

Crowdfunding's Potential for the Developing World



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Washington DC 20433
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Email: info@infoDev.org
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Foreword

Crowdfunding is an innovation in entrepreneurial finance that can fuel “the Rise of the Rest” globally

What would the world look like if there were Silicon Valleys everywhere? While I am happy for innovative entrepreneurs in Silicon Valley, I am passionately focused on helping to create “the Rise of the Rest” so that entrepreneurs globally can build successful businesses. This initiative is to create focus and action in cities and towns of all sizes, to form entrepreneurial ecosystems that can ignite innovation, create jobs and grow economies. In the past, because of the high cost of technology development, lack of mobile/web infrastructure and restrictive financial regulations, entrepreneurs had to travel to places like San Francisco or Boston to find the technologies and investors to build their companies. For most, this was cost prohibitive and logistically impossible. Entrepreneurs had a more challenging time executing their plans and potential investors were scarce.

Today, technology development costs are plummeting and tools are available to build software more rapidly and cheaply than ever before:

- One third of the world’s population has access to the Internet and, according to the United Nations, approximately 85 percent have access to a mobile phone.
- Based on the adoption curve of feature phones in Africa, it is possible that 40 percent of people living in Africa will have access to a smartphone within five years.
- Innovative new broadband solutions are becoming available and smartphone penetration is growing as costs decline and demand increases.
- With an increase in connectivity, new and larger markets for goods and services are now available and we need talented entrepreneurs to create innovative solutions to customer needs, to create jobs, and drive economic and social stability.

Now we are ready to address the lack of capital for entrepreneurs through innovation in the financial markets that leverages these technical advances.

I believe that equity, debt, and rewards-based crowdfunding open new possibilities for funding more entrepreneurs in more places around the world. These changes enable entrepreneurs to utilize social media and the web to offer rewards, ownership of a shared vision, or even equity stakes to potential investors. Crowdfunding websites are creating transparency and more open communication by enabling investors to engage with these companies over time to monitor their progress and continue to support their success as the company grows. This technology makes it possible for an entrepreneur in Kenya to more easily engage investors and customers anywhere; whether that be locally, the diaspora, or with others anywhere in the world.

Now is the time for leaders in the developing world to engage in a spirited discussion and analysis regarding crowdfunding and how it should be utilized to benefit businesses and communities while providing prudent safeguards and investor protections. It may be possible for developing nations to use this new funding mechanism as a means to spur domestic innovation and create a larger number of high-growth entrepreneurs. Innovative policies, technology, education and safeguards will be important in determining if this new financial tool can deliver on its promise. I appreciate *infoDev*'s early participation in this conversation via this research and I hope they and leaders of countries and institutions will use this report as a starting point in creating and testing appropriate, country-specific approaches to crowdfunding across the developing world.

I believe that crowdfunding may have the potential to help catalyze existing efforts to create entrepreneurial cultures and ecosystems in developing nations. Development organizations like the World Bank and other institutions will play an ongoing role to act as "trusted third parties" in creating these new models of funding and providing mentorship, capacity building as well as ongoing monitoring and reporting.

This research is also demonstrating the important role that academia must play in building deeper, more robust bodies of knowledge in this arena. Major research institutions and other multilateral development banks can use this *infoDev* report as a platform for additional research in this exciting new nexus of finance, technology, and entrepreneurship. This report, and the research that follows it, can help to shape global best practice. I hope this report can provide new opportunities for multilateral organizations and academia to collaborate to provide appropriate measures and tools for the development of this new form of finance.

This confluence of developments in public policy, technological innovation, academia and economic trends can alter the playing field in developing countries to enable businesses to start, scale, and succeed outside of Silicon Valley. If successful, crowdfunding can support "the Rise of the Rest" and will play a key role in sparking economic growth, innovation, and jobs. We have seen how technology has revolutionized many sectors of the global economy, however to date, the way that entrepreneurs are funded has either remained unchanged or become even more challenging. Crowdfunding is not a panacea and there are still risks and unanswered questions remaining. Nevertheless, I have faith that through ingenuity and technology, appropriate regulation and investor protections can be built. I believe that crowdfunding has the potential to enable innovative developing economies to leverage the explosion of social media to leapfrog forward to build a network of vibrant entrepreneurial ecosystems.

Steve Case
Chairman and CEO, Revolution
Co-Founder, America Online
Chairman, The Case Foundation

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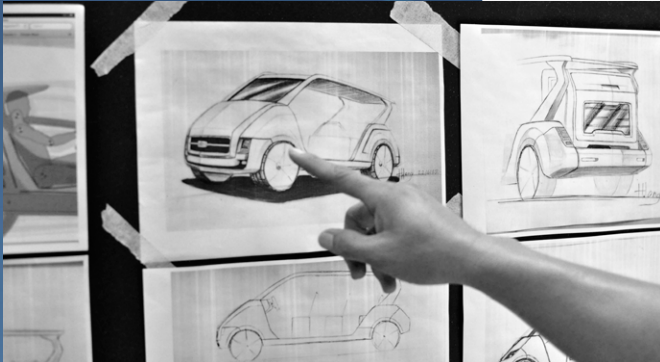
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Abbreviations and Acronyms

ACH	automated clearing house
AML	anti-money laundering
ASSOB	Australian Small Scale Offerings Board
CAGR	compound annual growth rate
CEO	chief executive officer
CF	crowdfunding
CFI	crowdfund investing
CFP	crowdfunding platform
CIC	Climate Innovation Center
EACVF	East Africa Climate Venture Facility
FATF	Financial Action Task Force
GDP	gross domestic product
ICT	information and communication technology
IPO	initial public offering
JOBS	Jumpstart Our Business Startups Act
KCIC	Kenya Climate Innovation Center
LED	light-emitting diode
MENA	Middle East and North Africa (World Bank regional vice presidency)
mLab	mobile application lab
NGO	nongovernmental organization
PII	participant individual investor
PoC	Proof of Concept
PPP	purchasing power parity
SME	small and medium enterprises
SPV	special purpose vehicle
TED	Technology, Entertainment, Design
USB	Universal Serial Bus
USD	U.S. dollar
VC	venture capital or venture capitalist

EXECUTIVE Summary



Crowdfunding is an Internet-enabled way for businesses or other organizations to raise money in the form of either donations or investments from multiple individuals. This new form of capital formation emerged in an organized way in the wake of the 2008 financial crisis largely because of the difficulties faced by artisans, entrepreneurs and early-stage enterprises in raising funds. With traditional banks less willing to lend, entrepreneurs started to look elsewhere for capital.

Crowdfunding began as an online extension of traditional financing by friends and family: communities pool money to fund members with business ideas. In less than a decade, crowdfunding has gained traction in a number of developed economies, including Australia, the United Kingdom, the Netherlands, Italy, and the United States. This exciting phenomenon is spreading across the developed world and is now attracting considerable interest in the developing world as well.

Crowdfunding takes advantage of crowd-based decision-making and innovation, and applies it to the funding of projects or businesses. Using social networks, social profiles, and the viral nature of web-based communication, individuals and companies have raised billions of dollars in debt, equity, and donations for projects over the past five years. Kickstarter, for instance, the market leader in pledge or donation-based crowdfunding, has channeled over US\$815 million from 4.9 million backers (29 percent of which have invested in more than one project) to nearly 50,000 projects throughout the world since 2009.

Building a crowdfunding ecosystem depends on key enablers to build trust

Credible crowdfunding systems require more than entrepreneurs and willing investors. They also need a supportive ecosystem and enabling factors, including forward-thinking regulations, effective technological solutions, and cultures that can adapt to this new investment vehicle. This includes the concept of a “constellation of trust” that enables all parties to participate. The key factors that have facilitated crowdfunding in developed countries include:

- A regulatory framework that leverages the transparency, speed, and scale that advances in technology and the Internet can deliver to early-stage funding marketplaces.
- Strong social media market penetration and Internet usage, which is necessary to harness demographic and technology trends to drive collaboration and cultural shifts.
- A regulated online marketplace that facilitates capital formation while providing prudent investor protections through education and training.
- Collaboration with other entrepreneurial events and hubs including business plan competitions, incubators, accelerators, universities and co-working spaces to create a channel for opportunity and oversight.

All of these factors are necessary to build the culture of trust which is essential for the funding of companies, projects and causes mediated primarily through web-based interactions. Sometimes crowdfunding project backers have no pre-existing relationship to the company or project being funded – they may be hundreds or thousands of miles away. Nevertheless, this trust often flows through some form of community, whether based on geography, culture, ethnicity, or shared interests. Some crowdfunding platforms are successfully raising money from diaspora communities and managing north-south and south-north monetary flows.

Trust does not just happen – it is a socially mediated phenomenon which relies in great part on the intrinsic trust people place in shared connections on social networks, community affinities, and the ratings of others on trusted, mainstream websites. This group behavior of trusting others based on presented information and social signals (and sometimes including first person knowledge) is only possible in a highly transparent system with near real-time feedback mechanisms, that is, on the web.

The developing world has the potential to leapfrog developed countries

With support from governments and development organizations, crowdfunding could become a useful tool in the developing world as well. Crowdfunding is still largely a developed-world phenomenon but its potential to stimulate innovation and create jobs in the developing world has not gone unnoticed. Substantial reservoirs of entrepreneurial talent, activity, and capital lay dormant in many emerging economies, even as traditional attitudes toward risk, entrepreneurship, and finance stifle potential economic growth and innovation. Developing economies have the potential to drive growth by employing crowdfunding to leapfrog the traditional capital market structures and financial regulatory regimes of the developed world.

While many developing economies may have the potential to capitalize on this new funding mechanism, those that wish to implement crowdfunding ecosystems need to learn from the initial developed world experience to understand how crowdfunding functions, the “light touch” role that government and regulation should play, and the technological infrastructure requirements involved. Developing countries that manage this process successfully may be able to leapfrog the developed world, in both a regulatory and economic sense, by creating frameworks for early-stage finance that facilitate entrepreneurship, the fostering of innovative technology enterprises and the emergence of new competitive industries.

It may be possible for developing nations to use emerging technology and business processes – including mobile technology, social media, lean-start-up methods of company formation, and crowdfund investing – to implement more efficient and effective entrepreneurial funding systems that are more advanced than the legacy systems prevalent in the developed world. This may influence more active angel investors and open up deal flow to a much wider audience that can more efficiently review broader investment opportunities. By allowing capital to be efficiently pooled around credible entrepreneurs, it may provide different venture capital structures that reach larger numbers of potential investors. A developing country’s ability to leapfrog developed nations will depend in part on the speed and commitment with which its stakeholders embrace these new technologies and methodologies for both capital formation and enabling trust.

Countries that want to adopt crowdfunding must not only create enabling policy, but also, in some cases, address policies and regulations that currently make it burdensome to enter into, conduct, and end business operations. For example, incorporation or dissolution of a business entity in many developing nations is overly bureaucratic, time-consuming, and costly.

The crowdfunding market is in its infancy, especially in developing countries, but the potential market is significant. It is estimated that there are up to 344 million households in the developing world able to make small crowdfund investments in community businesses. These households have an income of at least US\$10,000 a year, and at least three months of savings or three months savings in equity holdings. Together, they have the ability to deploy up to US\$96 billion a year by 2025 in crowdfunding investments. The greatest potential lies in China, which accounts for up to US\$50 billion of that figure, followed by the rest of East Asia, Central Europe, Latin America/the Caribbean, and the MENA region.

The risks in crowdfunding and how to mitigate them

While Asia represents a huge opportunity, there may be reasons to believe that Central Europe, Latin America and the Caribbean, the Middle East and North Africa may effectively deploy crowdfund investing sooner. These factors may include a greater transparency, willingness to take risks, support for free market innovation, strong diaspora communities, early stage entrepreneurial activity, and well-functioning educational systems.

Like any investment activity, crowdfunding comes with risk to the investor. CFI is not unique in this regard, but it does have characteristics that require regulatory protection and robust investor education for crowdfunding to contribute meaningfully and successfully to a country's economy.

Crowdfunding markets have been operating in many countries for several years with few reported instances of fraud. However, as the market expands, there will inevitably be attempts to circumvent regulations and defraud investors. Despite this, the biggest concerns regarding risk are business failure and execution or fulfillment challenges. Failure may result from poor management decisions, lack of funds, or miscalculations of market demand. Execution or fulfillment challenges may occur in some successful crowdfunding campaigns when a company is not ready with, for instance, the necessary logistics and manufacturing capacity to meet the demand generated by their campaign.

These risks may be mitigated through regulation, technology, and social and cultural approaches:

- **Regulation:** Governments should review and update small business regulation from incorporation to bankruptcy. Regulations should balance the need for investor protection with capital formation. A country-specific framework for crowdfund investing should be created to encourage investment in startups and small businesses and attract diaspora remittances. It is important to enact regulation that is not too burdensome, which might otherwise drive companies into the gray economy.
- **Technology:** In order for crowdfunding to work, individuals must have access to reliable broadband Internet or mobile data networks. Technology to facilitate ongoing communication between investors and entrepreneurs and enabling tools to systematize and streamline the business lifecycle must also be employed and allowed to operate freely.

- **Social:** Individuals within a country must be actively engaged in online social networks as this is the main driver of crowdfunding activity. The network should be engaged in vetting opportunities to allow crowd wisdom to emerge. Communities should leverage startup events and community-backed finance to support entrepreneurs and develop circles of trust.
- **Cultural:** The private sector should be engaged to help create channels of viable businesses that can become potential investment opportunities.

This should include the creation and utilization of co-working spaces, incubators, and accelerators. By providing physical space, mentorship, peer learning opportunities and formalized product market fit experimentation, crowdfunding, venture creation and other support services, the private sector can significantly enhance the creation of a culture of entrepreneurship.

FIGURE 0.1 GOVERNMENT, NGO & PRIVATE SECTOR RECOMMENDATIONS

Specific strategies to drive crowdfunding

<p style="text-align: center;">Economic</p> <ul style="list-style-type: none"> • Craft exceptions to securities regulations that allow easy registration for equity offerings • Strategically tie crowdfunding to patriotic and cultural messages • Form a crowdfunding market alliance 	<p style="text-align: center;">Social</p> <ul style="list-style-type: none"> • Harness top social media experts/bloggers/tastemakers to communicate with local and diaspora audiences • Hold media and educational events to build awareness and understanding • Hold regular crowdfunding events with trusted third parties to teach successful techniques
<p style="text-align: center;">Technology</p> <ul style="list-style-type: none"> • Where appropriate, apply lessons learned from developed world • Consider buy, build or white label • Determine gaps in existing technology for online financial transactions 	<p style="text-align: center;">Cultural</p> <ul style="list-style-type: none"> • Leverage existing incubator/accelerator/structured co-working spaces as hubs for innovation in funding • Foster professional investor & consumer confidence in crowdfunding through education and communication • Encourage the participation of women and girls

“Crowdfunding has emerged as a **multibillion-dollar** global industry”

While each of these risk controls can operate alone, together they offer a reinforcing framework to protect investors and decrease the risk of failure.

Governments, development organizations and others have a role to play in fostering crowdfunding

Crowdfunding offers the potential for a radical evolution of our largely institutional framework for allocating capital, through foundations, funds, and banks to a more individually driven and direct investment framework. Governments around the world as well as development organizations, venture capital funds, and NGOs are watching crowdfunding closely to see whether it has the potential to solve the “last mile funding problem” faced by many start-up companies. The question is whether crowdfunding and crowdfund investing offer a more efficient mechanism to deliver capital to local entrepreneurs in a way that leverages the existing infrastructure and community resources to support those entrepreneurs.

Policies and strategic recommendations for government, NGOs and the private sector should help support the emergence of crowdfunding ecosystems by addressing the economic, social, technology, and cultural challenges, as illustrated in Figure 0.1.

Development organizations, including the World Bank and *infoDev*, could have an important role to play in enabling responsible crowdfund investing by helping developing-world stakeholders implement productive policies and appropriate regulatory controls. In particular, the World Bank is uniquely positioned to deploy infrastructure, enable capacity, and invest (both directly and indirectly) in ways that could extend the impact of crowdfund investment and reduce the barriers to financing high-growth entrepreneurs and technology-focused SMEs.

Within the Bank, *infoDev* has a particularly valuable role because it has the agility to pilot new concepts at the grassroots, and to scale workable solutions into larger projects that support the World Bank Group’s commitment to innovation and entrepreneurship. *infoDev* is well positioned to play a similar role in testing crowdfunding initiatives in developing economies to promote economic growth, competitiveness, and inclusion.

infoDev’s approach to crowdfunding emerges from its focus on incubating technology-enabled new ventures in the mobile, climate, and agribusiness sectors. These programs provide technology testing facilities, formal or informal mentorship, training courses, and regular multi-stakeholder networking opportunities, as well as traditional business incubation services. When linked with *infoDev*’s ongoing efforts, the crowdfunding phenomenon may present an important resource for the entrepreneurs as they attempt to grow their business from “mind to market”.

infoDev’s exploration of crowdfunding may be pursued in the following ways:

- Facilitating skills training for entrepreneurs which overviews main tenets of crowdfunding and adapts “pitch training” to ensure online offerings are compelling.

- Leveraging the *infoDev* brand, through Climate Innovation Centers, mLabs, Agribusiness Innovation Centers and other partners to verify company quality standards and establish trust with the crowd.
- Supporting angel investors or accelerators to serve as anchor investors for the larger crowd.
- Offering Proof of Concept grants to companies to develop their crowdfunding campaign.
- Coordinating local pools of trusted service providers to assist entrepreneurs with development of their crowdfunding campaigns.
- Continuing to provide business development services to entrepreneurs to ensure business models are globally competitive.
- Documenting learning from crowdfunding initiatives to positively impact the crowdfunding enabling environment.
- Showcasing crowdfunding success stories and failures from across the *infoDev* global network to positively influence the global innovation and technology entrepreneurship status quo.

Conclusion

The closed and private nature of investing in small businesses and start-ups will change rapidly as the social web affects the flow of both information and capital to these companies. The rise of crowdfunding as

a more distributed way to form capital is aligned with the changes in the flow and distribution of information (via the Internet) and the creation and distribution of manufacturing capabilities (maker spaces and fabrication centers). Existing securities regulations were not crafted for the social web. Governments and policy experts worldwide are considering the possible impact of crowdfunding and crowdfund investing and trying to fashion new regulations, empower new technologies, and equip entrepreneurs with sufficient information to decide if crowdfunding is a viable funding or investment vehicle for these enterprises. The rate of growth of crowdfunding, and its emergence in developing and developed countries, suggests that this phenomenon can become a tool in the innovation ecosystems of most countries.



1. The State of Crowdfunding Today

Key points:

- Crowdfunding emerged after the 2008 financial crisis in response to the difficulties faced by early-stage enterprises attempting to generate funding.
- Crowdfunding is an online extension of financing by friends and family: communities pool money to fund members with business ideas.
- Currently it is predominantly a developed world phenomenon, but the potential exists for developing countries to capitalize on this new form of funding.
- What is the current status of crowdfunding as it has grown in the developed world and the forces that have led to its rapid rise?
- Provides examples and describes the different models and platforms that have emerged, and the benefits that crowdfunding is bringing to both investors and recipients.
- Describes the enabling factors and constraints to building a successful crowdfunding ecosystem.

¹ There are many definitions of SMEs and early-stage enterprises. These definitions vary depending on the number of employees, annual sales, assets, and even sector. In this report early-stage businesses are defined as those with fewer than 50 employees and with revenue of less than US\$3 million, in line with the World Bank's definition of Small Enterprise (http://www.infodev.org/infodev-files/resource/InfodevDocuments_614.pdf).

Introduction

Crowdfunding is an Internet-enabled way for businesses or other organizations to raise money – typically from about US\$1,000 to US\$1 million – in the form of either donations or investments from multiple individuals. This new form of capital formation emerged in the wake of the 2008 financial crisis in response to the difficulties faced by early-stage enterprises¹ in generating funding. In less than a decade, crowdfunding has spread across the developed world, and is now attracting considerable interest in the developing world as well.

Crowdfunding began as an online extension of financing by friends and family: communities pool money to fund members with business ideas. During crowdfunding's early stages, capital came in the form of donations, but increasingly it takes the form of debt or equity investments targeting high-growth entrepreneurs – only one of many ways the model is evolving as awareness spreads.

Crowdfunding uses web-based technology and the knowledge and wisdom in communities to determine which projects should receive funding and how much funding they should receive, as well as providing real-time feedback on start-ups and small businesses. It leverages the power of technology, particularly social media, to market the idea, raise funds, and hold entrepreneurs accountable.

Developing economies may have the potential to capitalize on this new funding mechanism. Countries wishing to implement crowdfunding ecosystems need to understand how crowdfunding works, the role that government and regulation should play and the technological infrastructure requirements involved. Developing countries that manage this process successfully may be able to leapfrog the developed world in delivering capital to businesses, in both a regulatory and economic sense, by creating frameworks for early-stage finance that facilitate entrepreneurship, the fostering of innovative technology enterprises and the emergence of new competitive industries. As with other disruptive technologies, it is not possible to accurately gauge the potential impact of this evolving market, especially where there is little available data from developing countries.

This report reviews the potential opportunities and challenges associated with implementing crowdfunding within a market, as well as crowdfunding's connection to capital markets in general. The rest of Chapter 1 outlines the current status of crowdfunding as it has grown in the developed world and the forces that have led to its rapid rise. It gives examples and describes the different models and platforms that have emerged, and the benefits that crowdfunding is bringing to both investors and recipients. The chapter ends with an overview of the enabling factors and constraints to building a successful crowdfunding ecosystem.

Chapter 2 addresses the ways that crowdfunding could improve access to capital for high-growth entrepreneurs in the developing world, while Chapter 3 analyses the policy and regulatory aspects, makes recommendations on how to encourage and support crowdfunding, and considers the role that development organizations such as The World Bank and *infoDev* can play. A tool to help countries assess their readiness for crowdfunding is described in Chapter 4. Finally, the opportunity that the World Bank and *infoDev* has to support entrepreneurship-driven economic growth in

the developing world is explored in Chapter 5 through a detailed case study of crowdfunding in the climate and clean energy sector.

The global emergence of crowdfunding

Crowdfunding based initially on soliciting pledges or donations has emerged as a multibillion-dollar global industry. It channels money to individuals or organizations for seed finance, product development, and social causes. Crowdfunding sometimes extends or complements social lending (peer-to-peer) platforms. Crowdfund investing (CFI) is the investment alternative to pledge-based crowdfunding. This term, which describes securities-based equity and debt fundraising through crowdfunding platforms, has recently emerged as an alternative to more traditional funding tools such as bank loans, angel or venture capital (VC) investments for financing entrepreneurs and small and medium-sized enterprises (SMEs). Projections for the size of the crowdfund investing market range from US\$3.98 billion (Best, Neiss, Stralser, and Fleming 2013) to as much as US\$300 billion over the coming years depending on the level of enabling regulation adopted by governments (Huessner 2012).

The large-scale adoption of information and communication technology, coupled with the broad acceptance of social networks, has given rise to web-enabled crowdfunding. Web-based platforms provide scale and scope, and help overcome many of the challenges to entrepreneurial finance that have hindered economic development and growth in the developing world. These challenges include:

- Providing SMEs with access to capital.
- Cultivating high-growth entrepreneurs in developing countries.
- Supporting access to export markets.
- Catalyzing flows of capital within and between communities, irrespective of distance.

Use and segmentation of crowdfunding platforms

Crowdfund investing is suitable for many types of enterprise, most notably high-growth start-ups, often in the technology sector, research institutions as well as more traditional small businesses. The way in which crowdfunding fits into the funding lifecycle of growing firms is shown in Figure 1.1.

High-growth/technology businesses are uniquely suited to crowdfund investing

Businesses with high growth potential, especially those that draw on entrepreneurial incubator or accelerator ecosystems, may be especially well positioned to benefit from crowdfund investing. Such types of businesses find general market understanding and acceptance, and can leverage the expertise, facilities, mentoring, and peer learning capabilities provided by those ecosystems. The firms can also gain access to broader markets for fundraising and sales.

Research institutions might experiment with crowdfund investing campaigns

Certain research universities in the developed world are exploring crowdfunding to support commercialization of technology, particularly in the areas of clean technology, life sciences, and medical devices. CFI enables innovative researchers and students to demonstrate broader interest in their research topics.

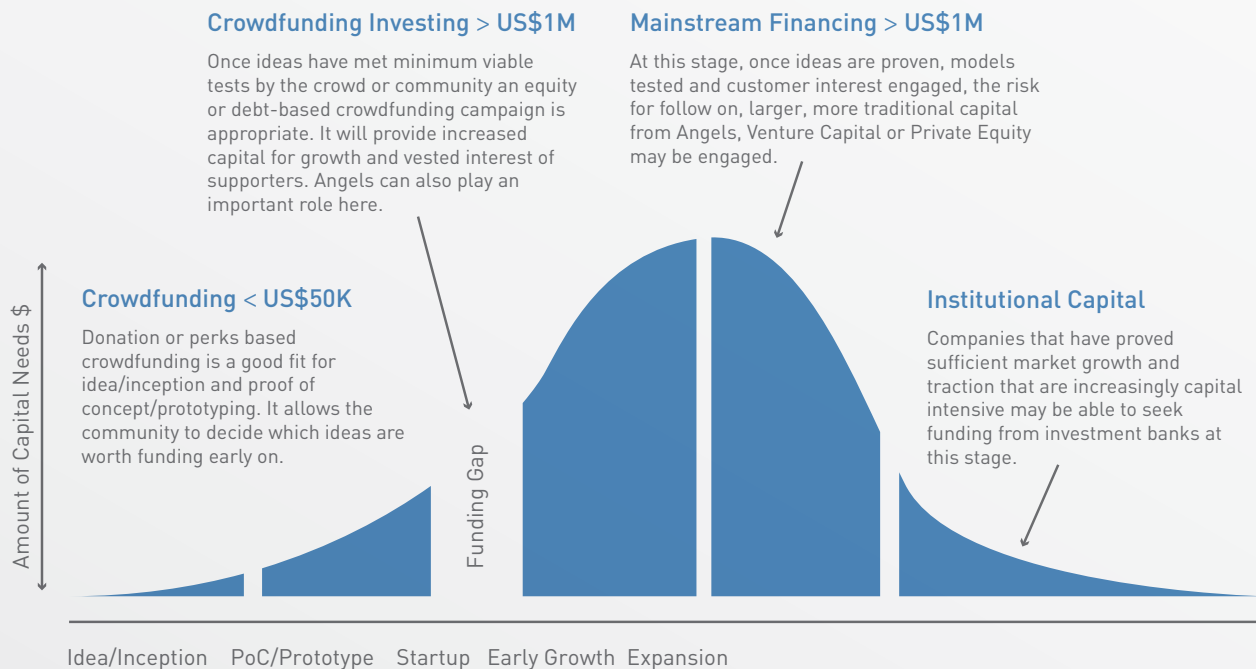
Some established businesses could use crowdfund investing to raise capital

Traditional "Main Street" businesses may not have access to bank loans or other financing despite strong fundamentals and robust profits. CFI may offer them the opportunity to convert customers into investors or lenders, delivering the capital that enables them to grow.

Of course, CFI may not be suitable for some businesses, for instance, those with high cost structures and long payback revenue models, or those that require large upfront capital

FIGURE 1.1. CROWDFUNDING ADOPTION CURVE

Where Crowdfunding Fits on the Funding Lifecycle



expenditures such as large-scale infrastructure projects. These kinds of companies may be limited by the caps on the amount of money that can be raised through CFI, or by a payback time horizon that is too far in the future to appeal to crowdfunding investors.

Forces enabling the rise of crowdfunding

Crowdfunding draws inspiration from concepts like microfinance (Morduch 1999) and crowdsourcing (Poetz and Schreier 2012), but it represents a unique category of fundraising, with different vehicles, processes, and goals. Two major forces make crowdfunding possible. First, the widespread adoption of information and communication technology (ICT) has provided the infrastructure to reach millions of investors. At the same time, the general social acceptance of technology-enabled social networks allows investors to interact online and build trust among people with whom they may have few traditional connections. Together these forces are enabling crowdfunding to emerge on a large scale, connecting would-be investors with potential investments.

Today more than 80 percent of the world's online population interacts with social networks on a regular basis, despite the fact that 65 percent of the world's population – 4.6 billion people – still lack Internet access (McKinsey Global Institute 2012). Technology-enabled communities, that is, online social platforms that bring the speed, scale, and economies of the Internet to social interactions, have grown to more than 1.5 billion members globally (Curtis, Conover and Chui 2012).

As crowdfunding grows in size and becomes widely accepted, professional investors are likely to start allocating portions of their portfolios to crowdfund investing. Crowdfunding is attracting the interest of angel investors and venture capital because CFI can provide proof of market interest in a start-up, and also because it allows them to assess potential investment opportunities privately and efficiently. Angel groups and networks can use the technology platforms that have been developed for crowdfunding to increase deal flow, improve communication, decrease time to complete transactions, and improve syndication. Venture capital typically is risk averse which leaves a funding gap for innovative, early-stage companies, especially in developing countries. Crowdfunding is starting to bridge that gap but is also highlighting opportunities for VC investment.

Emerging platforms built for specific communities

Certain well-organized online communities have begun exploring crowdfunding for targeted funding and capital formation.

- Several recently launched or announced portals focus on particular groups. These include religious affiliations, industries, race-specific business organizations (such as Hispanic Chambers of Commerce), gender-based organizations (such as SpringBoard), and university alumni networks.
- Platforms are organizing around physical communities to fund community development projects, recreational facilities, school programs, and so on.
- Portals are forming for the purpose of investing in industries, technologies, or sectors such as the travel industry, solar implementations, and real estate.

TABLE 1.1. THE NUMBER OF CROWDFUND INVESTING PLATFORMS IN SELECTED COUNTRIES.

Country	# of CFI Platforms	Country	# of CFI Platforms
United States	344	Brazil	17
France	53	Canada	34
Italy	15	Australia	12
United Kingdom	87	South Africa	4
Spain	27	India	10
Netherlands	34	Russian Federation	4
Germany	26	Belgium	1
		Hong Kong SAR, China	1
		China	1
		United Arab Emirates	1
		Estonia	1

BOX 1.1. EARLY DATA FROM THE DEVELOPED WORLD.

