fixed milestones, a lower tolerance for risk, or a shorter time horizon probably would have pulled the plug on Promethean's work.

Support proof of concept. Many new social entrepreneurs don't necessarily have the existing evidence and track record required to pass through the financial and due diligence processes of a traditional funder. So innovation funders often need to look for different types of "proof": Does the company have a viable design? Are customers and users lined up? For White and Grama, funding from Villgro had a very clear objective—to build and install six early prototypes for customers. In this way, Villgro served as a sort of "proxy customer" that gave Promethean the initial capital it needed to move from drawings on paper to actually paying fabricators to design and build parts that could be tested. According to Grama, "Villgro didn't treat it like a traditional funding exercise. They didn't ask us to supply endless financial statements and due diligence documents. [It was] more like investing in an experiment or supporting proof of concept."[24]

Give more than money. Throughout the evolution of Promethean Power Systems, its funders provided not only money but also a number of other key supports. Early in its life cycle, VentureWell connected the organization to critical mentorship, training, and coaching.

Later, when Promethean Power Systems moved to India, it leveraged the in-country expertise of Villgro to build better prototypes, hire the right team, and share the new product with potential customers.

Funders generally agree that this kind of support is essential. But few philanthropic organizations have the capability in-house to offer these services, which can be extremely expensive and time-consuming to provide. Instead, funders have begun to explore relationships with dedicated labs, incubators, and accelerators that are better equipped and positioned to provide all of the nonfinancial assistance that grantees require. Working with VentureWell and Villgro has allowed The Lemelson Foundation to build organizations that are able to provide the necessary technical expertise to support emerging inventors and entrepreneurs as well as their own path to sustainability.

Consider the innovation ecosystem. Knowing the best way to support innovation isn't always easy. The Lemelson Foundation, for example, focused more heavily on direct funding of individual, early-stage innovations but adjusted its strategy over time. Dahl notes, "We saw that it requires very deep pockets and is a much more staff-intensive approach to help bring a new invention to scale, and, over time, we realized that wasn't the best role for us. We realized we could have greater impact by building enduring organizations that would make these capacities available for a broader range of companies over time."[25]

Instead, The Lemelson Foundation now focuses on deliberately building a network that could provide the different types of help that new innovations need over time. At various points, Promethean Power Systems required assistance in testing new technologies, understanding the local marketplace, connecting with leaders in the Indian dairy industries, and contracting with local manufacturers. Recognizing that these sorts of gaps weren't being filled, the foundation intentionally chose to support organizations like VentureWell and Villgro in order to build the supportive infrastructure that is critical to the success of a wide array of social entrepreneurs.

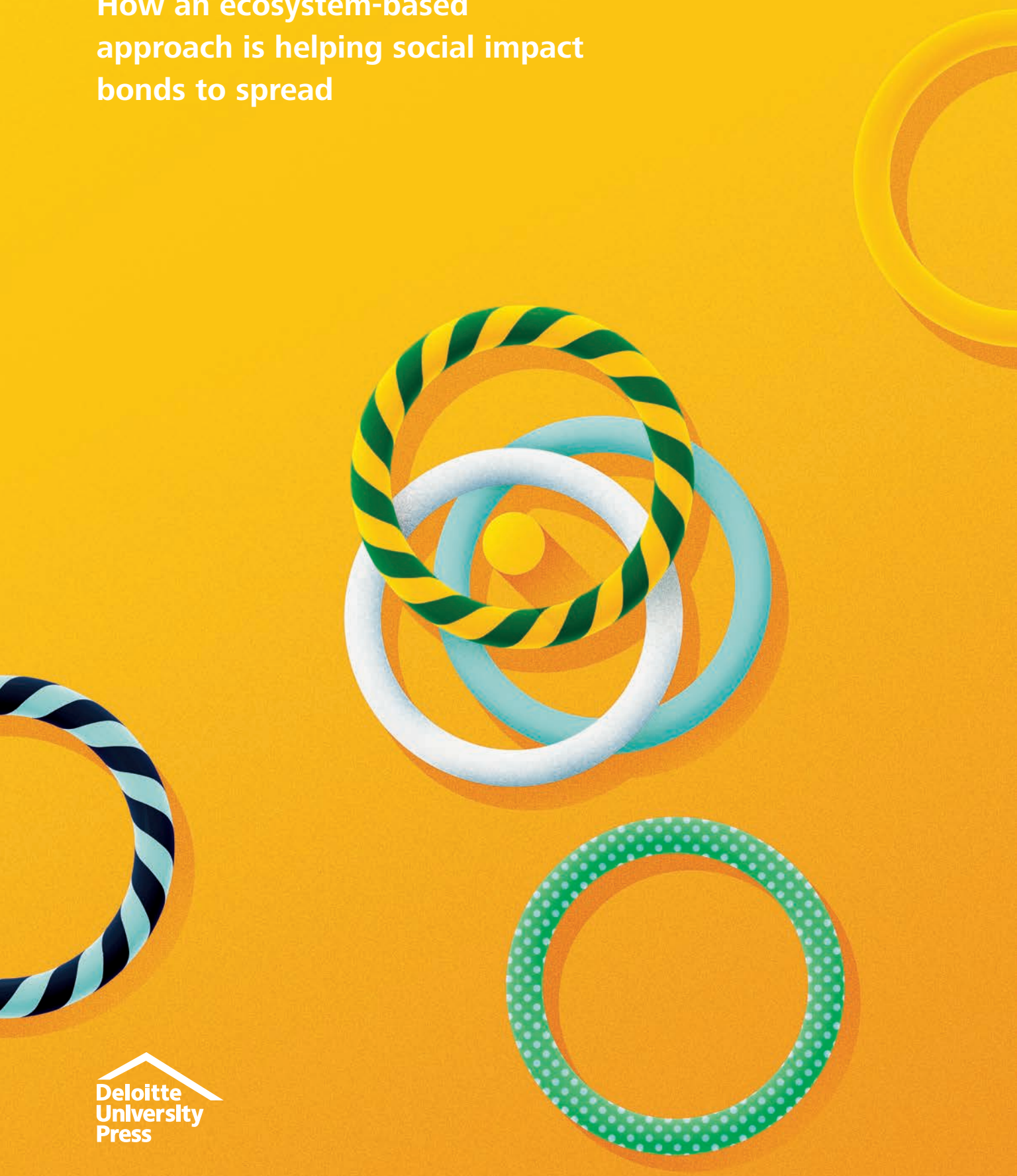
This "ecosystem" approach won't be right for all funders, as many will still want to support individual organizations and innovations. To borrow an analogy from botany: Some funders will focus on growing individual "plants," while others will invest in building the "greenhouse" that can help many plants thrive. But regardless of which approach a funder primarily uses, it is important to realize that innovation doesn't happen in a vacuum. By paying special attention to the ecosystem of support that new ideas need to grow, funders can help a whole range of innovations like Promethean Power Systems reach their full potential.

