Chapter | 9

INFRASTRUCTURE AND ECOSYSTEMS

If there's an ecosystem where things are free,
your currency becomes enthusiasm.
—Frank Chimero

As the crush of macroforces squeezes the old-school venture financing industry, the potential of crowdfunding accelerates, seemingly balanced by financing's analog to the first law of thermodynamics. But to even remotely conceptualize or relate the changing landscape of project financing in terms of a zero-sum equation, like the reshuffling of chips from person to person in a poker game, would be to completely misunderstand the entirety of the crowdfunding revolution. What is occurring now and the potentials moving forward are not a result of a singular shift or trend. Rather, the emerging incarnation of crowdfunding is a result of many ongoing socioeconomic trends, including the removal of a number of inefficiencies that have plagued capital allocation for much of our history. It will be accompanied by *force multipliers* derived from modern-day social networking combined with some techniques that are better understood and applied in the financial sector (which we'll elaborate on more in a following chapter).

A zero-sum displacement or disruption of any type of business or trend would imply that there's a balanced shift away from one thing and toward another. What's occurring with crowdfunding has no such symmetry. It's not just replacing one thing with another that is better. Rather, it is enabling and exploiting something far greater. This is best explained in terms of using the "VC industry" as an example. However, before going any further, it's worthwhile to stop for a moment and explain why the quotes were used around "VC industry." While it's a useful literary device to talk about this industry as a single embodiment, it's not very accurate. From the financial performance perspective, it's certainly deceiving to think about the industry as a whole, a point made by Marc Andreessen in a talk he gave at Stanford, summarized by his statements to that effect: "So first of all, I don't believe there is such a thing as the Venture Capital industry," and "I think you've got a set of firms, you've got 20, 30, 40 boutique VC firms that do really well over time, and then you've got about 660 firms that will generally very much break your heart as an investor if you invest in them."[1] Those are points well made. But outside of financial performance, there are other important ways in which the VC industry is incoherent. Let's talk about one of them, VC infrastructure, and then we'll look at the related ecosystems that are really constructs enabled by the VC infrastructure, be they formally and intentionally created or otherwise.

The Power of Virtual Infrastructure

Of course, I'm really only joking when referring to "VC infrastructure." While the industry has its own microcosm of human networks and possibly internal deal flow management software, to the entrepreneur and other ecosystem participants, there is not much by way of common infrastructure gluing individual VC firms together. They have the outward appearance of an archipelago, a string of islands nearing each other but not connected. From the "industry" that gave us Google, Cisco, and Facebook, excepting for perhaps some very new model start-up incubators, there is little e-infrastructure in the industry, exemplified by the following Q&A: Can you write a VC app? Nope. Can you push a button and move your dossier to another VC firm? Nope. Can you easily run some VC analytics? Nope. There isn't just a lack of infrastructure. There is nearly a complete lack of transparency, something that led to the rise of third-party sites like TheFunded,[2] which allows the crowd to rate firms and individual investors, and CrunchBase,[3] which is kind of a wiki for keeping track of important facets of the start-up realm, like funding events.

Think about the potential that has been unlocked each time the general population was given access to a desirable standard such as TCP/IP, API (for example, iPhone, Android), document formats (for example, PDF, XML), and data feeds (for example, Twitter, RSS). It's not just that these things enabled the first-order participants (like iPhone developers targeting the iPhone stack). It's that a whole crop of ecosystem participants can now interact, creating a huge force multiplier. Now consider crowdfunding, which is really at the intersection of social networking and venture financing. Today's crowdfunding is by its very nature a platform, with an innately electronic infrastructure. Therein lies some of the key elements of crowdfunding's immensely constructive (that is, non-zero-sum) potential and hints of the very rich and innovative ecosystem to come.

But as previously explained, an infrastructure isn't some optional "nice-to-have" feature for financing ideas. It's an absolute necessity! As the rate of change marches forward, as well as the globalization of innovation and rapid dispersion of ideas via the Internet, human-to-human networks have absolutely buckled under the volumetric stress. Sorting through an exponentially growing pile is an immense scalability problem. And the investment world's biggest irony is that there are more diamonds than ever to be found—it's just that they're buried in exponentially more roughage! The answer to this scalability problem lies in the power of social networks, ecosystem enablement, and in something discussed in the next chapter, prediction markets, which actually have the opposite scaling characteristics—they scale better with more inputs!