Currently there is limited data to report on equity and debt-based crowdfunding, but Australia and the United Kingdom are demonstrating interesting results. After seven years of crowdfunding companies, the Australian Small Stock Offering Board (ASSOB) shows that 86 percent of companies crowdfunded on its platform were still operating in 2012 (Niederer 2012). This contrasts with a figure of 40 percent of noncrowdfunded (non-ASSOB) companies that fail after three years.^a

An engaged base of both customer and investors in the business is cited as one of the main reasons for longevity by ASSOB.^b ASSOB also vets deals prior to posting on their platform. Equity-based crowdfunding platforms have also launched in the Netherlands and Italy, and are legal but not yet effective in the United States. No affirmative data yet exists to show investor returns from these platforms, though projected market size analysis has been completed by the University of California, Berkeley

(Best, Neiss, Stralser, and Fleming 2013) and well-regarded venture capitalist, Fred Wilson.

Debt crowdfunding in the United Kingdom has had some early successes in providing returns to investors. Since 2007 investors in companies listed on U.K.-based Funding Circle have completed financing totaling over £156 million (about US\$250 million), receiving an annualized return of 5.8 percent (after expenses and bad debt expense, but before taxes) with a 1.6 percent default rate.^c

Note:

- a. These figures are supported by two separate studies by the U.S. Bureau of Labor Statistics and the Ewing Marion Kauffman Foundation, a nonprofit that promotes U.S. entrepreneurship (Gage 2012).
- b. <http://paulniederer.com/2013/07/july-2013-assob-and-the-u-s-interview/>
- c. Data correct as of June 2, 2013, see <https://www.fundingcircle.com/statistics>

Market size and growth

Crowdfunding has expanded rapidly since its inception only six years ago. Crowdfund investing (CFI), which grew out of the crowdfunding movement, began in Australia, followed by the United Kingdom, and is now spreading across the world. Today, 45 nations in North America, Latin America, Europe, the Middle East and North Africa, Sub-Saharan Africa, and Asia have active crowdfunding platforms (see Table 1.1).

Campaigns across the globe raised nearly US\$2.7 billion in 2012 through all crowdfunding business models and platform types: US\$1.6 billion in North America, US\$945 million in Europe and US\$110 million in the rest of the world.² Europe and the United States have seen rapid growth in all types of crowdfunding platforms since 2009. Across all regions, crowdfunding expanded at a 63 percent compound annual growth rate (CAGR) from 2009 through 2012. Equity-based platforms exhibited a CAGR of 114 percent, lending-based platforms 78 percent, donation-based 43 percent, and reward-based 524 percent.

The passage of the Jumpstart Our Business Startups (JOBS) Act in 2012 in the United States has generated considerable interest in expanding the reach of crowdfund investing throughout North America. The CFI market in the United States was forecast to reach US\$3 billion in 2013 (Deloitte 2013). Canada is fully engaged in developing crowdfunding-related legislation, and in Mexico, the government is consulting with business angel and venture capital groups about a crowdfund investing regulatory framework.

Other notable global developments include:

- **Europe:** The European Crowdfunding Network was launched in 2012 with the goal of creating a regulatory model for Europe. CFI was launched in the Netherlands

in July 2012 and is starting to generate substantial activity with more than 15 platforms now in operation. The Italian government recently passed a modified version of CFI, which allows for companies that receive the designation of a “start-up” to raise money via crowdfund investing.³

- **Latin America:** Colombia has recognized CFI as a key area of study to allow for early-stage capital expansion. Brazil has been a leader in South America in the crowdfunding space. It has more than 15 rewards-based platforms, and the country’s first merger of crowdfunding platforms took place in 2012. Chile now also has a CFI platform with a successful campaign to fund a large regional brewery.
- **Asia:** Rewards-based portals are being developed in Singapore and there is interest from other growing economies, including the Republic of Korea, Brunei and Malaysia.
- **Sub-Saharan Africa:** This region is beginning to observe donation-based crowdfunding activity and early development of equity-based platforms, including some in development, or launched in Kenya, Ghana, and South Africa.
- **Middle East/North Africa (MENA):** Donation-based crowdfunding activity is beginning with the emergence of equity-based platforms in the United Arab Emirates (UAE), Jordan, and Lebanon. A crowdfunding platform combined with a technology incubator has recently launched in the Arab Republic of Egypt and its first cohort of companies entered the accelerator in the summer of 2013.

² <http://techcrunch.com/2012/05/08/crowdfunding-state-of-the-union/>

³ The Italian model also requires the participation of a lead angel investor.

Crowdfunding models

There are two main categories of crowdfunding:

- Donation crowdfunding raises nonequity capital rather than the sale of securities for creative projects or charity causes. In some cases donations may support an early-stage company or product innovation, sometimes in exchange for early access to a product or service.
- Crowdfund investing refers to raising capital by selling financial instruments related to the company's assets and/or financial performance. CFI includes raising

debt capital in the form of loans, selling claims to the company's intellectual property, and selling investors' ownership shares (equity-based crowdfunding). In each case many investors make modest investments, as opposed to the more traditional model in which angel investors or VCs buy an entire round of financing.

Five business models currently are practiced within these two broad categories, and crowdfunding platforms typically are organized around one of the five models. Table 1.2 briefly highlights the advantages and disadvantages of each.

TABLE 1.2.CHARACTERISTICS OF DIFFERENT CROWDFUNDING MODELS.

Crowd-funding model	Business model	Features	Pros	Cons
Donation	Donation-based	Philanthropic: funders donate without expecting monetary compensation.	No risk.	Donors do not acquire security interest. Entrepreneurs have difficulty raising substantial capital.
	Reward-based	Funders receive a token gift of appreciation or pre-purchase of a service or product. This model is evolving into a marketplace of its own, with firms raising considerable sums through pre-sales.	Low risk (primarily fulfillment and fraud risk). No real potential for financial return.	Potential return is small. No security is acquired, and there is no accountability mechanism. Most entrepreneurs may have difficulty raising substantial capital without a product with mass appeal to sell.
Investing	Equity-based	Funders receive equity instruments or profit sharing arrangements.	Potential to share in the profitability of the venture. Unlimited potential for financial gain. May attract relatively large numbers of investors.	Potential loss of investment. Equity holders are subordinate to creditors in the event of bankruptcy. Securities laws related to crowdfund investing may be complex.
	Lending-based	Funders receive a debt instrument that pays a fixed rate of interest and returns principal on a specified schedule.	Pre-determined rate of return agreed upon between lender and borrower. Debt holders are senior to equity holders in case of bankruptcy. Secured status may make it easier for entrepreneurs to raise capital.	May be subordinate to senior creditors. Start-ups' high-failure rate presents similar risk of loss as an equity investment, but with capped potential returns. Requires a business already generating cash flow. Existing/established, cash flow positive businesses may consider this option because they can offer a more structured exit opportunity than typical equity offerings.
	Royalty-based	Less common than the other models. Funders receive a share in a unit trust, which acquires a royalty interest in the intellectual property of the fundraising company. A percentage of revenue is paid out over a period of time. The payout varies depending on the periodic revenue.	Potential gain is unlimited, but the rate of gain is predetermined by the interest rate. Investment presents less risk or return than an equity investment, but more than a debt instrument.	Potential loss of investment. Risk of loss comparable to that of an equity investment, but investment offers lower potential returns than equity. The business could cease paying royalties if it chose to operate without the intellectual property in question. These instruments generally attract smaller pools of investors than other CFI models, so entrepreneurs may find it more difficult to raise capital with this model.

Funding mechanisms for donation-based crowdfunding

Individuals or organizations using donation-based crowdfunding offer a tiered series of incentives for donations. Donors of small amounts may receive only online recognition, whereas donors pledging higher amounts might be rewarded with a product, customization of a product or some form of personalized recognition. This is akin to fundraising in the nonprofit sector, where donors receive different recognition or products based on the amount donated.

All-or-nothing financing requires a project, cause, or company to hit 100 percent of its funding target within an allotted time period or return the money to funders. This mechanism works in one of two ways: either funders are not charged until the entity reaches its fundraising target, or funds are held in escrow and returned if the goal is not met.

Kickstarter is an example of all-or-nothing financing. Kickstarter claims a success rate for its campaigns of 43.93 percent⁴, significantly higher than typical fundraising efforts. Kickstarter states that 81 percent of projects that raised more than 20 percent of their goal ultimately succeed in attaining funding, illustrating the value of all-or-nothing campaigns in attracting backers early in the process.

⁴ <http://www.kickstarter.com/help/stats> (as of September 27, 2013)

Keep-what-you-raise financing, in contrast, allows a pitching entity to retain whatever funds it raises by the time the campaign ends. Such funds typically are transmitted immediately at the end of the fundraising campaign, typically which lasts between 30 and 90 days.

Indiegogo offers a keep-what-you-raise approach in addition to an all-or-nothing option. Indiegogo reports that the probability of any campaign reaching its goal doubles once the first contribution is received, quadruples once the campaign reaches 10 percent of its goal, and more than quintuples once 25 percent of the goal is raised. For keep-what-you-raise campaigns, the platform charges higher fees if the goal is not met than if it is, providing an incentive to reach the funding objective.

Crowdfunding versus micro funding

There is a general connection between all forms of alternative funding: they all provide access to capital for a segment of the population that cannot access it through traditional means. However, there are significant differences between crowdfunding and another common alternative funding mechanism, micro funding, which includes microfinance and social (peer-to-peer) lending. These models differ in fundamental ways, including their targets and objectives (see Figure 1.2).

Microfinance provides loans and other basic financial services to the poor. Organizations like the Grameen Bank specialize in delivering very small-scale financial services to the poorest members of society – primarily in the developing world, but increasingly in the developed world as well.

Social lending is a subcategory of microfinance. Kiva has stepped into this space to give ordinary people the ability to lend around the world. It extends what the Grameen Bank does, with the help of partners in the field.

“CFI fills a void left between microfinance and professional/institutional investors”

Crowdfund investing (CFI) is the newest asset class in private capital markets. It fills a void left between microfinance and professional/institutional investors, in that it is capable of providing larger amounts of capital to start-ups and small businesses. It extends some of the social mechanics of microfinance to help fund high-growth start-ups, frequently in the technology sector, or to provide expansion capital to existing businesses.

Crowdfund investing platforms

Investments can be offered through crowdfund investing platforms in two different ways: equity-based or debt-based.

Characteristics of equity-based platforms

Companies using equity-based crowdfunding platforms post offerings on campaign pages. They then use social networks to invite investors to review the offering and

indicate their desire to invest.

While equity-based platforms differ, certain general standards have emerged.

Required information typically includes:

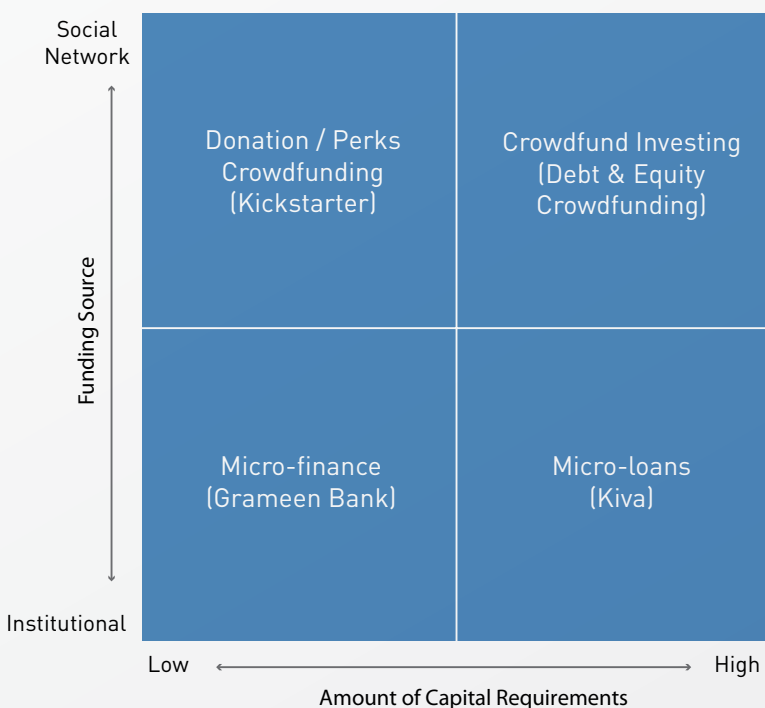
- Information about the business and the owners, such as the business plan and intended use of proceeds.
- Type of equity security being offered.
- Percent of the company being sold in the offering.
- Amount of time remaining in the offering.
- Progress made toward meeting funding target.

Other standard practices include:

- Investors must log in to the sites to invest or to access information that is detailed or private.

FIGURE 1.2. THE AMOUNT OF CAPITAL GROWS WITH THE SOCIAL NETWORK

Less bureaucracy and more connectivity leads to greater potential



Social Money

- ▶ Smaller projects need less money and can be supported by single investments
- ▶ As the projects get larger they need more money for which historically there have been fewer supporters
- ▶ Not dependent on infrastructure creation
- ▶ Layering on the social network with capital formation opens up the door to greater investments and greater ability to execute

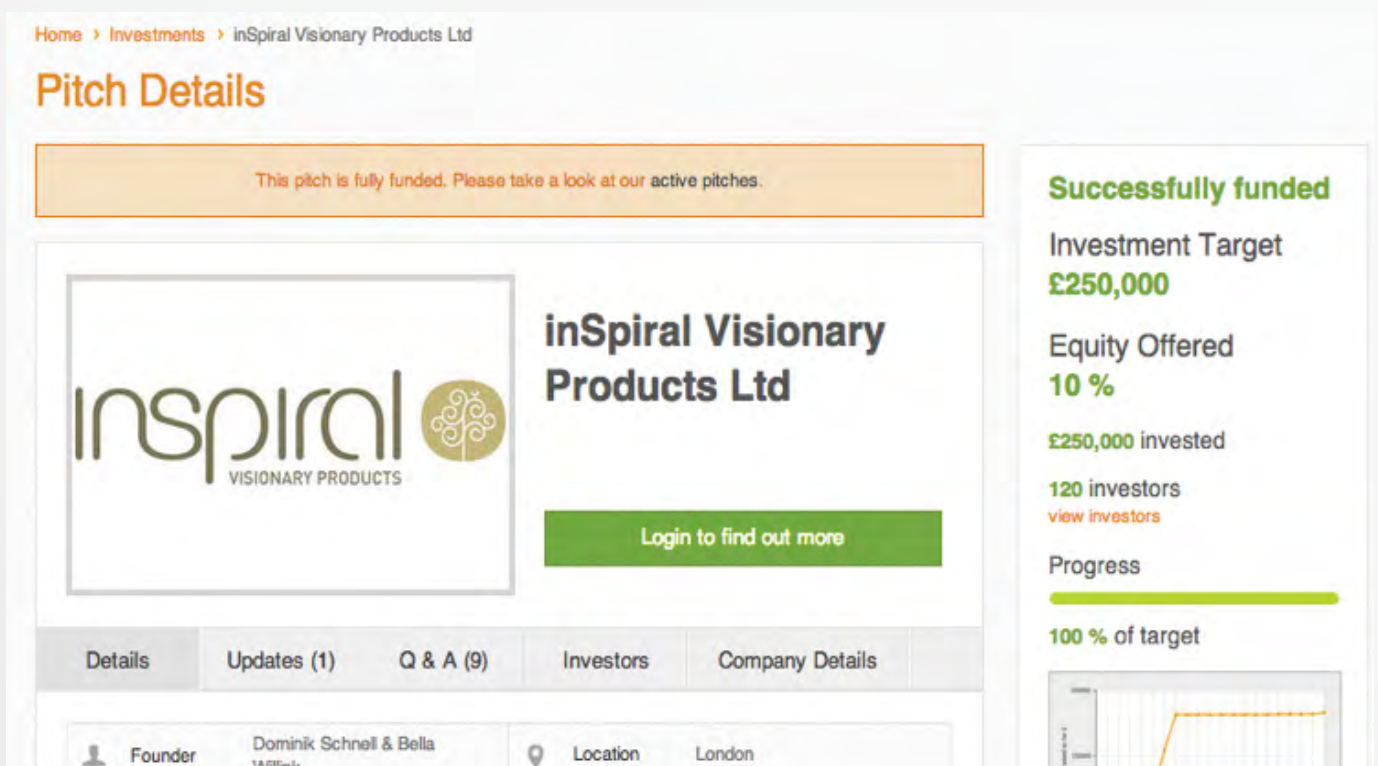
- Regulations may limit the amount a given funder can invest.
- Investors can post questions to the issuers.
- Issuers commonly provide updates during the funding campaign.
- Investors and issuers often share the same exit strategy: a sale, merger or initial public offering (IPO).
- Investors and issuers also share many risks, including dilution and illiquidity.

An example of an equity-based offering is shown in Figure 1.3.

Characteristics of debt-based crowdfunding platforms

Debt-based platforms operate in a similar way to equity platforms, the main distinction being that investors become creditors of the business and do not receive an equity stake. The two platforms share many characteristics: investors in debt-based campaigns are invited via social media and can perform the same degree of diligence as on equity-based crowdfunding sites. Required disclosures are also similar, the primary differences relating to qualities specific to the type of security involved. In the case of debt-based platforms, disclosures include the type of debt, the interest rate and the term of the instrument.

FIGURE 1.3 AN EXAMPLE OF AN EQUITY BASED OFFERING.



“The current pre-sale or donation model gives firms and **opportunity** to explore demand for their products”

Debt platforms facilitate the aggregation of loans for the business, fund transfers to the business and repayment of the loans from the business back to investors. Figure 1.4 presents an example of a debt-based campaign page.


There is another key differentiator between equity- and debt-based crowdfunding. In equity-based crowdfunding all investors receive the same terms and the same valuation. In debt-based crowdfunding each investor can bid an amount to loan and receives an interest rate associated with that amount. Once a campaign is successfully funded, the issuer’s average interest rate is the weighted average of all accepted bids. Bids with lower interest rates have a higher chance of being accepted, benefiting the issuer by lowering the cost of capital.

Exit strategies

When investment decisions are made, a possible exit of that investment should always be contemplated. Crowdfund investments are investments in private companies that lack short-term liquidity, unlike public companies listed on stock exchanges. Crowdfund investments usually come early in a company’s life and, hence, are long-term investments with long-term exit potential. Returns may not be long-term, however. Three types of returns within CFI are similar to those of

FIGURE 1.4 AN EXAMPLE OF A DEBT-BASED CAMPAIGN PAGE.

The screenshot shows a crowdfunding campaign page for 'Fibre Moulding Co in Good Form' with a goal of £100,000. The page includes a navigation menu, a campaign image, key statistics, and detailed borrower and loan information.

Key information	Business profile	Credit Score	Financial Summary	Questions & Answers	Repayments
<p>Fibre Moulding Co in Good Form Working capital (2411)</p>					
		<p>£100,000</p> <p>Rate: 8.2%</p> <p>100% funded.</p> <p>20% (£20,000) of this loan will be funded by the Government. Read more</p>		<p>Target rate¹ 8.0%</p> <p>Risk band² B (Below average risk)</p> <p>Estimated annual bad debt rate 2.3%</p>	
<p>Borrower details</p> <p>Borrower name Unavailable. Please login</p> <p>Business nature Manufacturing and Engineering</p> <p>Region South West</p> <p>Type Limited Company</p> <p>Years trading 23</p>			<p>Loan details</p> <p>Term 36 months</p> <p>Loan purpose Working capital</p> <p>Director guarantee² Loan guaranteed</p> <p>Asset security² No asset security</p>		
<p>< Back to listings</p>					

more traditional investment vehicles: interest payments; income or dividend distribution; or exit through a sale, merger, or public offering. These are outlined below:

Interest and principal payments

Many companies that will be looking for crowdfund capital are small businesses that are producing revenue but need additional short-term financing for working capital or expansion. This kind of finance was traditionally provided by banks or other local financial institutions but, after the world economic crisis in 2008, banks tightened their lending requirements. The net effect was to further constrain businesses. Crowdfunding may help fill this gap by allowing customers of businesses to loan money to the companies they support.

These kinds of companies typically do not possess the elements for an equity offering. For instance, there may be no potential for a public offering because market demand for the company's products or services is limited – the overall market might be modest or only of local interest. Culturally appropriate debt is a worthwhile option for these types of businesses. As an investment, debt provides a degree of exit certainty in that the time period for the loan and the interest rate are predetermined. For the business owner, it has the benefits of keeping ownership centralized and does not require the company to take on additional shareholders and the responsibilities and reporting requirements they represent.

Dividend or revenue-based finance

Dividend or income distributions are an alternative option, depending on the corporate structure of the crowdfunded company. The crowdfund proceeds can be invested into the business, and distributions are made only if there are sufficient profits. For an investor, this model offers the potential to earn a return each year. That return is dependent on company operations, however, and investors may not receive dividends in years with poor performance.

Sale, merger or IPO

The maximum benefit to crowdfunding investors comes in the less likely scenario of a sale or merger to another company or an IPO. Statistically, the majority of wealth is made in the early stages of a company, but whether an exit will occur, at what time, and for what valuation are all unpredictable and unknowable to investors.

While an IPO might be the most lucrative exit for a CF investor, the likelihood of a company going public is small in developed countries and even smaller in developing countries. Most companies never achieve such exits and are usually acquired long before they sell shares. Reporting and filing regulations on public companies are considered onerous and a deterrent to going public.

A straightforward solution: simple debt or common stock instruments

To foster an exit, the most logical model for a crowdfund offering would be straight debt or common stock. Common stock could come with anti-dilution preferences that consist of a) buyout of crowdfund shareholders in subsequent rounds at the current price offering, b) ability of crowdfund shareholders to buy in at the price of subsequent rounds or c) an option for crowdfund shareholder to suffer dilution but maintain their shares. Straight debt and common stock are easily understood by investors and offer clearly defined exits.

“By leveraging technology, **crowdfunding** can serve as an enabling mechanism for new venture formation, job creation and inclusive economic growth”

The benefits of crowdfunding

In providing a new source of early-stage venture capital primarily to previously underserved businesses and sectors of society, CFI promises to democratize and expand the access to capital by enabling the community – the crowd – to determine which entrepreneurs or small- and medium-sized enterprises obtain funds for growth. By leveraging technology to broaden the base of potential investors, this increased access to finance can serve as an enabling mechanism for new venture formation, job creation, and inclusive economic growth. The benefits include:

- Merging the social web with entrepreneurial finance: Crowdfunding is largely a substitute for other institutions and actors when they do not exist or are not active enough within a country's capital market, rather than a complement to those actors. Traditional financing models require companies to hold dozens or hundreds of meetings to seek capital, which is labor and capital intensive and highly inefficient. By centralizing access to data on available investment opportunities, crowdfund-investing portals can facilitate the flow of information from early-stage enterprises to potential investors more rapidly than has ever been possible before.
- Crowdfunding also can be efficient for investors: It allows them to investigate numerous potential investments online at one time and determine quickly whether the company fits their portfolio strategy, risk appetite, or other criteria. In the developing world a trend is emerging of investors monitoring donation-based crowdfunding platforms to look for innovative companies and products.
- Crowdfunding disrupts the funding cycle: Business angels and venture capitalists (VC) traditionally have served as the funders of early-stage enterprises in the developed world. In the developing world early-stage funding has come mainly in the form of friends and family financing. Advances in the social web and

ICT now give early-stage and high-growth enterprises globally the ability to leapfrog the venture investor boardroom by posting their offering to a larger set of investors in their social network. Validation from other investors may lower the perceived risk, and possibly the actual risk, of early-stage investment. This is discussed in more detail in Chapter 2. However, crowdfunding does not displace the role of the angel or VC in providing later-stage or larger-scale funding.

- Crowdfunding may expand the geographic range of angel investment: Established micro-lending practices take “localness” as a given; participants need to be able to tap into geographically proximate social networks for monitoring, governance, and social sanction. Crowdfunding overturns this traditional approach in several ways. First, it demonstrates that networks need not be tied to geography. While there is some evidence of local bias in some segments of donation-based crowdfund investing (Agrawal, Catalini, and Goldfarb 2011) geography plays a less significant role in the funding of promising projects.⁵ It is unknown whether the discrepancy is due to different cultural standards for trust, verification, deal curation methods, the smaller amounts of capital in play for individual contributors, other factors or some combination. The trend toward a boundary-less approach to investment is evident, however.
- Product validation, support networks, and partnerships: Early-stage companies may use crowdfunding to explore a product's viability and to engage early adopters at low costs and with low barriers to entry. Crowdfunding offers marketing benefits as well: one of the key advantages of online crowdfunding campaigns is the exposure it creates for the business.

⁵ E.g., IndieGogo, Kickstarter, (Mollick 2013).

- **Market testing and demand measurement:** The current pre-sale or donation model gives firms an opportunity to explore demand for their products or services. If the firms meet their funding goals, they have access to the capital needed for their initial product launches. From the investor perspective, the crowd's validation reduces investment risk by demonstrating demand for the product. In fact, some large U.S. business angel groups, such as Chicago-based Heartland Angels, are creating their own crowdfunding portals with the expectation that firms seeking capital prove market acceptance through a successful crowdfunding campaign.
- **Access to support networks:** Companies offering a crowdfunding campaign can engage a highly motivated group of customers that acts both as product evangelists and as a rich and detailed source of feedback. Expanding into CFI gives companies an early-stage support network of investors who have a vested interest in the success of the business, many of whom may have skills from which entrepreneurs can benefit. These early investors may work in many ways as advisors and evangelists, and may help the business forge valuable connections to other influential actors, activities that can help support firms through the challenges of early growth.
- **Markets and partnerships:** Entrepreneurs also receive early feedback on the viability of their intended market and marketing. Extensive feedback from customers and investors may lead to a revision of the planned business model. It can give firms the information they need to change their focus to a new market as necessary, or to seek strategic partnerships with new

suppliers or vendors. The open exchange of information regarding product ideas, business concepts, and intended markets dramatically increases market efficiencies. The end result of successful crowdfunding campaigns is increased visibility and credibility among the investing audience. Companies that receive funding are supported by an engaged investor base that may also be their future customers and marketing agents. A good example of this is Kone, a coffee and filter brewing system that initially wanted to raise US\$5,000 and within 90 days, because of a well-executed campaign, raised more than US\$155,000 through Kickstarter. During the company's campaign and product evolution, it received critical feedback from sponsors, including suggestions to develop a better handle that prevented burning and a seal on the lid to stop it from rattling. Kone was able to fine-tune its product prior to going to market, and sponsors felt they had contributed to the company's success.

Enabling factors and constraints

Building a crowdfunding ecosystem

Credible crowdfunding systems require more than entrepreneurs and willing investors. They also need supportive ecosystems and enabling initiatives and actions, including forward-thinking regulations, effective technological solutions and cultures that can adapt to this new investment vehicle. The concept of the formation of a new ecosystem around a technology platform is not new. Social networking platforms and online advertising platforms are examples of this concept. In both cases, following creation of the platform, an ecosystem was developed around them by entrepreneurs and existing businesses in order to maximize their value.

In the case of social media, after Facebook gained traction, hundreds of companies formed to create ways to, among other things, monitor, analyze, and sell goods and services based on social media usage. These innovative companies created thousands of jobs and new products and services. In the case of online advertising,

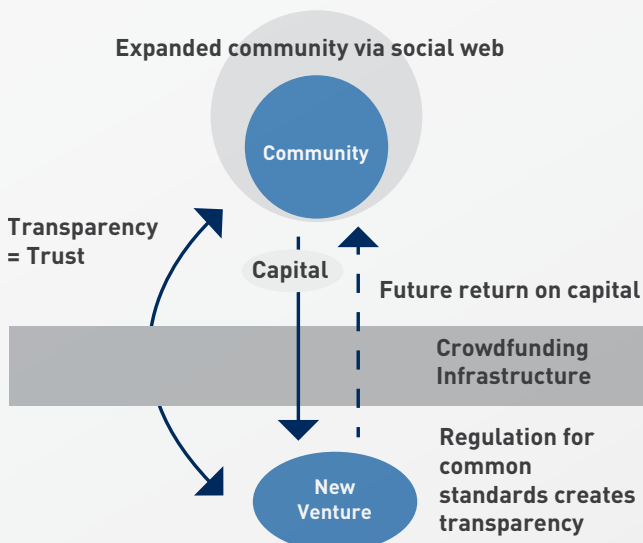
while the traditional advertising business was well understood, with the rise of online ad platforms, for the first time, businesses had the opportunity to have far more visibility and control of their advertising than they ever had in the offline world. This has given rise to companies that can control creative, marketing, and accounting/traffic of online advertising. These companies have developed innovations that have built billions of dollars in market value.

Although these examples are from the developed world, they may be helpful from a structural perspective when looking at how the creation of new disruptive platforms can spur development not only of new businesses that utilize the platform, but also new businesses that can support the creation of a robust ecosystem for the platform.

Key factors facilitating the development of a functioning crowdfunding ecosystem (see Figure 1.5) include:

- A regulatory framework that leverages the transparency, speed, and scale that advances in technology and the Internet can deliver to early-stage funding marketplaces: In the case of crowdfunding, it

FIGURE 1.5. THE CROWDFUNDING ECOSYSTEM



is important that regulators rethink investor protection given an array of new tools that now are available with the rise of the Internet and the social web. Protecting investors is critically important because if crowdfunding becomes rife with fraud, the market will collapse. By working with technology companies and innovators on new ways to both protect against fraud as well as to monitor crowdfunding companies over time (for example, require annual reporting that tracks top level sales, costs, and job creation numbers) regulators may gain additional insights that were not available before.

- Strong social media market penetration and Internet usage necessary to harness demographic and technology trends to drive collaboration and cultural shifts: As has been mentioned before, the primary difference between what has been termed “traditional friends and family finance” and crowdfunding is the ability to effectively leverage social media to broaden the reach of these fundraising campaigns, provide better measurement tools, and reduce the friction in the process of raising capital. Social media adoption is increasing dramatically in most countries in the developing world and this also has the potential to support and encourage changes in some of the cultural norms around risk taking and potentially even failure that have persisted in many traditional cultures.
- A regulated marketplace that facilitates capital formation while providing prudent investor protections through education and training as well as regulation: Regulators have the opportunity to utilize equity- and debt-based crowdfunding to provide better protection to investors than they could have ever done in an offline world. Driving capital formation online creates the opportunity to monitor and report on what both entrepreneurs and investors are doing on these online platforms in ways never before possible. It also harnesses the power of the crowd

“Crowdfund investing platforms also need rules on who may participate”

for additional diligence and real-time monitoring of campaigns. Online tools also exist today and can be harnessed by traditional investors and regulators to reduce friction in the investing process and provide better communication that may lead to increased levels of trust among both traditional angel investors and (smaller) crowdfund investors. This trust will come as a direct result of making quality education available so that both traditional and new investors can build a strong understanding of this new asset class. Regulators should look at these new technologies as supporting their role in both investor protection and capital formation.