Endnotes

1. Sam White, "Battery-powered fridge empowers Indian farmers." TEDx Boston video, 15:40; https://www.youtube.com/watch?v=5_p_sXtA7Wk, posted July 12, 2013.
2. Lina Zeldovich, "Chilling milk directly from the cow for India's dairy farmers," *Modern Farmer*, February 26, 2014, http://modernfarmer.com/2014/02/chilling-cow/.
3. Sorin Grama, correspondence with the authors, June 1, 2015.
4. Until 2014, VentureWell was known as the National Collegiate Inventors and Innovators Alliance.
5. VentureWell, "What we do," http://venturewell.org/whatwedo/, accessed July 1, 2015.
6. The Lemelson Foundation, "Lemelson Foundation history," http://www.lemelson.org/about-us/lemelson-foundation-history.
7. Carol Dahl, interview with the authors, December 16, 2014.
8. Ibid.
9. "Promethean Power," *Boston Business Journal*, June 7, 2007, http://www.bizjournals.com/boston/blog/mass-high-tech/2007/06/promethean-power-2007-06-11.html?page=all.
10. White, "Battery-powered fridge empowers Indian farmers."
11. VentureWell, "What we do."
12. Phil Weilerstein, interview with the authors, October 11, 2014.
13. VentureWell, "What we do."
14. Alexander Nicholas, interview with the authors, December 16, 2014.
15. Sharleen D'Souza and Sohini Das, "Foreign dairy players eye India entry," *Business Standard*, September 4, 2013, http://www.business-standard.com/article/markets/foreign-dairy-players-eye-india-entry-113090400442_1.html.
16. Martin LaMonica, "Promethean Power uses the sun for cooling," *CNET*, August 7, 2008, http://www.cnet.com/news/promethean-power-uses-the-sun-for-cooling/.
17. Grama correspondence.
18. Ministry of Power, "Power sector at a glance, all India," Government of India, updated June 8, 2015, http://powermin.nic.in/power-sector-glance-all-india, accessed July 1, 2015.
19. White, "Battery-powered fridge empowers Indian farmers."
20. Amy Barrett, "Case study: Can solar power pay?"*Inc.*, September 2011, http://www.inc.com/magazine/201109/business-pivot-case-study-promethean.html.
21. P. R. Ganapathy, interview with the authors, October 30, 2014.
22. Ibid.
23. White, "Battery-powered fridge empowers Indian farmers."
24. Grama correspondence.
25. Dahl interview.

Diffusing innovation

How an ecosystem-based approach is helping social impact bonds to spread



Deloitte University Press

Introduction

Rather than funding individual "social impact bonds" (a new approach for financing social service delivery), the Rockefeller Foundation chose to help build a coordinated ecosystem that could diffuse the innovation across the United States.