I originally became interested in crowdfunding while thinking through what a small and new-order VC firm would look like if it employed an externally facing crowdfunding and social networking mechanism to solve the early-stage scalability issues. While thinking through the mechanisms involved and the power that such a platform would provide, it became apparent (especially as we move forward) that it may be better to think in terms of the inverse scenario: mapping a VC face onto a crowdfunding platform. Because in a lot of ways, it is the platform, and the connectivity to so many people that it provides, that is the underlying source of value creation. While a number of the platform ideas in this chapter stem from related thinking, at least as many came from "jamming" with my coauthor, Dan, as well as many other crowdfunding-related people we interviewed. This chapter is truly a product of the crowd, or at least from a "core sample" of it.

As people discover crowdfunding, they generally do at least a quick survey of the websites that service the kinds of projects they're interested in—perhaps funding an independent movie, a fashion item, or technology start-up. But the odds are they'll end using a platform that is fairly primitive, simply because most of them are in their early phases of development (excepting for various lending platforms, as many of them have undergone the regulatory gauntlet, sometimes including a period of being shut down, and

the business gauntlet, having been around longer than other forms of crowdfunding). Many platforms hue toward the social networking side of the spectrum, but with various crowdfunding facilities added on. To some degree, that's the nature of the fast-paced "release early and often" development paradigm. But the irony is that one of the most sophisticated crowdfunding platforms discovered in our research was one you may never have heard of called OffRoad Capital,[4] and it was founded circa 1997 (and later acquired in 2001 by NYPPe Holdings, Inc.[5]). Well, that is, if you consider an infrastructure that is constrained to a (albeit a very large) network of wealthy investors as crowdfunding. Look at some of the features incorporated into OffRoad Capital's operations:

1. Live webcasts and TV (archived also)
2. Sophisticated best practices
3. Virtual road shows (also archived)
4. Disclosure practices
5. Tools and analytics
6. Standardized quarterly reports (like public companies)
7. Secondary market (liquidity for illiquid markets) access
8. Its own self-regulatory organization (SRO) as part of its company structure
9. Its own licensing platform
10. Third-party access from outsiders like analysts and researchers, much like the access companies in the public equity markets grant to outsiders
11. Other "secret sauce"

One of the members of OffRoad, Steve Cinelli, went on to found PRIMARQ.[6] This platform was even more sophisticated (including advancements in technology such as the use of cloud computing and open source that enabled transactions to be accomplished better, faster, and less expensively) in that it aggregated funding from a large pool of investors for the purpose of funding real estate transactions. These are fantastic reference model platforms that the crowdfunding industry should keep in mind when thinking about future directions of infrastructure and business best practices. And in a lot of ways, they were and are pioneering platforms.

The Ecosystem

There are so many reasons why tomorrow's crowdfunding platforms will need to offer a level of sophistication that can fulfill the needs of a rich ecosystem, that is, it's pretty easy to make the prediction that most of the platforms that will not survive, especially the financial ROI-based ones. In the way that Facebook and Apple have APIs and apps, so too will crowdfunding. Exposing APIs and data is imperative. Even from only a competitive standpoint, it'll be hard to compete for attention (which *is* more of a zero-sum game) when a competitor's platform offers a vibrant and virally adopted ecosystem—a recipe for sucking in participants from more lame platforms. But competitive forces aside, here are a number of considerations that we hope will drive home the point, and then we will look at the potentials of the future crowdfunding platform:

1. Serious, professional investors will require quality infrastructure, best practices, and so on. Note that this is no different in the creative arts production world. For example, in movie making, you do want the *option* for your cheaply made indie movie to get visibility with some larger industry players too, right?
2. Regulators will be a lot more comfortable, as it should be easier to police. More will be discussed about some of the relevant features later on.
3. Third-party analysts and researchers will be able to tap into the platform, much as is done for the public equity marketplace. By the way, academic researchers might be a good first adopter for whatever (anonymized) data can expose—there is a dearth of start-up information to analyze.
4. Advertising money will migrate toward the highest-value platforms.
5. Fraud prevention algorithms will need good infrastructure. Note that algorithms can do some of work for us, given the high volume of early-phase projects.
6. Analytics and trend analysis will be high-value items to many parties. Without good infrastructure, there can't be good analytics.
7. To service a large base of people on a given platform, it will be critical that the platform play the part of the matchmaker, much like a dating service. Without the matchmaking capability, what would be an otherwise successful crowdfunding platform will be a victim of its own success. When there are too many participants, there is seemingly too much noise. It's critical to have intelligent filtering mechanisms to make people's lives easier. This is one form of algorithmic curation, people and organizations being the other.

