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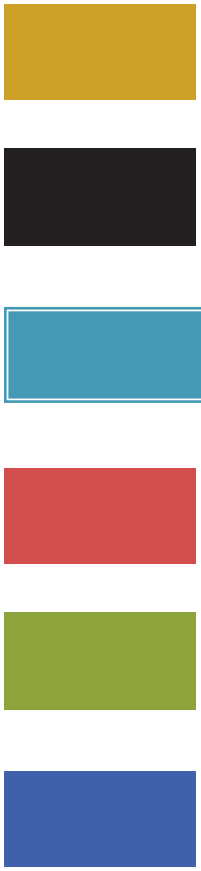

Evaluating Innovation

2011

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Blueprint Research + Design, Inc. helps grantmaking foundations, individual and family donors, and philanthropic networks achieve their missions. We offer services in strategy + program design, organizational learning, and evaluation, and we think and write about the industry of philanthropy. Since 2004, Blueprint has provided the John D. and Catherine T. MacArthur Foundation with research, advice, and documentation of the Digital Media and Learning Initiative. That work includes the writing and distribution of five reports on field building, written for the public, as a means of informing the field of philanthropy and as a way to strengthen the emerging field of Digital Media and Learning.

The MacArthur Foundation's Digital Media and Learning Initiative aims to determine how digital media are changing the way young people learn, play, socialize, and participate in civic life. Answers are critical to education and other social institutions that must meet the needs of this and future generations. Through November 2009, the foundation has awarded 106 grants for a total of $61.5 million to organizations and individuals in support of digital media and learning. The grants have supported research, development of innovative technologies, and new learning environments for youth — including a school based on game design principles.

ACKNOWLEDGEMENTS

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This paper draws upon the experiences and expertise of many esteemed colleagues, some who are harnessing innovation to drive change in specific fields and others who have spent their professional lives thinking about evaluation. We are so grateful to each of them for sharing their perspectives and wisdom with us and, through this work, with the field of philanthropy.

Connie Yowell, John D. and Catherine T. MacArthur Foundation
Alberto Ibargüen, John S. and James L. Knight Foundation
Mayur Patel, John S. and James L. Knight Foundation
Rachel Levin, Righteous Persons Foundation
Josh Miller, Jim Joseph Foundation
Adam Simon, Charles and Lynn Schusterman Family Foundation
Steven Rochlin, AccountAbility
John Bare, Arthur M. Blank Family Foundation
Drew Davidson, Carnegie Mellon University

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"Give me something new and prove that it works."

INTRODUCTION

In their pursuit of the public good, foundations face two competing forces — the pressure to do something new and the pressure to do something proven. The epigraph to this paper, "Give me something new and prove that it works," is my own summary of what foundations often seek. These pressures come from within the foundations — their staff or boards demand them, not the public. The aspiration to fund things that work can be traced to the desire to be careful, effective stewards of resources. Foundations' recognition of the growing complexity of our shared challenges drives the increased emphasis on innovation. Issues such as climate change, political corruption, and digital learning and work environments have enticed new players into the social problem-solving sphere and have convinced more funders of the need to find new solutions. The seemingly mutually exclusive desires for doing something new and doing something proven are not new, but as foundations have grown in number and size the visibility of the paradox has risen accordingly.

Even as foundations seek to fund innovation, they are also seeking measurements of those investments success. Many people's first response to the challenge of measuring innovation is to declare the intention oxymoronic. Innovation is by definition amorphous, full of unintended consequences, and a creative, unpredictable process — much like art. Measurements, assessments, evaluation are — also by most definitions — about quantifying activities and products. There is always the danger of counting what you can count, even if what you can count doesn't matter.[1]

For all our awareness of the inherent irony of trying to measure something that we intend to be unpredictable, many foundations (and others) continue to try to evaluate their innovation efforts. They are, as John Westley, Brenda Zimmerman, and Michael Quinn Patton put it in *Getting to Maybe*, grappling with "…intentionality and complexity — (which) meet in tension."[2] It is important to see the struggles to measure for what they are — attempts to evaluate the success of the process of innovation, not necessarily the success of the individual innovations themselves. This is not a semantic difference. What foundations are trying to understand is how to go about funding innovation so that more of it can happen.

The struggles to measure are attempts to evaluate the success of the process of innovation, not necessarily the success of the individual innovations themselves.

Evaluating innovation is not only possible it is working. One example is a program called Park Scan launched by the San Francisco Recreation

and Park Department. Park users were asked to use their cell phones to text messages about park conditions, facility needs, and opportunities for improvement. Park goers became data sources in ways that fit in with their regular park use. These data were then aggregated and analyzed, used to inform repair and upkeep decisions, and to keep the park managers in touch with park users. The department's evaluation of its upkeep systems started with park visitors and could be judged by them. Real-time feedback loops, useful and ongoing data collection, and a focus on iterative improvements are core elements of innovation and of evaluating it.

The even better news is that efforts to fit evaluation methods to innovation strategies are improving both our ability to innovate and the practice of evaluation.

The good news is it can and is being done. The even better news is that efforts to fit evaluation methods to innovation strategies are improving both our ability to innovate and the practice of evaluation. This paper introduces several examples for funders to consider and points them to additional resources.

Current examples of foundation-funded innovation efforts abound. I'll draw most of my insights from a few of these — the John D. and Catherine T. MacArthur Foundation's Digital Media and Learning Initiative (DML), the John S. and James. L. Knight Foundation's Knight News Challenge (KNC), and the Jewish New Media Innovation Fund (JNMIF). My colleagues at Blueprint Research + Design and I have worked with each of these foundations on these initiatives. I also draw lessons from the Monitor Institute's and Kellogg Foundation's work on the intentionality of innovation and from the Organization for Economic Co-operation and Development (OECD).[3]

These examples were chosen because they offer a look at innovation within the broader scope of a foundation's work. This paper is the fifth in a series focused on field building. In this context I am interested in where evaluation fits within an innovation strategy and where these strategies fit within a foundation's broader funding goals.[4] I will present a typology of innovation drawn from the OECD that can be useful in other areas. I lay the decisions about evaluation made by Knight, MacArthur, and the Jewish New Media Innovation Funders against their programmatic goals.[5] Finally, I consider how evaluating innovation may improve our overall use of evaluation methods in philanthropy.