JUST five years ago, social impact bonds (SIBs) were no more than a blip on the social change radar. The first SIB was launched in 2010 to fight criminal recidivism in Peterborough, England, a city of under 200,000 people, about 50 miles north of London.[1] The approach was promising but still untested: allowing private investors to pay the upfront cost of providing needed social services, with the government repaying their investment only if measurable impact was achieved.

Few could imagine how quickly the excitement from this first SIB would spread. By 2014, there were a total of 25 SIBs worldwide, along with more than 100 additional proposals under formal consideration.[2] In the United States, the SIB market has grown to nearly $50 million, the largest in the world, with four active SIBs spread from Massachusetts to Utah, and the approach is now being embraced by governments at the state, federal, and local levels.[3] Seventeen states have taken steps to explore SIBs, and the US Congress is considering the bipartisan Social Impact Bond Act, which would allocate an additional $300 million to SIBs.[4]

But how has this innovation in social finance spread so quickly?

While many people and organizations have contributed to the advancement of SIBs over the last few years, a critical ingredient in their growth has been the coordinated investments of the Rockefeller Foundation and its dedicated social innovation team. The foundation helped the spread of SIBs by strengthening key parts of the "enabling ecosystem"—creating the infrastructure and supports required to facilitate adoption of the new approach and building critical capacity in partners across geographies and sectors.

And although it is still far too early to know whether SIBs will ultimately prove transformative to our systems for financing social service delivery, the story of the Rockefeller Foundation's approach to funding SIBs can nevertheless provide many valuable lessons for anyone who wants to better understand what it takes to help social innovation diffuse and spread.

The British invasion

IN 2007, the British government was looking for new, more effective ways to fund social programs. Around the same time, Arthur Wood, then the global head of social finance services at Ashoka, was experimenting with the structure for a "contingent revenue bond" as a way to build capital-intensive projects in the developing world that would allow philanthropic funders to repay private developers if their projects delivered measureable social benefit. Social Finance UK—a British nonprofit organization that seeks out new approaches to solving entrenched social problems—and others began to adapt and build on Wood's ideas about raising early capital from investors that could later be repaid by other sources. And in 2008, a short paper by the Young Foundation on the subject coined the term "social impact bond."[5]

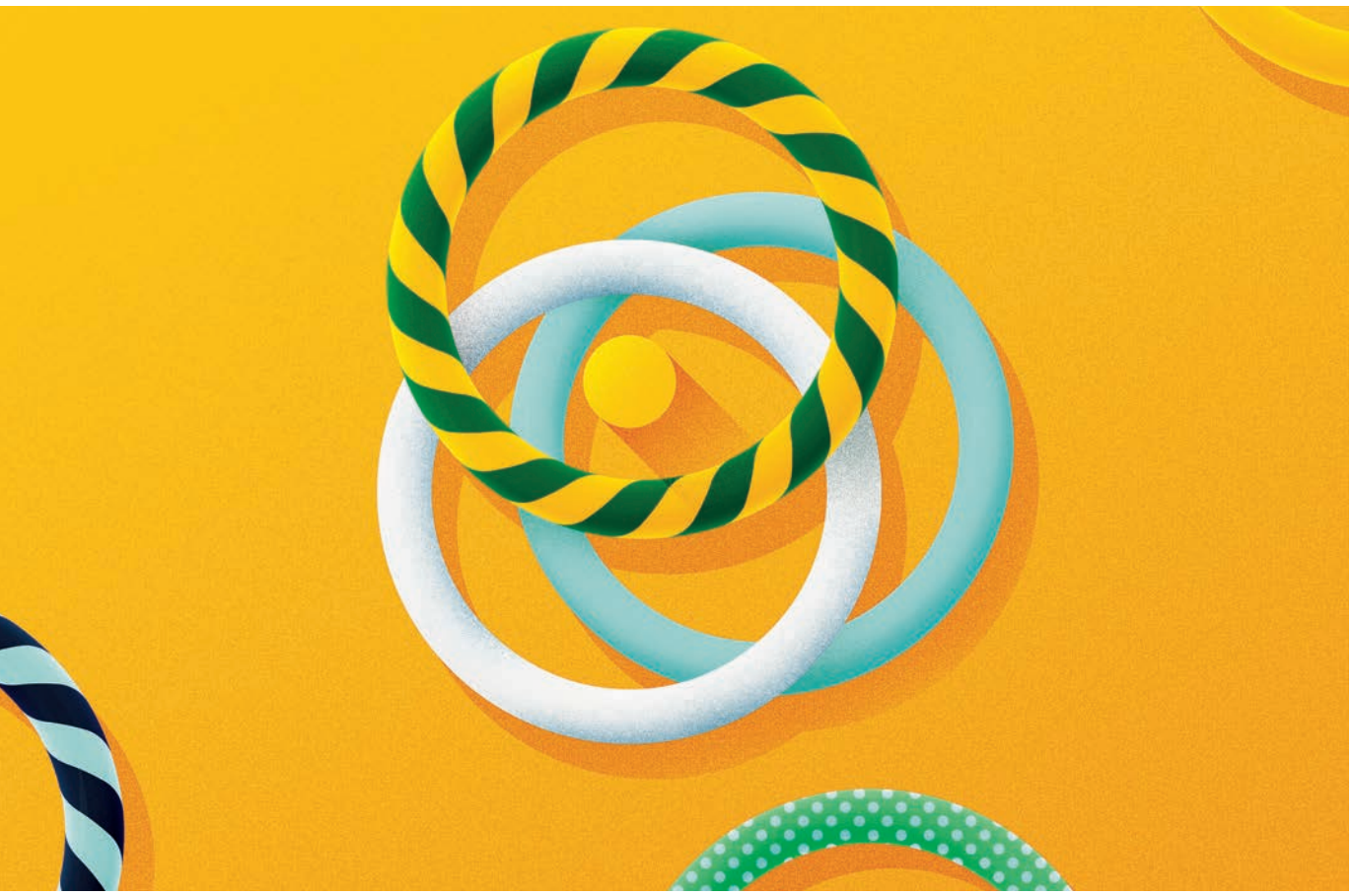
Criminal justice was a promising first test for the new financial structure.