Now then, let's dive into the future crowdfunding platform and discuss some of the challenges that it faces. A career as a many-time entrepreneur and software architect type has taught a discipline of starting at the end point and working backward, thinking through how to get to that end point from where we are now. In that spirit, proposed are many of the aspects of future crowdfunding platforms that in turn we believe will give birth to the next socioeconomic revolution.

Realizing much of the full platform potential from the onset is critical. It's critical because it will empower people with ideas to design more meaningful crowdfunding platforms. It will also help create a vision for policy makers and regulators who would like to help their countries achieve a competitive and rich economic boom—and regulators and policy makers are major participants in this evolving crowdfunding story.

If one were to apply taxonomy to crowdfunding, the high-level supertypes might include creative arts and entertainment, conventional Venture Capital, peer-to-peer lending, and philanthropy. But the life of a crowdfunding taxonomist would be quite frustrating. Not only because in reality there are so many crowdfunding niches that would need to be put in their proper place in the taxonomic organization chart (where do we put crowdfunding of next year's wine by selling wine futures?), not only because some sites allow crowdfunding across many species of projects (Indiegogo calls out the following on its site: "Art, Music, Gaming, Design, Film, Writing, Technology, Photography, Invention, Venture, Green, Food, Political, Education, Community, Performing Arts"[7]), but also because it's actually possible to combine various styles of crowdfunding for a given project.

In fact, it's not just possible to do so. It's also necessary. We believe it's very important to combine styles of crowdfunding, to fully catalyze the full social dynamics that empower the crowdfunding model. We therefore predict that hybridization will become commonplace. Subsequent discussion will elaborate on that, but for now, a key observation from studying crowdfunding is that if one sets aside the "personality" or particulars of a given crowdfunding site, much of the infrastructure, memes, social networking dynamics, and best practices are quite similar in nature or at least have very strong parallels. For the purposes of this chapter's discussion, we picked a financial return (that is, a "micro-VC") bent because it's sort of the highest-common-denominator case, meaning that it has some very high expectations from the participants who use it.

Well, the first thing that's obvious about the future crowdfunding platform is that it must do a fantastic job acting as a dating service (that is, matchmaker) for all the participants. If some current

crowdfunding platforms seem to be enjoying a level of "success" (and, by the way, for a number of them, that's not tied in any way to a performance metric other than their having received funding), it's out of scarcity. Imagine for a moment that every poor person on the African continent requested funding on Kiva! This would overwhelm the pool of potential funders and create a very different (and dissuasive) dynamic.

Scarcity can often mask the lack of capacity to handle scalability. This scarcity currently characterizes the state of affairs in which much of crowdfunding currently lives, but less so each and every day. It's quite possible that, for a time, many people will get saturated with crowdfunding until various forms of curation take over the saturating load and bandwidth of and increasing number of available campaigns. It may take time before infrastructure and social behaviors mature to catch up with the volume. The online dating industry has lived through its own transition from scarcity to abundancy, and it figured out how to navigate this dynamic a long time ago. As a result, it does a lot of matchmaking for the participants. People can search at will all they want, but mostly people let the matchmaking search criteria do at least some of the work. To search through the entire database would be an untenable proposition, at least for a human anyway.

The Power of Tags

But matchmaking isn't confined to people with money to invest or donate and those looking to receive funding. To get to any scale, a platform must enable a whole ecosystem of participants. The platform must help match cofounders and employees, lawyers, accountants, graphics designers, PR firms, outsourcing firms, and so on—everybody and anybody—each person having one or more roles. So it's very important that the platform understand the various personas that each participant acts under. It must also understand geolocation, languages, sectors, technologies involved, for-profit versus nonprofit status, ages, and just about every facet one can imagine. This would at first blush seem untenable at best, if not nearly impossible at worst, given that the universe of things that may become interesting is hard to know until it becomes interesting (and that seems to happen in real time these days).

But it's not so bad. Enter the *tag cloud* and the social networking dynamics that facilitate it. Even better yet would be to think of a *key-value-pair cloud,* but that sounds so much less sexy. The difference is that a tag has only very limited dimensionality ("iPhone" versus "Android"), whereas adding further quantitative and qualitative dimension ("rating: 68 percent" or "fuel: biodiesel") allows for much more intelligent search capabilities, and the crowd would have a way to more sensibly rank, categorize, and otherwise structure things, without the infrastructure imposing any particular structure a priori. Anyway, let's refer to these generically as *tags.*

Tags are the oil lubricating the social dynamics machinery of the future and especially so for crowdfunding. We can see them already hard at work in many instances online, such as in the Twitter hashtags, in Flickr, and in blogs. But they'll be absolutely critical for crowdfunding if it's to reach its potentially huge scale. Why? Well, first because the way to handle the scaling issue of funding early-phase projects is to use the scale of the crowd by empowering it. Fight fire with fire, or at least scale with scale. It's imperative to continually tap into the collective wisdom of the crowd, and to do that we need a mechanism to allow the crowd to make small (and by small we mean *really* small) contributions.