WHAT IS INNOVATION?

In his 2010 book, *Where Good Ideas Come From*, Steven Berlin Johnson uses the broadest possible definition of innovation — "good ideas."[6] Eric Von Hippel, author of *Democratizing Innovation,* offers a slightly more specific version, defining innovation as "The process of making changes to something established by introducing something new whether it is an idea, method, or device."

Most innovation theory gets even more specific than this, differentiating between inventions and innovation. In this view, the difference has to do with commercialization — an invention is a new

idea, an innovation is one that is commercially successful.[7] Lewis Branscomb, a scholar of technology and innovation, has nicely merged these two ideas to define innovation as "an invention applied and adopted at scale."[8]

The market-based definition of success is inherently problematic for those interested in good ideas of a non-commercial nature — for example, ideas that might be used to provide public access to digital media or that might sustain high quality community journalism in the face of rapid business disruption. While these situations may not rely on commercial success, they do need some way in which the new idea can spread and be widely used. For the purposes of this paper, I'll refine Johnson's expansive definition: Innovations are good ideas that become widely adopted.

Under this definition, funders will need to fund more than just ideas. Immediately, we are plunged into thinking about the environment in which ideas are generated and the investments made in spreading them. Strategic support for innovation requires a plan to share and promote the adoption of the ideas that are generated. It is not enough to fund the generation and refinement of new ideas — success requires attention to how they are spread, adopted, adapted, and put into action. From an evaluation perspective, these are all good things. Data on adoption, adaptation, and use are easy to collect, and collection is getting easier with every step into the digital environment.

A Typology of Innovations

Foundations are invested in many different types of innovation.[9] The OECD developed a four-part typology that includes product, process, market, and organizational innovation.[10] The form that is most familiar is **product innovation** — the creation of a new tangible solution to a problem. Products can include new games for learning,[11] a wearable monitor that encourages young people to get more exercise,[12] new preservation methods for vaccines that eliminate the need for refrigeration,[13] or a private spaceship that can orbit earth.[14] All of those are actual products funded by philanthropic foundations.

Innovations are good ideas that become widely adopted.

Another form of innovation is **process innovation.** The result is not a new product but a new way of producing. The assembly line changed manufacturing processes. Mobile phones change how we get our local news, which now includes photos, blog posts, and tweets sent by our neighbors and aggregated onto place-based local blogs.[15] Positive Deviance, an approach to development that emphasizes the wisdom of locals is a process innovation changing how we deliver international aid.[16]

A **market innovation** focuses on how we communicate about ideas and encourage broad adoption. One example is the use of Advance Market Commitments, in which governments and philanthropies promise to buy a certain volume of vaccines for poor people, guaranteeing enough sales for the private producers to make production worthwhile.[17] Another example is using social media to change the perception of certain diseases,

such as Hepatitis B, and thus encouraging a change in behavior that lowers the rate of virus transmission.

Finally, **organizational innovation** can be seen in public private partnerships such as the Acumen Fund, which raises philanthropic dollars to invest as equity or debt in socially positive businesses.[18] The education technology incubator StartL mixes funds from several foundations with those from venture capitalists to incubate digital learning products. The foundations can bear a longer development cycle than the VCs would normally tolerate and the VCs bring the networks and resources to take successful prototypes into the marketplace. This mix of nonprofit and commercial funders is an organizational innovation.[19]

These four types are not mutually exclusive. New products may need new processes in order to spread. New organizational forms may be necessary to experiment with new market structures.

Funders need a new type of map – one that will help them see the innovative nature (or barriers to innovation) of their usual partners.

One of the first things an innovation strategy needs to identify is what already exists in the issue area that the funder cares about. Where is innovation happening? The answers will be different if you're talking about digital learning for school age kids, new business models for local journalism, or access to vaccines in Sub Saharan Africa. Is it a matter of introducing new products or of getting more institutions to use products that already exist? Are you trying to help individual entrepreneurs push their innovations into and through established institutions, or are you trying to help them displace or replace those institutions?

The second key element of an innovation strategy is to understand the market of people you hope will adopt the innovations you fund. Are you targeting the earliest adopters of a new idea or product, or people who will only use something that is well established? Different groups of people change their behaviors for different reasons and under different circumstances. Understanding the state of this market is important for determining your strategy. It will also inform the design of successful innovations, whether they be about new products, processes, or organizations.[20]

Answering these questions — or at least being clear on your hypothesis — is key to articulating an innovation strategy.

What Is an Innovative Environment?

Foundations are often quite smart about the nature of the issues in which they work. They've read the literature, they may know many of the organizations involved, and they are familiar with the dynamics between community based organizations and large NGOs. They may know the policy incentives and disincentives, understand the politics, and be aware of available financial resources from public and philanthropic sources. But looking at their issue areas — whether education, health, environmental preservation, or journalism — from the perspective of innovation requires yet another lens. Funders need a new type of map — one that will help them see the innovative nature (or barriers to innovation) of their usual partners.