According to Social Finance (the American sister organization to Social Finance UK), "A Social Impact Bond is an innovative financing mechanism designed to raise private-sector capital to expand effective social service programs. SIBs are a way to finance pay-for-success contracts, which allow government to pay only for results. If a program funded by SIBs achieves successful outcomes, which are defined and agreed upon in advance by all parties to the contract, government repays investors their principal plus a rate of return based on the program's success. If outcomes are not achieved, on the other hand, government is not obligated to repay investors."[6] A core element of an SIB is the government's ability to "pay for success," a blanket phrase used to describe SIBs as well as other governmental performance-based contracts.

Criminal justice was a promising first test for the new financing structure—investors could fund recidivism-prevention strategies and measure outcomes, and the government saved money if fewer released prisoners returned to jail. Social Finance UK secured investors that supplied £5 million to fund the interventions of several social service providers to support prisoners (and their families) at Her Majesty's Prison Peterborough. The UK Ministry of Justice and the Big Lottery Fund, a quasi-governmental organization that

grants revenue from UK lottery programs back to the community, agreed to pay principal and interest back to investors if recidivism rates fell. All told, investors could make an annualized return of about 13 percent if the SIB was successful, or they could lose their money if it wasn't.[7]

As an early supporter of Social Finance UK, the Rockefeller Foundation was one of the only American foundations to make a program-related investment in the Peterborough SIB pilot. And as the concept gained traction, it became increasingly clear to the innovation team at the foundation that the SIB mechanism would likely be transported back to the United States—it wasn't a question of "if," but rather of "when" and "how."



Avoiding the high price of doing it wrong

WITHIN the Rockefeller Foundation, there is a small, specialized innovation team that focuses specifically on how the foundation can be true to its centennial anniversary slogan of supporting "innovation for the *next* 100 years." In addition to researching and sharing social innovation methodologies, building the innovation skills of social sector leaders, linking innovators across sectors, the innovation unit is also tasked with "replicating demonstrations of successful innovation systems."[8]

SIBs represented an ideal opportunity for playing this demonstration role, while also complementing the foundation's ongoing support for the development of the impact-investing industry, since SIB investors supply initial capital to produce both financial and social returns if an intervention proves successful.

For the Rockefeller team, the risks of not getting involved in the expansion of SIBs into the United States were unmistakable. According to early strategy documents from the foundation, "Poorly conceived and executed pilot projects threaten the long-term potential of this innovation. In the worst case, early failures could stunt or altogether kill it off." The costs of implementing individual SIB pilots badly were simply too high.

The Rockefeller innovation team also worried that SIBs could fall short of their potential if they got pigeonholed into solving only certain types of problems. While SIBs are not a panacea, they can span a variety of topics, ranging from human services to pollution abatement to health care, to name just a few. As the foundation thought about helping SIBs spread, it realized that creating one or two discrete SIB deals wouldn't be enough. The American pilots needed to be designed with scale in mind: They had to be tested across geographies and issue areas, and to resonate with a variety of political, philanthropic, and financial leaders.

But the Rockefeller Foundation had less than $10 million to spend on the effort over a period of three years—maybe enough for a single SIB deal. Rather than doing one experiment and hoping the idea would naturally scale, the foundation instead chose to build an ecosystem of innovation that could help a wide range of SIB experiments to spread more broadly. To borrow an analogy from botany: Instead of growing an individual "plant," the foundation decided to invest in building a "greenhouse" that can help many plants thrive.