If you've ever looked at the statistics from many online sites, you're aware that in reality most users tend to merely consume content, be they watching a YouTube video or reading a *Wikipedia* article. Generally only a tiny percentage of users actually actively create content. As articulated in Clay Shirky's book *Here Comes Everybody*: "Fewer than 2 percent of *Wikipedia* users ever

contribute, yet that is enough to create profound value for millions of users."[8] What's more intriguing is the viral power of even the most simplistic initial *stub* (a placeholder for more substantial content). Shirky provides the amusing example of the progression of the *Wikipedia* article on "Asphalt." The initial stub read, in full: "Asphalt is a material used for road coverings."[9] Merely the existence of the stub allows the "article" to show up under search, which attracts attention, which then ultimately attracts contributions to the article, and so on. Translated to crowdfunding, stubs are the initial creation of a tag, and editing correlates to further qualifying or quantifying a tag.

Tags are, in some ways, the least amount of active effort a user can impart, and as alluded to, it's really important to keep the expectations of user inputs low (the crowd's "having a handful of highly motivated people and a mass of barely motivated ones"[10]). Yet with such a simplistic facility, the collective crowd can describe the infinitely complex, dynamic, and multidimensional structure of projects that exist on a given platform at any one point in time, all without requiring any preconceived notion of structure a priori, by the platform.

So let's say that a given project seeking funds adds a minimal amount of tags. And those match on some searches of other participants, enough to attract at least one of them to add another relevant tag, which attracts more participants who add more tags. If incentivized to tag properly (tip jar, credits, and so on), the dynamics can help seed the tag cloud, which is extremely useful for matchmaking, other search motivations, and some other activities (which we'll cover later). It's very helpful to know the age and number of eyeballs that have vetted a given tag, which then helps with an evaluation of the tag's validity, especially if arbitrary people are contributing. It's a bit metaphoric, but we can call this *tag viscosity* because in the beginning a new tag is very fluid, but it can become much firmer over time after enough vetting has taken place. And for what it's worth, if trends reverse and a tag should become outmoded, there's no reason it can't phase back to fluidity or dissipate altogether.

So what can we do with our tag cloud? Imagine that there are currently 1 million start-up pitches on a given crowdfunding site. Let's affectionately call the website the contrived name FundHarmony (a play on the hybridization of the word *fund*ing and the dating site e*Harmony*.com). Without any form of intelligent matching, a would-be funder that logs in might experience that sensation of being caught in the middle of a stampede. But instead, FundHarmony presents them with an initial and sensible match of various participants, displaying, "We believe you may be interested in funding these 10 start-ups" or "You'd be a great cofounder in these 5 start-ups that are looking for someone like you" or "The following VCs would like your expert opinion of the following potential start-ups," and so on. This is possible by matching the user-supplied information to the many inputs from the crowd, including tags. FundHarmony is already something larger than crowdfunding. It's actually a social networking site based on the matchmaking of participants in the field of crowdfunding. And it's already underway toward becoming tomorrow's mechanism for finding jobs. But this is just the beginning.

Integration and Evolution in the Ecosystem

A very common way to pitch an idea online is to make a video. Videos make it easy, on a human level, to get familiar with the people behind the idea or cause, and they are far easier to digest than reading through a PowerPoint presentation. There's no particular reason that a project should be confined to a single video presentation. If the project creators were so inclined, they could post periodic video "check-ins" and talk about their work-in-progress idea, promote some inputs from their fan base, and discuss their progress

toward funding goals. Potentially, video check-ins could be recorded in real time and broadcast out live (and archived), thereby creating a mini-TV series that drives the stickiness and virality of their project. And why should they stop after getting funding? These kinds of podcasts have become an integrated part of their marketing strategy. So the FundHarmony platform creates partnerships with video infrastructure companies. Of course, it would be great to have the video and audio searchable, or in a form that can be e-mailed or tweeted out. Fortunately, with a large base of users descending on the problem, many of the fans can be incentivized to transcribe audio tracks to text, and they can further translate them to other languages, wherever computer transcription and translation fails. To a degree, crowdfunding is absorbing the "reality TV" theme, and thus the related market.