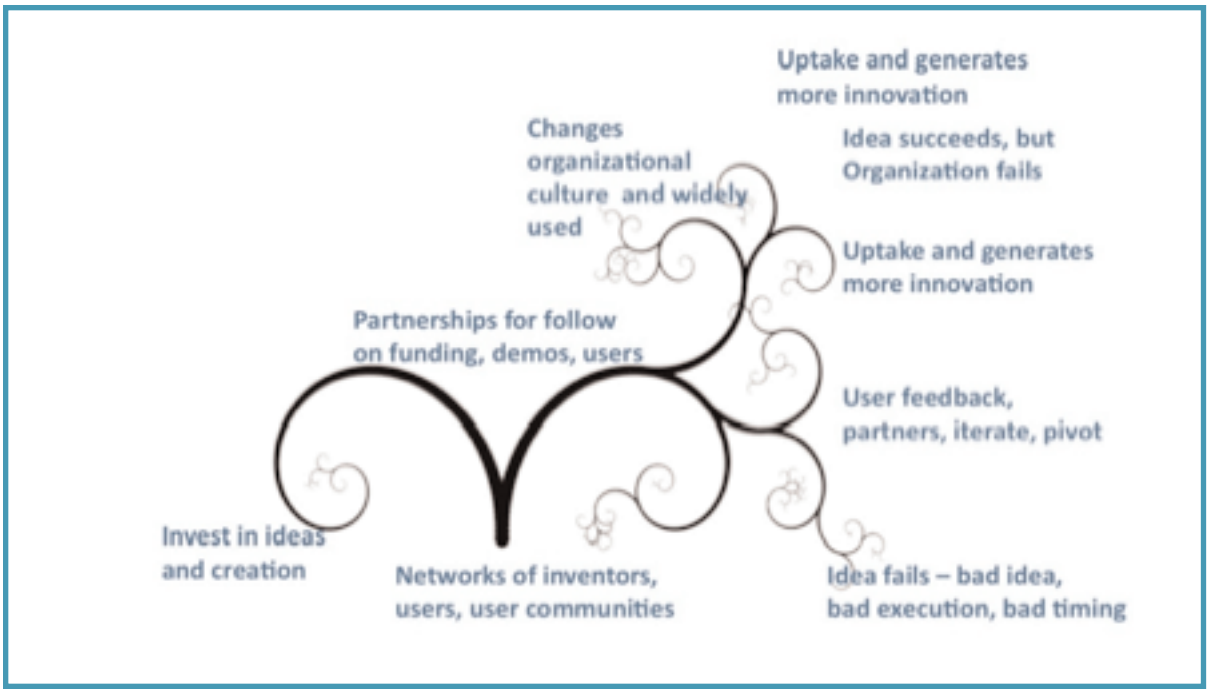

Fig. 1. Possible Outcomes from Product Innovation Funding

Research abounds on innovative environments. It ranges from examinations of business organizations to comparisons of Silicon Valley with Boston's Route 128 corridor. Scholars have looked at the creative mind, the teaching of writing, and the life histories of great thinkers from Leonardo Da Vinci to Madame Curie, trying to uncover patterns and common elements of genius. There is no fixed recipe but fruitful environments tend to include:

- A diversity of opinions and expertise; [21]
- Porous boundaries across disciplines, departments, firms, and/or organizations;[22]
- A culture of experimentation and re-use;[23]
- Norms and practices that actively encourage idea sharing;[24]

Howard Gardner's research on creative minds likewise emphasizes the role of an environment with these traits — whether it be wartime Zurich for James Joyce and V.I. Lenin or Los Angeles in the 1920s for Martha Graham. Even biographies of polymaths like Benjamin Franklin or Thomas Edison that once emphasized a "great man" theory of discovery or a "genius theory of creativity" give credit to the mentors, supporters, time for failure, and environment for creativity that these men enjoyed. Even focused examinations of remarkably creative individuals reveal their dependence on the cross-pollinating, idea-rich environments that they inhabit and help create.

The diagram on this page is one way of picturing what might happen when you fund innovation. Start in the lower left corner and read to the right.

There are no straight lines in the picture. The possible outcomes include repeated product failures, iterations, and eventual success. This is the most common case — most successful products have had several failed predecessors.[25] It also includes product success and organizational failure. This "tree" could be drawn with even more feedback loops, but I think the general message is clear — there are lots of points at which investments are possible and the feedback between entrepreneurs, organizations, user communities, and investors is at play throughout the process. This is true whether you are launching a new widget online, a classroom teaching process, or a product to help bring clean water to the rural poor. While this map is most appropriate for thinking about product innovation, the feedback loops and unexpected directions apply to process, organization, and market innovations as well.

When you look at the twists and turns that innovation takes, it is clear there are many opportunities for failure and multiple definitions of success. Like any healthy tree, this tree has many branches. A truly innovative environment might actually need many of these trees, with intertwining branches and probably overlapping root systems. Such an environment — one that foundations might seek to find, to fund and to cultivate — might look like the diagram on this page.

Evaluation plans need to include sensors in the ecosystem beyond the foundation's direct interventions. They are not performance measures of a grantee but indicators of shifts in the broader field.

These trees are separate and overlapping,

Fig. 2. Healthy, Innovative Environments

proximal and distinct. Each is a set of organizations or individuals in the ecosystem. In the case of KNC it is the news and information ecosystem; for MacArthur it is companies, universities, researchers, and entrepreneurs in digital media. For JNMIF the focus was institutional and individual members of the Jewish community. If the goal is innovation in education, each tree might represent schools, universities, software, hardware or textbook vendors, entrepreneurial instructors, and so on. Interventions or support of some actors in the ecosystem will influence others. Funders can be deliberate about defining success in terms of "density and diversity of trees," "number of trees," "productivity of the forest," and/or how the different "trees" influence and affect the others. Their evaluation plans need to include baseline information on the current state of the forest and a creative approach to putting out sensors that can be used to indicate changes over time. This is not as easy as it sounds, because the sensors will be in the ecosystem beyond the foundation's direct interventions. They are not performance measures of a grantee but indicators of shifts in the broader field.

Annalee Saxenian's research comparing the long-term innovative capacity of Silicon Valley to the Route 128 corridor outside of Boston profoundly affected how we think about innovative environments. Saxenian's research identified the importance of risk-taking and failure and of readily available capital in both regions. Silicon Valley benefits from a culture of movement; there are relatively porous boundaries between competing firms, and individuals often move quickly from one company to another and then on to something new. This was not the case in suburban Boston.

In comparing the two regions Saxenian pushed the conversation beyond what makes for an innovative environment to what distinguishes one such environment from another. She also contributed to a zeitgeist and self-awareness in Silicon Valley that has since become self-perpetuating. The Valley has become synonymous with innovation, attracting ever more innovators and entrepreneurs, which in turn reinforces the region's identification with innovation. Her work helps us understand just how important the environment is to innovation, at a single point in time and over the long haul.