- Collaboration with other entrepreneurial events and hubs such as business plan competitions, incubators, accelerators, and co-working spaces to create a funnel for opportunity and prudent oversight once funded: It is important to understand that while crowdfunding may be a disruptive technology, it can be an effective catalyst for current efforts in the entrepreneurial ecosystem including competitions, incubators, and accelerators. There is an opportunity to look at new ways to structure these entities and their activities to take advantage of the ways that crowdfunding can support these processes, including issues such as product market fit, entrepreneurial execution, and fundraising execution.

There is every reason to believe that developing economies have the potential to capitalize on this new funding mechanism. However, countries wishing to implement crowdfunding ecosystems need to understand the mechanics of how crowdfunding functions, the appropriate “light touch” role that government and regulation should play, the technological infrastructure requirements

involved, and how to leverage this technology to both drive innovation and create jobs. Developing countries that manage this process successfully may be able to leapfrog the developed world, in both a regulatory and economic sense, by creating frameworks for early-stage finance that facilitate entrepreneurship, the fostering of innovative technology enterprises, and the emergence of new competitive industries. Adding crowdfunding to existing entrepreneurial ecosystem development efforts may have a beneficial effect on these broader efforts. As with other disruptive technologies, it is not possible to accurately gauge the potential impact of this evolving market, especially where there is little available data from developing countries. Nevertheless, the leapfrogging opportunity is worth serious consideration by policy and academic experts.

Limits on participation

Crowdfund investing platforms also need rules on who may participate. In the United States, for instance, investors’ pledges will be limited by their net worth and income.⁶ Under the Italian model, any investor may participate, but only in conjunction with a professional investor. Several portals, such as Angelist.com and Shekra.com, limit investing only to screened and approved high net-worth investors (known in some countries as “accredited investors”).

Investor accreditation

Accredited investors are wealthy investors who are assumed to have a sophisticated understanding of financial markets and the ability to bear financial losses. Accredited investors usually are exempt from investor limits where they exist. The investment decisions of the majority of investors, by contrast, are more heavily regulated because they are more vulnerable and most

⁶ Under Title III of the JOBS Act, so-called defined unaccredited investors will be able to invest in private companies. According to the legislation, these investors will be able to invest up to a certain amount based on net income or worth thresholds. While the Act has been signed into law, the SEC has yet to publish the final rules and hence unaccredited investors cannot yet participate.

governments believe that their lower net worth or income merits additional protection. Businesses in the developed world that raise capital may be tasked with requiring investors to certify accreditation status.

Depending on the country, individuals may either self-certify that they meet minimum requirements or must have a third party, such as an accountant, certify accreditation based on personal income or tax records. Accredited investors play an important role in business financing because they are usually located in the vicinity of the companies in which they invest, and in the best cases provide oversight, experience, knowledge, and introductions in addition to capital. In many cases these are the wealthy family members that make up the friends and family financing that takes place globally.

High net-worth does not always guarantee financial sophistication

The biggest challenge surrounding accreditation is that high income and net worth do not necessarily equate to financial sophistication or knowledge of capital markets. Consider a movie star and a finance professor: the star probably has far greater net worth and income but a far inferior understanding of capital markets. Nonetheless, when it comes to letting unaccredited investors diversify into crowdfund securities, it is important to set guidelines so that they have an understanding of what are reasonable limits. Models of accreditation should include a consideration of education, to test the investor's understanding of investment risks, as well as disclosure of experience in investing in general.

Who should be allowed to invest?

Each country must find an appropriate balance between protecting investors and ensuring the flow of capital to early-stage companies. Modest and balanced regulatory schemes are more likely to accelerate formation of high-growth companies and crowdfunding ecosystems than heavily regulated systems. This is not to say that there should be no investor limits. Rather, financial authorities should consider leveraging technology to provide investor

protection in a tiered regulatory model that could include:

- High net-worth individuals: Based on in-country economic data, construct an income or wealth threshold that allows the top earners, who can afford to deploy more risk capital, to invest freely in crowdfunded securities.
- Middle-income individuals: Allowing middle-income investors to participate in private company offerings through CFI can support economic growth. Each country should determine an appropriate cap to place on the amount such individuals can invest in crowdfund investing in a given period of time. Educational materials and technology solutions can support the enforcement of these limits.
- Lower-income individuals: Given the inherently high risk of failure of start-ups, governments may wish to consider some minimal income requirements and maximum investment for participation, unless the individual is a family member of one of the founders. Also, using web-based technology platforms for crowdfunding and crowdfund investing enables financial authorities to restrict access to individuals who do not possess any financial or technology literacy. The long-term goal would be to create pathways of education that would enable all individuals to build financial literacy so they can participate in markets.

To streamline bureaucracy and protect private information, individuals should be allowed to self-certify their income or net worth brackets on funding platforms and allow the technology to limit them from going over their investment allocations. This digital footprint enables the platform to warn investors if they exceed investment limits. If they choose to proceed, the platform can certify that they understand they are exceeding their limits, and if they sustain losses this certification can be used as documentation.



2. Crowdfunding and the Opportunity in the Developing World

Key points:

- Crowdfunding is still relatively new and, so far, has mostly been a developed country phenomenon.
- Crowdfunding is beginning to spread globally and the potential for using crowdfunding in the developing world could be significant for the support of innovation, growth and jobs.
- Capitalizing on this opportunity will require learning from the early experience in the developed world about the factors for successful crowdfunding.
- This chapter describes the current status of crowdfunding in developing countries and highlights the factors that are either missing or require development.
- The opportunities that exist are described in detail as well as various potential risks.

Status

Crowdfunding is already gathering momentum globally. Although still in its infancy, there are early trends that can be identified as crowdfunding platforms begin to gain traction. These trends indicate the potential that lies in the developing world.

While crowdfunding is still largely a developed-world phenomenon, with the support of governments and development organizations it could become a useful tool in the developing world as well. Substantial reservoirs of entrepreneurial talent, activity, and capital lay dormant

in many emerging economies, while traditional attitudes toward risk, entrepreneurship, and finance stifle potential economic growth and innovation. These economies have the potential to drive growth by leapfrogging the traditional capital markets and financial regulatory regimes of the developed world and neighboring developing countries. Doing so successfully will require ongoing education on entrepreneurship and access to new financial tools, including crowdfunding.

Crowdfunding and crowdfund investing each have the potential to play several important roles in the developing world's entrepreneurial and venture finance ecosystem. However, compared with the developed world, many developing countries are challenged by a number of cultural, economic, and institutional forces that have suppressed entrepreneurial activity and funding. Nevertheless, there is considerable potential for crowdfund investment platforms to channel individual savings in developing countries to projects within their own city, country, or region. CFI has also shown some early success in creating capital and product flows between northern and southern countries. Crowdfund investment platforms therefore have the potential to provide returns to individual investors, change societal norms, return capital to a home country, and provide investment opportunities to channel savings as well as generate wealth, innovation, and jobs.

Crowdfunding relies on, and draws inspiration from, other innovations that have helped shape enterprise in the developing world. Several examples demonstrate the potential for new technology and models to be adapted to foster innovation and enterprise despite the developing world's challenges. Many of these initiatives leapfrogged the developed world – that is, they installed a newer or better model than existed in the developed world. Examples include mobile payments in East Africa, low-cost drip irrigation in India and alternative fuel adoption (ethanol) in Brazil.

In the developed world, most platforms are donation and perks-based. The early success of platforms, such as Kickstarter, has brought annual growth in the number of platforms of 60% CAGR. With equity- and debt-crowdfunding beginning in earnest, there has been a recent acceleration in the number of crowdfunding platforms, particularly in North America, with a 91% increase in 2012.

The developing world, while just beginning to engage in crowdfunding, is also showing encouraging signs of early adoption. The rise in the number of crowdfunding platforms and utilization of those platforms is related to a number of factors that vary by region. Because of the embryonic status of the industry in the developing world, most of the early campaign successes are not found in high-growth technology-focused entrepreneurial ventures. Early campaigns have tended (with some exceptions) to be focused on raising money for artistic and cause-related issues. This initial activity may be the early 'green shoots' that lead to entrepreneurial engagement in crowdfunding. This is similar to how crowdfunding began in the developed world – at first artistic and cause campaigns used crowdfunding and then entrepreneurs began to understand how they could effectively utilize this new channel to sell inventory and raise equity and debt capital.

Some regionally focused examples include:

- Sub-Saharan Africa has seen steady growth over the past three years with the number of platforms doubling each year. Factors fueling this growth may include a rise in the middle class, rapid adoption of mobile technology and real market need.
 - One example platform that is conducting infrastructure project based crowdfunding is Homestrings (www.homestrings.com). According to its CEO Eric Guichard, between its launch in 2011 and February 2013, Homestrings has mobilized about US\$25 million in funds, covering 13 countries in Africa, and has a growing range of products, projects, funds, bonds, and public-private partnership opportunities including branded products to be rolled out. This platform is targeted at institutions and individuals and their investment opportunities include the government of Kenya, First Quantum Minerals, Ghana, Nigeria, and Afren plc.⁷
 - Another example of early traction with more traditional entrepreneurs is Startme (www.startme.co.za), which funds both entrepreneurial and cause related campaigns. Currently there are 20 entrepreneurial focused campaigns on the site with four that have surpassed their funding goals totaling US\$4,500 raised.

⁷ <http://www.howwemadeitinafrica.com/how-homestrings-is-allowing-the-african-diaspora-to-invest-in-projects-back-home/24491/>

- Latin America and the Caribbean has seen early hyper growth that exceeds all other regions going from five platforms to 41 since 2010. This is a positive sign for the potential of crowdfunding in the region as platforms expand quickly to meet the capacity demands in an area where traditional capital formation has been difficult. Two of the most active and successful platforms in this region are Catarse and Ideame:

- In Brazil, Catarse (<http://catarse.me>) has raised over US\$4.1 million for over 1000 campaigns from over 40,000 supporters on its rewards-based platform. To demonstrate the acceleration of this platform's growth, it took 10 months to first surpass fundraising equivalent to R\$1 million (about US\$450,000). Most recently in 2013, it was able to fund that same amount in just 45 days.⁸

- Ideame (<http://idea.me/>) was also founded in 2011 and has campaigns in six countries in the region (Argentina, Mexico, Chile, Brazil, Colombia, and Uruguay). There are a wide range of campaigns on the site in 19 categories including 56 in Entrepreneur, 25 in Pre-Sale, and five in Technology. Over US\$150,000 has been raised for ventures in these three categories.

- The Middle East and North Africa (MENA) region has posted higher than average growth with seven new platforms launching in the region in 2012, and four in 2011, while there were no active platforms in 2010:

⁸ <http://blog.catarse.me/10-milhoes/#more-23554579612>

- The Lebanon-based Zoomaal (www.zoomaal.com) has a mix of cause-related and entrepreneurial campaigns and in less than six months of operation, has four successful campaigns that have collectively raised about US\$100,000 (one entrepreneurial, one music-related and two cause-related campaigns)
- On the equity crowdfunding market, one platform that has demonstrated early success is Eureeca (www.eureeca.com).⁹ Their first campaign raised US\$100,000 from 23 investors. Shekra (www.shekra.com) is an Islamic finance-compliant site that has created an incubator-based model that deeply embeds crowdfunding to accredited investors and does not release specific data.

- In South Asia, between 2006 and 2010, one platform was launched a year but seven were launched in 2011, followed by a number of recent additions in 2013. So far, these recent platforms have not demonstrated significant activity. However, three of these new platforms are more focused on entrepreneurial endeavors:

- Ignite Intent (www.igniteintent.com) which has had two successful technology entrepreneur campaigns totaling US\$1300;
- The Hot Start (www.thehotstart.com), which is still in beta mode; and
- Ideasplatform (www.ideasplatform.in) that has listed five technology-based campaigns.

It is noteworthy that the first significant crowdfunding platform in the developed world was founded in 2008, just two to three years before developing nations began to develop crowdfunding platforms. Given such a short head start, innovators and entrepreneurs in developing nations are moving quickly to both adapt existing models as well as create new models to utilize the processes and game mechanics of crowdfunding and crowdfund investing.

⁹ <http://blog.catarse.me/10-milhoes/#more-23554579612>

Opportunities for crowdfunding in the developing world

Crowdfunding models for the developing world

As in the developed world, the suitability of crowdfunding for projects or high-growth entrepreneurs will depend on the project or business type, geographic presence, and the funding required. The type of crowdfunding that will be appropriate for a given project will depend on the type of project and its capital needs (see Table 2.1). Donation-based crowdfunding is most applicable to art- or community-related projects, microfinance to micro development, social lending to cash flow-positive small enterprises, and crowdfund investing to high-growth and technology-focused entrepreneurs. Equity crowdfunding is applicable to businesses that have a sale, merger, or IPO strategy. Debt crowdfunding is more applicable to businesses that do not have a sale strategy, need short-term cash and have cash flow to pay off the debt.

Capital flows and markets

Much research has been done on remittances as a major source of development financing, the scale of which reaches into billions of dollars. These fund flows traditionally are person-to-person, so they are well aligned within the framework of crowdfunding. There may well be a relationship between crowdfunding and foreign capital flows but data is currently only available for a small sample of countries and is insufficient to show correlation. Future research may reveal a positive relationship once data exists. The relevant factors are discussed below.

TABLE 2.1. SUITABILITY OF CROWDFUNDING MODELS FOR THE DEVELOPING WORLD.

	Most suitable project type	Average funding sought (US\$)	Suitable for exploration in developing world?	Suitable for high-growth, innovative start-ups?
Donation-Based Crowdfunding	Arts	< \$10,000	Yes	No, if capital requirements are > \$10,000
Reward/Pre-sale Crowdfunding	Project, Product	< \$100,000	Yes	Yes, as a testing ground for proof of concepts
Microfinance	Micro development	< \$1000	Yes	No if capital requirements are > \$1000
Social Lending	Micro development	< \$50,000	Yes	Only if capital requirements are < \$50,000
Crowdfund Investing/Equity	Technology Innovation	< \$250,000	Yes with the right infrastructure	Yes

“ Sites such as **homestrings.com** have demonstrated the ability for web-based donor platforms to channel diaspora investment back to a country ”

Foreign direct investment and remittances

The level of foreign direct investment appears to be related to the launch of crowdfunding in a country. A second related variable is the amount of remittances flowing into a country coming from its citizens living outside the parent country. Though additional research is needed, early findings indicate that crowdfunding may both reflect the interest of the international community to invest in a given country, and also serve as a mechanism for remittance capital to be deployed into high-growth-potential companies to further economic expansion in a country.

Crowdfunding and the diaspora

The term diaspora refers to the dispersion of people who share a common ethnicity from their homeland. Membership of a particular diaspora group typically is based on original nation-state, religious, regional, ethno-linguistic, or other identifying criteria, to which members have retained their emotional, cultural, and spiritual links. Belonging to a diaspora entails a consciousness of, and emotional attachment to, commonly claimed origins and cultural attributes.

Concerns for home country developments and the plight of co-diaspora members in other parts of the world flow from this consciousness and emotional attachment. Crowdfunding may provide a financial outlet for diaspora members' emotional desires to strengthen their country or population of origin.

Sites such as HomeStrings.com have demonstrated the ability for web-based donor platforms to channel diaspora investments back to a country. The growth of crowdfunding in the developing world may amplify these dynamics, and could give rise to regionally specific crowdfunding platforms that attract donations or investments from the diaspora community. Indeed, crowdfunding in the developing world provides an opportunity to study remittance and diaspora capital flows with the goal of discovering best practice and encouraging greater investment from former citizens or residents. Governments may consider the benefits of remittance dollars flowing through crowdfunding platforms, which provide a digital footprint of the money flows. These digital footprints can help governments understand more about the financial health and level of commitment to their country among members of the country's diaspora. Crowdfunding platforms can identify the current country of residence of a funder, the types of companies/entrepreneurs that diaspora investors are funding and the level of commitments from those funders.

Developing the crowdfunding ecosystem

Market opportunity research process

Research was carried out to discover which factors are most important for crowdfunding to gain strong acceptance in a country, to help understand in which countries and under what conditions crowdfunding might succeed. Data for the study was aggregated from a number of published sources in entrepreneurial finance, economics, and international development, including data from the World Bank's World Development Indicators.¹⁰ The aggregate data included variables that measure regulatory factors, social media engagement, cultural variables, remittance inflows, informal investor rates and venture capital flows. The

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¹⁰ <http://data.worldbank.org/data-catalog/world-development-indicators>

data was organized by country and year and analyzed using a series of regression models, with the number of crowdfunding platforms in a country as the dependent variable. The model is limited by low observations owing to the global nature of the research and the limited availability of detailed country information. A full discussion of the results with detailed statistical information is provided in Appendix A.

The model used the number of crowdfunding platforms in a country in a given year as the dependent variable to compare how social, cultural, economic, and technological norms can influence crowdfunding ecosystems. The research considers all forms of crowdfunding – donation, perks, debt, and equity – because all forms fill a void where funding previously was unavailable. This study does not attempt to track crowdfunding transaction flows across platforms or countries, a subject for future research. Thus the findings are limited to an analysis of factors related to the emergence of crowdfunding platforms within a given country, not their use or transaction volume.

Limitations and assumptions

The minimal overlap between the various databases used in the model introduces limits on the conclusions that can be drawn from the data. In the final comprehensive model, variables are drawn from eight different databases or sources. The collective use of these databases limits the number of observations for all the regressions run. The use of country-level data further limits the number of observations because of the sporadic coverage and collection of data. This conglomeration of databases severely limited the number of observations for all regressions that were run. This is further exacerbated by the use of country level data, the coverage and collection of which is sporadic at best for any given year.

In addition to the overlap problem, the model was also subject to the following assumptions, any of which might introduce bias:

- Crowdfunding platform count (CFP count), the dependent variable is a reasonable proxy for level of crowdfunding engagement in a given country. Crowdfunding platforms are started by entrepreneurs in response to perceived market opportunities; thus the evidence of demand can be inferred by the creation of supply. In effect, this study assumes that demand drives supply in this market.
- The dependent variable (CFP count) is a comprehensive representation of all crowdfunding platforms in existence. Because crowdfunding sites have to publicize themselves, it is not unreasonable to believe that the list of crowdfunding platforms compiled is close to comprehensive. That being said, the approach used was unavoidably ethnocentric in nature, with a disproportionate emphasis placed on English speaking platforms and/or platforms located in North America and Western Europe. If platforms were missed, they are most likely based outside of this area, leading to the overweighting of western attributes in the models.
- All platforms have approximately equal transaction volume. Owing to the lack of transaction data, the assumption that the transaction volume of platforms averages out is necessary. Future research and more data will make this assumption unnecessary. Until then, this leads to potential for an unbalanced model, where small nascent platforms and large established sites are weighted equally. This may slightly skew the results towards small countries that may have several platforms but little engagement in crowdfunding.

- Number of Facebook users is an appropriate proxy for Facebook engagement/use. This assumption is used because of the difficulty of finding reliable, comprehensive data about social media engagement. The ratio of fake to real profiles differs between countries but no way to ascertain this ratio was found.
- Facebook penetration is a strong proxy for social media engagement. Facebook is the largest social network in all but ten countries. If the number of Facebook users is a strong proxy for engagement or use of Facebook, and more people use Facebook than any other social network, then it follows that it is a good proxy for total social media engagement. This assumption is necessary because of the paucity of data.

Identifying the key variables

A limited number of variables were identified that appeared to be moderately to strongly correlated with the launch of crowdfunding platforms. These variables were grouped into cognitive, normative, regulatory and infrastructure-related (technology and entrepreneurship, and capital markets) factors, each of which was analyzed using various regressions with the dependent variable, controls (either total population in tens of millions or nominal GDP), and related variables. Each group of variables is discussed below:

- **Cognitive variables** measure perception. Perception can be influenced by education, with more exposure leading to broader acceptance and understanding of entrepreneurship, so the model used the percentage of the labor force with a secondary or tertiary education respectively. There was a small positive correlation between educational variables and the launch of crowdfunding. This association between the proportion of the population with secondary or tertiary education and the rise of crowdfunding suggests that societies with more educated populations are more likely to have crowdfunding portals. Education can foster an ecosystem of entrepreneurship based on learning, giving businesses the knowledge necessary to succeed, and can address misperceptions or fears related to entrepreneurship.
- **Normative variables** measure social norms. The analysis shows a moderately negative correlation between face-saving, uncertainty avoidance and in-group collectivism and the launch of crowdfunding platforms, perhaps because all factors are related to risk aversion. For example, the more people are concerned with saving face, the more important they will consider other people's perceptions of them to be and the less likely they are to take risks. A similar dynamic occurs in cultures with a high degree of in-group collectivism or uncertainty avoidance. In societies with a strong groupthink mentality, crowds exert powerful influence on people's decisions and behaviors, making individuals less likely to branch out. Conversely, crowdfunding ecosystems may flourish in environments in which people do not fear losing face or experience group backlash against risk-taking. There was a positive correlation between a society's performance orientation and number of crowdfunding platforms – suggesting that the more a culture emphasizes performance, the more likely it will be to support the launch of crowdfunding platforms.

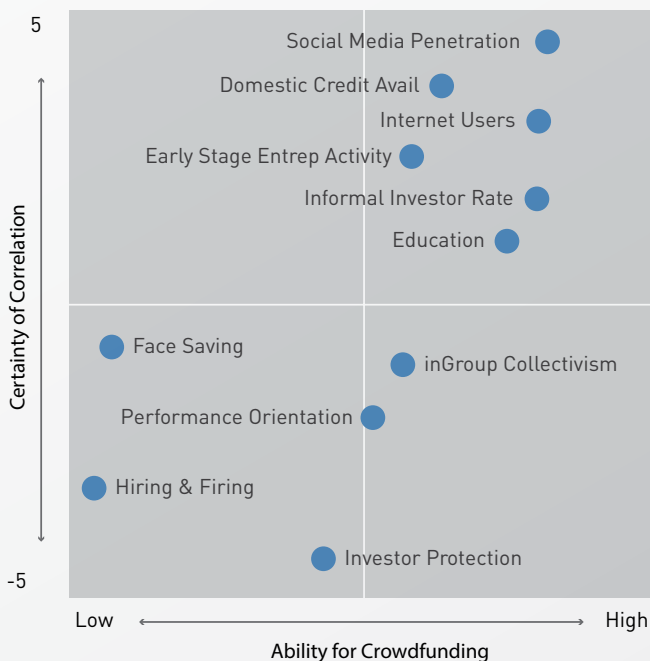
- **Regulatory variables** consider the rigidity and efficiency of local regulation. This study used the following variables to model regulatory factors: cost of starting a business (percent of income/capita), cost of resolving insolvency (percent of estate), and the strength of investor protection index. CFP count – by country, by year and country population – was once again used as the dependent and control variables. The regulatory variables were nearly all significant, with the exception of resolving insolvency. There was a small negative correlation between the cost of starting a business and CFP, and a slightly positive correlation with resolving insolvency. An analysis of the regression model suggests that highly regulated economies and those with overly burdensome barriers to market entry are less likely to benefit from crowdfund investing. This

is not to suggest that regulation is not an important part of a crowdfund investing ecosystem, as demonstrated between the positive correlation between platform count and strength of investor protection. Data seem to suggest that crowdfunding platforms are more likely to emerge in economies with low market entry costs and adequate investor protection. In order to encourage the development of crowdfunding, policy makers should seek to enact legislation that encourages the development of these attributes.

FIGURE 2.1. FACTORS ENABLING OR DETERRING A CROWDFUNDING ECOSYSTEM.

Propensity to Launch Crowdfunding Platform

What factors enable or deter a crowdfunding ecosystem?



Findings

Positive Factors

- ▶ Strong social media usage
- ▶ High degree of early stage entrepreneurial activity
- ▶ Strong friends and family funding network
- ▶ Access to education

Negative Factors

- ▶ More focus on saving face
- ▶ Overly burdensome hiring & firing
- ▶ Overburdened investor regulations/protection

Infrastructure-related variables:

- Technology and entrepreneurship variables tracked levels of informal investing, analyzed Internet access and social media penetration as well as hiring and firing efficiency. The data show that social media penetration is far more strongly correlated with crowdfunding platforms, and predictive of their launch, than is overall access to the Internet. This finding is consistent with the highly social nature of crowdfunding. Crowdfunding depends upon individuals using their social networks to raise capital for their businesses. Without the social network, there is no mechanism for reaching the crowd of potential

funders. There is also a positive correlation between Internet adoption as a percentage of the population and the rate of social media penetration. The data strongly suggest that how the Internet is used is much more important than just having access. Contrary to expectations, the informal investor rate negatively correlated with crowdfund platform count; this warrants further investigation and attempts at explanations fall outside of the scope of this report. Hiring and firing practices were also negatively correlated with the dependent variable.

- Capital markets variables were also examined. A positive correlation exists between the launch of crowdfunding platforms, the amount of capital being invested directly in the country by foreign entities, and formal domestic credit. Remittance inflows and amount of venture capital transactions were both slightly negatively correlated with crowdfunding platform count. These results could be further scrutinized if sufficient data, especially information about total transaction volumes, could be obtained and then regressions run against each category of crowdfunding platform. Future research may focus on the relationship between equity-based crowdfunding and capital market variables;

BOX 2.1. WHY SOCIAL MEDIA?

CFI amplifies friends and family financing by bringing technology to the process of fundraising to make it more scalable and transparent. The entire CFI model is predicated upon the availability of the Internet, social media, and the ability to transfer funds in a “standards-based” way such as mobile payments and online funds transfers. Countries wishing to implement a CFI ecosystem must have a technology infrastructure that supports and enables these capabilities. Governments must first evaluate whether their citizens have access to uncensored and reliable social media, whether through fixed, wireless or mobile networks. Crowdfunding

can succeed if robust telecommunication and cellular infrastructure is in place, regardless of the depth of wired Internet connections.

Many technological solutions in the crowdfunding space already exist with options to buy, build or white-label (re-brand) the platforms. Governments’ challenges concerning which technology platform to implement are relatively easy to resolve, compared with the far greater challenges of fostering a culture with crowdfunding-friendly attitudes toward risk, investment and failure, building a legal framework for the securities transactions and ensuring electronic payment facilitation.

“The single most predictive factor for the rate of Crowdfund emergence is social media penetration”

equity-based crowdfunding is more likely motivated by the desire for monetary returns and is thus linked with other capital market devices. The small number of observations for this group of variables makes any results tenuous at best.

Key indicators for the rise of crowdfunding ecosystems

When these variables are grouped into a regression model, a few variables seem to be especially pertinent (see Figure 2.1). The single most predictive factor for the rate of crowdfund emergence is the rate of social media penetration. It is strongly positively correlated with the rise of crowdfunding platforms in a country (see Box 2.1). Similarly, performance orientation is strongly correlated (if not nearly as strongly as social media penetration) with the number of platforms in a country. Next, uncertainty avoidance is a moderately strong negative predictor, as is face-saving orientation and in-group collectivism. Remittance inflows and informal investor rate are both negatively correlated, confirming our earlier analysis.

The most relevant interaction was found among the normative variables (in-group collectivism, face-saving, uncertainty avoidance, and performance orientation). The exclusion of any single variable collapses the model as much as the removal of all normative variables. This demonstrates a high degree of interdependence between these variables and thus the dependence of CFP count on the combination of all normative factors together and not necessarily on any individual normative variable.

Facebook penetration was by the far the single most important variable in the model. Its statistical effect dwarfed all other variables. This can be explained in several ways. First, crowdfunding is inherently a socially mediated transaction and utilizes social media platforms for marketing, communication, and outreach. Second, in many countries, social and

mobile technology has leapfrogged Internet connectivity and consumers are interacting in social networks over mobile devices. Facebook is the dominant social media platform in all but ten countries of the world, so it serves as a good measure of social media utilization.

The next most significant variable is performance orientation, followed by a negative correlation with uncertainty avoidance.

There are large regional differences that affect both the number of reports from the United States and Europe and also the differences in technology penetration. With crowdfunding being relatively new, there is a highly asymmetrical distribution of platforms across the globe. Although platforms are emerging in South America, Africa, Asia, and the Middle East, about 95 percent of all platforms are currently based in either North America or Europe.

Estimating the size of the crowdfunding market in the developing world

The crowdfunding market is in its infancy. As a result, any attempt to assess the potential intermediate-term size of the market in the developing world is speculative. This study developed a framework to derive projections based on estimates of:

- The number of households capable of making crowdfund investments;
- The amount in U.S. dollar equivalents (using purchasing power parity) available to invest in securities-based crowdfunding; and
- The amount of money investors will reallocate from both savings and their equity holdings.

“From an income perspective, 240-344 million developing country households could participate in crowdfunding”

The framework was constructed on the basis of reasonable hypotheses. First, what household income level is required to enable more than 80 percent of a population to own financial securities such as stocks, bonds and mutual funds? This “line in the sand” functions as a proxy to establish the point at which a given population has at least an understanding of the principles of investments, risk, and portfolio construction. This ability to understand the basics of investing has a critical correlation with crowdfunding. In the United States, according to U.S. government data, the annual household income threshold at which 80 percent of households own securities is US\$75,000.¹¹

The average U.S. household size is 2.6 people which, for the purposes of this projection, one could assume comprises two adults and 0.6 dependents. This might imply that the average income per adult in the relevant population is US\$75,000 divided by two, or US\$37,500. Alternatively, we can distribute total income within the household, assigning dependents a 60 percent income share of an adult: in that case average adult GDP per capita is US\$28,846, with US\$17,308 for a dependent. With this approach the child effectively becomes a cost that the model factors in to assess a family’s capacity to participate in crowdfunding.

¹¹ <http://www.census.gov/prod/2011pubs/12statab/income.pdf>

Assumption and purchasing power parity

The U.S. household income threshold, of course, cannot be applied directly to emerging markets. To better capture the potential total available for investment in developing economies, this research translated each country’s GDP into U.S. dollars in terms of purchasing power parity (PPP). The key income threshold is based on a PPP dollar per capita range between US\$10,000 and US\$14,423. This US\$10,000 figure is considered as the threshold for being a middle-class consumer with significant disposable income in most emerging markets, while US\$14,423 is half of the equivalent “one-adult” share of the U.S. household figure.