As the process of fund-raising—and in fact, an increasing amount of the life cycle of a project—goes online, it becomes evident that the traditional role of a board of directors (BOD) has become clunky, if not anachronistic. While some start-ups continue requiring the tight control of information afforded by a BOD, to protect company secrets, many new-order start-ups and other types of projects have found that transparency returns more in the upside from the social networking dynamics than it exposes in the downside. By offering postfunding facilitation mechanisms such as online financial reporting (all of the start-up's finances are now imported into the project's crowdfunding account), contract accountants (who have become members on FundHarmony) now perform financial oversight. There is also artificial intelligence (AI) logic on the platform that conducts algorithmic anomaly and fraud detection. Given the existing video and document reporting infrastructure, adding a voting mechanism to FundHarmony's infrastructure enables a new shift to occur. Investors subsume the role of the board of directors—they become one and the same. One share, one vote. Who was overseeing the board before, anyway?

Most people in the world are pretty busy, and investors are no different. Fortunately a healthy ecosystem (a marketplace, if you will) allows people to trade off things they have in abundance for things they lack. Jane Dollars has a lot of money to invest on FundHarmony, but her schedule is jam packed. Fortunately, she got connected via FundHarmony to Johnny Onthespot, who just graduated with heaps of student loans, and he has a graduate degree in biotechnology. Johnny has this uncanny ability to sort through the pitches in his field of study, and he finds the absolute best and most fundable start-ups.

Recognizing this kind of dynamic early on, FundHarmony added the concept and infrastructure for a *finder*: a third party who can facilitate and take over matchmaking where social networking and AI fall short. Johnny has begun paying off his school debt from finders' fees, and he works as a finder for 10 different investors, for whom he customizes finding activities, based on their profiles and private interactions. He can choose to take fees up front or share in the potential returns from the start-ups he facilitates funding for, thanks to insightful regulators who understood that allowing third parties into the equation would be an enormous force multiplier for the economic engine that is crowdfunding.

But matching with funders is only one kind of activity that is facilitated by finders. Finders can also match up lawyers, employees (finders can be the new "headhunters"), graphics designers, and so on. The rise of finders has become its own revolution, and it has created a new "finders' economy," which I've previously written about in my blog post "The Coming Finders' Economy: Intermediation of Life Online."[11] And FundHarmony is becoming an entire and rich ecosystem that is part of that revolution.

It was inevitable: as the enormity of FundHarmony grew, the next tier of ecosystem players joined in. They demanded more extensive APIs and data mining capabilities (properly anonymized and with customer-friendly optionality, of course), but they were willing to

pay higher premium monthly account fees to get such access. The site now offers a whole new spectrum of professional analysis, analytics, trend reporting, and forecasts for start-ups, which include those from the indie entertainment and fashion industries, among many others. Private equity firms, VC firms, corporations, sovereign wealth funds, and many other classes of investors are paying for this research, to help them decide where to allocate early-stage capital. Hollywood spends an increasing amount of time sourcing deals and talent using the site. The influx of these new participants is pushing the growth rate of FundHarmony to the technological limits of the platform (which is otherwise known in the start-up world as a "quality problem").

Recognizing that there is always room for combining the new power of the crowdfunding platform with an especially bright and knowledgeable boutique of partners, a new order of crafty venture capitalists create a firm that funds only crowdfunded plays. They tap into the search and screening facilities offered by FundHarmony, but what's more, they combine access to it via APIs with their own networks, wisdom, and external data, which they believe gives them an edge over the competition. But the same idea occurred to some bright people who used to work at black-box hedge funds. Their external information is sourced differently, but their network of mathematics and economics PhDs believes it's not necessary to come from the venture industry to outperform the market, now that this rich new ecosystem exists. Some identify trends early and jump on funding opportunities quickly. Others specialize on finding what is being underfunded. There really are no shortages of investment strategies.

When Dartboards Are Better Than Groupthink

Departing from my futuristic storyline for a quick interlude, those black-box folks may well be correct. In my research, I got a chance to talk with Right Side Capital,[12] a new seed-stage investment firm with an interesting new twist. The company found in its own research, based on analysis runs using a database of real, historical seed-stage data, that if a firm can do a first-order screen of potential seed deals based on some simple scoring, then it can produce respectable returns by funding a random sample of start-ups, as long as the sample size is large enough (Right Side Capital's site states: "100 to 200 seed investments per year. Investment decisions in two weeks"[13]). I like to joke that the company should be called "Dartboard Capital." Though a little humorous, it's unfortunately not surprising.