Evaluating Innovation Environments

The common assumption that innovation can't be measured stems from the role that unpredictability plays in the process. The act of creation often takes unpredictable turns. In the business world, many of the companies most lauded for their innovation started out doing something quite different from that which made them successful. Flickr, the photo-sharing site, famously got its start as an internal photo management system at a game design firm.[26] Groupon, the poster-child for rapid company growth, failed in its first effort as The Point, which intended to form tipping-point crowds for community action.[27] It found success only when it turned its groups' attention to shopping. 3M, originally a mining company, is perhaps best known for its success with Post-It Notes. The ability to change direction in line with market opportunity requires constantly searching for what is working, the use of data to inform that searching, and then "pivoting" as new opportunities present themselves. These are behaviors that can be fostered and measured and that contribute to an intentional environment for innovation.

Pivoting refers to a change in direction — from community donating to shopping, for example. Pivoting is a useful analogue for the role that evaluation can play as part of an innovation strategy. In order to pivot you can't wait for end-game reporting. Innovation requires a new timeline for data collection and use to inform adjustments made on the fly. Just as movie directors review "dailies" to adjust their shooting schedule and their vision for the final film, innovation investors need to track information frequently. Drew Davidson, a Carnegie Mellon researcher notes that executives from the online gaming company Zynga rely on this fast information. "[They] can see what people are doing immediately and make course corrections right away."[28] Not all pivots need to be as big as the one Groupon made from donation to shopping site. Data used well, and at the right time, should inform many small adjustments as well as help innovators anticipate the need for any major change.

Innovation and evaluation are not mutually exclusive. Research on innovative environments offers a good starting place to see this. Just as medical practice looks at preventive care and school reform looks at the conditions for quality learning, it is possible to look at the environment one is funding to see how innovative it is or is becoming. It is also possible, especially for foundations, to stretch the time horizons of their evaluation to match the scope of their innovation goals. Some foundations have focused their learning goals about innovation on the environments of their own practices, logically projecting that they can improve their practices in ways that might benefit their external goals. The use of rapid data collection and feedback, web analytics, and the voice of constituents help provide relevant information in a timely fashion to improve practice — helping both funders and grantees pivot as situations demand.

Hans Rosling, the founder of the Gapminder Foundation and an international YouTube/TED statistics celebrity, has a wonderful presentation on the connections between shared data and innovation.[29] In it, he describes open, accessible data as the "rootballs of a garden of innovation."

In his presentation, Rosling draws a picture that is the side view of a garden. Underneath the ground surface are "root balls" of information. Shining down on the garden plot is the sun — represented by the "public." This sun is one of the sources of life to that underground information. The buried data balls form roots that interconnect and eventually send shoots above ground. Storytelling interpretations of the data bring life from these seedlings and eventually sprout "flowers" — useful, beautiful manifestations of that interconnected, unseen, but vitally critical set of root databases.[30]

Rosling's garden represents the innovations that funders seek. The roots of those innovations are information that is clean, useful, and shared. This is the role that information gathering, data monitoring, evaluation, and learning need to play in innovation. They are part and parcel of the healthy forest, the healthy innovative ecosystem.

THREE STORIES OF EVALUATING INNOVATION

In the next section I provide glimpses of the MacArthur Foundation's Digital Media and Learning Initiative, the Knight News Challenge, and the Jewish New Media Innovation Fund. Each of these initiatives seeks new ideas, new tools, new processes, and the engagement of new participants. The funders had interests in product, process, market, and organizational innovation. They started with different interests (youth learning, news and information, and the Jewish community experience) and tried different innovation strategies. They are using very different evaluation methods and metrics. What they share is a commitment to learning — openly — about what is working and what is not.

Matching the Time Horizon to the Goal: MacArthur's Digital Media and Learning Initiative

The John D. and Catherine T. MacArthur

Foundation embarked on its Digital Media and Learning Initiative in 2006 and continues it today. The roots of the initiative were firm bets on research, and specifically on academic inquiry into if and how digital environments were changing the way young people learn. As those first inquiries unfolded, the foundation invested in dissemination of the findings and funded a series of research collections that eventually gave birth to the *International Journal on Learning and Media*.

The foundation listened to its core researchers well before their findings were finalized. The Initiative's early ethnographies and psychological studies began to show that digital environments offered new learning experiences. Seeing this, the foundation expanded its grant portfolio to include support for experimental learning experiences, including games and digital media programs. MacArthur actively supported connections between the research community and game designers, librarians, museum experts, and community organizations to keep ideas and information flowing.

The foundation's original funding strategy stemmed from the fragmented state of digital media and learning. The state of play — rampant experimentation, many disparate players, and little evidence on efficacy or best practices — led the foundation to develop an initiative highly influenced by design thinking. The essence was to be about digital media and learning for young people. The goal was to experiment and iterate on digital learning and on the research about it. The foundation wanted to introduce different ways of thinking into the experiments and to derive lessons and new ideas from them as the work was underway.

It was important to fund individual research projects to study digital learning as well as real-world applications of the digital learning to build a solid base of evidence about what was changing and what mattered about those changes. That evidence base could then inform future grants and potential partners. It was also important to weave together diverse networks of expertise ranging from commercial game designers to high school teachers, sociologists to computer scientists. The initiative also wanted to help the participants define a shared vocabulary.

The MacArthur Foundation wanted to introduce different ways of thinking into the experiments and to derive lessons and new ideas from them as the work was underway.

All of these strategies were articulated and their progress measured. At various times the foundation mapped the network of grantees and looked for indicators of diversity, growth, and robust connections. It commissioned several ongoing documentation efforts, the results of which have always been shared with grantees.

As part of the network, Jim Gee, a leading expert on game pedagogy, researches real-time assessment of teaching and learning. He also actively and continuously offers his ideas on assessment to his peers for use in their projects and research. This practice may come to be seen as "ongoing peer review." His experiments with "worked examples" — group learning about projects while they are underway — take what

he's learned from game theory and apply it "up the chain" from a single problem to an entire project. He's also shared it across the Digital Media and Learning network; it has been used by colleagues on their projects and mined by researchers for ideas on assessing the DML network itself. In 2011 members of the DML grantee community launched their own workshop on "worked examples" as a monitoring and evaluation tool of interest. The Initiative's investments in digital assessment innovations are being put to use at many levels — *in* the Initiative and *on* the Initiative.