One method for deriving a per capita GDP figure would be simply to divide each country’s GDP in PPP dollars by its population. However, this method is not accurate enough: it fails to capture the fact that upper income deciles in the developing world have a far higher share of GDP than in the developed world, while lower income deciles have a far smaller share. The World Bank’s PovcalNet database was used to assess the skews for each income decile within emerging market economies.¹²

A further adjustment needs to be made to the per capita PPP dollar income decile figures to account for how much of GDP is actually captured by households: this is the so-called “labor share”. Assessing this is also problematic, because not all countries provide accurate data. However, academic research show that when adjusting for involuntary self-employment, which is far more prevalent in emerging markets than in developed economies, the labor share generally falls in a range of between 60 percent and 70 percent of the GDP captured by those households. We have taken this level as a base, while assuming that lower income deciles have a lower labor share, and higher income deciles command a greater premium from employers.

¹² <http://iresearch.worldbank.org/PovcalNet/index.htm>. PovcalNet is an online tool used for poverty calculations. PovcalNet data are based on national statistics measuring either income or consumption patterns by households across the income spectrum.

A per capita PPP dollar figure, adjusted for both income distribution and the labor share of GDP, is thus made available for each income decile. However, those figures again need to be adjusted to reflect the fact that while the number of households in each income decile is the same, the number of individuals in each household is not. A household with far fewer members than the national average would effectively have a higher income per capita, while a household with more members would have a lower one.¹³

The resulting effective per capita PPP dollar figure is multiplied by the number of individuals in each household. It is then compared with a key target comprised of twice the assumed per capita PPP dollar adult income threshold (to reflect two adults), and 0.6 of the adult threshold for each dependent. If a particular

decile exceeds this key threshold, the numbers of households in it are counted as potential investors in crowdfunding projects.

Potential participants in crowdfunding markets

The results show that, simply from an income perspective, the number of households in developing economies that could participate in crowdfunding ranges from about 240 million to 344 million.

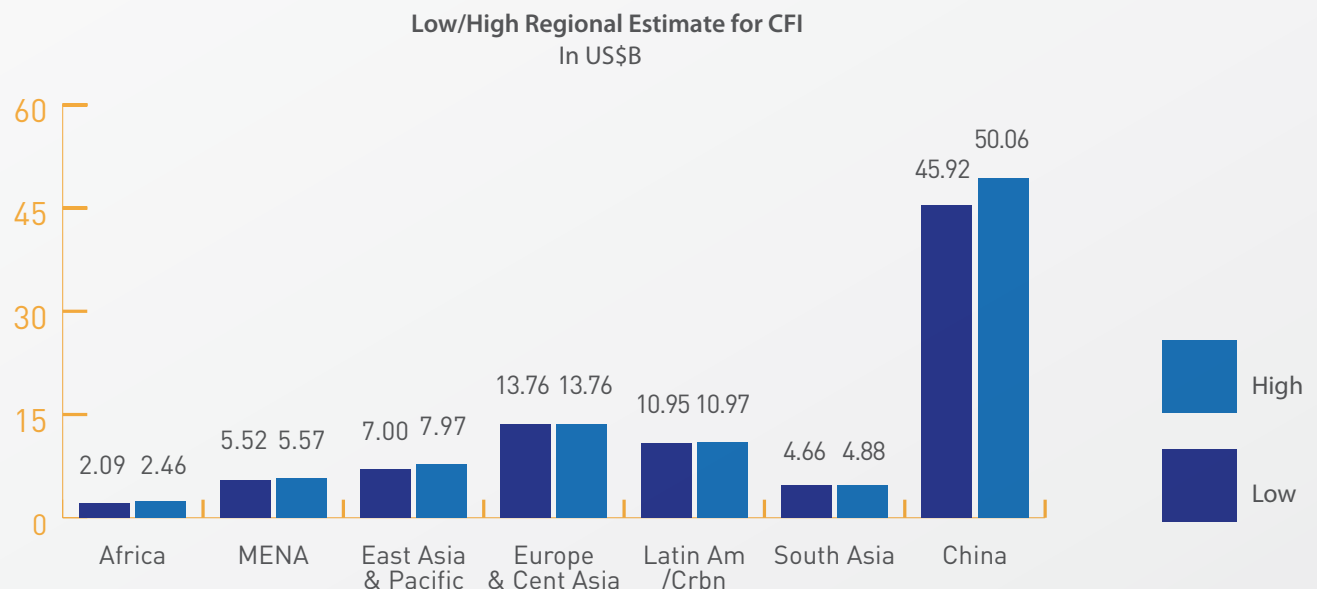
The data are further adjusted to show how much actual capital is available to invest across the emerging markets universe at present. It makes the conservative assumptions that no-one will invest unless:

- They have a sufficiently high income (between US\$10,000 and US\$14,423 PPP)
- AND
- They have savings equal to at least three months of primary income
- AND/OR (depending on the country)
- The value of their equity holdings also equals at least three months of primary income.

¹³ Average household sizes per decile are based on national data, where available, and on close socioeconomic matches between countries where they are not; they also assume that lower-income deciles have larger families than higher-income deciles, which is the observed pattern.

FIGURE 2.2. CROWDFUNDING POTENTIAL BY REGION

A Global Market Opportunity up to \$96B



We assume total household savings for each country are 50 percent of M2, a broad measure of money in circulation in a county. Few developing countries release data on household deposits as a share of total deposits with the exception of China (44 percent in 2012) and India (58 percent in 2013). We assume these two countries are representative of a large spectrum of emerging market countries and so assume a 50 percent figure as representing the midway range for most emerging economies.

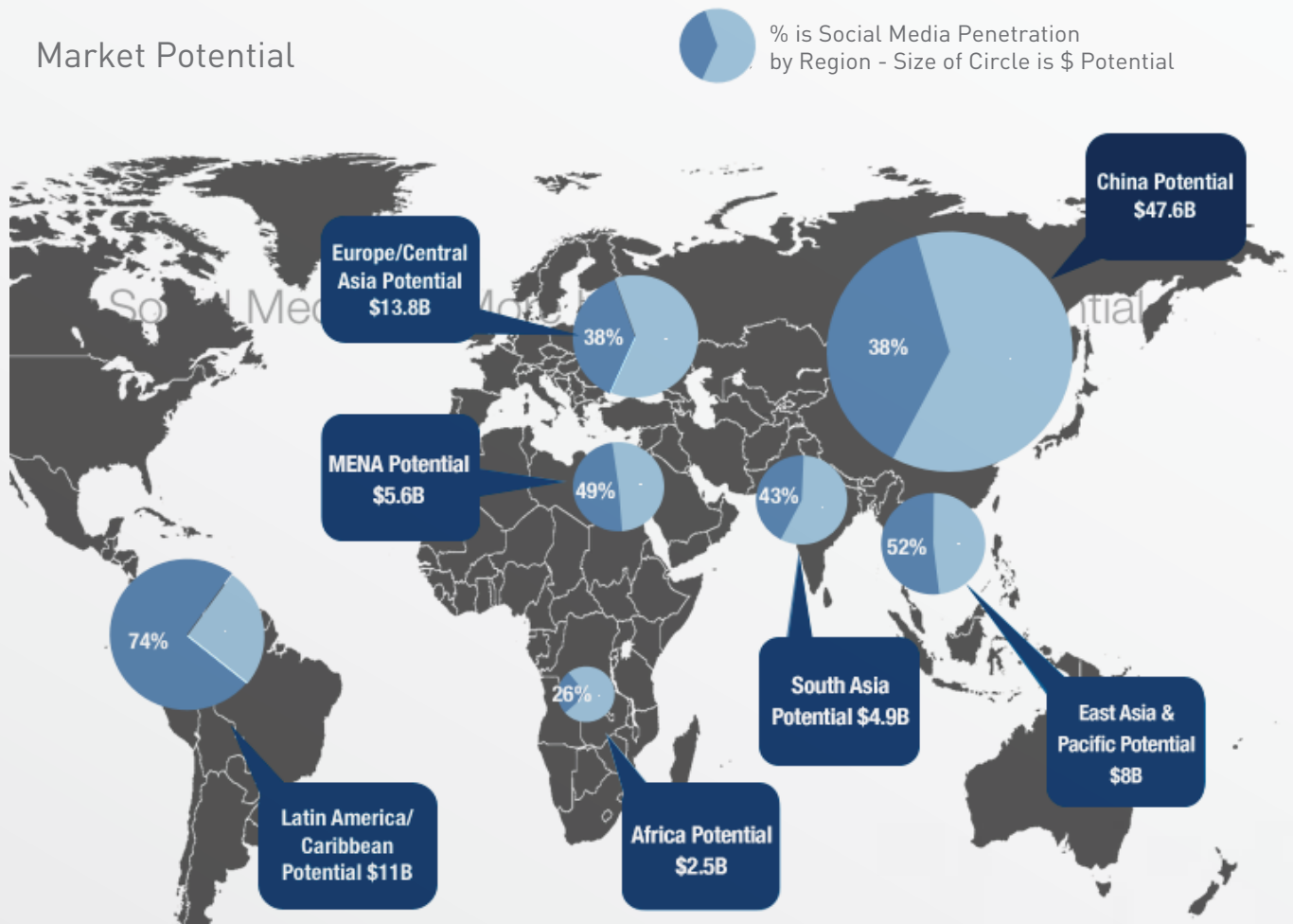
Countries were then separated into three categories on the basis of their social media penetration rate. Given that Facebook is the dominant social media platform in all but 10 countries, the percentage of the population with Facebook accounts is used. Using social media penetration instead of Internet penetration is consistent with the regression model used in the research, and also recognizes that in many countries citizens have leapfrogged Internet connections and access social media via mobile technology. The model assumes that

countries with higher social media penetration are more likely to participate in crowdfunding: high-band countries have more than 50 percent of their population using social media; medium-band countries have 25-49 percent; and low-band countries have 0-24 percent.¹⁴

Given these assumptions and the existence of supportive regulation and other enabling factors described in section 1.5, the total market potential by 2025 is estimated to be up to US\$90-96 billion per year (see Figure 2.2). The greatest potential lies in China, which accounts for US\$46 to US\$50 billion of that figure, followed by the rest of East Asia, Central Europe and Latin America/the Caribbean (see Figure 2.3). Based solely on economic data, China appears to have significant potential in this new form of finance. However, there are significant issues with intellectual property, user expectations, and limitations on securities

¹⁴ Data on social media penetration are for 2012 and were compiled from Internet World Stats. Note that 1:1 correspondence between a person and a Facebook account is assumed. Also, alternative social media sites have significant user bases in Asia and Eastern Europe.

FIGURE 2.3. MARKET POTENTIAL FOR CROWDFUNDING ACROSS THE REGIONS



“At US\$93 billion, the potential size of developing world **crowdfunding** would represent 1.8 times global venture capital investments”

markets that may suggest China's potential size is much smaller than this estimate. A more in-depth discussion of crowdfunding in China can be found in Appendix B.

Comparisons

Three data points (global savings, remittances, and venture capital funds deployed) may help to provide basic points of comparison for the relatively conservative market estimate of US\$93 billion. These data points are included to compare recent data on the volume of investment capital utilization with the estimated size of the crowdfund investing market over the next 20 years:

- Developing world savings: total savings in the developing world was US\$6,304 billion in 2010.¹⁵ At US\$93 billion, the estimate for crowdfund investments would represent 1.5 percent of the total developing world savings rate.
- Diaspora remittances: diaspora remittances to developing countries were estimated to be US\$372 billion in 2011.¹⁶ Research by the World Bank¹⁷ indicates that remittances typically are used for “financial defense” measures, such as keeping children in school or staying in a home. More study will be required to determine if crowdfund investing can or will cause remittances to be deployed in different ways to help individuals build greater financial security through the growth of their own businesses. If so, at a US\$93 billion market potential, crowdfund investing could deliver an additional 25 percent more capital to developing countries than that currently received through diaspora remittances.

¹⁵ <http://www.econstats.com/weo/CEmer200.htm>

¹⁶ <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/0,,contentMDK:2194020~pagePK:5105988~piPK:360975~theSitePK:214971,00.html>

¹⁷ <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20648762~pagePK:64257043~piPK:437376~theSitePK:4607,00.html>

- Global venture capital funds deployed: total venture capital funding deployed globally in 2012 was US\$51.7 billion (Ernst & Young 2013). Almost 58 percent was deployed in the United States alone, leaving about US\$21 billion in VC funds invested in the rest of the world. At US\$93 billion, the potential size of developing world crowdfunding would represent 1.8 times the total 2012 global VC figure.

Crowdfunding risks: fraud, failure and fulfillment

Both donation-based and equity-based crowdfund investing campaigns present perceived and actual risks to investors. These risks broadly fall into the categories of failure, fulfillment, fraud, and money laundering.

Donation-based crowdfunding risks

Data from the major existing platforms show no successful fraud has been perpetrated through pledge-based crowdfunding platforms. Attempts at fraud have been made but were thwarted by the transparency inherent in crowdfunding: would-be investors asked questions and challenged the fraudulent postings, revealing the frauds and resulting in their removal from funding platforms within 24 hours.

The primary risk to consumers from donation-based crowdfunding is fulfillment risk. Some companies raise funds through crowdfunding without having thought through production, shipping, tax issues, and other essentials of their business model. There have also been examples of technical failure risk, usually involving the presale of software. In these cases companies received funds for products they intended to build, but technical problems prevented them from shipping the product. It is difficult for donors to differentiate “intention to produce” from “capability to produce”, so platforms’ policies should be reviewed to determine who is responsible for handling partial refunds or alternative gifts.

The key lessons fundraising entities can learn from past fulfillment delays include the importance of periodic updates to supporters that alert them to any problems and explain what the firm's principals are doing to address them. In the case of Kone, the company experienced severe delays, but managed the process to a successful conclusion by engaging with sponsors and providing updates about the bottlenecks, efforts taken to address them, and updated times to delivery. It is likely that Kone would have faced the same problems no matter how it was funded, but without the support of the crowd, it probably would not have confronted and fixed the challenges as quickly.

Crowdfund investing risks

Any sale of securities comes with risk to the investor. CFI is not unique in this regard, but it does have characteristics that require regulatory protection and robust investor education for crowdfunding to contribute meaningfully and successfully to a country's economy. The most common risk to investors is perhaps the primary risk they face in any corporate investment: business failure risk. Experienced investors know that investing in early-stage companies is riskier than investing in later-stage companies with revenue history, mature management teams, and adequate structure. Publicly available data from the developed world shows that up to 50 percent of start-ups fail within five years.¹⁸ Potential investors need disclosure documents to help them understand these risks, the lack of guarantees, liquidity limitations and other potential pitfalls. In addition to disclosure, CFI portals and trusted third parties should provide robust, easily understood investor educational tools.

Another possible risk relates to a lack of investor sophistication. CFI primarily is targeted at nonaccredited, nonprofessional investors, who may

¹⁸ <http://www.sba.gov/sites/default/files/sbfaq.pdf>

be less qualified to make informed decisions about investments in private companies. While these investors may not actually lack sufficient sophistication, platforms should communicate clearly that investments are not guaranteed.

Fraud is a legitimate concern. Successful fraud with crowdfunding has been relatively rare, however. While most fraud is perpetrated on a one-to-one basis (for example, an identity meme solicits personal information via e-mail), fraud in the context of the social media and CFI in particular would have to occur on a many-to-many basis: a potential fraudster would have to stand up to the wisdom, queries, and insights of the entire crowd. For this reason the most likely scenario for successful fraud involves criminals creating fake crowdfunding platforms and fake companies to attract investors' money.

Money laundering is another legitimate concern, but the risk of it occurring does not appear greater with CFI than with other investing systems. Regulatory and statutory schemes currently in place in the developed world enforce anti-money laundering compliance mechanisms, and the three largest donation platforms – Kickstarter, Indiegogo and RocketHub – are fully compliant with international and U.S. anti-money laundering laws. The mechanisms used by electronic payment processors and clearinghouses also contain protection against money laundering.

Seven years, very little fraud

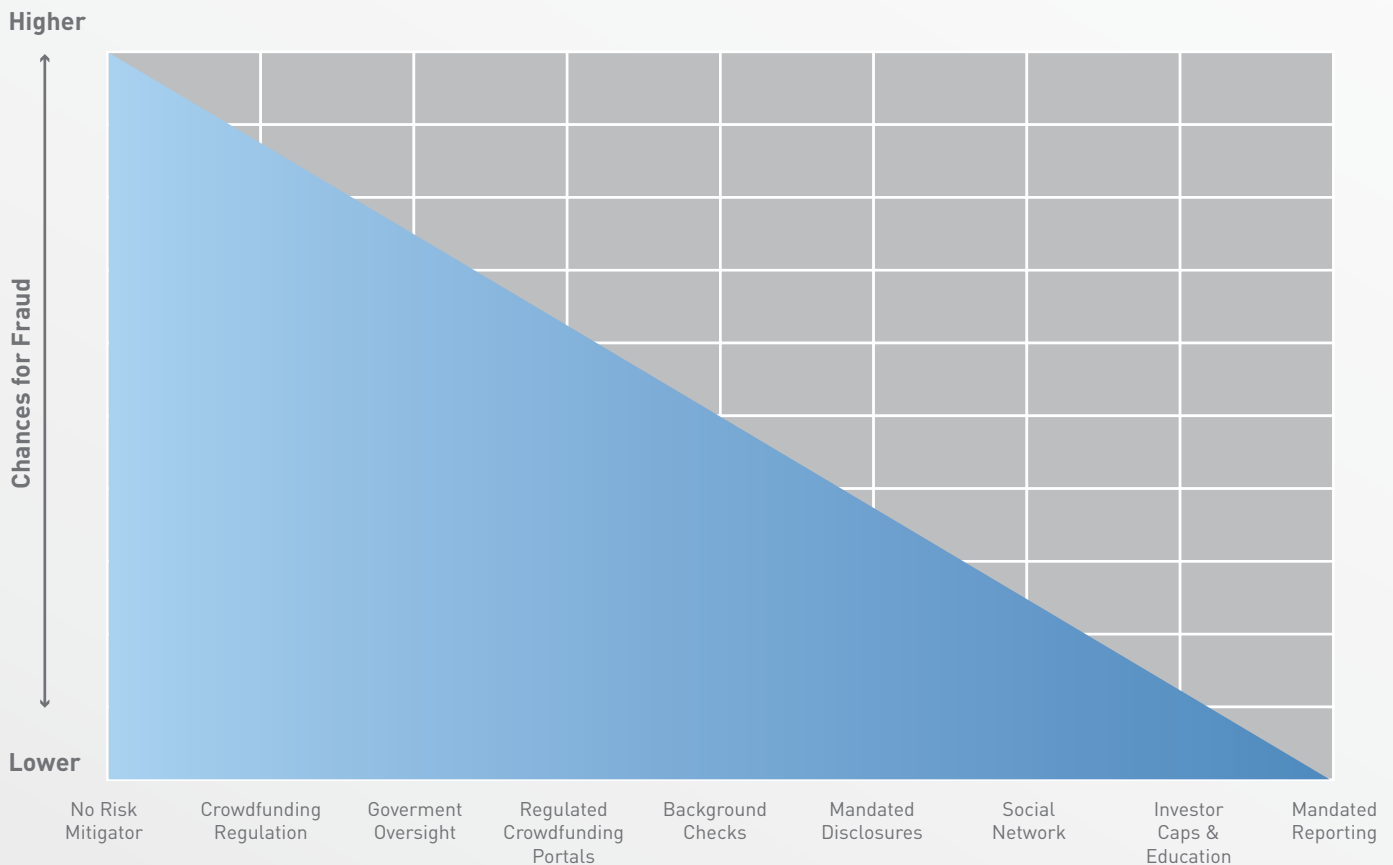
Despite the rapid expansion of crowdfunding platforms, there has been little evidence of any fraud on current standards-based crowdfunding platforms. Australia presents an illustrative case study. The Australian Small Scale Offerings Board (ASSOB) was founded in 2007 and is now the largest investment crowdfunding platform in Australia and one of the largest in the world. It is an equity-crowdfunding platform that has successfully served both accredited and unaccredited investors, raising more than US\$130 million for issuers since its inception. Some 176 companies have been funded to date and not a single case of fraud has been reported. ASSOB operates within the current securities structure in Australia.

Further, Crowdcube, the largest equity-based crowdfunding platform in the United Kingdom, has been operating since February 2011 and has funded 29 companies with more than US\$6.75 million, with no reported fraud. Crowdcube operates within the current securities framework in the United Kingdom and allows issuers to raise equity capital using an online portal.

Of the 43,193 projects funded through Kickstarter, there are four documented cases of attempted fraud (Mims 2013). One was a campaign to raise capital for a video game. The campaign received numerous questions and accusations on the Kickstarter comments page that the game developer was unable to address. This response, combined with the revelation that many of the images and content in their pitch were taken from other companies, was seen as an indicator of potentially fraudulent activity and the campaign was quickly shut down without any donor losing money.

Because no case has been filed, it can be hard to tell the difference between a fraud and a well-intentioned project whose creators failed to fulfill on their promise. The most notorious example was a Kickstarter project called ZionEyez, which claimed to stream video directly from a pair of eyeglasses to a person's Facebook stream. The project netted US\$343,415 in 2011, and the creators have yet to deliver its product (Gibbs 2012). The company, which has since changed its name, still claims it intends to deliver and is seeking outside capital.

FIGURE 2.4. RISK MITIGATION TECHNIQUES



Anti-money laundering laws¹⁹

Anti-money laundering (AML) is a term mainly used in the financial and legal industries to describe the legal controls that require financial institutions and other regulated entities to prevent, detect and report money-laundering activities. AML guidelines came into prominence globally as a result of the formation of the Financial Action Task Force (FATF) and the promulgation of an international framework of AML standards. These standards began to have more relevance in 2000 and 2001 after FATF began a process of publicly identifying countries that were deficient in their AML laws and international cooperation, a process colloquially known as “name and shame.” An effective AML program requires a jurisdiction:

- To have criminalized money laundering.
- To have given the relevant regulators and police the powers and tools to investigate.
- To be able to share information with other countries as appropriate.
- To require financial institutions to identify their customers, establish risk-based controls, keep records, and report suspicious activities.

¹⁹This section was based on information and guidance from Doug Ellenoff, securities attorney with Ellenoff, Grossman & Schole LLP.

Fund transfers in crowdfunding

A crowdfunding investor must deposit investment funds directly through an electronic automated clearing house (ACH) transfer into an escrow agent on behalf of the funding portal. The funding portal may not handle such funds. The use of escrow agents, registered banks, and regulated ACHs provides a robust framework for compliance and auditing.

As governments evaluate how to enact appropriate regulation of this new asset class, they must carefully balance twin goals: to provide an open enough market for businesses to raise capital in efficient ways, while creating enough structure so investors are appropriately protected. Much of this balance will be informed by the specific cultures involved, which may introduce very different models for success in different regions.

Possible risk mitigation tactics

There are steps governments can take to reduce the opportunities for fraud to occur. These techniques may be considered in totality rather than individual recommendations as a means to deter bad actors. By creating a process that comprises of number of techniques it may be possible to significantly reduce the risks to investors and entrepreneurs (see Figure 2.4).

A series of protective mechanisms have been enacted internationally to mitigate potential fraud, as outlined in Table 2.2.

TABLE 2.2. PROTECTIVE MECHANISM AGAINST POTENTIAL FRAUD.

Type	Risk	Rationale	Mitigation Tactic
Business	Fraud	The securities markets have examples of fraud	<ul style="list-style-type: none"> • Background checks for issuers • Mandatory auditing, financial disclosures and business reviews • Requiring all-or-nothing financing (prevents fraudsters from raising money and then disappearing when donors ask difficult questions) • Restricting or monitoring social media communication about offerings • Requiring all crowdfund raising to take place on portals that are registered with a national regulatory body that oversees securities • Providing investor education to learn how fraud has been perpetrated in the past so that investors can identify it in future • Mandatory holding periods to prevent pump-and-dump schemes
Business	Failure	Crowdfund investments offer no guarantee of return	<ul style="list-style-type: none"> • Educating investors about portfolio diversification as a means to prevent total loss of investment(s)
Business	Anti-money laundering	Using businesses as a cover for illegal money transfers	<ul style="list-style-type: none"> • Placing caps on amounts that may be raised in specific time periods • A “cooling off period” between reaching the funding target and funds transfer to allow for further diligence by investors and regulators
Business	Sector risk	Crowdfunding has had the most traction in consumer products and extensions of popular brands or games	<ul style="list-style-type: none"> • Build on small successes in areas like science and energy • Raise small amounts of capital to show market interest and customer validation • Consider leveraging the crowd for only a small part of the overall capital raise to identify interest and de-risk the bigger investment
Business	Subsequent funding failure	Bringing on crowdfund investors creates a more complicated investor table that may deter subsequent investors	<ul style="list-style-type: none"> • Consider the use of a Special Purpose Vehicle (SPV) to group all crowdfund investors into one voting group to ease communication and voice • Offer to buy out crowdfund investors at subsequent rounds of financing at the current price
Investor	Investor liquidity and losses	Crowdfunded stocks are not liquid, businesses do fail and investor can lose their investments	<ul style="list-style-type: none"> • Investment limits for nonaccredited investors • Allowing for crowd vetting and crowd diligence to discuss the merits/risks of the offering in a public manner • Promote the creation of secondary markets after a 12-month holding period where shares may be traded based on supply and demand

TABLE 2.2. PROTECTIVE MECHANISM AGAINST POTENTIAL FRAUD. (CONT.)

Type	Risk	Rationale	Mitigation Tactic
Entrepreneur	Lack of issuer experience	Entrepreneurs do not always have all the experience needed to build, run, and raise capital for a business	<ul style="list-style-type: none"> • Create education programs about how to build a business • Create education programs about how to raise money from the crowd and follow through with a plan once funded • Requiring the participation of either a securities broker/dealer, an attorney or accountant
Regulatory	Regulatory and compliance risk	Regulatory bodies may resist or reject the argument that crowdfunding is an appropriate and effective method of financing early-stage companies	<ul style="list-style-type: none"> • Work with local governments prior to offering crowdfund investing • Engage with local regulatory and policy constituents to build crowdfunding frameworks
Industry	Market rejection	Investor community might not have an appetite for this new emerging asset class	<ul style="list-style-type: none"> • Leverage the media to share success stories of businesses that have been successful with crowdfunding investing and jobs that have been created • Share early financial engagement stories of investors who have backed crowdfunded companies and why • Offer crowdfund investments in tandem with more traditional investments to act as an honest broker

3. Policy and Recommendations to Enable Crowdfunding



Key points:

- Developing nations could use emerging technology and business processes to implement crowdfunding systems more advanced than those in the developed world.
- Highlights the key elements of a robust crowdfunding ecosystem - entrepreneurial culture, economic regulation, community engagement, and technology – highlighting trust as the key enabling factor.
- Outlines a framework so that policy makers, NGOs, and the private sector can begin to evaluate their own country’s readiness for crowdfunding.
- Offers a distilled set of recommendations for policy makers and development organizations considering supporting crowdfunding in the developing world, including a checklist of focus areas for countries evaluating crowdfund investing.

An opportunity to leapfrog the developed world

Crowdfund Investing (CFI) may offer a new path for developing countries that wish to support early stage, high-growth entrepreneurship and innovation. Countries in different stages of development will need different strategies to tailor their paths to success to social, cultural, economic, and technological norms. Aggregated global data on these norms was used to develop a model to study countries where crowdfunding has been launched successfully.

A healthy business climate requires the right mix of government infrastructure, entrepreneurial culture, and community engagement. Successful businesses operate within a sphere of trust that includes customers, community, and government. Businesses look to governments to create regulatory regimes that provide structure and predictability but do not overly impinge upon businesses’ ability to grow. Businesses also must have access to financial and human capital. Many developed nations have succeeded in aligning these variables in ways that facilitate the formation of businesses, trust, orderly markets, and economic growth. Some developing countries, however, are lagging behind.

It may be possible for developing nations to use emerging technology and business processes – including mobile technology, social media, lean-start-up methods of company formation, and crowdfund investing – to implement entrepreneurial funding systems that are more advanced than the legacy systems prevalent in the developed world. A developing country’s ability to leapfrog developed nations depends in part on the speed and commitment with which its stakeholders embrace these new technologies and methodologies.

This chapter provides explanation for this initial model, providing policy makers, NGOs, and the private sector a framework with which they can begin to evaluate their own country’s readiness for crowdfunding. It also offers

a distilled set of recommendations for policy makers and development organizations considering supporting crowdfunding in the developing world, including a checklist of focus areas for countries evaluating crowdfund investing.

Elements of a robust crowdfund investing ecosystem

The literature on strategy, science and technology studies, and economics substantiates the hypothesis that the right blend of social, cultural, economic and technological norms can foster crowdfunding ecosystems around the world (see, for instance, Aldrich and Fiol 1994). In order for a crowdfund investing ecosystem to grow in a country, policy makers must focus on the key enablers that have been identified in this study. There are four key interlinked elements: entrepreneurial culture, economic regulation, community engagement, and technology, as shown in Figure 3.1, and described in detail below.

Entrepreneurial culture

Crowdfunding depends on the existence of an entrepreneurial culture within a country. The literature demonstrates that issues such as culture, legal environment and economic incentives influence the development of industries and the success of entrepreneurial firms. These factors can either constrain or enable entrepreneurial activity. Governments should therefore encourage entrepreneurial culture by supporting initiatives for co-working spaces, incubators and accelerators, mentorship, and so on. Regulatory institutions may promote or hinder entrepreneurship by shaping the level of risk involved in the formation and incorporation of a business. Likewise, entrepreneurial behavior is influenced by the rules and their enforcement. An example of how the linked factors may influence innovation is described in Box 3.1.