Along with many of the other reasons mentioned in this book regarding the sad state of affairs that is Venture Capital, some of this can be attributed to the groupthink phenomena that pervades many panels of people, be they partners at VC firms or angel syndicates or some other type of investment brokerages. And this is well illustrated by the following anecdotal comment from a private conversation with a past VC: "Before any of the other partners voiced a strong opinion, we always looked out of the corner of our eyes to see what the lead partner was thinking." This evokes the sentiment of a line from Jeff Howe's book *Crowdsourcing*: "If great minds think alike—and in many circumstances they do—then they really constitute only one mind."[14] Note to LPs: you're paying some really steep management fees for having only one mind.

At any rate, if a random number generator can do a better job than many VC firms or angel syndicates, than one can assume that a few black-box funds will figure out how to gain an advantage from intelligence.

Funding the Way the Market Wants It

Now then, back to the future. The crowdfunding phenomenon has not been the only ongoing change occurring in the start-up realm. The very lumpy and distortive discrete-round-of-funding model has

been incrementally replaced by the *rolling close*, whereby start-ups take money from investors incrementally until they feel they have enough. This was a change adopted and explained years prior by Y Combinator's Paul Graham.[15] This means of funding turned out to be highly advantageous to the entrepreneur "because it requires less reliance on a lead investor, takes less time out of product development, and gives investors less room to drag things along or collude."[16]

While it took the VC industry over 60 years to adopt this new model, it took only a few days to integrate it into the FundHarmony platform. What's more, the whole concept of rounds of funding has all but disappeared, as any particular start-up or project is, at any point in time, either looking to raise more money or not. What sense did it ever make to have names for rounds of funding or a prescribed progression of funding requirements? It's possible for a project to live month to month, getting funding nearly in real time. While that sounds a little frightening at first, if there is more demand for a popular start-up than there is equity supply in exchange, it actually turns out to be a no-brainer (thanks to well-functioning open markets), and it results in founders who retain a far bigger percentage of their company.

Unfortunate as it may be, many of the old-school venture firms were reactive instead of proactive, and therefore they didn't make the switch in time. Perhaps they should have adopted Paul Graham's thinking, exemplified by his prescient statement in a *TechCrunch* video interview: "If you want to be an investor ahead of your time, just figure out how founders would like you to behave and start doing that now."[17]

Deal terms used to be a dark art in the start-up world. For a while, it seemed like each deal had attached to it an increasing number of caustic ways for VCs to extract further value and control from start-ups, while accepting less of the risk. But this school of thinking was a nonstarter in crowdfunding, where transparency, scalability, and natural market forces reign. Outside of crowdfunding, there were several efforts to open source deal terms for seed and series A stages.[18] Much of the essence of these efforts was quickly imported into the FundHarmony platform and converted to a simple-to-use point-and-click interface for creating deal contracts. The dark art of trying to game performance by "deal terms engineering" dissipated, and the focus returned to finding the best start-up opportunities that produced the most real value.

Solving the Hoarding Dilemma

Of course, convincing entrepreneurs who believe they have high-value ideas to list their pitch on a public crowdfunding platform runs contrary to basic human instincts, which tend to drive people to hoard their proprietary insights. Outside of regulatory issues, this was one of the main forms of resistance to the crowdfunding paradigm early on in the game. And it was a quite rational response, given the historical environment for start-ups. But aside from needed regulatory reform in the intellectual property space, all it took was the launching of a high-value start-up using crowdfunding to set the stage for a cultural shift in entrepreneurial spirits.

A couple of college kids had a brilliant idea, during some downtime in between classes and keg parties. They invented a way to predict what a person would search for in advance, and they thought the timing was right to drop out of college and build a start-up called Fuugle, which they affectionately derived from the word *future* and the name of the search leviathan *Google*. This was way better than real-time search. This was *before*-time search, kind of like breaking the temporal sound barrier of search! As the market capitalization of this kind of start-up certainly would reach $1 quadrillion, they had initial reservations about creating an account and putting their pitch online for all to see. Who wouldn't?

But the founders of FundHarmony had realized early on that going big meant attracting the creators of the next hottest thing to use their platform to launch. All it would take is one big win using FundHarmony, and history would be written. After many false starts and a lot of head-scratching on a new way to solve the issues surrounding the hoarding dilemma, the FundHarmony founders had had an epiphany. Why change anything? Why not just re-create the natural human relationship and trust building schemes, but online? Well, it was either an epiphany or what some call the "Duh! moment."