The foundation and its partners have also relied on data from the online platforms that the grantees use. During the course of the Initiative, there have been at least three attempts at building effective online platforms for the foundation's grantees to use in sharing information. The irony of these many "re-boots" is not lost on anyone — if ever there was a community that expected to share information online it is this group of digital researchers, learners, scholars, and practitioners. For many reasons, getting the online space right for this group required an ongoing willingness to "pivot." Six years and three platform iterations after beginning, the Digital Media and Learning Hub and wiki are finally getting traction among the foundation's grantees. This was only possible because information about needs, use, and success was gathered in an ongoing fashion. The data were gathered both actively through interviews and surveys and passively through usage logs.

In the early years MacArthur focused on keeping track of these networks of experts: how diverse was the network, was it growing, and were the academics able to succeed within their institutional incentives? Partly to keep refreshing the network, MacArthur made an early and ongoing investment in HASTAC, a Duke-University-based academic collaborative, to fund an annual Digital Media and Learning Competition, which continues to this day.

The decision to "outsource" the Competition to Duke kept MacArthur from having to revamp its own practices to align with the time sensitivities and demands of a competition to which anyone can apply. It positions the DML Competition in a place where structural changes can be made relatively quickly. This is an important consideration for funders. Where can they host these competitive, open application processes so they can be quick, responsive, engaging, and adaptable? As Dwayne Spradlin of InnoCentive notes, the key to getting great ideas is "formulating the right questions."[31] In addition to investing in HASTAC, MacArthur also supports "expansion partners," which are organizations that can help turn great ideas into great enterprises. One example is the foundation's investment in StartL, which serves as an incubator and accelerator of new digital learning product companies.

The MacArthur Foundation monitors its investment in a network of cross-sector expertise through regular meetings with grantees, usage logs of the digital sharing platform, and documentation of meetings. The emphasis on sharing information across grantees and actively encouraging grantees to advise each other and work together has fueled a strand of funding from MacArthur

for grantee-organized learning and partnership events. These efforts may well change the funded work of the participating grantees; a researcher, for instance, may add lines of inquiry based on ideas generated from a practitioner colleague. These are seen as signs of success for the Initiative as a whole even if they require individual grantees to pivot.

All of these elements — network mapping, interviews, surveys, online data mining, and grantee adjustments to new opportunities — are part of MacArthur's tracking process. The DML Initiative's emphasis on research and on partnerships between researchers and practitioners requires a long view. The first research projects took several years to show results. Partnerships between researchers and school administrators, game designers, or community organizations are also expected to take years to show results. In the interim, the foundation is tracking these relationships, their offshoots, and the network's ability to grow and diversify.

Investing in Innovation, Inside and Out: The Knight News Challenge

The John S. and James L. Knight Foundation took on innovation for two reasons, one driven by mission and one determined by organizational culture From a mission perspective, the foundation needed to keep up with the changing business of news. The core practice of journalism is being reinvented and the business model that has supported news organizations demands refreshing. The Knight Foundation endowment stems from an "old world" media fortune, and its current day mission demanded that it jump into this sector-wide transformation.

The News Challenge operates with the tag line "You Invent It. We Fund It." The foundation supports ideas and products that are using digital tools to reinvent journalism and news. Since its beginning it has funded more than forty projects, ranging from software plug-ins to mobile applications, shared repositories for journalists' source documents to neighborhood-based blog networks.

From an internal perspective, Alberto Ibargüen, who became president of the foundation in 2005 after a career in newspaper publishing, promised to reboot the foundation's own practices. The practices of inviting proposals, working with academia, and relying on internal experts were not going to work. He wanted to "release the logjam of the foundation's practices."

The DML Initiative's emphasis on research and on partnerships between research and practitioners requires a long view.

Success on the internal procedures required a series of concentric actions — first getting board approval of an open grantmaking challenge and then putting in place new staff people with new responsibilities and new internal reporting systems. The Knight News Challenge uses a simple application process that is open to individuals, nonprofits, and commercial enterprises. It uses online tools that let anyone add their insights and commentary on proposals, a process that generates a great deal of community enthusiasm but also deters some potential applicants who don't want to open up to the world.

The foundation invites panels of outside experts to judge applications. Over the years these panels have changed significantly. As Mayur Patel, director of strategy for the foundation, notes, "You need to select judges that represent the world you are trying to create — either people whose portfolios you admire or who have led projects that do the things you want to see done."[32] In 2007 the KNC's judges were print journalists and publishers. In 2011 the panel included venture capitalists, digital pioneers, experts in copyright innovation, the creator of an online funding platform, and leaders from the community and from online ad networks.

All of these processes, from opening up the application process to engaging online commentators and using external experts, had to be built by the foundation once the Challenge was underway. The processes have not always worked smoothly. The foundation still faces reluctance from commercial enterprises regarding openly sharing their ideas. Negotiating the legal questions around open source and commercial firms slows down the Challenge every year. Legal issues are inevitably a drag on grant-funded, open-source news innovations. Despite being designed to help innovators who work in a rapidly changing technology environment, the Knight News Challenge still suffers from the weight of due diligence procedures that slow it down.

The KNC has changed the way the Knight Foundation works. It has added a Knight Community Information Challenge to its grantmaking program. The foundation's core set of relationships is expanding away from schools of journalism. There have been numerous staff changes since the News Challenge was launched, and job descriptions within the foundation reflect its new focus on working with both nonprofits and commercial enterprises. It has invested heavily in learning about open source software and open licensing regimes, and it has built enterprises to help news innovators do so as well. When the foundation staff realized that nonprofit news organizations were proliferating among applicants but not rising to the top of the News Challenge, it funded a parallel process to support several such experiments and see what they needed.[33] The foundation uses the data from its applicant pool to change both the News Challenge and its general grantmaking.

In the short term, the KNC succeeded in "unjamming the logs" of the foundation's internal processes. As time has gone on, and the managerial load of multiple grant challenges has increased, there are some at the foundation who believe new logjams have been created. The time from beginning to end of each KNC award cycle, from the announcement of applications to the distribution of funds to winners, is at least nine months and often much longer. This pace may be fast compared to old foundation ways, but it is too slow in the context of digital innovation. Just like innovation itself, the process of funding innovation requires internal procedural changes and a willingness to keep monitoring and tweaking the processes or pivoting the program's direction.