Elements of an ecosystem

TO help build the nascent SIB ecosystem, Rockefeller made investments in strengthening four key parts of the system where it felt its funding could have the most impact:

1. Creating demand and capacity for governments to test SIBs
2. Working with intermediaries who would handle negotiations, contracting, and evaluation
3. Connecting with the right type of financial investors
4. Supporting enabling functions such as communications, policy research, and network weaving

Creating demand and capacity within governments

Because governments are the ultimate payers for successful SIBs, getting early support from state, local, and federal government officials was a crucial first step. But the SIB concept was so new and required such drastically different procurement and contracting that government officials were hesitant to get involved. Interest was brewing, but potential early adopters needed additional support to take the plunge.

In early 2011, Jeffrey Liebman, the Malcolm Wiener Professor of Public Policy at the Harvard Kennedy School, began working with the Commonwealth of Massachusetts to help craft what would later become the largest SIB in the United States, at $18 million, focused on reducing prison recidivism and improving economic opportunity for former prisoners.[9]

Impressed by the way Liebman was able to help the state government adopt the new concept, and eager to bring an academic level of rigor to the cost-benefit analyses and evaluation methodologies used in the first US transactions, Kippy Joseph, associate director of innovation at the Rockefeller Foundation, began to support his work. With seed funding from the foundation, Liebman founded the Kennedy School's Social Impact Bond Technical Assistance Lab (SIB Lab) to provide additional assistance to governments interested in SIBs on issues such as choosing social interventions, budgeting, contracting, and measuring results.

After the SIB Lab demonstrated initial successes working with governments, Joseph came back to Liebman with an even larger opportunity, proposing funding for four more technical assistance projects, but with a catch: The SIB Lab would need to run a national competition to find the best proposals. It was a risk. If very few governments applied, the SIB movement would look like a bust. If a large number

applied, the SIB Lab would be forced to turn down eager participants. Eventually Liebman agreed, and the initial competition garnered 28 applications from cities and states across the country, demonstrating the strong demand in SIBs. And the Laura and John Arnold Foundation, strong supporters of SIBs and early investors in the Massachusetts deal, along with the Dunham Fund, an Illinois-based foundation, stepped up to provide additional funding so that the SIB Lab could serve a total of 10 of the 28 applicants.

In the end, the contest served as an important forcing mechanism for states and cities that were interested in SIBs but not quite ready to jump in. As Liebman recalls, "There were civil servants around the country who were interested in SIBs but didn't have a way to get their governments to move forward. This contest allowed them to ask their bosses, 'Can we apply for Harvard's help?'"[10] The contest crystalized emerging momentum into real plans of action.

Intermediaries play a critical function in SIB partnerships by aligning the interests of all stakeholders.

Working with intermediaries

Intermediaries play a critical function in SIB partnerships by aligning the interests of all stakeholders. As Tracy Palandjian, CEO of the US-based Social Finance, describes, "Our role is to design and execute the framework for the partnership: to structure, negotiate, and raise capital for the contract; to design the program with the service provider; and to provide ongoing investor relations and performance management. Our job is to create and sustain the partnership over the project life to ensure that shared goals are met, and, most importantly, that outcomes are achieved for people most in need."[11]

Indeed, intermediaries such as Social Finance and Third Sector Capital Partners are often the "glue" that holds investors, government officials, nonprofit service providers, and evaluators together in the midst of the complex transactions required to make an SIB happen. The Peterborough SIB, for example, had a total of six contracts among all the different parties.[12] And since there isn't yet a template for these types of multifaceted deals, intermediary organizations are required to play a central role in brokering, managing, and maintaining the agreements.

In addition to helping with individual deals, intermediaries can also be a driver for innovation in the field. While many early SIBs have focused on recidivism, Social Finance is actively working to explore SIBs for issue areas such as child and maternal health, early childhood education, workforce development, and chronic illness management, among others. In this capacity, intermediaries are helping stretch the model into new spaces.

Recognizing this value, the Rockefeller Foundation has made intermediaries a core part of its strategy. Along with several other institutions, it helped to seed the American branch of Social Finance and provided key operating support to other intermediaries such as Third Sector Capital Partners.

Connecting with financial investors

As the Rockefeller Foundation was developing its strategy, it gave considerable thought to the best sources of capital for SIB investments. One of the questions that the team struggled with was whether SIBs would increase the pool

of capital available to address social issues or simply shift existing money around.

While foundation capital has been critical to validating the concept of SIBs, it is somewhat less attractive as a long-term source because of the opportunity cost of using grant- or program-related investment capital for SIBs instead of for other projects. "It can be like a shell game," notes Joseph, referring to the street game where a ball is hidden under one of three shells that are quickly shuffled around.[13] If foundations just shuffle capital away from other projects to fund SIBs, the new financing mechanism may not actually increase the net amount of funds available for addressing social issues.