After interviewing a number of entrepreneurs and other start-up players, they quickly divined the common mechanisms that were at play in the "song and dance" that is relationship and trust building. Simply put, in the beginning an entrepreneur exposes very little "surface area" of the big idea to a relatively bigger audience. Over time, there is a lot more exposure to a very small audience, each of whom the entrepreneur has screened as a potential fit and with whom he or she has developed some sense of trust. Well, this is really the same dynamic that goes on in most any kind of relationship building.

Illustrated in Figure 9.1, this looks like two directionally opposite pyramids or funnels. As the number of participants in one funnel narrows, the amount of trust per remaining participant in the other funnel increases. FundHarmony thus needed the mechanisms to enable that natural progression to occur, after which the human nature of the crowdfunding platform users would do the rest. FundHarmony went about implementing features to enable this, and it was not only well accepted but in some ways it also empowered the crowdfunding members even more. It allowed a greater scale than human-to-human networking could ever achieve. Let's look at what and why.

FundHarmony allowed entrepreneurs to enter or upload an arbitrary sequence of information that could be exposed to

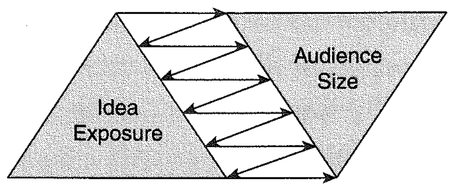

Figure 9.1 Human-to-Human Networking

funders—everything from a one-line pitch to a paragraph pitch to an executive summary to a full-on business plan. (I once heard of an investor who actually reads these!) Ditto for videos and other forms of media. At every stage of disclosure by a given potential funding party, the entrepreneur can define a gating mechanism. This mechanism can be manual (override), programmatic (simple Boolean logic or a full script language), or automatic (preset logic or scripts) in whatever ways it guides or blocks a party in the progression.

The same gating mechanism can be used for information flow or for other purposes such as determining who can contact a given entrepreneur in the first place. The offline method of trust building would be conceptually identical to setting all gatings to "manual." Or perhaps the gates could be set to something like, "Only pass through people who know my first-order circle." Or if you're a fan of TheFunded.com, perhaps you set your gates to, "Don't allow contact from VCs who have a rating of less than 3.5." In fact, over time FundHarmony had created value above TheFunded. Beyond letting the crowd rate VCs, it would actually know how they performed financially, how early they arrived on the scene, and much more.

After learning of the sophisticated and entrepreneur-friendly mechanisms that FundHarmony offered, the Fuugle founders were excited. But they were tentative. Until, that is, they networked with some seasoned start-up friends they had made. As was pointed out, VCs rarely sign nondisclosure agreements (NDAs) anyway, and

they can be quick to pass information along to people in their network for the purpose of vetting. What's stopping those people from using the information, or passing it along to yet another trust-level removed network? Zip, nada, nothing. That being the case, why not then actually control the information flow in a way that one can document who has looked at it, gain insightful analytics, and so on? The Fuugle founders immediately made the executive decision to launch from day 1 on the crowdfunding platform.

Using the gating features, the founders created some modest logic that allowed them to screen out contact from anyone except those people in at least their second-order social networks or who had high ratings associated with specified search tags. Ten minutes after pushing the Make Public button, another FundHarmony user noted Fuugle's public one-liner pitch and noted that the "search" tag needed a further and new qualification option of "ahead of time" and quickly added it. That elicited a visit from an *alpha tagger* user, the user with the biggest karma rating associated with the search tag, who then agreed with the new addition and helped cement the viability of the tag.

Subsequent users noticed this new "tagification" with intense curiosity, and they blasted out tweets and Facebook messages. Within hours, the blogosphere heated up (sort of a transient blogospheric global warming) with speculation about this most amazing new technology start-up. So much so that everyone wanted in as an investor, and Fuugle's funding commitment goal was met quickly. Fortunately for the flash-mob of investors, FundHarmony had thought ahead, and it had installed "circuit breakers" that allowed a cooling-off period before Fuugle could collect the funds. Almost no investors took the option to back out, and how right that decision turned out to be: Fuugle's eventual IPO was spectacular—but of course, its users already knew that it would be ahead of time.