Externally, the KNC's five-year, $25 million open application process seeks to encourage digital innovation in the field of journalism. Ibargüen readily admits that the biggest need in

the beginning was to find other people's ideas for reinventing the news. As he said in a 2010 speech, "We didn't have a clue as to how to deal with the changes in the media business, so we started the News Challenge."

With thousands of applications over the years the foundation steadily adjusted the terms of the Challenge to keep up with the field. Ibargüen noted that innovation challenges are susceptible to what some call BSOS — Bright Shiny Object Syndrome. In his words, "We got sidetracked looking for technical innovation but righted the ship by looking at information that engages communities."[34]

After three years, the foundation wanted to learn what the Challenge winners had produced. A standard evaluation was not possible — the original goals of the Challenge were too open ended, the timelines were too staggered, and the collective body of grantees too disparate. Individual profiles of each winner, based on interviews and report forms, a survey, analysis of blog entries, and the winners' online "data trail" from their own tweets, blogs, and uploads enabled the foundation to gather a retrospective look at the "outputs" of its funding. These findings were in turn used to inform the subsequent class of winners about what data they should track and how they should be monitoring their processes.

Rather than develop a prospective evaluation plan for the initiative, the Knight Foundation chose to wait until there was a universe of projects and a collection of findings and then use these experiences to inform the future. The foundation continues to look for lessons from past winners. It has reviewed past winners to see what can be learned about the costs of technology or the shared challenges of mobile or place-based innovation. Knight commissioned a benchmarking study of other media innovation challenges and has fine-tuned some of its processes accordingly. The foundation uses both data from the web and interviews with media and technology experts to get some sense of the News Challenge's visibility in these industries.[35]

All Knight News Challenge winners use digital tools for their projects. While some winners are building new software, many are using existing tools to tie together networks or spark more citizen participation in gathering the news. Their digital nature means that all of these efforts produce a built-in set of data — data generated by people clicking on things, downloading software, sharing information online, or hosting digital discussions. All digital interactions leave a "data trail" of clicks, logins, page loads, tweets, and re-tweets. The challenge of learning from these data is to make sense of abundance. It's relatively easy to collect a lot of information on clicks and re-tweets, and it's relatively difficult to determine what the data mean. News organizations, long dependent on advertising as primary revenue sources, have been playing catch-up regarding these data since the earliest days of the popular Internet. They are reinventing their business

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models around cheaper advertising and they are trying to reinvent the ways they use web data to inform their businesses.

The 2010 winners of the Knight News Challenge are the first full class to get expert assistance to put these data to use. The foundation brought in a web analytics firm to help each winner identify the web data that would be most useful to managing their project. These individual measures are then filtered to find shared metrics. The web analytics firm is helping each winner put in place the right monitoring tools, and then it is aggregating data on the shared metrics. These will be shared with the foundation as one source of information about the reach of the funded projects.

Innovation and Evaluation as Field Mapping: The Jewish New Media Innovation Fund

Some foundations are using innovation strategies to learn about new issues. This is much the spirit in which three major American Jewish foundations, the Charles and Lynn Schusterman Family Foundation, Righteous Persons Foundation, and the Jim Joseph Foundation came together in 2010. Together, these funders provide more than $80 million a year in grants. They share many areas of interest, including a commitment to a diverse, robust Jewish community. Staff members of the three foundations were increasingly curious about digital media as community building tools. They wanted to know how the communities with which they work are — or are not — experimenting with these media to help achieve their broader goals of connection and community.

The Jewish New Media Innovation Fund sought to "explore how new media can help preserve Jewish history, renew Jewish traditions, and revitalize Jewish institutions."[36] When its four-month application and decision-making process was over, it had made nine grants to seven nonprofits, one individual entrepreneur, and one commercial enterprise. The funded projects included an open-source Haggadah (Passover text) project, a digital archive of Jewish music, a phone app for finding Jewish opportunities on college campuses, and a pilot effort to use "data mining and predictive analytics to link the silos of Jewish life."[37]

The staff members also had some very tactical questions. How do you fund new media? How do you learn about budgeting, technical needs, and collaboration between online and offline communities? What are the licensing challenges for nonprofits that create proprietary technology or use open source platforms? How can some of the creativity in the commercial digital space be brought to bear on behalf of Jewish connections and cultural expression? While the focus of their inquiry was the Jewish community, the questions about social media and mission advancement are common in social change work. In 2010, the three funders pooled $500,000 for grants and hired a consulting firm to help them launch a pilot fund to support new innovations.[38] They had three goals: signal to their peers and partners the importance of new media, fund experimentation and risk taking that their general grants wouldn't support, and learn *with* the community *about* digital tools.

The project became the Jewish New Media Innovation Fund (JNMIF), and the foundations wanted all of the fund's management to be "business *not* as usual." They wanted to engage outside experts to advise the selection of grants. They wanted deliberately risky projects. They wanted proposals from community members in any institutional form — nonprofit, commercial, or individuals. They wanted to work quickly and more transparently than they usually do. They wanted to learn as much as they could about the field of new media and the state of new media use among Jewish organizations. They were also willing to get very uncomfortable regarding their own grantmaking processes, recognizing that much of the power of digital media is in feedback loops, transparency, and ongoing engagement.

The Fund opened for applications in November 2010. By the midnight deadline, just before Thanksgiving, more than 300 applications came in from across the United States, Canada, the UK, Israel, Uruguay, and Mexico. The online application server crashed under the weight of video uploads and links to audio files. The funders and consultants had enlisted thirty-five volunteers to read and review the applications. This was enough to give a fair read to 150 proposals — a target number the group thought was optimistic. Now, another thirty were needed to read the full set. All three funders turned to their own networks, and to email, listservs and the telephone, to find those volunteers; they rounded up an additional thirty unpaid volunteers in the few days before Thanksgiving. Three months later, including the major December holidays, all the proposals had been read and reviewed by at least three independent reviewers. Data were compiled and filtered, recommendations made, and a subset of proposals sent for review by a second, independent advisory council. That council met for a full day and made selections and budget adjustments. On March 1, 2011 the JNMIF announced its first round of nine winners.