FIGURE 3.1. FOUR ELEMENTS OF A ROBUST CROWDFUNDING INVESTING ECOSYSTEM

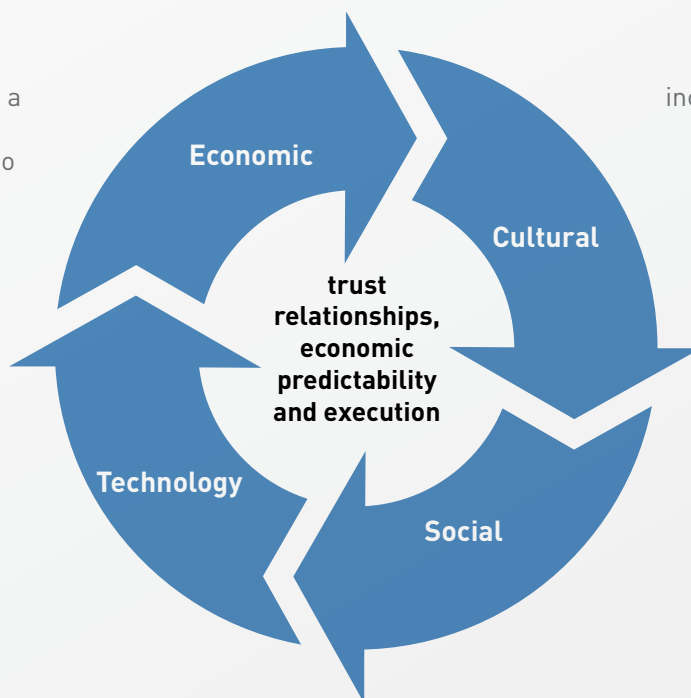
Policy makers must focus on key enablers

Economic Regulations

Enabling policy from incorporation to bankruptcy, a regulatory framework for crowdfund investing, policy to enable North-South flows

Technology

Internet access, regulated portals to facilitate the process, technology to facilitate the ongoing communication and new services to facilitate transactions



Entrepreneurial Culture

Co-working spaces, incubators and accelerators, peer-to-peer mentorship, oversight, investor relations/reporting

Community engagement

Social network, social vetting, startup events & culture of trust

BOX 3.1. E*TRADE: A REGULATORY CHANGE THAT CREATED AN ONLINE INVESTING INDUSTRY.

One example of the interplay between these institutional arrangements and technological progress can be observed in the United States, where changes in the regulatory arrangements for online investing drove technology innovation and market acceptance. For decades prior to the mid-1990s, investors had to contact a broker by phone or in person to perform a stock or bond trade. The launch of E*Trade transformed this process. For the first time, individuals could perform online transactions that previously were limited to individuals with specific training located in central offices.

The rise of online trading altered the market landscape, permitting untrained investors to engage in the market on their own terms, from anywhere. It created a new class of investor that, while untrained, has the ability to conduct extensive research, collaborate with colleagues, and execute trades. Regulators also benefited, as systematized procedures, greater transparency and improved timeliness of information has enabled better tracking and enforcement of securities laws.

At the time of E*Trade's launch, skeptics suggested that most consumers were unable to understand or conduct securities transactions, and that online trading would not catch on. Nearly 20 years and hundreds of billions of dollars in transactions have demonstrated that those predictions were inaccurate.

BOX 3.2. NURTURING ENTREPRENEURSHIP IN NAIROBI'S HIGH-GROWTH START-UP ECOSYSTEM.

Entrepreneurship is part of the Kenyan culture, with the majority of the economy in Kenya made up of small business owners. Yet three years ago there were virtually no co-working spaces, incubators or accelerators. TEDx recently held its first event there, and entrepreneurship was barely studied at academic institutions. Over the past three years, the political and economic environment started to improve. Collaboration and communication among aspiring entrepreneurs has grown. Start-up Weekend celebrated its second anniversary, meet-ups have expanded (there had been 13 by September 2013), co-working spaces have popped up (30 by September 2013) and Nairobi saw the launch of a new accelerator, 88mph. In addition, programs supported by the World Bank and *infoDev*, such as the Climate

Innovation Center (CIC) and mLab, have created a center of gravity for innovators, entrepreneurs, and investors in specific sectors. The launch of the CIC's Seed Capital Fund will be one of the first public-private blended early-stage investment funds in the country, hopefully paving the way for continued sub-US\$ 1 million investments in Kenya's technology sector.

Such programs are encouraging more expatriates to return to Kenya to start businesses, prompted by the relative political stability and a growing awareness of capital markets. The Kenyan government is striving to increase the freedom of markets, and an ecosystem of entrepreneurship is starting to flourish. As crowdfunding begins to occur in Kenya, it might present new ways to find funding for entrepreneurial pursuits, potentially stimulating additional interest in starting new ventures. If this trend does stimulate entrepreneurial activity, more innovation and job creation might follow.

“Crowdfund investing is unlikely to thrive if social networks do not exist or communities lack constellations of trust”

Technology

Using technology to facilitate and streamline the incorporation process can help to address this problem. Technology can help governments improve oversight of the business ecosystem and derive more accurate figures for hiring, profits, and taxes. Governments can provide greater access to capital for companies that register, potentially motivating entrepreneurs to create additional businesses or existing businesses to join the official economy.

Economic regulation

Countries seeking to create the conditions for crowdfund investing must address policies and regulations that make it burdensome to enter into, conduct, and end business operations. For example, incorporation in many developing nations is overly bureaucratic, time-consuming and costly. Countries also need to ensure that bankruptcy procedures are not so onerous that entrepreneurs cannot risk the possibility of business failure. Likewise, they may need to manage important cultural issues, in particular to create an atmosphere in which it is possible for entrepreneurs to fail honorably.

Community engagement

As perks-based crowdfunding gains momentum, governments and development organizations might use it to strengthen the culture of entrepreneurship. This culture could encourage entrepreneurs to assemble and collaborate at events like Start-up Weekends, meet-ups, co-working spaces, TED events, and business plan competitions. Such events facilitate the free and flexible exchange of ideas, and engage local communities that are

looking for solutions to problems, knowledge, experience, and strategies to create sustainable businesses and jobs. Governments can support these activities through education campaigns about the value of entrepreneurship, creation of spaces for co-working, direct sponsorships, offering prizes to contestants, and providing physical support for their activities. Governments and NGOs could engage marketing partners with capital ranging from local law and accounting firms to consulting firms to major consumer goods companies. They may look to engage partners that want to position themselves as supportive of entrepreneurship, innovation, and jobs. An example of how this has been done in Kenya is briefly explained in Box 3.2. All of this contributes to building a community of trust, the key enabling factor. This is explored in more detail below.

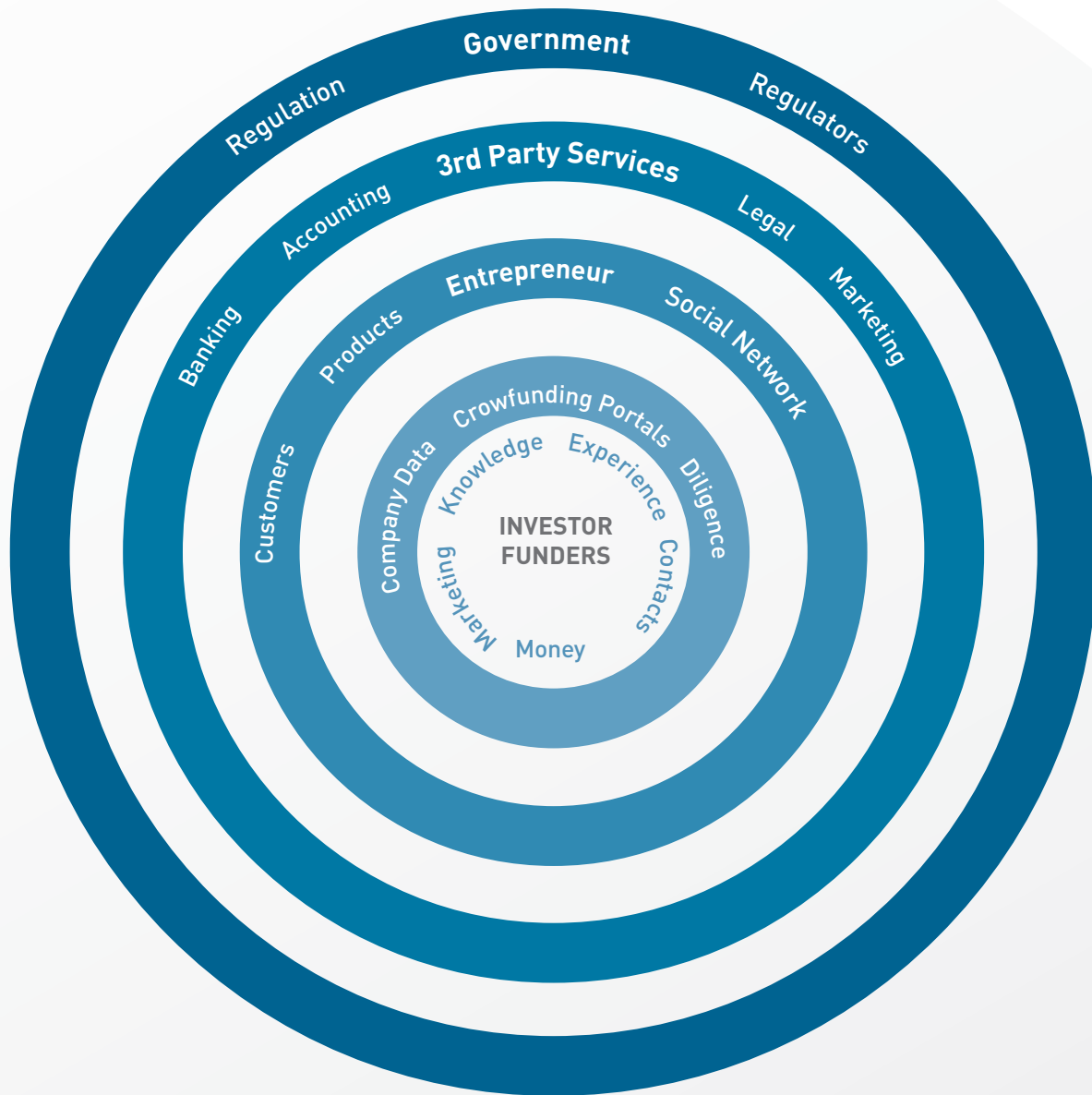
Trust: the enabling factor

The single most important element supporting a healthy entrepreneurial ecosystem is trust – between entrepreneurs, funders, and customers. Trust is a belief system based on an individual’s perception of another individual, group, company, government, or institution. It is based in relationships: the closer the relationship, the higher the degree of trust or distrust. Trust is a factor that is typically evaluated by institutions at the national, regional, or cultural level. But given the global footprint of crowdfund investing, participants’ trust in it must either transcend geographical or cultural borders or operate within specific niches, as in diaspora investments, relational investment, or investment curation efforts.

Crowdfund investment is based on seeking capital from one’s social network to start or grow a business. Social networks generally are “opt-in”, so the parties involved already have a degree of trust between them. This trust helps members of those communities feel that they can share information safely. Crowdfund investing is unlikely to thrive if social networks do not exist or communities lack “constellations of trust” between members of the community, because investors will not be able to trust that founders will fulfill their promises and create a return on that investment (see Figure 3.2).

FIGURE 3.2. THE CONSTELLATION OF TRUST

While technology will facilitate the flow of capital, in order for crowdfund investing to flourish a circle of trust needs to develop. This trust can be depicted as a constellation where each band represents a player in the ecosystem. All the bands interact trust that the other players are performing with transparency.



Examples of circles of trust include angel investment groups and networks, which curate early-stage start-ups and help them prepare for additional rounds of growth financing. Where this kind of trusted community exists, implementing a crowdfund investment ecosystem can provide parallel capital from the broader community. Investments from the crowd demonstrate the community's trust in the business and the entrepreneur, and create a class of customer-investors who share a vested interest in the success of the business and can act as a marketing engine.

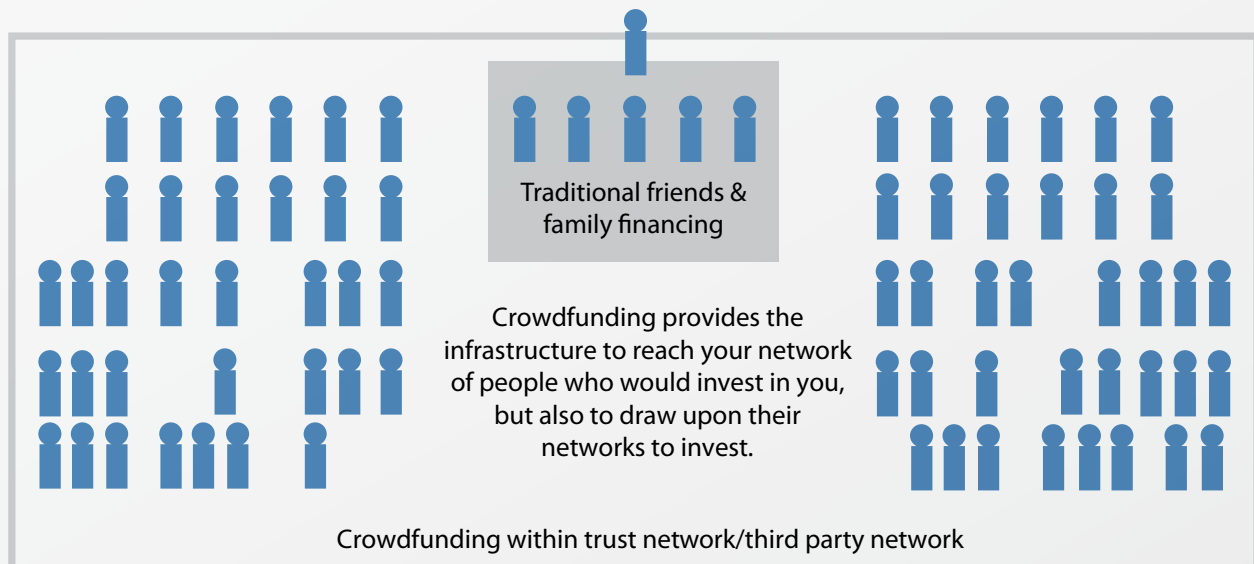
As online communities have become more sophisticated, it has been noted that while some types of community engagement may occur in an anonymous fashion (for example, blog comments or news article comments in open online forums), where the stakes are higher and trust is required for transactions to be completed, individuals must reveal their identities and connect those

offline identities with their online profiles. This allows an investor/potential investor who knows the company/entrepreneur offline, to advocate via online channels for them. Already, new reputation systems and transparency tools are being created to help increase the speed and depth of online trust in financial transactions.

Once a functioning constellation of trust has been created, the ecosystem for crowdfunding can function effectively (see Figure 3.3).

FIGURE 3.3. COMMUNITIES AND CIRCLES OF TRUST

The social web can now connect communities of interest, origin, geography and diaspora, providing infrastructure for them to invest capital in entrepreneurs, companies and industries they believe in.



Creating lightweight, technology-enabled securities and business infrastructure

Buying and selling securities is generally a highly regulated activity. Policy makers considering CFI need to strike a balance between regulation and capital formation. A government must be amenable to a structure that at minimum facilitates basic forms of CFI (such as common stock and straight-debt). Such regulation would need to allow companies to incorporate and report the status of their businesses online. To prevent fraud, transactions should take place on platforms that are registered with an oversight body. This framework will channel investments and reduce the appearance of bad actors. The role of vetting opportunities should not fall to regulators, however.

For countries that are not yet ready to move directly to crowdfunding using equity- and debt-based securities, trusted institutions and development organizations might consider implementing perks-based crowdfunding, such as inventory pre-purchasing. This can be part of a larger strategy to implement investment-based crowdfunding over time. In perk-based crowdfunding money is given without an expectation that it will be returned, so it does not need to operate under regulation.

Helping citizens gain familiarity with crowdfunding through pledge, donation, or inventory pre-sale platforms helps accelerate the launch of subsequent equity-based platforms, especially in those countries with greater than average use of social media. Greater familiarity with crowdfunding will also stimulate entrepreneurial activities and channel consumer behavior to support them. According to Brian Meece, CEO of RocketHub, the third-largest

crowdfunding site in the developed world, people participate in noninvestment crowdfunding for the following reasons:

- Because they are inherently interested in the topic area, business or project.
- To be part of something larger than themselves.
- To help someone to reach a goal or follow their dream.
- To receive the perk or reward for participating.

All of these reasons can be harnessed in developing equity, debt or revenue-share crowdfund investing, while adding the profit motive and supporting economic development as two important reasons for individuals to participate.

Decision framework to evaluate the opportunity for crowdfund investing

Not all countries are ready for crowdfund investing. Indeed, for many countries it may not be possible in the foreseeable future. A framework can help organizations and governments evaluate whether and how much crowdfunding can support the achievement of socio-economic goals. The remainder of this section covers topic areas that governments, development organizations, and NGOs may consider when developing a CFI framework. The questions probe cultural, societal, regulatory, and technical barriers. Their answers reveal a variety of challenges and opportunities. This framework may provide a starting point for constructive debate around potential strategies to deliver expanded access to capital for entrepreneurs and new ventures.

A. Capital requirements to create an adequate market opportunity

- Determine the size of the funding void in a country. How much do entrepreneurs need to be able to raise to enable most small businesses to benefit? The typical funding void for early-stage companies in the developed world is below US\$ 1 million.

B. Investment structures and necessary participants

- Create an initial list of commonly used equity and debt instruments that are best for early-stage companies. What are typical arrangements and valuations? What are standard terms? These must be evaluated according to cultural norms. Start with common stock and simple debt, and possibly continue with structures like revenue-based financing.
- An efficient crowdfund investment marketplace requires credible participants. Consider which market participants are allowed or disallowed from offering crowdfund investments. What bad actor provisions are currently in place to allow for transparency?

C. Evaluating and building investor sophistication

- Investors need a certain amount of information about a business to make an investment decision. They also need to understand the risks associated with such investments. What are the right risk-related disclosures and other information to provide to investors? What investor education can be created or replicated to educate about the high-risk nature of early-stage company investments?
- Investors need a minimum understanding of owning shares or loaning money. Such basic understanding can “qualify” them as prepared to make an investment. What is the right way to “qualify” crowdfund investors? Should there be a formal qualification requirement?
- Capping the amount of individual investments in a crowdfunding campaign is one way to provide investor protection. What might be the limit each person could be allowed to invest? What is this based on – annual income and/or net worth?
- Paychecks, tax returns, and investment statements can certify that investors make a certain amount of money or have a certain amount of savings – but requiring disclosure of this information may deter investors from investing. What is the right blend? Can investors “self-certify” that they fall within an income or net worth bracket to qualify to make investments?

- What methods should be used to create and disseminate broad-based education to investors to teach them about risk and portfolio strategy, such as limiting their high-risk investments to less than 10 percent of their savings?
- Do any other investment protection mechanisms need to be included?

D. Regulatory challenges to address in building a crowdfunding ecosystem

- Time, cost, and bureaucracy are the main reasons businesses operate outside of legal structures. Identify the laws, regulations, and/or processes governing business incorporation that must change or be adapted to streamline the process.
- Explore national or local rules that make it difficult for businesses to start or expand their operations. If there is a permission process, what changes can be enacted easily to improve its function?
- Controlling how individuals receive investment solicitations is critical to preventing fraud. Explore guidelines to consider regarding how people will solicit other individuals to purchase shares in a company. How do you create an investment exemption that is big enough to allow businesses to have the opportunity to succeed, but not so large that it creates panic from regulators? The ideal mix is a large reach with low risk.
- Governments and/or institutions need to track which organizations are raising capital. Businesses need to be able to report without being overly burdened. Regular reporting requirements must be created for all companies that raise money from crowdfund investing. Institutions should consider and standardize the components of this reporting.

- How will the government and the securities regulatory authority control the purchase and sale of crowdfund securities? Can simplified versions of systems used in public markets provide transparency without limiting speed or effectiveness? These presumably would be online transactions, in order to achieve scale and cost efficiencies; what form of existing escrow or transfer agents can be used?
- Anti-money laundering and anti-terrorist funding efforts are critically important to capital flows. Regulators should recognize that the crowdfunding industry has high motivation for the market to form in an orderly fashion and to abide by existing laws. How can market regulators work with crowdfunding entities to address anti-money laundering and anti-terrorist funding issues?
- Bankruptcy laws in which bankruptcy repercussions follow early-stage entrepreneurs around for life threaten to deter entrepreneurship. What policies can be put

in place to ease the burden of bankruptcy, so that the possibility of failure is a risk but not an overriding reason to avoid entrepreneurship?

E. The role of disclosures in building transparency

- Investors need standardized and efficiently delivered information about business plans, use of proceeds, valuation and other issues in order to make investment decisions. Consider what information an entrepreneur must provide to investors to seek crowdfund investments, and how technologies such as online business planning software can facilitate this disclosure.
- Companies need laws protecting their intellectual property and reliable structures for enforcement. What is the right way to balance the need for disclosure and the ability for companies to maintain trade secrets and

FIGURE 3.4. GOVERNMENT, NGO & PRIVATE SECTOR RECOMMENDATIONS

Specific strategies to drive crowdfunding

<p style="text-align: center;">Economic</p> <ul style="list-style-type: none"> • Craft exceptions to securities regulations that allow easy registration for equity and the debt crowdfund offerings • Strategically tie crowdfunding to patriotic and cultural messages • Form a crowdfunding market alliance 	<p style="text-align: center;">Social</p> <ul style="list-style-type: none"> • Harness top social media experts/bloggers/ tastemakers to communicate with local audiences and with diaspora audiences • Hold media and educational events to build awareness and understanding • Hold regular crowdfunding events with trusted third parties to teach successful techniques
<p style="text-align: center;">Technology</p> <ul style="list-style-type: none"> • Where appropriate, apply lessons learned from developed world • Consider buy, build or white label • Determine gaps in existing technology for online financial transactions 	<p style="text-align: center;">Cultural</p> <ul style="list-style-type: none"> • Leverage existing incubator/accelerator/ structured co-working spaces as hubs for innovation in funding • Foster professional investor & consumer confidence in crowdfunding through education and communication • Encourage the participation of women and girls

BOX 3.3. A CASE STUDY IN CROWDFUNDING ACCREDITATION: TURKEY.

The Turkish government is creating an angel community in order to deepen its capital markets. The Turkish Treasury is developing regulations for a new law that incentivizes angels to invest in Turkey-based businesses. It is approaching the issue of accreditation by considering knowledge and experience as well as the ability to bear financial loss. The government requires personal qualifications to obtain an angel investor license, sets investment limits, and grants tax incentives to encourage angel investment.

Angel investors, known as participant individual investors (PIIs), must obtain a five-year license from the Turkish Treasury. To qualify, a PII must satisfy the following criteria:

Income/Net Worth

- Have annual income of at least TL200,000 (about US\$111,500) during the two-year period before being granted a license; or
- Real and monetary assets with a value of at least TL1 million (about US\$555,555).

Experience

- Have at least two years' experience as a manager or equivalent position in fund management, financing or private equity; or
- Be a deputy director general (or equivalent position) in a company with at least TL50 million (about US\$27.8 million) annual revenue for at least two of the five years prior to licensing; or
- Have been a member of any PII network for at least two years and have participated in at least three nonpublic corporations prior to licensing.

Residency

- PIIs must have lived in Turkey for at least six months and have ties to the Turkish business community. Residing in Turkey for a temporary job or duty, even if longer than six months, does not qualify.

Caps

- Individuals
 - The maximum number of individual PII investments is 10 per five-year license term (in addition to the 10 investments per five-year license term that partnership PIIs can make);
 - Minimum individual PII investment in any one business is TL20,000 (about US\$11,500) and maximum is TL1 million (about US\$555,555) per year.
- Partnerships
 - For partnership PIIs the maximum number of investments is 10 per five-year license term (in addition to the 10 investments per five-year license term that individual PIIs can make);
 - The maximum partnership PII investment in any one business is TL2 million (about US\$1.1 million) per year.

Turkey is also using tax incentives to encourage angel investments. These incentives range from 75 percent of the investment amount, if held for at least two years, up to 100 percent if the business received a grant from a qualified Turkish ministry, council or development organization.

The Turkish model requires registration based on income or worth, combined with financial understanding. It provides a tax incentive for Turkish residents, and has minimum requirements that will foster capital formation without overburdening a company's capital table with investors while providing individual investors scope to participate with greater capital. The system could be streamlined considerably, however. With currently available technology platforms, Turkey could create certification and monitoring procedures that would be far less burdensome.

proprietary information? What intellectual property laws exist or need to be enacted to protect trade secrets?

- Address other issues or country-specific business practices that are unique to the ecosystem.

F. Understanding circles of trust and addressing cultural issues

- For CFI to flourish, a degree of trust, understanding and collaboration must exist between governments, investors, and entrepreneurs. How do you create a culture that encourages entrepreneurs and investors to trust each other? What current systems or technologies exist, either in-country or in other markets, that could be used or adapted to help grow this culture?
- Fear of failure and of the stigma attached to failure deter entrepreneurship. Entrepreneurs learn from mistakes and need to be trained to take calculated risk. How can regulations reflect this need, and how can regulators and policy makers address outdated laws that make failure too risky?

Recommendations for governments, NGOs, and the private sector

As already described in this report, countries will encounter a number of issues as they attempt to implement crowdfunding. This section provides a list of policy and strategic recommendations relevant to governments, NGOs, and the private sector to address the economic, social technology and cultural challenges (see Figure 3.4).

Economic

1. Craft exceptions to securities regulations that allow easy registration for equity and debt-crowdfunding offerings. Create exceptions or exclusions in securities laws that allow for the registration of crowdfunded securities without undue regulation or expense. If exemptions to private offerings exist, follow the logic behind them. Ideally, registration would be an entirely online process. If the cost of raising capital, combined with the expense and effort of completing the campaign, are perceived to be too high, entrepreneurs may choose to remain part of the gray market economy rather than using crowdfunding platforms. An example of how this was tackled in Turkey is described in Box 3.3.

2. Strategically tie crowdfunding to patriotic and cultural messages. Countries should craft culturally appropriate messages, distributed over both social media and traditional media, that suggest that CFI is a new and innovative way of putting money in the hands of local companies that will hire employees and help the domestic economy as well as the country as a whole. Where there are ethnic or geographic divisions, find opportunities to highlight how crowdfunding can help all groups, and in particular where it can create shared successes between groups.

3. Form a crowdfunding market alliance. For crowdfunding to succeed it will require the active participation of an entire ecosystem of supporters. These supporters extend to marketing partners in addition to entrepreneurs and investors. Forming a marketing partners' alliance that can provide products (such as donations in the forms of technology or meals for events), services (free rent, free legal or accounting services), or capital contributions that may foster the ecosystem. Consider ways to engage traditional funders like local banks, credit card companies, private equity, angels, and investment banks.

Social

4. Harness top social media experts, bloggers and tastemakers to communicate with local and diaspora audiences. The data clearly show that strong social media use is critical to success in crowdfunding. Work with leading voices in a country or region that can speak authentically with their audiences regarding the power, value, and importance of crowdfunding. In addition, given the strong relationship between foreign direct investment, foreign remittances, and crowdfunding success, the government or sponsoring organization should plan an outreach campaign to diaspora members beginning at least three months before launch of the platforms.

5. Hold media and educational events to build awareness and understanding. CFI needs to have broad community support within the high-tech and start-up communities. Use events and competitions, in conjunction with accelerators and universities, to draw attention to the new form of investing among youth and entrepreneurial communities. Ideal partners could include subject matter experts and groups such as Startup Weekend. Such events may be held at academic institutions or local chambers of commerce.

6. Hold regular crowdfunding events with trusted third parties to teach successful techniques. Create “Crowdfunding Weekends” for both technical products and services. Have the participants take part in a three-day competition where they pitch ideas to the attendees on the first day, with the best ideas chosen to move forward. Organize teams consisting of technical, graphics, business development, and marketing professionals, and task them with developing a crowdfunding campaign around their product or service. Have the judging on the third day graded by a seasoned team of investors as well as the crowd, using a crowdfunding platform. Such events may be held at academic institutions, incubators, accelerators, co-working spaces, or local chambers

of commerce.

Having events at a chamber and encouraging the participation of the local business community may also foster dialogue about local business needs.

Technology

7. Where appropriate, apply lessons learned from developed world. With billions of dollars in crowdfunding already taking place globally, a body of knowledge already exists that can inform market actors in the developing world on how to start and effectively grow a crowdfunding ecosystem in their countries or regions. Australia, the United Kingdom, Italy, the Netherlands, and the United States all have approved some version of crowdfund investing. While developing countries face many distinct issues and challenges, they have opportunities to leverage the developed world’s experiences in order to leapfrog these other countries in the use of all forms of crowdfunding and crowdfund investing.

Cultural

8. Leverage existing incubator, accelerator and structured co-working spaces as hubs for innovation in funding. Trust and relationships are the cornerstones of crowdfunding. Accelerators and incubators are well positioned to provide crowdfunding deal flow and engagement. Market actors and governments significantly improve chances for success by working in collaboration with trusted entities such as *infoDev*’s Climate Innovation Centers (CICs) and Mobile Applications Labs (mLabs). Allowing entrepreneurs and other responsible groups or individuals to lead this effort, with the support of other institutions, increases the chances for success. Conversely, central governments will have a difficult time leading the charge for collective action. Governments must be actively involved, but other entities, such as accelerators and trusted third parties, are likely to be more effective at leading the effort.

9. Foster professional investor confidence in crowdfunding. Work to educate and convince existing investor networks and capital groups that CFI can be a viable alternative to early-stage investing. Position crowdfunding not as a competitor or market distorter, but as a means of gaining needed seed financing and proof of a viable market for early-stage companies. Assist investor networks in understanding that crowdfunding reduces risks for subsequent investors by exhibiting a market for the company's product or service.

Countries with limited experience with technology and high-growth-potential start-ups can increase investor confidence by marrying the launch of CFI to accelerators or incubators, such as Climate Innovation Centers – that is, to companies that have been vetted, trained, and screened. Syndication of the deal by a lead investor

who is well known and trusted in the country will help attract additional capital. Co-investment schemes by governments or development organizations to partially or fully match crowdfunding targets of companies will help to build confidence for both professional and individual investors (see Box 3.4).

10. Build consumer and individual investor confidence in crowdfunding. Where possible, the government or sponsoring organization should reach out and attempt to secure small investment commitments from well-known business owners or celebrities in the country. Data show that the initial phase of a crowdfund campaign is crucial, and that participation by people with large social media followings will help accelerate funding. Second, create a process that enables company-to-investor social media communication (including but not limited to traditional investor relations, disclosures and filings).

11. Nurture authentic new-media relationships on a long-term basis. Changing cultural attitudes regarding risk, failure, entrepreneurship, collective action, and other matters is no small task and will not be completed with a few positive news stories about entrepreneurship. Consider innovative partnerships with new media to create nontraditional campaigns that build momentum

BOX 3.4. THE UNITED KINGDOM'S CFI CO-INVESTMENT SCHEME.

In December 2012,²⁰ the U.K. government and Funding Circle announced that £20 million (about US \$32 million) would be lent by the U.K. government to individual businesses via the Funding Circle in a co-lending facility. The government would contribute the last 20 percent of every loan that reached 80 percent of its goal from the crowd. By funding the last 20 percent of loans, the government was able to pursue its goals to put capital into the hands of

businesses while not adversely affecting the loan bidding process on the Funding Circle platform.