Kicking It Downstream

Before fully dominating the crowdfunding space, the crowdfunding site FundHarmony was relegated to a particular part of the crowdfunding spectrum where it was focusing on early-phase deals. So at some point on the path toward Fuugle's quadrillion-dollar determination, Fuugle needed to transition to another site more fitting for later-stage deals. Fortunately, many of the crowdfunding platform providers had joined together previously in a coalition,[19] and they had decided that platform portability was important for situations like Fuugle's or in case regulatory shutdown forced projects to migrate elsewhere.

Fuugle benefited from the coalition's existence not just because it made it easy for Fuugle to move all the project files, social networking connections, and messages between platforms, but also because other larger funding-focused platforms actually bid for the deal. After diligently selecting one, the transfer was effected pending proper investor notifications, and Fuugle was on its way. To make this interoperability happen, all documents, activities, and social network diagrams were wrapped in standardized XML formats. And a new start-up-centric reporting format was created, in the spirit of what Extensible Business Reporting Language (XBRL)[20] is to public company reporting.

With the standardization across crowdfunding platforms came some new opportunities. Platforms could now negotiate cross-listing agreements, and they could acquire extra revenue sharing for the added exposure they offered. What was done for search advertising could now be similarly done on a crowdfunding site, only the "eyeballs" were more highly monetizable. This wasn't just a platform. It was an ecosystem of economic activity. Standardization became so much the norm that the crowdfunding industry decided to create its own exchange identifiers and assign "ticker symbols" to each project.

Intellectual Property Entanglements

Although crowdfunding had blossomed, it had some turbulent and trying times. In the industry's collective ebullience, not all crowdfunding sites had truly contemplated the ramifications of intellectual property ownership and transfer within a social networking setting. Some of the attraction and value that crowdfunding had tapped into were the participatory and emotionally attached investing aspects of it. But that meant, potentially, that founders and nonfounders were busily exchanging ideas, content, designs, and sometimes even software code. This was also true for the creative content part of the spectrum, whereby there was an exchange of script ideas and edits for movies, sound tracks for albums, and cover graphics for a fashion magazine. But in either case, this presented some real intellectual property entanglement issues, and it put crowdfunding on a collision course with patents and copyrights. Who owned all the ideas and content exchanged between parties on the crowdfunding site? And if a nonfounder presented an idea that was ultimately included in a patent application by the funded start-up, would that nonfounder facilitate the application process (the U.S. patent office legally requires that every inventor be listed on the patent)? In many ways, this was a problem shared with collaborative idea creation sites.

Fortunately, the issue was identified, and a fairly simplistic solution was presented by a group dedicated to the crowdfunding industry.[21] The creators of each new project would, before the project was surfaced to the public, choose how to compensate parties outside of their project based on the types and quantities of contributions. This was structured similar to a "call option" in financial terms, in the sense that if the project holders decided to incorporate or otherwise consume the content, they could call away the content from the producer of it in exchange for the compensation. On the funders' side, before they would be able to pledge any funds, they would contractually agree to the intellectual property option agreement. In a lot of cases, the compensation offered would be little to nothing. Perhaps contributors would get a signed album CD or DVD. Or the first bottle of next year's wine production. The important thing was that there would be a contractual agreement in place, before intellectual property entanglements could ensue—and that the integrity of the social contract would be retained.

The equity platforms were more sensitive to the issue, and they picked up on the solution early. That was quite insightful and fortuitous, as a number of music album and indie movie projects got hung up in litigation as soon as their sales volumes got interesting because the crowdfunding platforms did not enforce any such intellectual property discipline on the participants. Seeing the success, it was only human nature that small-time contributors felt that they deserved part of the financial rewards. In a very unexpected maneuver, the U.S. Copyright Office shut down two crowdfunding sites, until they cleaned up their acts. Since then, preexisting intellectual property agreements have become a crowdfunding industry standard. And a number of forward-thinking nations have decided to dispense with the patent system, after realizing it was imparting way more harm than good.

Chapter | 10

PREDICTION MARKETS AND MINING THE COLLECTIVE IQ

The short answer is that communities are better at both identifying talented people and evaluating their output.
—Jeff Howe

Imagine if intelligence could be broken down into a *spectral graph*, like the graphs you may have encountered in physics class, each bar representing the quantity of a particular band or component (for example, a frequency band) of the *spectrum*. For that matter, we could extend the spectral graph analogy to nearly any dimension such as personality, creativity, or diversity. Now let's say for sake of argument, that to solve a given problem, we know all of the components necessary to achieve a solution ahead of time. And therefore, we are able to create a representative spectral graph depicting the decomposition of the solution into its constituent parts and the magnitude of each part necessary.