Similarly, many banks are bound by the Community Reinvestment Act (CRA) to make investments that serve low-income community members. Since SIBs can qualify as CRA investments because they typically serve low-income residents, early deals have proven to be popular choices for banks looking to fulfill their obligations. But banks making CRA investments face the same concerns as foundations: Shifting assets away from other worthy investments in favor of SIBs may not actually result in a net increase in the capital available for projects serving vulnerable residents.

Concerns like these can be allayed if SIBs are used to deliberately broaden the pool of social investors, as the New York State SIB did in late 2013. The $13.5 million deal, which was organized by Social Finance with technical assistance from the SIB Lab, engages the Center for Employment Opportunities to help former prisoners find employment and thereby reduce recidivism.[14]

When Bank of America Merrill Lynch first heard about the proposed SIB from Social Finance, the firm was intrigued. "We've seen a growing interest in impact investing among our private wealth clients," notes Dash Boyer-Olson, director and senior product specialist.[15] Bank of America Merrill Lynch offered the SIB to certain prequalified, high-net-worth clients, allowing a number of individual impact investors and foundations to take part in the innovative new financing mechanism and increasing the pool of capital available to fund the initiative.

Part of what helped private clients invest was the deployment of a guarantee fund that the Rockefeller Foundation created with Social Finance. The $1.32 million guarantee (amounting to about 10 percent of the project) provided important downside protection to investors. Beyond this formal safeguard, the foundation's brand also helped investors feel more at ease.[16]

The Rockefeller Foundation also focused heavily on communications as part of its strategy.

Supporting enabling functions

In addition to its work with governments, intermediaries, and investors, the Rockefeller Foundation also paid special attention to enabling functions that can sometimes fall through the cracks, such as systems thinking, communications, policy research, and network weaving.

With a limited budget, the foundation was eager to find key leverage points in the system—areas where its support could have an outsized impact. So it relied on scenario planning (a technique for systematically exploring what the different futures of SIBs might look like and using those future scenarios to inform foundation strategy) and system mapping (a way of looking at all of the players and

interactions in the SIB ecosystem and deciding where intervention would be the most impactful). The results of these analyses ended up helping the foundation realize that supporting early adopters—governments, intermediaries, and investors—would be a better option than charging ahead on its own. These investments in understanding the larger system were critical to guiding the efforts of both Rockefeller and its partners over time. "It felt like a luxury at the time to step back and think deeply about the entire ecosystem," says Joseph, "but foundations are one of the few organizations that can afford to do it."[17]

The Rockefeller Foundation also focused heavily on communications as part of its strategy. Recognizing from its scenario-planning and system-mapping efforts that support from government would be critical to SIB success, the foundation funded the Center for American Progress to create research and educational materials highlighting the promise of SIBs. "If SIBs became politicized, they may never have gotten off the ground," noted Joseph. So the center deliberately developed materials and conducted outreach aimed at launching a bipartisan dialogue among policymakers and investors.

The Rockefeller Foundation also played a key role in connecting people and organizations across the ecosystem. In this network-weaving role, the foundation was able to link those working on SIBs across sectors and regions, coordinate strategies across organizations, and incorporate their voices into broader communications. The foundation worked with the Nonprofit Finance Fund to create a "learning hub" for SIBs so that the network could learn together and build a shared base of knowledge.

What's next for SIBs

THIS coordinated ecosystem of support has provided fertile ground for SIBs to grow. While they remain unproven, SIBs now have solid traction and are being explored and tested by a wide range of governments, intermediaries, and investors. Going forward, key questions still remain, and critics raise a number of important concerns.[18] For instance, critics question what a fair rate of return is for investors that profit from solving public problems, what role foundations should play in guaranteeing their investments, and what role government should play in delivering solutions to public problems. Questions like these remain heavy intellectual, if not moral, decisions over the future of SIBs.

SIBs are also facing more pragmatic challenges as they expand: They continue to be weighed down by complex deal terms and contracting that can take years to negotiate. While it may be possible to create a more standard template for SIBs, today's deals are still too nascent to have an "off-the-shelf" solution. Additionally, a majority of the interest in SIBs to date has been focused on prison recidivism because it can be easy to measure, and costs to the government are relatively clear (for example, the cost of jailing someone). Whether SIBs can be fully implemented in areas where social outcomes take longer to accrue or are more difficult to measure remains to be seen.

These types of questions will be important for the next level of SIB development, but it is important to note that Rockefeller's early work with SIBs has already affirmatively answered an important existential question: Is this concept worth exploring?

Lessons for funders

FOR funders interested in expanding new approaches like SIBs, Rockefeller's approach to building an ecosystem of innovation around SIBs may serve as a useful guide. In particular, the foundation's efforts help us understand the different assets that a foundation can provide to help scale a new innovation; how funders can make smart choices about which strategies to pursue; how innovations diffuse in a system; and the way networks can be used to help innovation spread.

Provide more than money. Funding was a critical element of the Rockefeller Foundation's support for the growth of SIBs, but it was just one of the resources that the foundation brought to bear to help spread the innovation around the country and around the world.