In September 2013,²¹ as the U.K. government announced a £900 million (about US\$1,455 million) decline in business lending during June–July 2013, Funding Circle was able to report £14 million (about US\$23 million) in successfully funded loans for the same period, an increase of 20 percent over the previous month and 250 percent over the previous year.

²⁰ <https://www.fundingcircle.com/blog/2012/12/the-government-to-announce-plans-to-lend-to-small-businesses-through-funding-circle/>

²¹ <https://www.fundingcircle.com/blog/2013/09/peer-to-peer-lending-to-businesses-filling-the-void-in-small-business-finance/>

“Development organizations, including the **World Bank** and **infoDev**, could have an important advisory role to play in enabling responsible crowdfund investing”

around crowdfunding and crowdfund investing. These campaigns should have commitments of at least two to three years. Campaigns could highlight local success stories, the entrepreneurs involved, the businesses, and the local impact. Such stories may help engage subsequent investors in other crowdfund opportunities.

12. Encourage the participation of women and girls. In the developed world, women are active participants in crowdfunding and a key component of the labor force. In the developing world, women have led successes in the microfinance industry. Moreover, there is an overt connection between women's access to social media tools and the Internet and the long-term success of crowdfunding. Crowdfunding has the potential to serve as a vehicle to help women gain access to capital, build networks through social media, and gain confidence in the market through their victories in crowdfunded campaigns. Gender equity leads to faster economic growth; crowdfunding may provide another powerful way to create business opportunities for women and girls.

The above recommendations may be considered a way to foster “economies of trust.” Economies of trust rely on building interconnected communities. Creating strong local economies that are built on trust and transparency may foster a stronger base for the country's economy.

The role of development organizations

Simply introducing a new financing mechanism to a country will not overcome the challenges of providing early stage capital to entrepreneurs. Development organizations, including the World Bank and *infoDev*, could have an important advisory role to play in enabling responsible crowdfund investing by helping developing-world stakeholders implement productive policies and appropriate regulatory controls. In particular, the World Bank is uniquely positioned to deploy infrastructure,

enable capacity, and invest (both directly and indirectly) in ways that could extend the impact of crowdfund investment and reduce the barriers to financing high-growth entrepreneurs and technology-focused SMEs.

There are a number of other roles the World Bank could take in these experiments – supporting pipeline growth, vetting proposed investments, building capacity within the entrepreneurial community to successfully utilize crowdfunding platforms, supporting ecosystem stakeholders enabling employment creation around this potential new sector. Likewise, the World Bank is well positioned to conduct further experimentation and research, which is needed to determine whether crowdfunding may serve as an appropriate funding mechanism to support broad-based employment growth. Within the Bank, *infoDev* has a particularly valuable role because it has the agility to pilot new concepts at the grassroots, and to scale workable solutions into larger projects that support the World Bank Group's commitment to innovation and entrepreneurship. *infoDev* supports the growth of a strong private sector in developing countries in a manner that leverages technology and innovation and feeds growth, competitiveness, and inclusion.

Over the past few years, *infoDev* has built on its success in incubating technology-enabled businesses to launch specialized programs aimed at promoting the growth of new ventures in the mobile, climate, and agribusiness sectors. These programs provide technology testing facilities, formal or informal mentorship, training courses, and regular multi-stakeholder networking

“infoDev has a particularly valuable role because it has the agility to pilot **new concepts** at the grassroots, and to scale workable solutions. ”

opportunities, as well as traditional business incubation services. Supporting these strategic sectors contributes to growth and competitiveness and leads to the development of value-adding jobs suited to the new knowledge economy.

In addition to its incubators, labs, and innovation centers, *infoDev* is piloting acceleration approaches designed to allow a new venture with particularly high potential for growth to increase its investability quickly. Through intensive mentoring, re-evaluation of business strategy and, sometimes, a reconfiguration of service and product offerings, they can help start-ups move from idea to prototype in just a few weeks, and go to market in as little as two months. Testing out these market concepts in the crowdfunding space may serve to prove or disprove market validation and acceptance as well as interest in funding. As such, *infoDev* is uniquely positioned to act as an “honest broker” that assists in curating promising companies, training founding teams, and providing both monitoring and value-additive services related to crowdfunding.

Multiple parties – entrepreneurs, business support centers, investors, technology leaders, regulators, academia, development partners, and others – have developed granular solutions and insights with currency across sectors, countries, and stages of growth.

infoDev's unique grassroots network of business support centers allows the program to crystallize that knowledge, share it, and use it to set up cutting-edge innovation centers across the globe. Crowdfunding may offer an additional opportunity for capacity building that supports the execution of *infoDev*'s existing mission. Options for *infoDev* include:

- Facilitating skills training for entrepreneurs which overviews main tenets of crowdfunding and adapts “pitch training” to ensure online offerings are compelling;
- Leveraging the *infoDev* brand, through Climate Innovation Centers, mLabs, Agribusiness Innovation Centers and other partners to verify company quality standards and establish trust with the crowd;
- Supporting angel investors or accelerators to serve as anchor investors for the larger crowd;
- Offering Proof of Concept grants to companies to develop their crowdfunding campaign;
- Coordinating local pools of trusted service providers to assist entrepreneurs with development of their crowdfunding campaigns;
- Continuing to provide business development services to entrepreneurs to ensure business models are globally competitive;
- Documenting learning from crowdfunding initiatives to positively impact crowdfunding enabling environment
- Showcasing crowdfunding success stories and failures from across the *infoDev* global network to positively influence the global innovation and technology entrepreneurship status quo.

A guide for development organizations on how to engage with relevant stakeholders in developing a crowdfunding initiative is described in Box 3.5.

BOX 3.5. A GUIDE FOR DEVELOPMENT ORGANIZATIONS TO LAUNCH A CROWDFUNDING INITIATIVE.

Launching a crowdfunding initiative in a developing country requires careful engagement with relevant stakeholders and a process to identify necessary steps. A working group might follow a process such as the one described below to launch a crowdfunding initiative:

(1) Identification of key stakeholders. Identify key stakeholders in the country and convene preliminary roundtable meetings focused on early-stage capital formation, entrepreneurship, innovation, and jobs. At these events, the conversation could be built around CFI as one strategy to address the funding gap. Promote the technological solution that may allow the country to leapfrog other countries, and discuss the way it may foster innovation and flexible financing despite current regulatory frameworks. The facilitator may suggest that the group must assume that CFI is, or will be, permitted and it is up to them to think of how it will be implemented. This approach might challenge common assumptions about what can and cannot be done, and enable participants to think in new ways.

(2) Ecosystem education. Provide a demonstration of current crowdfunding and crowdfund investing platforms and ecosystems to provide a clear understanding of how they operate. Lead a discussion about the gaps that may exist between components in current crowdfunding platforms and ecosystems and what exists in the target country. Identify the country's readiness for CFI (see Chapter 4) and what new capacity, regulation, and cultural shifts may be needed to create enabling environments.

(3) Analysis of country's potential for crowdfunding. Working in conjunction with key stakeholders and development organizations, address the country's capacity for:

- Securities reform and process.
- Technological capacity.
- Social media engagement.

- Developing an entrepreneurial ecosystem by creating co-working and incubator crowdfunding spaces as well as education and training programs, and implementing a peer mentorship system that reinforces collaboration.
- Creating a framework for oversight, regulation and accountability for this new capital market.
- Identifying key global crowdfunding players with technology that can be easily deployed. Preview leading technologies, platforms and ecosystem players to determine potential paths forward, for example, whether to buy, build or partner with platforms.
- Creating programs to address context-specific ways to cultivate a culture that can support risk, entrepreneurship, and honorable failure, and to build strategies to create a path forward.
- Fostering the creation of a regional crowdfunding trade association or group to be associated with one of the global crowdfunding organizations, such as the Crowdfunding Professional Association (CfPA), in order to benefit from shared knowledge.

(4) Framework for a pilot program:

- Identify two to five business opportunities that would qualify for perks-based, simple debt or common stock crowdfunding. Consider sourcing them through partnerships with accelerators, Startup Weekends or other programs.
- Perform due diligence on the business opportunities and the entrepreneurs to weed out bad ideas/actors. Aim for manageable funding targets. For the pilot, use target amounts of less than US\$50,000 equivalence in local currency.
- Identify perks-based, debt- and equity-crowdfunding platforms that are compliant with local regulations.
- Run campaigns on platforms, curating the process alongside the entrepreneur to identify problems and bottlenecks.
- After the campaign, provide a written description of the events and a summary of recommendations.
- Provide co-investment opportunities from development organizations and/or other third parties to reward success.

4. Crowdfunding Readiness

A Self-Assessment Tool

This chapter comprises a high-level self-assessment tool that can provide help in assessing a country's readiness for crowdfunding. This is one possible tool to gauge cultural perception from individuals regarding key factors identified as important in the applicability of crowdfunding within a culture or country. This tool is currently in its validation phase and will be updated as more data becomes available. While individuals can complete the self-assessment to gauge their own perceptions, it is suggested that more than 20 market participants/actors including policy makers, NGOs, investors, and entrepreneurs complete the self-assessment to gain a wider range of opinions.

Instructions

1. Each question should be scored from 1 to 10, where 1 indicates "lowest/not many" and 10 indicates "highest/many."
2. Sum up the scores for individual categories and the overall total and calculate the Readiness Ranking.
3. Plot the scores on the four-quadrant graph template (see Figures 4.1 and 4.2).
4. Compare the results with third party data sources and local market experts and subject matter experts to begin to identify gaps and areas of opportunity to improve the potential success of crowdfunding. This may be particularly valuable for developing nations to understand the opportunity and potential paths to success with crowdfunding.

Self-assessment

A. Technology: Technology and education are necessary components.

1. What is the level of Internet and/or mobile smartphone penetration in your country? (1 = low, 10 = high)
2. What is the most readily available speed of mobile connectivity in urban areas in your country? (1 = no connectivity, 4 = 2G connectivity, 7 = 3G connectivity, 10 = 4G connectivity)
3. How engaged is the population via social media including LinkedIn, Facebook, Twitter, other local social networks? (1 = very low utilization, 10 = very high utilization)
4. What is the average education level reached in the country? (1 = less than 4 years, 10 = over 12 years of education)
5. Business skills (accounting, marketing, and so on) are learned? (1 = on the job, 10 = in education or formal training)
6. The banking system uses and supports electronic funds transfers, or are other Internet or mobile-money transaction enabled services available? (1 = not common, 10 = very common)

B. Culture: Does a culture of entrepreneurship exist and is entrepreneurship considered a reputable career path?

7. As a career path, how favorably do people view entrepreneurship in your country? (1 = not very favorably, 10 = very favorably)

8. In making investments, how risk-tolerant are people in your country? (1 = people don't take risks with their investments, 10 = people understand risk and include a small portion of high risk investments as part of their investment strategy/portfolio)
9. How risk-tolerant are people in your country to changing jobs? (1 = people don't take risks with their careers, 10 = people understand risk and include changing jobs as part of their career advancement strategy)
10. In general, are actions more driven by more individualistic goals or group goals? (1 = people act individually, 10 = people makes decisions based on group dynamics)
11. How would you describe the general level of trust between individuals within the society/culture? (1 = building trusting relationship between individuals takes a great deal of time and experience, 10 = trusting relationships form quickly)
12. How much trust do individuals have in the businesses they have relationships with? (1 = it is unusual for businesses to build trust with their customers, 10 = brands/businesses can build strong bonds of trust)
13. How much trust is there between individuals and their government? (1 = low levels of trust, 10 = high levels of trust)
14. Incubators/accelerators in my country are actively teaching entrepreneurship? (1 = Incubators/accelerators are physical spaces with no educational programming, 10 = incubators/accelerators are physical spaces with active training curriculum on how to successfully start and grow a business.
15. Entrepreneurship in my country is fostered by the government and/or NGOs? (1 = Not at all, 10 = Very much so)
16. People are accustomed to buying and selling goods and services online? (1 = buying and selling online is not common, 10 = buying and selling online is very common)

17. How comfortable are people using online rating mechanisms (for example, the like button, feedback, star ratings, and so on) on websites? (1 = not comfortable using online ratings systems, 10 = very comfortable using online ratings systems)

C. Regulation: Regulation can both enable and deter entrepreneurship and crowdfunding depending on its structure and scope.

18. What is the level of regulation/process complexity involved in starting a business today? (1 = very burdensome, 10 = very easy)
19. What is the level of regulation/process/expense around hiring and firing employees? (1 = very burdensome, 10 = very easy)
20. What is the level of regulation around going out of business/closing a business? (1 = very burdensome, 10 = very easy)
21. In evaluating financial regulation, to what degree does investor protection take precedence over the ability of businesses to raise money to start or grow? (1 = government is focused primarily on investor protection, 10 = government is focused primarily on access to capital for businesses)

D. Capital: The availability of capital is usually one of the most prominent missing elements when attempting to build a successful entrepreneurial ecosystem.

22. Financing for start-up is mainly provided by (1 = governments/banks, 10 = friends and family)
23. Financing for small businesses is mainly provided by (1 = governments/banks, 10 = friends and family)
24. Banks are active in lending to small businesses and start-ups (1 = yes, 10 = no)
25. Angel investors are actively making investments in early stage businesses in my country (1 = no, 10 = yes)
26. Early-stage venture capital funds are actively making investments in start-ups and small businesses in my country (1 = no, 10 = yes)

Readiness ranking

Sum the total number of points from the assessment and divide by 26 to determine the overall Readiness Ranking:

Rank	Meaning	Countries falling into this category ...
0 - 2	Not ready for CFI	Are missing the major variables required for a robust crowdfunding ecosystem. They must look at addressing key variables starting with technology and then focusing on culture and regulation.
2 - 4	Needs to address specific issues before being ready for CFI	Some or all the variables may be limiting the overall readiness for a country to succeed. Stakeholders should look at the individual category recommendations below for potential ways to increase score.
4-6	Good possibility for CFI success	There is a good chance crowdfunding can be successfully implemented. Rewards-based crowdfunding should be fostered as a first step towards crowdfund investing.
6	Well positioned for CFI	With enabling policy in place, market participants can consider technology platforms they can buy, build or white-label to deploy a credible crowdfunding ecosystem. Government should engage in crowdfunding educational outreach, training and hold crowdfunding events.

Individual category recommendations

For each section, sum the number of points and divide by 6 (for Technology), 11 (for Culture), 4 (for Regulation), and 5 (for Capital) to determine the Readiness Ranking for each category:

1. Technology

Rank	Meaning	Countries falling into this category ...
0 - 2	Lacking all infrastructure	Might first work on enabling/expanding Internet/mobile web access and promoting social media adoption.
2 - 4	Needs more focus on infrastructure	Might promote education as a means for helping citizens understand the benefits of technology and social media.
4-6	Web/mobile technology is seen by a plurality of citizens as a mechanism for communication, collaboration, etc.	Might start using these tools to build communities of engaged entrepreneurs and investors so that as the industry starts to develop they can be connected.
6	Technology is readily available and used.	Engage in events and use technology and social media to promote crowdfunding and crowdfund investing as a mechanism for promoting entrepreneurship, innovation and jobs.

2. Culture

Rank	Meaning	Countries falling into this category ...
0 - 2	The country is highly risk averse and does not have any broad understanding of entrepreneurship or risk	Should focus on building cultural understanding of these issues through education, demonstrations and marketing.
2 - 4	Limited understanding of risk capital and entrepreneurship	Create/find early examples of success and build programs around them. Build capacity through mentorship and training.
4-6	Moderately developed entrepreneurial capacity and some investment risk tolerance – may include diaspora investors	Continue training and mentorship programs, launch broader initiatives that engage early success stories in actively building the ecosystem, create external linkages for additional capacity.
6	This country has a deep culture of entrepreneurship and some financial risk tolerance	This country is ready for crowdfund investing as well as rewards-based crowdfunding.

3. Regulation

Rank	Meaning	Countries falling into this category ...
0 - 2	Bureaucracy and regulation rule the game	The country needs to consider if their regulations are standing in the way of entrepreneurship.
2 - 4	There is a fair amount of regulation	Government might analyze securities laws for ways to enable business and capital formation.
4-6	There is regulation to encourage investment	Governments should encourage the use of donation and perks-based crowdfunding and promote a framework for crowdfund investing.
6	The country has a good blend of regulation to promote capital formation while protecting investors	The country is ready for crowdfund investing. Governments and private sector should look at buy, build or white-label options for crowdfund investing platforms.

4. Capital

Rank	Meaning	Countries falling into this category ...
0 - 2	Private capital markets are nonexistent	Governments should consider ways in which private capital markets can enable entrepreneurship and innovation within their borders.
2 - 4	Private capital markets exist but are not robust	Governments should consider why the private capital markets are not bigger. Is there too much regulation, bureaucracy, costs?
4-6	Private capital markets are growing	Governments should understand what changes have taken place to encourage capital formation in the private sector and further foster that.
6	Capital is efficiently flowing in the private capital markets	The country is ready for crowdfund investing. Governments and private sector should look at buy, build or white-label options for crowdfund investing platforms.

As an aid to visualization, using the four-quadrant graph template shown in Figures 4.1, plot the scores for the four categories.

A completed example is shown in Figure 4.2.

FIGURE 4.1. SELF-ASSESSMENT VISUALIZATION TEMPLATE

For each category draw a dot on each axis in the middle.
The following depicts a perfect score.

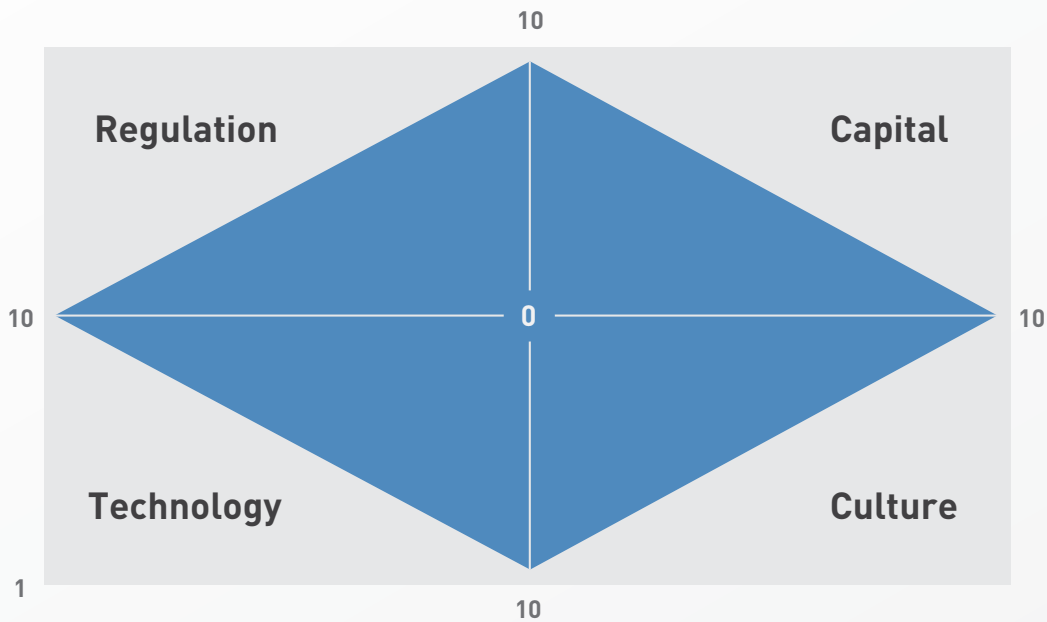
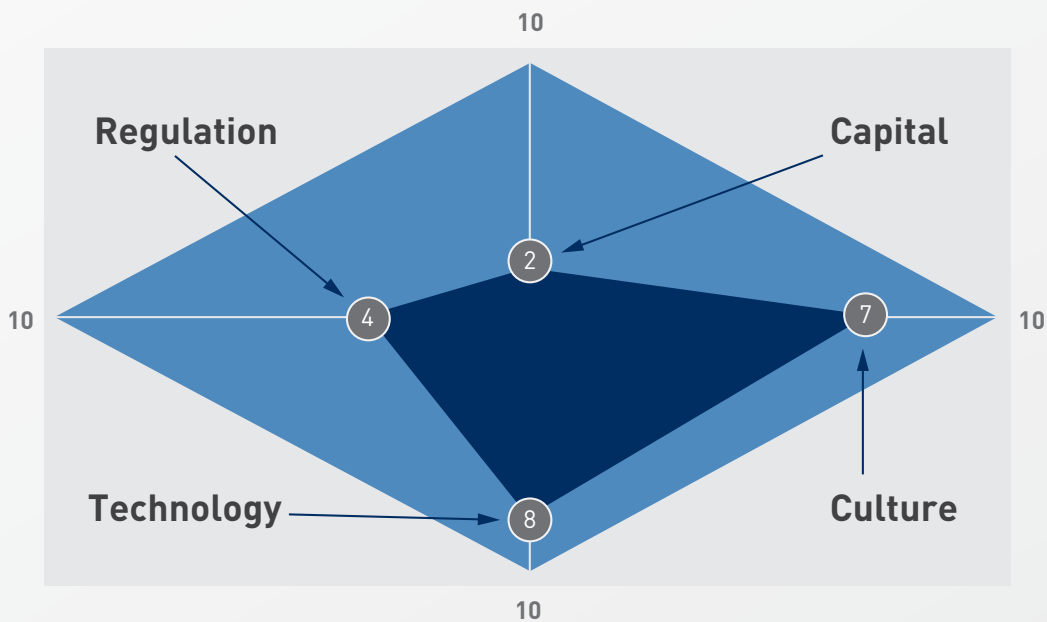


FIGURE 4.2. AN EXAMPLE OF A COMPLETED SELF-ASSESSMENT VISUALIZATION

This chart shows scores for a fictitious country. In this case, attention should focus on regulation and capital.



5. Case Study: Crowdfunding Opportunities in Climate and Clean Energy Innovation

Key points:

- Examines the opportunities for crowdfunding in the climate and clean energy sector.
- Explains the aims and objectives of *infoDev*'s Climate Innovation Centers (CICs).
- Describes examples of successfully crowdfunded climate innovation initiatives and draws out the critical success factors and execution considerations, especially the need for clear regulation for formation of an orderly market for crowdfunding.
- The criteria for projects and companies seeking to participate in crowdfunding are examined with specific strategic recommendations for *infoDev*'s Kenya Climate Innovation Center
- Recommendations for business models are given, to help ensure the long-term viability of crowdfunded projects.

Introduction

This chapter explores the opportunities for crowdfunding through a detailed case study of the climate and clean energy sector. The development of innovative models to fund companies working to solve climate and energy challenges is a core component of *infoDev*'s Climate Innovation Centers (CICs), the purpose and features of which are outlined in Box 5.1. The developing world faces severe climate- and energy-related problems,

including uneven access to reliable energy, high costs of conventional energy, persistent water shortages, and increasing pressures on agricultural production owing to high climate variability. It will be critical to empower entrepreneurs in Kenya (and in future CICs) as they work to develop innovative solutions to address these challenges.

Crowdfunding may help the CICs provide an additional, flexible investment mechanism that also builds local and regional collaboration between entrepreneurs, investors, and the community. In addition, experience with existing crowdfunding platforms has indicated that these campaigns may increase consumer awareness and increase demand for products and services, which could help ensure the viability of companies in the CICs working on clean and climate projects.

“CIC staff and companies may wish to incorporate **crowdfunding options** into the flexible financing tools they already have created”

BOX 5.1. CLIMATE INNOVATION CENTERS – WHO, WHAT, HOW, AND WHY?

The CICs are designed as locally owned and run institutions that provide a suite of services and venture financing to address the specific needs of local climate innovators and companies. Firms can receive financing through Proof of Concept grants (up to US\$50,000) and seed investments (US\$100,000-1 million). CICs also offer venture acceleration through mentorship, networks, seminars, and other services that build professional expertise. To improve the competitiveness of local firms, technology information, market intelligence, and access to business/technical facilities is also provided. The CICs will also conduct policy advocacy through hosting roundtable discussions with governments, researching policy trends, and documenting best practice for climate innovation regulation. CICs are rolling out in a number of countries with the first launched in Kenya in 2012. Others, including Ethiopia, the Caribbean, Vietnam, India, Ghana, South Africa, and Morocco, are launching in 2013 and 2014.

The CICs act more broadly than traditional incubators to ensure company success. In addition to the education

and facilities they provide, centers act as a repository and clearinghouse for resources. They track the progress of client companies and actively connect them with the community, universities, and industry resources that can provide assistance both on concrete projects and on iterations of their business models. As a company's technology matures, the centers shift roles to serve as a marketing agent, helping promote and highlight the success of the founders and their technology.

The mentors in the CIC work with a company to identify milestones that suggest it is ready for additional funding. The CIC will actively cultivate relationships with existing investor communities, and syndicate rounds as needed to help the company achieve their next milestones. This approach is iterative, involved, and ongoing, unlike the "prepare and pitch" model used in most accelerators.

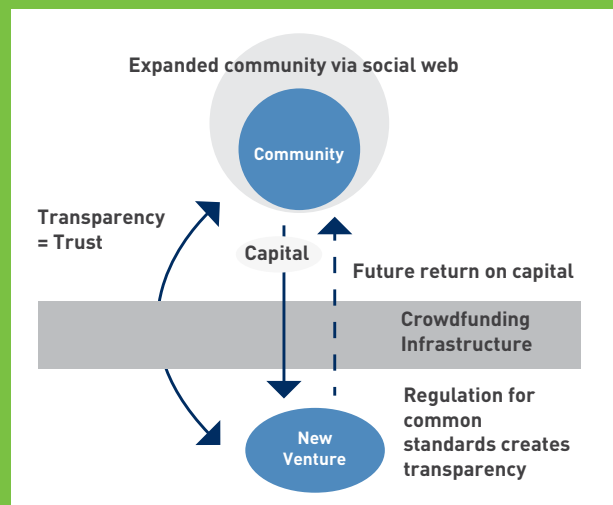
CICs also should actively engage in marketing the success of their centers in incubating, accelerating and crowdfunding companies. Such marketing may lead to a stronger pipeline of entrepreneurs interested in acceptance into the center, potentially improving the quality of deal flow into the CIC over the long term.

BOX 5.2. WHAT IS CROWDFUNDING?

Crowdfunding is a relatively old practice commonly known as "friends and family financing." Recently, with the addition of the transparency and scalability of Web 2.0 technology, crowdfunding has emerged as a social media-based funding mechanism, operating on more than 600 platforms worldwide, that provides capital to early-stage companies and functions as a new asset class. More than US\$2.7 billion in donations and pledges went to crowdfunded companies in 2012, and nearly US\$1.3 billion of debt- and equity-based crowdfund investing has taken place with no reported instances of successful fraud worldwide.

The mechanisms of crowdfund investing disrupt the traditional communication patterns between founders, investors, and customers. Companies post information on crowdfunding portals about technologies, business plans,

and the founders and receive rich and detailed feedback from potential investors and customers. The radical transparency required by crowdfunding enables these platforms to function as a new, powerful mechanism for investment selection and deal-sourcing.



Harnessing embedded community knowledge

Companies involved with climate and clean energy technologies share business fundamentals with any technology enterprise – they need access to capital; they pursue a standard business planning process; they iterate from idea to prototype through testing and early product development. Clean technologies are uniquely challenging, but crowdfunding mechanisms may present opportunities to mitigate certain difficulties by lowering investment risk and increasing the viability of companies and their connections to their communities.

Crowdfunding harnesses the embedded knowledge of a community to help select start-ups appropriate to particular cultures and situations. Communities may be geographic (residents of a particular area), related to origin (racial, ethnic or historic communities), connected by specific interests (such as investors and proponents of small-scale solar technologies) or linked by diaspora (potential investors with strong cultural ties to their home country or community and a vested interest in that community's success).

Companies that use crowdfunding receive early feedback from their community before significant capital has been invested in scaling the company, so the company learns earlier if the product does not fit the market or community. This feedback process can be facilitated through participation in accelerator programs like the CICs that have strong relationships with the communities in which they operate.

CLIMATE AND CLEAN TECHNOLOGIES DEFINED

Climate technologies fall into two categories: mitigation and adaptation. Mitigation technologies reduce greenhouse gas emissions. Examples include new fertilizers, renewable energy, fuel-efficient engines, and more efficient buildings and materials. Adaptation technologies provide ways to cope with climate change. They include rainwater harvesting, new agricultural practices, and strengthening of infrastructure such as surge barriers.

Studies of successful projects show that crowdfunding also creates and energizes a community around companies post-funding, which subsequently can help sustain the companies.

Matching the right ideas to the right capital

Certain economic, technological, and social dynamics distinguish clean technologies from other technology sectors. Climate-related sectors require substantial investments in research and development, prototyping, and manufacturing, in many cases more than in traditional technology sectors. Yet venture capital investors are reluctant to invest in technologies that may be unproven and that may present more distant return on investment than other sectors, such as information technology.

Investors also need a degree of sophistication to understand innovative technologies – for example, why a particular localized solar panel project differs from other solar companies and their products. Less-technological solutions may require a great deal of embedded knowledge about the community and technology's capacity to solve its problems.

These sectors also offer benefits relative to other technologies. Clean technologies often have strong advocates who will be highly invested in outcomes and in the local community. Climate and clean technologies also attract investors who are interested in social as well as financial returns, making them similar in motivation to social impact investors.

These dynamics require that a company attempting to introduce climate and clean energy technologies, identify, engage, and sell into a specialized market of potential customers and investors. Crowdfunding portals provide the mechanism to identify, communicate with and receive funding from precisely those investors and potential customers. Follow-up research could compare projects that are crowdfunded with those that receive only traditional forms of capital to review any differences in outcomes and returns.

Examples of successfully crowdfunded climate innovation initiatives

A number of private sector-led climate and clean energy innovation projects have used crowdfunding successfully, including the examples highlighted below:

Peppermint Energy developed a product called Forty2 that collects, stores, and distributes solar power. It combines power generation, lithium ion battery power storage, power cord-ready inversion, and energy efficiency into one mobile unit. Forty2 delivers up to 200 watts – powerful enough to run small appliances, power numerous LED lights, or charge several laptops or two dozen cell phones – and the lithium ion battery has the capacity for 500 watt-hours.

The company raised money to fund the production of the first 250 units through a donation-based Kickstarter campaign: 'It intends to work with nonprofits and NGOs to distribute the Forty2 on a large scale in both developed and developing nations. The campaign was funded at

333 percent of its original goal, with donations from 284 backers totaling US\$83,286.²³

Fenix International makes a renewable energy system called the ReadySet. It uses smart electronics and firmware to allow individuals to power many types of devices through two standard 12-volt car lighter adapter ports and two 5-volt USB ports, using energy from virtually any source, including solar panels, bicycle generators, and micro wind turbines. The company's initial campaign was fully funded in August 2012 by 522 backers contributing US\$112,362 – 561 percent of the original goal.