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The foundations have already learned a great deal. The three funders received the data and aggregated reviews from the independent readers. The funders were able to see, during the selection process, how well they had articulated their criteria, which ones were ambiguous, and how the combined criteria influenced final selections. The funders are intent on querying the database for more insights and sharing the database of proposed ideas online. The aim is to allow applicants and interested others to see what was suggested and what wasn't funded, and possibly to come together to improve on some of the raw ideas.

The funders have been sharing their internal practices with each other as they've worked through the applications, the criteria, and the grantmaking procedures. They've reflected on the value and challenges of working with external readers, improved their own feedback mechanisms to grantees, and weighed the costs of collaboration. As the final selections were announced, a question remained about what is more important — the actual funded projects or the role that

the Fund played as an incentive to the Jewish community to try new things? Like Alberto Ibargüen at Knight, the Jewish funders readily admit that they don't know what is most needed — only the community knows.

INNOVATION AND EVALUATION

Funding and Measuring Innovation

Foundations invest in innovation in many ways. Incentive prizes, such as the MacArthur/HASTAC Digital Media and Learning Competition are increasingly common.[39] Other funders focus on building networks of disparate players and providing time and space for ideas to cross-fertilize. An example is the RE-AMP network, a deliberate mapping effort focused on alternative energy in the American Midwest that brought together a broad constituency to identify possible energy solutions for the region.[40] Incubators, including co-working facilities such as The Hub Network, are a favorite tool of commercial investors in innovation, and shared space efforts offer similar possibilities for nonprofit or hybrid ventures.[41] Events such as TED and Pop!Tech that showcase new ideas and innovators are becoming visible parts of innovation environments. These events can spark new ideas for funding and they also serve as opportunities for a foundation's grantees to find new supporters. Funders also invest in fellowships and fellowship networks, from Echoing Green to TED to the Skoll Awards. All of these tactics pay heed to the information, networks, and relationships — the rootballs, trees and forests — from which they intend to sprout innovation.

Evaluating innovation is not an oxymoron. But innovation does not easily fit into existing evaluation frames.

Each of these strategies requires a different approach to evaluation. The intentionality with which a funder pursues innovation will influence how well the process can be evaluated. This includes knowing whether the goal is an innovation in product, process, markets, or organization — and being alert to the unexpected directions any one of these approaches might produce. It is also important to consider how significantly funders need to change their practices to fund innovation.

Evaluating innovation is not an oxymoron. But innovation does not easily fit into existing evaluation frames. We are beginning to see the development of new frames with an increasing interest in participatory evaluation and in real-time feedback mixed with longer-term reflective assessments.

If a funder is focused on product innovation, it may be a matter of matching evaluation timelines to product development cycles. If broad adoption also matters then the strategies for funding need to take that into account from the beginning. If the funder assumes uptake will happen a certain way, and it doesn't, that's a strategy issue. For innovation competitions, uptake is a predictable dilemma. Simply funding lots of new inventions leads to lots of new inventions. If the ecosystem and potential users don't know about the inventions, can't afford them, or are threatened by them then the focus on funding lots of inventions is

itself incomplete. This is not to say that any single funder needs to support the full process from invention to broad adoption, but funders should have informed hypotheses about how adoption will happen before investing heavily in invention.

New Sources of Data for Evaluation

As a field, foundations and nonprofits are now able to gather and use real-time, direct feedback from the public about innovations and interventions. This is a major demarcation point for evaluation. Online data can help the winners and the Knight Foundation monitor activity, but these data only go so far in telling us what that activity means. Surveys that ask people what they learned from a certain web site or what they did after they signed up for an email alert are still important. The web makes it easier to gather information from *those served* by the News Challenge winners as well from the people who run the programs. Information can be gathered — passively through web metrics and actively through surveys or interviews — directly from the readers of a news site as well as from the people who built it.

The current age of cell phones, text messages, and Internet reach makes it easier than ever before to imagine gathering this kind of feedback on a broad scale. Funders have experimented with anonymous text message responses to learn about program effectiveness. Similarly, the rapid feedback that is part of successful game design is influencing how assessment is done in the digital age, not just in MacArthur's Digital Media and Learning Initiative but more broadly. These methods provide great new sources of information and raise important new questions about the ethics of such data collection, who owns the information, and how we treat the people from whom we gather such information. We are at a transition point where we are just learning how to mix together passively acquired online data with more active assessment methods.

Innovations in Evaluation Practices

> *The long-term trend is simple: the information about and from a process will grow faster than the process itself. Productivity generates excess information, and so as we progress, information will grow faster than whatever else is being produced.*[42]

Innovation efforts are helping to change the ways we think about evaluation. As funders work on innovation and creativity, we are understanding more about how to learn from that complexity and unpredictability, rather than trying to "externalize it." We are now able to collect data on online behavior without interfering in people's actions. This opens up whole new possibilities for data collection and raises new questions about ethics and privacy. The low cost of surveying people via cell phone or SMS text means we can get input from the user of services as well as from the providers of them. However, the same surveys also raise important questions about whether we should use information that can be collected without the informant's awareness or sign-off.

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Information abundance also means that researchers are finding new ways to answer questions. The data deluge caused by online action means that social scientists have access to data sets larger than previously imaginable. These data sets are changing not only *what* gets studied, but also *how* it gets studied. Relevant advances in network mapping and computational research are finding their way into evaluation practices. Because these methods produce large quantities of information in short timeframes they are best used for monitoring purposes and to inform strategy. Evaluators are finding that these methods can be mixed with established and longer-term methods such as interviews, content analysis, surveys, and observation, which can then add important context to the numerical data.

In the best case, innovation will change how we think about evaluation, and evaluation will change how we think about innovation.

One of the difficulties raised by having this much information is a heightened awareness of the things that are going wrong. Put simply, the more you know the more you know — and it might not all be good news. Since iteration and rapid change are key to innovation, it is important that this kind of learning become accepted within evaluation as well. We will need to adjust our expectations that evaluation is only a source of *ex post facto* analysis as we begin to use it for rapid feedback. Adaptive evaluation practices that focus on feedback, constituency voice, and adjusting the work along the way are a better fit to the deliberately unpredictable nature of innovation.