The foundation played a critical role as a convener and network weaver within the ecosystem, reaching across sectors to build a broad coalition of support that included state and federal policymakers, local civil servants, investors, and intermediaries. It served as a public educator, conducting outreach and crafting communications that worked across multiple stakeholder groups, and helped shape public perceptions and drive interest in SIBs. And the foundation served as a system troubleshooter, identifying potential barriers to participation in the SIB process and acting to address them. When it became clear that governments needed help to participate in the bonds, the foundation partnered with the SIB Lab to build capacity. When investors needed additional assurance to be comfortable with the SIB deals, the foundation used its brand and provided a loan guarantee to encourage and "derisk" participation.

By viewing its role as more than just a grantmaker, the Rockefeller Foundation was able to adjust to emerging challenges and strengthen many parts of the SIB ecosystem, which in turn has allowed the bonds to rapidly move from an untested idea to broader implementation in just a few short years.

Look for the path of greatest leverage. With the benefit of hindsight, the story of the Rockefeller Foundation's role in nurturing the SIB ecosystem seems neatly laid out and logical. But during the process, the foundation actually wrestled with a number of complex strategy choices.

For instance, it wondered whether it should use its funds to construct one strong SIB pilot, but it ruled out that choice because one pilot wouldn't be enough to help the concept spread. The foundation also explored whether it should build momentum for SIBs by starting with issues areas—health, education, or criminal justice—so that it could more concretely target and recruit specific government agencies, investors, and foundations that had more focused agendas. However, it ultimately decided that it didn't want to see SIBs become

pigeonholed. And the foundation even considered trying to raise an SIB "general fund" from other foundations to participate in early deals and help cover the costs of structuring SIBs, but it abandoned the idea when it received feedback that funders only wanted to consider individual deals.

Part of creating a good strategy is figuring out what to say "no" to. And for funders looking across an entire ecosystem, it can be easy to overextend. But by mapping the system, understanding the key inflection points, and pivoting away from ideas that don't gain traction, funders can make the best use of their limited resources.

Consider how innovations spread. Just because a better solution exists does not necessarily mean that it will be adopted. The US QWERTY keyboard, for example, was designed in the late 1800s to slow typists down and prevent jams on early typewriters when two nearby letters were struck in rapid succession and the metal pins would get entangled. In the 1930s, an objectively better arrangement was developed that put vowels and commonly used letters directly under a typist's fingers. But the inefficient QWERTY keyboard still remains today, even on touchscreen phones and tablets with no physical keys.[19]

Innovators (and their funders) can easily get excited by a new idea and quickly imagine a vision of an "end game" where innovations are adopted and lives are improved. Indeed, there is already much hype about what the end game for SIBs could look like—a world where government spending is more efficient, and where private investors can generate social and financial returns by addressing pressing social problems. However, in rushing toward visions of an end game, it is important to consider all the required steps in between where you are and where you want to end up. As Bhaskar Chakravorti, author of *The Slow Pace of Fast Change*, notes, dividing up the "middle game" is a critical but often overlooked element of bringing innovations to scale.[20]

The middle game is often difficult to map and understand because it involves a system of actors that may or may not have incentives to change. The Rockefeller Foundation considered the SIB middle game as it supported efforts that would rally government officials and build their capacity; built up intermediaries who could handle the complex contracting, negotiations, and measurement currently required of SIBs; helped bring in new kinds of investors; and worked to better connect all the groups. For funders looking to diffuse innovation in a system, the key questions are, "Who needs to change?" "What do they need to change?" "Why would they change?" and "What can you do to help?"

Harness network effects when diffusing an innovation. When helping an innovation scale, funders should consider how networks can help or inhibit ideas from spreading. As a foundation, Rockefeller was in a unique position to look across the entirety of the system and help make connections. In this role, the foundation was able to bring together a group of independent actors—governments, intermediaries, and investors—as early adopters of SIBs. And by simultaneously supporting all of these early adopters and increasing their numbers, the foundation was able to capitalize on important *network effects*.

Network effects occur when the value of a product or network increases as more people join: A lone fax machine isn't worth much unless there are others to connect to it, and the larger an online social network becomes, the greater its usefulness to each of its members. Within the SIB ecosystem, governments are more likely to consider SIBs if there is strong investor demand; investors will likely be more interested if governments are proposing a range of deals; and intermediaries are more likely to join if they can advise a larger number of clients. Thus, as the SIB ecosystem becomes more robust, it also becomes more valuable to each of the stakeholders. By working to grow each of these segments at the same time, the Rockefeller team was able to create powerful network effects that have generated a virtuous circle that will continue to build and strengthen the field over time.