The ReadySet was originally designed for Africa. Fenix has been selling the unit through African telecommunications firm MTN in Uganda and Rwanda and is developing pilot projects in Kenya and Tanzania. The company currently is using crowdfunding to test the waters for the U.S. market and to encourage the creation of a developer community that will develop new applications such as micro wind and water generation. Fenix has plans to launch commercial implementation and raise next funding rounds via VC funding.²⁴

Kenya Stoves is a six-month pilot project to produce efficient wood and gas cooking stoves in Kenya for less than US\$5. Manufacturing uses locally available, inexpensive materials, leading to a cost about one-third the price of imported stoves. The stove design is open-sourced; project developers will work with local artisans to manufacture 1,000 units, contributing to job growth and capacity building. Project developers partnered with the Kenya Agricultural Research Institute to supply the wood source.

²³ As of September 12, 2012. <http://www.kickstarter.com/projects/1408708524/the-forty2?ref=search>

²⁴ <http://www.kickstarter.com/projects/mikelin/readysset-solar-kit-for-ipad-iphone-android-and-mor?ref=live>

The Kenya Stove is designed to use mesquite, a highly invasive species that has spread through nearly 125,000 acres in Kenya and could double its range every five years. The average tree is estimated to provide 100 pounds of wood. At 300 trees per acre, the species provides 30,000 pounds of firewood per acre – enough fuel for 30,000 families per day. Developers have designed and fabricated special machinery to aid the process of harvesting and processing the mesquite and simultaneously to provide an income for residents whose livelihoods otherwise would be displaced by the mesquite plant.

The aim of the Kenya Stove project is to reduce deforestation, improve urban health, and lower the typical family food preparation budget. Capacity building funds are being used for materials to produce the initial 1,000 units, to demonstrate the technology and train Nairobi artisans to build and sell the Kenya Stoves, and to fund travel expenses. The campaign was funded at 125 percent of its original goal, with total funding from 287 backers amounting to US\$18,869 in September 2012.²⁵

Mosaic, Inc. connects investors to solar projects. The company installs solar projects on affordable housing apartments for low-income residents. In January 2013,

²⁵ <http://www.kickstarter.com/projects/627536440/kenya-stove-revolutionizing-how-people-cook?ref=live>

²⁶ <http://grist.org/news/crowdfunding-project-solar-mosaic-sells-out-in-under-24-hours/>

Mosaic sold out its first four solar projects in less than 24 hours, attracting more than 400 investors and raising more than US\$313,000. The securities sold provide a 4.5 percent annual return, net of service fees, with initial terms of approximately nine years. This project demonstrated the ability of crowdfunding to attract investors for clean energy projects in a short period of time without requiring steep incentives.²⁶

Attractiveness and viability of crowdfunding for Climate Innovation Centers

Crowdfunding enables early stage companies to raise specific amounts of money for either targeted projects or expansion. It can provide a valuable complement to participation in accelerators, and ties the timing of investment rounds to company progress and milestones rather than revenue goals.

Climate and clean energy innovations may be well suited for crowdfunding because they are universally needed, local in nature, dependent on local market acceptance and relatively challenging to fund through traditional mechanisms. Crowdfunding helps address both social and economic factors, making clean energy appropriate in many communities. Locally based campaigns build community and social cohesion, while the social feedback built into crowdfunding platforms improve transparency, communication and accountability from founders to investors.

Addressing needs from the ground up

Clean energy problems are rarely solely technical; they also involve cultural factors. Effective technologies can fail to work when imported into a community without acknowledgement of the cultural context, in part because climate and clean energy solutions may depend on embedding solutions in local practices and social structures.

“Climate and clean energy innovation may be particularly well suited to crowdfunding”

Crowdfunding could be an effective mechanism to identify technically effective and culturally appropriate solutions. Using a crowdfunding platform could provide access to the intended community, helping address concerns about social and cultural suitability. Community engagement also may give the founder the insight necessary to commercialize the technology based on the community’s interest. The Kenya Stove Kickstarter project described earlier offers an example of this dynamic; the knowledge and input from Kenyan communities enabled a cook stove to be designed to address the problems in a locally relevant manner.

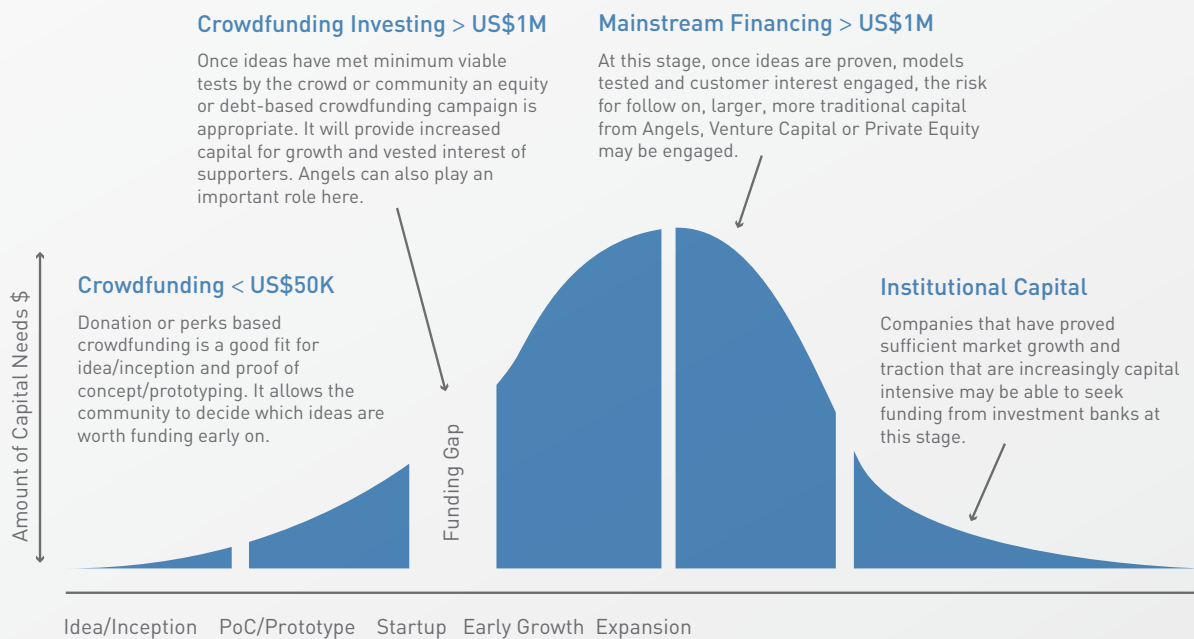
Climate and clean energy innovation may be particularly well suited to crowdfunding in conjunction with the support of CICs. These technologies must be locally developed, at least in part, to address local problems. CICs can support local entrepreneurs in their efforts to produce innovative climate and clean energy projects in

absence of local funding opportunities. Being located in the community, and acting as an active and visible partner in the local ecosystem around entrepreneurship and climate innovation, positions CICs as enablers of local innovation rather than outside agents attempting to dictate solutions.

Through the range of services they provide, CICs can harness the latent creativity, technical capability, and energy of local entrepreneurs. Providing entrepreneurs a space where they can work together and receive ample physical resources, mentoring, and training can increase

FIGURE 5.1. CROWDFUNDING ADOPTION CURVE

Where Crowdfunding Fits on the Funding Lifecycle



the rate of innovation and company formation. As the CIC monitors their progress, it can also curate and source the most promising technologies, and draw on crowdfunding as an early source of capital, introducing a new financing mechanism into the larger funding ecosystem. The new capital may also supplement existing funds rather than displace them, enabling the CICs to create a greater impact. Crowdfunding also may provide additional market validation for highly promising concepts. For instance, the Kenya CIC may wish to study how to leverage crowdfunding in its planned East Africa Climate Venture Facility (EACVF); subsequently it may choose to use crowdfunding to provide a return on investment back to the CIC, funding continued operations.

Where crowdfunding fits in the funding ecosystem

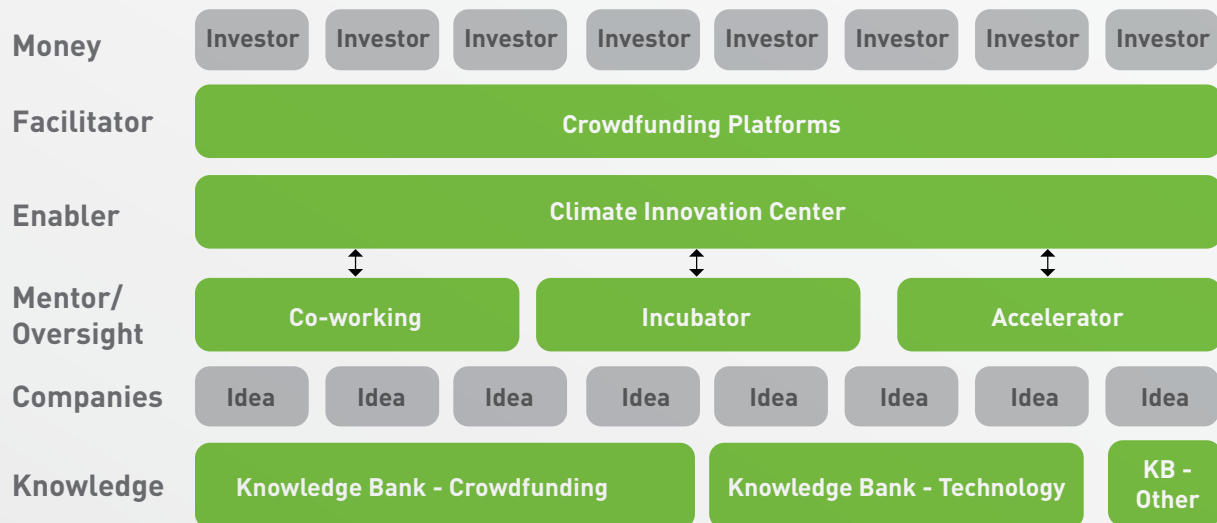
Figure 5.1 illustrates where crowdfunding fits in a company's funding lifecycle.

Critical success factors and execution considerations

Leveraging the CIC's network of relationships and its trusted role in the community will be critical to the success of any crowdfunding initiative that the CIC implements or helps facilitate. Crowdfunding relies on relationships and the trust that forms the basis of them. As the CIC introduces this funding model, it must act intentionally to align stakeholder interests and its own. Doing so will cultivate a community that trusts the beneficiary companies, as well as the CIC itself. The CICs are particularly well suited to play the trusted broker function given their support from *infoDev* and the World Bank and their strong integration into local public and private sector networks.

FIGURE 5.2. THE ROLE OF THE CIC IN CROWDFUNDING

The Honest Broker and Keeper of Knowledge



The role of CICs in crowdfunding

Should the CICs enter crowdfunding, there are a number of potential roles they could play in the crowdfunding ecosystem (see also Figure 5.2):

- Foster relationships to find and vet business opportunities.
- Host and curate these opportunities in co-working, incubator, and accelerator spaces.
- Promote the best opportunities on pre-approved crowdfunding investing platforms where investors can review the companies' pitches.
- Provide a circle of trust for participating companies, given the CIC's status as an honest broker that is putting up its own capital.
- For companies that are funded, act as the overseer, mentor, and facilitator to the business to make sure it is accountable with the investor's capital and provides investors with updates.
- Facilitate sharing of experience and wisdom between businesses with the CICs, in part by maintaining knowledge or information databases.

Critical factors to successful crowdfunding in CICs

Five factors are essential to successful crowdfunding via the CICs:

- A flexible approach to financing;
- The availability of a reliable, scalable method to process payments and investments;
- Ongoing corporate monitoring and governance; and
- The creation of a knowledge network based on peer learning; and
- Building understanding and collaboration in the broader business environment

A flexible approach to financing

CIC staff and companies may wish to incorporate crowdfunding options into the flexible financing tools they already have created. They can use various methods of

crowdfunding at different stages of companies' lifecycles, with both early and later stage investments involving debt, equity, or revenue sharing arrangements.

As companies grow, the CIC may be able to support companies requiring medium to large capital infusions by acting as a trusted lead investor in a syndicate of investors. The CICs' seed capital funding and Proof of Concept (PoC) investments in crowdfunding projects could be treated as a portfolio of investments that will bring returns to the CIC within a five-year to eight-year window of investments.

The centers may need to provide the initial money for a project in order to galvanize the investor community and show confidence in both the CIC approach and the company being considered for crowdfunding. As the company grows beyond the PoC stage, the CIC could act as a lead investor for the seed round. It could also set a percentage of the campaign target that should be completed via crowdfunding, and subsequently provide the additional financing needed to reach the full target.

The CICs may also engage with diaspora platforms such as Homestrings to bundle opportunities for co-investment. Homestrings provides a vehicle for the African diaspora to make co-investments with trusted third parties such as national development banks. Such bundling could help channel funds allocated to the donor's or investor's country of origin into CIC companies. Impact investing platforms such as Gate Global Impact, which provides access to high-quality investment opportunities for global impact investors, could plan a similar role.

The use of a reliable, scalable payment mechanism

The CICs could choose to either build or partner with payment platforms to provide a reliable, flexible payment mechanism. Such platforms need to be compliant with anti-money laundering, anti-terrorist funding and other cross-border monetary policy requirements. The first few

crowdfunding rounds may be able to leverage accepted platforms such as PayPal, 2Checkout, or Authorize.net, but each CIC would have to identify a more cost-efficient, regionally embedded payment gateway for long-term success. Future considerations could include virtual currency, that is, currency that can be translated from local to virtual currency, transmitted online and redeemed in the currency of the recipient. Virtual currency remains in its infancy, however.

Ongoing monitoring & governance

A regulatory regime should be in place to provide the framework for monitoring the buying and selling of securities. This framework provides a structure for the transfer of securities and the protection of investors.

Clear and transparent governance and monitoring are likely to stimulate investor confidence for projects and companies that are part of a CIC. They may facilitate the due diligence capacity and investor relations that many investors expect at the angel or seed stage, while demonstrating that companies have passed minimum requirements and fully intend to follow through on their claims. Investors may look to the CICs to perform effective monitoring and to support companies' communication with investors. Centers may want to evaluate new and existing tools that will support this kind of communication.

The creation of a knowledge network based on peer learning

The CICs could create a peer-learning based community. It can support sharing of best practice by developing a "learning laboratory" and rigorously documenting early

experiments and successes in crowdfunding by client companies. Over time, a best-practice database could be built up from which new client companies could learn.

As both a new marketing approach and new capital markets actor, crowdfund investing has the potential to be both dynamic and disruptive. Embedding tools for collaboration and peer learning may help companies to adapt quickly, learn from the experiences of others and reduce mistakes. This knowledge bank could then be shared with other CICs and *infoDev* projects. The policies governing this initiative would have to be tailored to the broader business environment.

Building understanding and collaboration in the broader business environment

The health and viability of the broader business environment is a critical success factor that each CIC can influence but cannot control. The CICs' long-term success, in part, depends on educating and explaining the nature of start-ups and the process of entrepreneurship to the broader business community. Many countries have risk-averse cultures and negative attitudes toward risk taking and entrepreneurship itself. By tying entrepreneurship to the process of technology innovation, the CICs could help nurture a business climate that is willing to support entrepreneurs. The CIC could consider working with funding agents and financial institutions to provide education regarding the ways that crowdfunding could operate in parallel with traditional investment vehicles and institutions and how it could benefit those institutions. Education materials could be based on experiences in crowdfunding globally, success stories, lessons from failures, and step-by-step guides for before, during, and after crowdfunding campaigns.

Clear regulation supports formation of an orderly market for crowdfunding

The degree to which a regulatory regime can reduce uncertainty and support transparency will be critically important in determining whether crowdfunding can

be applied to other parts of a country's economy. Each CIC, in collaboration with crowdfunding and securities experts, could work with national governments and security administrations to provide information, data, and experience that can help to inform decisions regarding the broader use of crowdfunding. Governments could draw on these insights as they draft policy to enable capital to flow to entrepreneurs more easily and transparently. CICs might elect to begin with perks-based crowdfunding in countries where regulatory structures regarding investments are being clarified.

Preliminary sector-specific recommendations for a crowdfunding mechanism

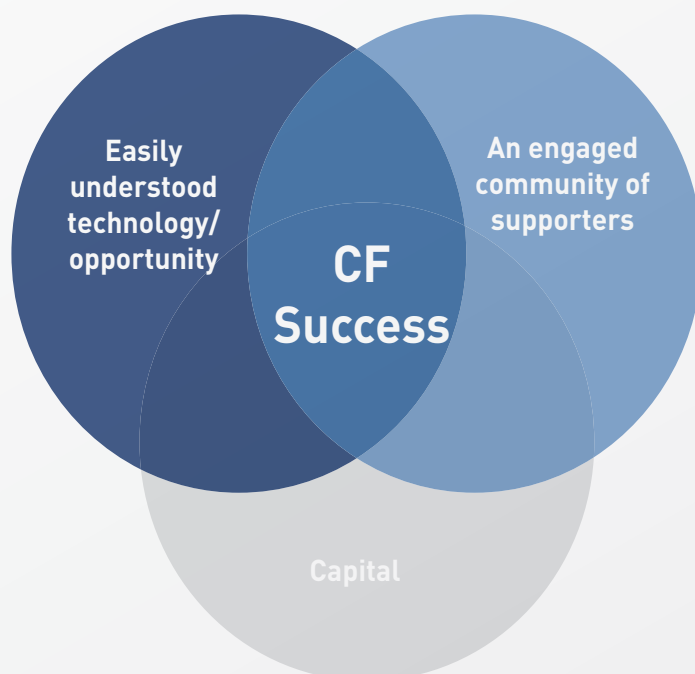
The CICs will see a wide range of innovative climate technologies, but only a subset of these will be appropriate for crowdfunding mechanisms. In the

near term, two criteria are critical to determining whether a technology is suitable for crowdfunding:

- Technology that is understandable to the average intended customer and private investor. Highly complex technologies that do not create easily understandable benefits may not be easily socially sharable.
- A community of interest or geography must be able to see a near-term impact from adoption of the technology. This requirement facilitates social media engagement and sharing (see Figure 5.3).

FIGURE 5.3 WHERE CROWDFUNDING PROJECTS SUCCEED

Three Key Variables to CFI Success for CIC Technologies



Early Keys

- ▶ Preference of less than 12 months from investment to demonstration of product/service/outcome
- ▶ Small to moderate capital needs for development
- ▶ Not dependent on infrastructure creation
- ▶ Technical complexity must be accompanied by easily understood benefits
- ▶ Setting and meeting investor expectations

“Appropriate projects will have a near-term time horizon for delivery, **technology understandable** to the average potential investor and small to moderate capital needs”

Given the above requirements, CICs could potentially undertake pilot projects in the following sectors:

- Distributed renewable energy systems, including off-grid, bio-energy and micro-hydro.
- Energy efficient household lighting and appliances.
- Consumer battery and storage products.
- Water filtration and sanitation devices.
- Technologies focused on climate adaptation.
- Organic or sustainable agriculture products.

Appropriate projects will have a near-term time horizon for delivery, technology understandable to the average potential investor, and small to moderate capital needs for initial development. Examples of projects not suitable for crowdfunding via CICs could include large-scale hydroelectric or wind power projects, original research in solar cell technology, genetic research-based projects, or complex engineering projects with either significant up-front capital outlays and/or execution time horizons that present no tangible results for more than two years following investment. Projects that are highly dependent on infrastructure creation (such as power plants requiring roads and power lines) are also not ideal candidates for crowdfunding.

Criteria for projects and companies seeking to participate in crowdfunding

The CIC will need a methodology to select appropriate candidates for crowdfunding. The following initial criteria could be considered as the basis for including a given company in the crowdfunding program:

Business model: The business model must be sufficiently scalable to provide returns to investors. Mentors and CIC staff will have to assess the company's operations, marketing strategy, and research, and must believe the company has a high likelihood of rapid market penetration and revenue growth. CIC staff could also vet the founder's team to make sure its members possess the knowledge and experience to deliver the business plan and have the initiative and drive to see it through.

Product-market fit: Energy and climate technology must be able to operate successfully in the intended market, region and ecosystem – not simply import ideas employed elsewhere that have not been validated by the local market.

Monitoring and documentation: Supported companies may have to be willing to participate in iterative learning and monitoring processes. These companies will have the tacit imprimatur of *infoDev* and the World Bank behind them, which heightens the importance of compliance with all governance, monitoring, and reporting processes.

Founders' comfort with crowdfunding and social networking: Founders must embrace crowdfunding business models and demonstrate an ability (after receiving education and training) to engage an online community. Likewise, they must be willing to use alternative funding mechanisms to achieve their objectives. Crowdfund investors expect regular, predictable, and accurate communication and project status updates from the founders. This level of transparency and accountability initially may be uncomfortable for some founders, but entrepreneurs who want to increase their chances of success will incorporate these practices in ways that maintain and possibly strengthen their competitive advantages.

Further research and analysis, possibly including a pilot project via one of the CICs, would offer additional insight into success factors for crowdfunding climate clean energy companies, coupled with a growing understanding of the local business environment.

“The **KCIC** can contribute to the creation of global best practice – guiding the ways accelerators tap new sources of capital for their companies”

Strategic recommendations for the Kenya Climate Innovation Center

The Kenya Climate Innovation Center (KCIC) has a unique opportunity to build a locally driven model for climate innovation infrastructure, training, and mentoring that leverages crowdfunding to increase the rate and amount of capital flowing to client companies. The KCIC can contribute to the creation of global best practice – guiding the ways accelerators tap new sources of capital for their companies.

This section presents a minimum set of infrastructure requirements to facilitate successfully crowdfunded companies' emergence from the KCIC. In addition to the physical infrastructure and resources provided by the center, the Kenya CIC could become a “living laboratory,” discovering best practice for using social media and crowdfunding platforms in locally and culturally appropriate ways. To ensure the continued success of this ongoing learning project, a peer-learning model and knowledge bank should be incorporated from the beginning of any crowdfunding pilot activities. This model has been shown to be highly effective in boosting start-up success and to accelerate growth within start-ups.²⁷

Positioning crowdfunding within the KCIC

infoDev can support the KCIC staff members' and stakeholders' understanding of common methods for raising money, including the role friends and family financing plays in most countries. Crowdfunding initially could be positioned as a more scalable and transparent way to raise money from family, friends, and communities.

²⁷ Interview with Dr. Robert Wubeker, uSpark Foundry, April 3, 2013.

This approach will help entrepreneurs connect the crowdfunding platform to the family and friends fundraising with which they are familiar. It also highlights the business value of the social web by translating tweets, likes, and fans into individuals who may become investors and brand or company ambassadors.

Minimum infrastructure

To attract and keep talented entrepreneurs, the Kenya CIC must leverage its modern computing and telecommunication equipment and stable power supplies to provide access to prototyping space to allow rapid development and testing of products. This prototyping space could provide access to modern 3D printers, such as those commonly used in “maker spaces,” so entrepreneurs can produce test products quickly on site and use these prototypes for customer validation. Based on the highly social, video-based nature of product launches and crowdfunding, entrepreneurs will also need access to video production and editing facilities.

Minimum training

The KCIC may consider offering at least three tracks of training to companies entering a crowdfunding program. The curricula provide a minimum set of knowledge, skills, and abilities to facilitate successful company launches.

Track 1: Entrepreneurial training – This includes courses that address customer discovery, customer validation, company creation, and company building. Such training can be encompassed within a learning and knowledge management system in which all iterations, experiments, and validation are recorded and documented, enabling

companies to learn from each other. This track also might experiment with peer-to-peer group mentoring of entrepreneurs. While expert mentoring is valuable, carefully crafted peer-to-peer interactions can build capacity and the ability to execute and succeed. Existing training methodologies such as Lean Start-up²⁸ or Growth Wheel²⁹ could be leveraged by the KCIC team and mentors to reduce the cost of developing materials in-house.

Track 2: Business operations – Once companies have validated their product, they would ideally receive specific training in business operations, accounting, compliance, cost management, and other domains of knowledge that are important for launching and sustaining business operations. These include country-specific accounting rules and/or training in regional online accounting and reporting tools. Local mentors, universities, and other sources of expertise may connect through the reach of *infoDev* and provide opportunities for partnerships.

Track 3: Crowdfunding-specific training – This includes training firms on how to create and engage a social media audience, how to use video-based marketing, the phases of a crowdfunding campaign, how to structure rewards or donations for crowdfunding, and how to structure term sheets and debt instruments for crowdfund investing.

²⁸ See Ries, 2011; <http://theleanstartup.com>

²⁹ <http://www.growthwheel.com>

Training materials should also address tactics and information to help entrepreneurs explain crowdfunding and its value within their communities. To that end the KCIC should develop material that can be used on an ongoing basis to educate local and regional government officials, media, financial institutions, and other important constituencies on the structure, value, risks, and potential rewards of the various forms of crowdfund investing.

Partnerships

Relationships should be explored with a number of crowdfunding platforms that can create easy connectivity with existing social media networks (whether global brands like Facebook and Twitter or dominant local or regional players). These relationships will facilitate early crowdfunding campaigns without requiring that KCIC staff to have expertise in crowdfunding. Several crowdfunding platforms have experience in science, and climate and clean energy campaigns that can be used to guide the first few projects.

Curation and deal sourcing

One of the Kenya CIC team's key role is to curate the best deals and projects among the beneficiary companies. To build trust, the KCIC should lead with a handful of highly fundable projects – not just the projects that have the greatest technical potential for climate impact. Building investor confidence through ongoing curation of these deals will build trust in the processes of the KCIC and lead to an early track record of success, which will amplify the potential for crowdfunding on future projects. (Later sections of this chapter address a framework for co-investing, lead investing, or deal syndication by CICs.)

At least the first ten companies using crowdfunding should be treated as test cases, and could receive incentives or matching funds from the Kenya CIC. These funds could provide an incentive for early companies to experiment with crowdfunding, helping to validate the market and process.

“As platforms with traction in Africa emerge, the **CICs** could perform A/B testing to compare results of regional versus international platforms”

Deal structuring

Some companies may seek equity-based crowdfund investments. The Kenya CIC can facilitate the structures and models for these deals based on the evolving domestic legal framework and international best practice. The KCIC's crowdfunding activities should be coordinated with its Proof of Concept fund and the EACVF to leverage well-vetted term sheets for the companies seeking crowdfund investments. As discussed in the section on partnership models below, in many cases the Kenya CIC may need to act as lead investor to ensure investor confidence. Doing so will result in better deal terms, more-realistic valuations for the firms, and a structure for subsequent financing.

Recommendations for business models

The CICs should consider the business model behind crowdfunding from multiple perspectives to ensure the long-term viability of crowdfunded projects supported by each center. The proposals in this section are designed with the sustainability of the CICs in mind and to allow revenues to support continued operations of the centers after *infoDev's* first phase of funding.

Buy, build, or partner crowdfunding platforms

Over time CICs might build and deploy their own crowdfunding platforms, but this may be a longer-term approach. The centers should not allocate resources on such an effort until:

- There is greater clarity around the legal issues related to crowdfunding;
- Easier money transfer platforms and services emerge; and
- The CIC has a successful track record in supporting client companies.

Each CIC could initially partner a number of platforms. This could include; an international pledge- or donation-based platform, an international equity-based platform,

an international debt-based platform, and/or a regional platform. This mix would allow each CIC to compare outcomes from various crowdfunding options. Criteria will include international experience, technology commercialization experience, education support, industry feedback on performance of deals, interaction with founders, and other variables.

Educational components for both investors and entrepreneurs will be important to set expectations and provide training, supporting the formation of a stable market of buyers and sellers of crowdfunding campaigns. As platforms with traction in Africa emerge, the CICs could perform A/B testing to compare results of regional versus international platforms. Platforms should agree to a revenue-share structure with the CICs to help offset costs related to this program.

Equity-based crowdfunding models

The decision about the most appropriate crowdfunding model for a given company should be based on several factors, with particular emphasis on access to funding, cultural appropriateness, and cash flow. Equity-based crowdfunding is a new channel for a well-established practice of soliciting investments, backed by securities, which is a well-understood model. One of the most important considerations for an equity offering is the ability for investors to exit, so companies interested in structuring equity deals must have either the potential for significant growth in future revenues or a list of potential buyers.

Equity-based offerings may be preferable where religious and cultural norms preclude debt offerings. For example, equity-based crowdfund investing is Sharia-law compliant, potentially making it attractive for CICs in the MENA region and other parts of Africa and Asia. Moreover, equity offerings can be issued early in a company's evolution, when capital is needed for expansion but before cash flows could support debt finance.

The majority of offerings in the developed world use equity-based security transactions. To date, many of the platforms emerging in the developing world are debt-based or an extension of microfinance lending. It is too early to predict the rate of penetration of equity-based platforms in the developing world but, given their rapid growth, they appear likely to become important players over time. Major platforms are expanding into international markets and are proving viable and are likely to be joined by emerging regional platforms.

Debt-based crowdfunding

While platforms and other players are expending tremendous energy and resources to create equity-based crowdfunding offerings, strong arguments can be made for the value of the debt-based model for CICs.

A debt-based offering can make sense for established companies with sufficient cash flow. In some regions there may not be a secondary market for the trading of crowdfunding securities, so debt-based securities may be easier to sell than equity-based securities. Second, CIC companies may experience less friction when seeking

subsequent funding rounds if they initially use either a debt instrument or a type of convertible note that allows early stage equity investors to be converted to debt. Third, debt deals can more easily be structured so that the CIC buys out the first investors in the event of a subsequent funding round. This approach might also provide a structure that would establish the CICs as "first loss lenders," using its proceeds to repay investors who made loans to unsuccessful companies.

Platform match and data needs

Companies must approach their fundraising process with a coherent strategy for not only their first raise, but for when and where they will seek subsequent raises as they reach developmental milestones. CICs and their client companies should consider matching project types to funding sites and investors based on successful results on a given platform within the past 120 days. For example, if a CIC were looking to raise money for an off-grid technology, it would consider which platforms had recent success with those kinds of projects.

Emerging data show fluctuations in funding patterns on existing portals, so historical data is less relevant than recent funding data. Furthermore, communities that have supported one off-grid technology during the past few months may be predisposed to make another investment in the same space. The CICs will need ongoing access to comparative data and tools to continually select the most relevant platforms and partners for their projects.