Michael Quinn Patton, former president of the American Evaluation Association, offers many other examples of fitting these methodologies to innovation in his book, *Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use."*[43] Other changes are coming from the exponential increase in available data sets and new methodologies for making sense of them. Longer timeframes and an interest in the environments in which innovation is being tried, from schools to newsrooms, mean that qualitative expertise such as ethnographic techniques and document analysis remain important.

Entire fields of study are likely to be reshaped as social science catches up to the scale of data available. In the meantime, as youth and social network researcher danah boyd points out, "as we start to address Big Data, we must begin by laying the groundwork, understanding the theoretical foundations that make sense and knowing when they don't apply. Cherry picking from different fields without understanding where those ideas are rooted will lead us astray."[44] In the best case, innovation will change how we think about evaluation, and evaluation will change how we think about innovation.

NOTES

[1] Apologies to Albert Einstein for the paraphrase.

[2] John Westley, Brenda Zimmerman, and Michael Quinn Patton, *Getting to Maybe: How the World Is Changed,* (New York: Random House Canada, 2006). P. 21.

[3] Gabriel Kasper and Stephanie Clohesy, *Intentional Innovation: How Getting More Systematic about Innovation Could Improve Philanthropy and Increase Social Impact*. W.K. Kellogg Foundation, 2008.

[4] The full series, The MacArthur Series on Field Building, is available for free download at http://www.scribd.com/collections/2889713/MacArthur-Series-on-Field-Building

[5] My firm, Blueprint Research + Design, Inc. helped develop the strategies for MacArthur DML program and the Jewish New Media Innovation Fund. We are evaluators of the Knight News Challenge.

[6] Steven Berlin Johnson, *Where Good Ideas Come From: A Natural History of Innovation,* (Riverhead Press: New York, 2010).

[7] Michael Schrage, "Much Ado about Invention," *Technology Review,* May 2004.

[8] Lewis M. Branscomb, Philip E. Auerswald, *Taking Technical Risks: How Innovators, Managers, and Investors Manage Risk,* (Cambridge, MA: The MIT Press, 2003).

[9] This innovation typology is adapted from the OECD by Steven Rochlin and AccountAbility. Particular credit goes to a March 8 presentation on "Evaluating Innovations for Development" for the Rockefeller Foundation. Full citation from OECD is here: http://www.oecd.org/document/10/0,3746,en_2649_33723_40898954_1_1_1_1,00.html

[10] Roseanna Garcia and Roger Calantone, "A critical look at technological innovation typology and innovativeness terminology: a literature review," in *The Journal of Product Innovation Management*, 19:2, September 2003.

[11] http://www.worldpeacethemovie.com/about/mission/

[12] http://www.hopelab.org/innovative-solutions/zamzee/

[13] http://www.grandchallenges.org/Pages/Default.aspx

[14] http://www.xprize.org/

[15] http://www.everyblock.com/

[16] http://www.positivedeviance.org/

[17] http://www.economist.com/node/15213715

[18] http://www.acumenfund.org/

[19] http://startl.org/about/

[20] Interview with John Bare, March 2011 reminded us of the importance of Everett Rogers' *The Diffusion of Innovation* as a key resource regarding the diffusion of innovations.

[21] Steven Berlin Johnson, *The Invention of Air: A Story of Science, Faith, Revolution and the Birth of America,* (New York: Riverhead Books, 2008).

[22] Annalee Saxenian, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128,* (Cambridge, MA: Harvard University Press, 1996).

[23] Berlin Johnson and Gloor talk about the need to encourage failure. Saxenian and Berlin Johnson focus on the role played by "exaption" (using something for a purpose other than its original design) – and shared ideas not held back by licensing or IP constraints.

[24] Peter Gloor and Scott Cooper, *Coolhunting: Chasing Down the Next Big Thing,* (AMACOM: 2007).

[25] Kristina Grifantini, "Digital Watches and Pet Rocks," *Technology Review,* March/April 2011, p. 88.

[26] http://www.usatoday.com/tech/products/2006-02-27-flickr_x.htm

[27] http://www.thepoint.com/

[28] Interview with Drew Davidson, director, Entertainment Technology Center, Carnegie Mellon University. April 2011.

[29] See Rosling at the World Bank in May, 2010: http://worldbankmovies.magnify.net/video/Hans-Rosling-at-World-Bank-Open/theater#theater_title

[30] I described Rosling's talk here: http://philanthropy.blogspot.com/2010/05/beyond-open-data.html and it is online at http://worldbankmovies.magnify.net/video/Hans-Rosling-at-World-Bank-Open/theater#theater_title

[31] Author conversation with Spradlin, April 15, 2011.

[32] Mayur Patel, author interview, March 2011.

[33] See "Seeking Sustainability: A Nonprofit News Roundtable," report and video, http://www.knightfoundation.org/research_publications/detail.dot?id=364196

[34] Albert Ibargüen, announcing the 2010 Winners of the Knight News Challenge, June 2010, Cambridge, MA as reported on the MediaShift blog, http://www.pbs.org/idealab/2010/06/knight-announces-news-challenge-winners-for-2010166.html. Media Shift is funded by the Knight Foundation

[35] http://www.knightblog.org/contest-driven-innovation

[36] Jewish New Media Innovation Fund marketing materials and website http://www.jewishnewmedia.org/funding/

[37] http://www.jewishnewmedia.org/2011-2012-award-recipients/

[38] Blueprint Research + Design, my firm, managed this project for the foundations. We are also engaged with the MacArthur Foundation, who sponsored the writing of this paper, and with the Knight Foundation in evaluating the News Challenge.

[39] The McKinsey & Co. report, *And the Winner is…*, is a good source of comparative information on prize philanthropy.

[40] http://www.reamp.org/

[41] http://the-hub.net/

[42] Kevin Kelly, "The Speed of Information," February 20, 2006, http://www.kk.org/thetechnium/archives/2006/02/the_speed_of_in.php

[43] Michael Quinn Patton, *Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use*, (New York, The Guilford Press, 2010).

[44] http://www.zephoria.org/thoughts/archives/2010/04/17/big-data-opportunities-for-computational-and-social-sciences.html