Endnotes

1. Mark J. Lane, "Social impact bonds: Aligning financial and social returns," *The Mission-Driven Venture: Business Solutions and Earned Revenue Strategies for Non-profits* (John Wiley & Sons, Inc., 2015).
2. Brinda Ganguly, "The success of the Peterborough social impact bond," Rockefeller Foundation, August 8, 2014, http://www.rockefellerfoundation.org/blog/success-peterborough-social-impact.
3. Jane Hughes and Jill Scherer, *Foundations for social impact bonds: How and why philanthropy is catalyzing the development of a new market*, Social Finance Inc., 2014, http://www.socialfinanceus.org/sites/socialfinanceus.org/files/Foundation%20for%20Social%20Impact%20Bonds,%202014.pdf.
4. Ibid; and Jon Hartley, "Social impact bonds are going mainstream," *Forbes*, September 15, 2014, http://www.forbes.com/sites/jonhartley/2014/09/15/social-impact-bonds-are-going-mainstream/print/.
5. UK Cabinet Office, "SIB history," posted April 19, 2013, http://data.gov.uk/sib_knowledge_box/sib-history.
6. Hughes and Scherer, *Foundations for social impact bonds*.
7. Alex Nicholls and Emma Tomkinson, "The Peterborough Pilot Social Impact Bond," Saïd Business School, University of Oxford, October 2013, https://emmatomkinson.files.wordpress.com/2013/06/case-study-the-peterborough-pilot-social-impact-bond-oct-2013.pdf.
8. Rockefeller Foundation, "Innovation: Our strategy," http://www.rockefellerfoundation.org/our-work/current-work/innovation/our-strategy, accessed July 2, 2015.
9. Jeffrey Liebman, correspondence with the authors, May 19, 2015.
10. Ibid.
11. Tracy Palandjian, interview with the authors, De cember 11, 2014.
12. Nicholls and Tomkinson, "The Peterborough Pilot Social Impact Bond."
13. Kippy Joseph, interview with the authors, December 1, 2014.
14. Social Finance US, http://www.socialfinanceus.org/what-we-do/select-current-engagements/social-finance-drives-landmark-new-york-state-deal.
15. Dash Boyer-Olson, interview with the authors, February 10, 2015.
16. Joseph interview.
17. Ibid.
18. Rick Cohen shares a succinct and accessible list of challenges related to SIBs in "Eight sobering thoughts for social impact bond supporters," *Nonprofit Quarterly*, June 12, 2014, https://nonprofitquarterly.org/policysocial-context/24346-eight-sobering-thoughts-for-social-impact-bond-supporters.html.
19. Everett Rogers, *Diffusion of Innovations* (Simon & Schuster, August 2003).
20. Bhaskar Chakravorti, *The slow pace of fast change: Bringing innovations to market in a connected world*, Harvard Business Review Press, June 2003.

Contacts

Gabriel Kasper
Senior manager, Monitor Institute
Deloitte Consulting LLP
gabrielkasper@deloitte.com
@gdkasper

Justin Marcoux
Manager, Monitor Institute
Deloitte Consulting LLP
justinmarcoux@deloitte.com
@jmcoux

Acknowledgements

The authors would like to thank **John Shumadine**, **Venkata (Ram) Sangadi**, and **Soumiran Banerjee** for their significant contributions to the research and writing.

We would also like to acknowledge the contributions of **Ryan Alvanos**, **Scott Bearse**, **Matthew Budman**, **Junko Kaji**, **Prasad Kantamneni**, **Kasey Lobaugh**, **Anupam Narula**, **Neelakantan Subramanian**, **Jeff Simpson**, and **Whitney Young**.

About Monitor Institute

Monitor Institute is a social change consultancy that works with innovative leaders to surface and spread best practices in public problem solving and to pioneer next practices—breakthrough approaches for addressing social and environmental challenges. Monitor Institute marries a deep grounding in strategy, networks, social innovation, and human systems with the fundamentals of professional advisory services—effective project management, skilled facilitation, and well-timed intervention. As a for-profit/for-benefit hybrid, Monitor Institute pursues social impact while operating as a fully integrated part of the Social Impact practice of Deloitte Consulting LLP, a subsidiary of Deloitte LLP. The Social Impact practice helps clients in the public, private, and social sectors become a catalytic force to meet our greatest societal challenges.

 Follow @DU_Press

Sign up for Deloitte University Press updates at DUPress.com.

About Deloitte University Press

Deloitte University Press publishes original articles, reports and periodicals that provide insights for businesses, the public sector and NGOs. Our goal is to draw upon research and experience from throughout our professional services organization, and that of coauthors in academia and business, to advance the conversation on a broad spectrum of topics of interest to executives and government leaders.

Deloitte University Press is an imprint of Deloitte Development LLC.

About this publication

This publication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively the "Deloitte Network") is, by means of this publication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this publication.

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. Please see www.deloitte.com/about for a more detailed description of DTTL and its member firms.

Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries and territories, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte's more than 200,000 professionals are committed to becoming the standard of excellence.

© 2015. For information, contact Deloitte Touche Tohmatsu Limited.