Staging and timing of investments

For the CICs to pilot crowdfunding for client companies, they should curate and select the companies that are best suited to use crowdfunding. Each center could employ a staged investment model with subsequent tranches and campaigns tied to performance and milestones. This model lowers risk for investors and the CICs while providing the company with the funding it needs as it progresses in technology through various stages of development.

FIGURE 5.4. DECISION FRAMEWORK FOR INVESTING

Investment Decision Approaches for CICs

<p>CIC acts as lead investor and syndicates with existing investor networks - Crowdfunding probably not appropriate</p>	<p>Crowdfund on larger platforms with matching funds from CIC's Seed Capital Facility</p>	<h3 style="text-align: center;">Findings</h3> <ul style="list-style-type: none"> • Crowdfunding should be used to test market validation • Use crowdfunding to pre-sell inventory prior to investing into expanding operations • Leveraging crowdfunding as a mechanism to test ability of company to execute plan • Consider syndication of larger rounds to offset risk
<p>Crowdfunding should take place through a local targeted platform first followed by Climate Innovation Center's seed funding</p>	<p>CIC provides seed funding before crowdfund</p>	

Role of *infoDev* and CICs in building investor confidence

The successful implementation of crowdfunding for CIC companies relies on its ability to build the trust of the investment community. The CICs will use their resources to identify, screen, mentor, and present companies to investors. Much of investors' willingness to place money into these companies depends on their belief in the commitment of the CIC to its beneficiaries and the community.

Therefore centers should participate as an active investor in funding rounds, including crowdfund investing. Its involvement will demonstrate to the broader investor community that the CIC is monetarily committed to the firm being presented. Initial funding of the crowdfunding campaign by the CIC also helps solve the first money challenge, and generates momentum that will draw attention from potential investors. This in turn could accelerate the funding of companies through traditional investment vehicles, including angel investors, venture funds, and targeted-impact investing funds.

The CIC must demonstrate to the investment community that its portfolio of investments are providing compelling returns – another reason the CICs should carefully screen and curate the initial companies presented for

crowdfunding. The returns generated also can help offset costs and fund operations. Existing accelerator models take between a five percent and an eight percent stake in their firms; the CICs could consider asking for as much as a 10 percent stake if they successfully assist companies in raising money through crowdfunding.

Reporting and investor relations

The CICs should be able to maintain investors' trust in itself and its companies. They can cultivate trust through effective and transparent post-funding reporting to investors. This reporting communicates the meaningful developments that have transpired at a company, how proceeds of the fundraising round have been spent, milestones the company has met, and obstacles it faces. It may also include financial and tax reporting and reporting to regulatory bodies.

There is no standard methodology in place for managing investor relations in crowdfunding, and it is highly unlikely that a legislative or administrative code will dictate these practices in CIC host countries. Each center will need to develop a set of best practices for investor relations. Its methodology should leverage the same social networks used to generate interest in the companies. In the absence of a regulatory framework, the CICs should provide transparency, trust, and a high degree of engagement with early investors.

Timing of crowdfunding versus traditional investment rounds

While every company is unique, the following suggestions should help the CICs determine when to partner with existing investor networks instead of leading with crowdfunding (see Figure 5.4).

Low capital intensity projects

Companies with products that have low capital intensity and are likely to provide solutions in particular economic, social, and geographical systems may make good candidates for seed funding followed by crowdfunding. The Kenyan Stove project described above offers an example of this type of company. A CIC may elect to fund the entire Proof of Concept (PoC) to enable the entrepreneur to create and test the product. It may then require the entrepreneur to fund a certain percentage of the seed capital round through crowdfunding – possibly with a product pre-sale or equity-based model.

The CIC and the entrepreneur should collaborate on the best way to execute this type of investment. One possibility is to use product pre-sales to fill an initial production run; once the company has achieved that level of funding, the CIC can provide additional funding to expand operations through its seed capital facility.

Higher capital intensity and highly replicable projects

In cases where a company has an especially strong business model or its technology has been demonstrated elsewhere, the CICs can provide seed capital matching funds for a crowdfunding round, or syndicate an angel investment that is tied to the company successfully executing a crowdfunding round. These approaches place the burden of raising capital on the company, and the CICs do not risk losing capital if the company is unsuccessful.

Technology versus business model innovation

The CIC will see two types of innovative companies. In the first, engineering and science drive novel solutions.

These firms will depend on CIC funding through PoC. These firms may not be suited to crowdfunding until their products are developed and tested.

The second type of innovative company adapts a technology to a new region or uses it to solve a novel set of problems through innovations in the business model. These companies are creating innovation in the product-market fit and scale of a product or service, not in the underlying technology. These projects are more likely to receive crowdfunding if they replicate existing solutions and match them to a particular environment.

Software and technology implications

Improved data networks, widespread access to mobile devices and access to social media sites are embedding the social graph – the web of connections linking Internet users – in the day-to-day activities of people around the globe. Increasing comfort with e-commerce and mobile banking is removing barriers to crowdfunding platforms.

Moreover, the technology running existing crowdfunding platforms is constantly evolving. As platforms emerge across the developing and developed world, cross-pollination will enhance existing and future models. New tools for investor relations will be created that leverage the social web and enable entrepreneurs to communicate easily and in a scalable way with their investors. The widespread adoption of web-based accounting and reporting software used to facilitate business processes is already driving down costs and increasing adoption of these tools by small businesses

and start-ups. Several technology trends will support the development of web-based funding mechanisms. The CICs must track and monitor these trends as they evolve.

Regulatory and legal implications

Each CIC must study the securities regulations in the host country and in the region to determine what regulatory changes may be needed to facilitate equity- and debt-crowdfunding mechanisms.

The lack of regulation that allows for CICs to help create new market dynamics provides another “leapfrogging” opportunity for developing countries. Without the constraints of the legacy structure, they can create new technology-enabled regulatory structures that are more nimble, transparent, and lightweight than those in the developed world.

As a trusted intermediary, *infoDev* can work with stakeholders to advocate a framework that eases access to capital while still providing investor protection. One possibility is a tax holiday and free trade zone exemption for CIC businesses that are generating employment after a specific period of time.

Risk factors

Using a new and potentially disruptive model of early stage finance in the developing world is entirely consistent with the mission of the CICs, but it is not without significant risk.

Risks include:

- Failure risk: Crowdfund investments offer no guarantee of return. Any investment in a crowdfunded company could be lost because of company failure.
- Fraud risk: Opponents to crowdfunding fear that it will become rife with fraud. While there has been no reported successfully executed fraud in crowdfunding to date in the developed world, the securities markets have been replete with examples of successful securities fraud during the past decade. Investor education and CIC staff education will be critically important in mitigating this risk.
- Sector risks: Crowdfunding has had the most traction in consumer products and extensions of popular brands or games. Although science and energy projects have been successfully funded multiple times on existing platforms, it is not possible to extrapolate data from “typical” crowdfunding projects to climate and clean energy technologies. Technology-related projects often are complex in nature and not easily explained to investors. Since crowdfunding requires investors that understand both solutions and offerings, it is possible that crowdfund investors will not understand technology offerings and as such deals may not find financing.
- Investor relations risk: Although the CICs will employ best practice in investor communication, it is possible that interactions with investors in crowdfunded projects will reveal unrealistic expectations among companies or investors. If so, companies may not be able to actively run a business while staying engaged with investors to the degree required. Likewise, a lack of communication may lead to a backlash against companies and this funding model, and entrepreneurs may not use social media tools effectively to communicate with investors. This risk will be magnified for investors from outside the country in which the CIC is located. International investors will bring additional needs for transparency and communication, along with the additional risk associated with those needs.

- **Regulatory and compliance risk:** The securities industry is among the most regulated in the world, yet there is no case law or guidance from the courts to resolve questions about the boundaries of appropriate crowdfund investing. Regulatory bodies may resist or reject the arguments of the CICs that crowdfunding is an appropriate and effective method of financing early-stage companies. If CICs do not engage with local regulatory and policy constituents to build crowdfunding frameworks, actions that companies and the CICs believe to be legal may subject the centers and founders to regulatory action. CICs should work with local governments prior to offering crowdfund investing. Pre-sales and revenue-based crowdfunding will also have risks associated when these models are not well understood or have not been contemplated by current regulatory regimes.
- **Infrastructure risks:** Further study is required to determine what role existing funding and macro-level economic development infrastructure will play in crowdfund investing. Certainly, leveraging some existing infrastructure would seem logical and appropriate. What is unknown is how much, which areas are critical, and where or how crowdfund investing can create new market infrastructure that could fill new gaps or potentially even address pre-existing gaps in the ability of infrastructure to achieve its goals.
- **Market rejection:** Crowdfund investing is an emerging asset class. It is also a high-risk investment. It is not known what appetite the investor community will have for the proposed financing models, or if they will extend their portfolios to this asset class. Media stories about potential fraud or losses experienced by other crowdfund investors may deter future investors.
- **Market rejection of co-investment:** Early financial engagement by the supporters of crowdfund offerings is important for follow-on financing. CICs should take the lead in early- or seed-stage investing, and offer crowdfunding in tandem or subsequently. Investors may not follow the CICs' lead, however. The market may reject the company or co-investing, particularly if the CIC is not perceived as an honest broker.
- **Inherent risk of technology projects:** All technology projects bear inherent risk. While the CICs can mitigate some of those risks, some projects are likely to fail. Failure may result from poor management decisions, lack of funds, or miscalculation of market demand. Technological projects can be capital intensive or difficult for investors to understand. In either case, inability to raise capital from investors can lead to failure. Adding a crowdfunding component magnifies this risk by involving community and/or international investors in the fundraising process.
- **Subsequent funding failure:** Bringing on crowdfund investors creates a more complicated investor table (or capitalization table). Dealing with many investors can be a problem for early-stage companies that lack the necessary communications discipline. Subsequent investors may recognize this risk and choose not to invest if they find the capitalization table too complicated. Currently, there are no commonly used structures to simplify capitalization tables of crowdfunded companies, although the industry is working to address this issue.
- **Liquidity risk:** There is no public market for private shares; as a result, these investments present limited liquidity. Some crowdfunding frameworks have a one-year holding period, after which the equities may be traded on secondary markets; even on such markets, however, there is no assurance of demand for the equity. Investors in crowdfunded offerings need to understand that these are long-term investments with liquidity that is limited and dependent on market demand.

Conclusion

Many strategies have the potential to build long-term success and community integration into *infoDev*'s CICs, and into the Kenya CIC in particular, given its advanced stage of operations. Finding ways to create social and financial connections may help foster such long-term success. Crowdfund investing can become a key component of the CICs' mission to provide innovative and flexible finance to early-stage companies developing climate and clean energy technologies. It enables these companies to identify and exploit new market opportunities, leverages the existing financing provided by the CICs, and helps aggregate demand while building capacity and community in-country. It also can serve as a strategy to more deeply integrate a CIC into the local and regional community, for instance, creating a truly Kenyan center rather than an *infoDev* center.

It is important to recognize that crowdfunding and crowdfund investing are not tools just for start-ups. Crowdfunding also provides funding options for early and mid-stage companies seeking capital to start, test, expand, and scale operations, either through a stand-alone round of financing or as part of a funding syndicate of professional investors.

The Kenya CIC, in its role as the first operational CIC, provides a unique opportunity to pilot crowdfunding programs in the near term. Initial steps could include:

- Engaging entrepreneurs and investors to understand the need for capital and the appetite for crowdfunding.
- Providing crowdfunding education.
- Working with two or three entrepreneurs on test projects.
- Conducting surveys and interviews of the community to see if it is aligned with the companies that are part of the Kenya CIC.
- Determining if community interest is focused on other products or services and finding a path to introduce them into the Kenya CIC.
- Reviewing Kenyan law to understand to what extent rules currently exist governing investments in private companies, and building a Kenya crowdfunding framework along the lines of other working frameworks globally.
- Analyzing and recommending technology options and select platform(s) for debt-, equity-, and perks-based crowdfunding.
- Reviewing technology options and paths for how money will be transferred from investors to trusted third parties, such as escrow agents, and then to entrepreneurs following successful crowdfunding campaigns
- Designing country-specific training programs for entrepreneurs and the community at large to build understanding of crowdfunding and how it will operate. Leveraging existing materials and education in the crowdfunding marketplace will reduce time and costs.

Appendix A: Research Discussion

This appendix presents the research methods, models, and results contained in the body of the report.

The authors identified a limited number of variables that were moderately to strongly correlated with the launch of crowdfunding platforms. The analysis utilized Nobel Laureate Douglass North's institutional framework to break the discussion into cognitive, normative, regulatory and infrastructure-related factors. Each of these was analyzed using various regressions with the dependent variable, controls (either total population in tens of millions or nominal GDP), and related variables. Each group of variables is discussed below.

TABLE A1. THE COMPLETE REGRESSION MODEL.

Poisson Regression, IRR	Number of o =		108			
	LR chi2(9) =		3872.63			
	Prob > chi2 =		0			
Log likelihood = -416.32401	Pseudo R2 =		0.823			
CFP Count	IRR	Std. Err.	z	P> z 	[95% Conf. Interval]	
Total Population (in units of	1.03723	0.0034421	11.01	0	1.030506	1.043999
Facebook Penetration	126.8182	27.15134	22.62	0	83.35703	192.9394
Informal Investor Rate	0.8921259	0.026544	-3.84	0	0.8415885	0.9456981
Face Saving	0.3415122	0.0629088	-5.83	0	0.2380178	0.4900079
Uncertainty Avoidance	0.2767828	0.0372886	-9.53	0	0.2125513	0.3604246
Performance Orientation	3.373784	0.5869162	6.99	0	2.399049	4.744556
In Group Collectivism	0.5623653	0.0759564	-4.26	0	0.4315689	0.7328025
Remittance Inflows (% of GD	0.5557695	0.0715532	-4.56	0	0.431823	0.7152923
VC: total number of transact	1.00035	0.0000535	6.55	0	1.000245	1.000455
Constant	786.3175	891.69	5.88	0	85.17829	7258.836
Summary						
Variable	Obs	Mean	Std. Dev.	Min	Max	
CFP Count	1850	1.471351	13.13715	0	339	
Total Population (in units of	1656	3.207729	13.46905	0	135	
Facebook Penetration	687	0.1816753	0.1779715	0	0.9891	
Informal Investor Rate	407	4.907125	4.129573	0.3	31.3	
Face Saving	590	2.954564	0.5725459	2.045736	4.633333	
Uncertainty Avoidance	590	4.132113	0.5834665	2.883333	5.371069	
Performance Orientation	590	4.089372	0.4068524	3.204167	4.93501	
In Group Collectivism	590	5.13884	0.7478851	3.179167	6.362443	
Remittance Inflows (% of GD	1440	4.587485	6.990847	0	50.81884	
VC: total number of transact	744	74.58602	320.629	1	3279	

	CFP Count	Total Popula	Facebook Pe	Informal Invt	Face Saving	Uncertainty	Performance	In Group Col	Remittance I	VC: total number of transactions
CFP Count	1									
Total Population (in units of	0.1254	1								
Facebook Penetration	0.1899	-0.1451	1							
Informal Investor Rate	-0.0235	0.2103	-0.0049	1						
Face Saving	-0.1209	0.3329	-0.1938	0.2106	1					
Uncertainty Avoidance	0.0603	0.0998	0.2337	0.0055	-0.1771	1				
Performance Orientation	0.1029	0.1474	0.0832	0.1113	0.1497	0.585	1			
In Group Collectivism	-0.1928	0.198	-0.2986	0.2334	0.5798	-0.5664	-0.1008	1		
Remittance Inflows (% of GD	-0.0669	-0.0823	-0.1962	0.1714	0.2809	-0.2409	0.0071	0.4077	1	
VC: total number of transact	0.4731	0.2767	0.0884	0.0397	-0.0787	0.05	0.1931	-0.1891	-0.1175	1

Cognitive variables measure perception. Perception can be influenced by education, with more exposure leading to broader acceptance and understanding of entrepreneurship, so the model used percent of the labor force with a secondary or tertiary education respectively.

TABLE A2. THE COGNITIVE VARIABLES REGRESSION ANALYSIS.

Poisson regression				Number of o =	358
				Wald chi2(3) =	88.05
				Prob > chi2 =	0
Log pseudolikelihood	=	-630.804	Pseudo R2 =	0.2162	
		Robust			
CFP Count	IRR	Std. Err.	z	P> z	[95% Conf. Interval]
Total Population (in units of ten million)	1.069496	0.0186467	3.85	0	1.033567 1.106675
Labor force with secondary education (% population)	1.019573	0.0075013	2.63	0.008	1.004976 1.034382
Labor force with tertiary education (% population)	1.051453	0.0087908	6	0	1.034364 1.068825
_cons	0.0645266	0.0286808	-6.17	0	0.027002 0.154199

Variable	Obs	Mean	Std. Dev.	Min	Max
CFP Count	1850	1.471351	13.13715	0	339
Total Population (in units of ten million)	1656	3.207729	13.46905	0	135
Labor force with secondary education (% population)	358	43.46173	17.31946	6.4	79.1
Labor force with tertiary education (% population)	363	24.76529	10.25931	0	61.1

	CFP Count	Total Population (in units of ten million)	Labor force with secondary education (% population)	Labor force with tertiary education (% population)
CFP Count	1			
Total Population (in units of ten million)	0.1254	1		
Labor force with secondary education (% population)	-0.0042	-0.2871	1	
Labor force with tertiary education (% population)	0.2513	0.0929	0.0598	1

Analysis

When the 358 observations were modeled with a Poisson regression, a Wald chi-squared value of 88.05 and a $P > \chi^2$ value of 0 were returned. This corresponded to a pseudo R-squared value of 0.2162. Both variables were significant at the 1 percent level and showed a small positive correlation with CFP count. This between the percent of the population with secondary or tertiary educations and the rise of crowdfunding suggests that societies which engage more actively in education are more likely to have crowdfunding portals. Education can foster an ecosystem of entrepreneurship based on learning, giving businesses the knowledge necessary to succeed, and can address misperceptions or fears related to entrepreneurship.

Normative variables measure social norms. The analysis shows a moderate negative correlation between face-saving, uncertainty avoidance and in-group collectivism and the launch of crowdfunding platforms, perhaps because all factors are related to risk aversion. For example, the more people are concerned with saving face, the more important they will consider other people's perceptions of them to be and the less likely they are to take risks. A similar dynamic occurs in cultures with a high degree of in-group collectivism or uncertainty avoidance. In societies with a strong groupthink mentality, crowds exert powerful influence on people's decisions and behaviors, making individuals less likely to branch out. Conversely, crowdfunding ecosystems may flourish in environments in which people do not fear losing face or experiencing group backlash against risk-taking.

TABLE A3. THE REGRESSION MODEL FOR NORMATIVE VARIABLES.

PW Correlation Table						
	CFP Count	Total Population (in units of ten million)	In Group Collectivism	Face Saving	Performance Orientation	Uncertainty Avoidance
CFP Count	1					
Total Population (in units of ten million)	0.1254	1				
In Group Collectivism	-0.1928	0.198	1			
Face Saving	-0.1209	0.3329	0.5798	1		
Performance Orientation	0.1029	0.1474	-0.1008	0.1497	1	
Uncertainty Avoidance	0.0603	0.0998	-0.5664	-0.1771	0.585	1

Summary Statistics						
Variable	Obs	Mean	Std. Dev.	Min	Max	
CFP Count	1850	1.471351	13.13715	0	339	
Total Population (in units of ten million)	1656	3.207729	13.46905	0	135	
In Group Collectivism	590	5.13884	0.7478851	3.179167	6.362443	
Face Saving	590	2.954564	0.5725459	2.045736	4.633333	
Performance Orientation	590	4.089372	0.4068524	3.204167	4.93501	
Uncertainty Avoidance	590	4.132113	0.5834665	2.883333	5.371069	

Poisson regression (robust)						
			Number of obs	=		522
			Wald chi2(5)	=		91.83
			Prob > chi2	=		0
Log pseudolikelihood	=	-2612.2699	Pseudo R2	=		0.4602
CFPCount	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
Total Population (in units of ten million)	0.054911	0.0086466	6.35	0	0.0379644	0.0718584
In Group Collectivism	-1.546034	0.2915045	-5.3	0	-2.117372	-0.9746959
Face Saving	-3.224849	0.6655569	-4.85	0	-4.529317	-1.920382
Performance Orientation	2.35857	0.7138702	3.3	0.001	0.95941	3.75773
Uncertainty Avoidance	-2.351425	0.6687823	-3.52	0	-3.662214	-1.040635
Constant	16.559	2.796895	5.92	0	11.07719	22.04081

Analysis

There was a positive correlation between a society's performance orientation and number of crowdfunding platforms – suggesting that the more a culture emphasizes performance, the more likely it will be to support the launch of crowdfunding platforms. The variables were modeled using a robust Poisson regression, with 522 observations, a pseudo R-squared value of 0.4602, and a Wald chi-squared value of 91.83 with five degrees of freedom. All variables were highly significant when evaluated using a two-tailed test with an alpha value of 1 percent.

Regulatory variables consider the rigidity and efficiency of local regulation. This study used the following variables to model regulative factors: cost of starting a business (percent of income/capita), cost of resolving insolvency (percent of estate), and the strength of investor protection index. CFP count by country by year and country population were once again used as the dependent and control variables.

TABLE A4. THE REGRESSION MODEL FOR REGULATORY VARIABLES.

PW Correlation Table					
	CFP Count	Total Population (in units of ten million)	Starting Business Cost- % of income/capita	Resolving Insolvency Cost (% of estate)	Strength of Investor Protection
CFP Count	1				
Total Population (in units of ten million)	0.1254	1			
Starting Business Cost- % of income/capita	-0.0342	-0.0265	1		
Resolving Insolvency Cost (% of estate)	0.1098	-0.0393	-0.1539	1	
Strength of Investor Protection	0.1803	-0.0055	-0.264	0.3295	1
Variable	Obs	Mean	Std. Dev.	Min	Max
CFP Count	1850	1.471351	13.13715	0	339
Total Population (in units of ten million)	1656	3.207729	13.46905	0	135
Starting Business Cost- % of income/capita	1758	64.56871	204.7559	0	6375.5
Resolving Insolvency Cost (% of estate)	1451	4.324604	2.564494	0	9
Strength of Investor Protection	1624	35.93578	23.5271	0	94.4
Poisson regression			Number of o =		1159
			Wald chi2(4) =		126.16
			Prob > chi2 =		0
Log pseudolikelihood	=	-3255.0644	Pseudo R2 =		0.4845
Robust					
CFP Count	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Total Population (in units of ten million)	0.0369625	0.0081246	4.55	0	0.0210387 0.0528864
Starting Business Cost- % of income/capita	-0.0725361	0.0251432	-2.88	0.004	-0.1218158 -0.0232564
Resolving Insolvency Cost (% of estate)	0.2502876	0.1336329	1.87	0.061	-0.011628 0.5122033
Strength of Investor Protection	0.0397199	0.0071618	5.55	0	0.025683 0.0537569
Constant	-2.775833	1.364783	-2.03	0.042	-5.450759 -0.1009063

Analysis

A Poisson regression, with 1159 observations – the highest out of any regression ran – returned a Wald chi-squared value of 126.16 (4 degrees of freedom), a $p > \chi^2$ value of 0, and a pseudo R-squared value of 0.4845. The regulative coefficients were almost all significant, the exception being resolving insolvency, with a $P > |z|$ about 6 percent which is just outside the typical 5 percent alpha value used to test significance. However, resolving insolvency cost had the greatest effect out of all variables modeled (positively correlated). Starting business cost had a small negative correlation and strength of investor protection had an approximately equally small positive correlation with CFP count. The positive correlation between insolvency cost and CFP count is most likely an artifact of the study's methodology, as it is unlikely that increasing the cost of failure encourages the creation of crowdfunding platforms. The negative correlation between starting business cost (percent income per capita) and crowdfund platform creation suggests that highly regulated economies and those with overly burdensome barriers to market entry are less likely to benefit from crowdfund investing. This is not to suggest that regulation is not an important part of a crowdfund investing ecosystem, as demonstrated between the positive correlation between platform count and strength of investor protection Data seems to suggest that crowdfunding platforms are more likely to emerge in economies with low market entry costs and adequate investor protection. In order to encourage the development of crowdfunding, policy makers should seek to enact legislation that encourages the development of these attributes.

Infrastructure - technology and entrepreneurship variables tracked levels of informal investing, analyzed Internet access and social media penetration as well as hiring and firing efficiency. The data show that social media penetration is far more strongly correlated with crowdfunding platforms, and predictive of their launch, than is overall access to the Internet. This finding is consistent with the highly social nature of crowdfunding. Crowdfunding depends upon individuals using their social networks to raise capital for their businesses. Without the social network, there is no mechanism for reaching the crowd of potential funders.

TABLE A5. THE INFRASTRUCTURE (TECHNOLOGY AND ENTREPRENEURSHIP) VARIABLES REGRESSION MODEL.

Poisson regression			Number of o	=	154	
			Wald chi2(5)	=	43.12	
			Prob > chi2	=	0	
Log pseudolikelihood	=	-413.36574	Pseudo R2	=	0.3825	
Robust						
CFP Count	IRR	Std. Err.	z	P> z	[95% Conf.	Interval]
Total Population (in units of ten million)	1.037971	0.0068975	5.61	0	1.02454	1.051579
Hiring and Firing	0.3824023	0.0959497	-3.83	0	0.2338531	0.6253138
Informal Investor Rate	0.8198645	0.0527433	-3.09	0.002	0.7227412	0.9300393
Facebook Penetration	19.69649	19.61354	2.99	0.003	2.797515	138.6773
Internet Users (% population)	1.035438	0.0081131	4.44	0	1.019658	1.051462
Constant	6.205371	4.976277	2.28	0.023	1.288734	29.87943
Variable	Obs	Mean	Std. Dev.	Min	Max	
CFP Count	1850	1.471351	13.13715	0	339	
Total Population (in units of ten million)	1656	3.207729	13.46905	0	135	
Hiring and Firing	918	3.897163	0.7998935	1.966837	6.106409	
Informal Investor Rate	407	4.907125	4.129573	0.3	31.3	
Facebook Penetration	687	0.1816753	0.1779715	0	0.9891	
Internet Users (% population)	915	283.8063	1027.031	0	7700	
	CFP Count	Total Population (in units of ten million)	Hiring and Firing	Informal Investor Rate	Facebook Penetration	Internet Users (% population)
CFP Count	1					
Total Population (in units of ten million)	0.1254	1				
Hiring and Firing	0.0571	-0.0022	1			
Informal Investor Rate	-0.0235	0.2103	0.1483	1		
Facebook Penetration	0.1899	-0.1451	0.0515	-0.0049	1	
Internet Users (% population)	-0.0388	-0.03	-0.0312	-0.1396	0.6342	1

TABLE A6. THE INFRASTRUCTURE (CAPITAL MARKETS) VARIABLES REGRESSION MODEL.

	CFP Count	Remittance Inflows	Foreign Direct Investment	Nominal GDP (in Billion US dollars)	VC Number of total transactions	Domestic credit to foreign investors
CFP Count	1					
Remittance Inflows	-0.0669	1				
Foreign Direct Investment	0.584	-0.1714	1			
Nominal GDP (in Billion US dollars)	0.5969	-0.147	0.7835	1		
VC Total Transaction Amount	0.2599	-0.0927	0.6879	0.6908	1	
Domestic credit to foreign investors	0.244	-0.2224	0.3973	0.3657	0.2509	1

Variable	Obs	Mean	Std. Dev.	Min	Max
CFP Count	1850	1.471351	13.13715	0	339
Remittance Inflows	1440	4.587485	6.990847	0	50.81884
Foreign Direct Investment	903	8203.944	24673.32	-28259.96	306366
Nominal GDP (in Billion US dollars)	1418	372.5426	1305.426	0	14991.3
VC Total Transaction Amount	744	3095.575	17447.75	0.02	392872.5
Domestic credit to foreign investors	1304	55.21464	50.95107	0.8152577	319.4609

Poisson regression			Number of obs =	340		
			Wald chi2(5) =	391.96		
			Prob > chi2 =	0		
Log pseudolikelihood	=	-629.32627	Pseudo R2 =	0.7339		
		Robust				
CFP Count	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Remittance Inflows	-0.3118013	0.1183042	-2.64	0.008	-0.5436732	-0.0799294
Foreign Direct Investment	5.73E-06	2.75E-06	2.08	0.037	3.37E-07	0.0000111
Nominal GDP (in Billion US dollars)	0.0001737	0.0000334	5.2	0	0.0001082	0.0002392
VC Total Transaction Amount	-4.27E-06	1.35E-06	-3.16	0.002	-6.92E-06	-1.62E-06
Domestic credit to foreign investors	0.012031	0.0025238	4.77	0	0.0070844	0.0169776
Constant	-1.079103	0.3902445	-2.77	0.006	-1.843968	-0.314238

Poisson regression, IRR			Number of obs =	340		
			Wald chi2(5) =	391.96		
			Prob > chi2 =	0		
Log pseudolikelihood	=	-629.32627	Pseudo R2 =	0.7339		
		Robust				
CFP Count	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Remittance Inflows	-0.3118013	0.1183042	-2.64	0.008	-0.5436732	-0.0799294
Foreign Direct Investment	5.73E-06	2.75E-06	2.08	0.037	3.37E-07	0.0000111
Nominal GDP (in Billion US dollars)	0.0001737	0.0000334	5.2	0	0.0001082	0.0002392
VC Total Transaction Amount	-4.27E-06	1.35E-06	-3.16	0.002	-6.92E-06	-1.62E-06
Domestic credit to foreign investors	0.012031	0.0025238	4.77	0	0.0070844	0.0169776
Constant	-1.079103	0.3902445	-2.77	0.006	-1.843968	-0.314238

Appendix B: Crowdfunding in China: Risks and Legal Constraints

Crowdfunding was introduced into China in July 2011 by the website Demohour, now the largest crowdfunding website in the country. In the two years since it started, the total amount of funds raised through Demohour is estimated to be around ¥6.5 million (about US\$1 million). Kickstarter, the most popular crowdfunding site in the United States, raised US\$319 million in 2012 alone.

The largest amount raised for a single project at Demohour was ¥1.6 million (about US\$260,000), 131 percent of the target, for a cartoon movie named *Big Fish and Chinese Flowering Crabapple*. 3596 users backed the project. The most supported project, also a movie called *A Hundred Thousand Bad Jokes*, raised ¥1.3 million (about US\$210,000) from 5,533 users. In the two years since the website started, it received more than 7000 proposals and published an estimated 900 of them. More than 400 projects were successfully funded, among which 12 raised more than ¥100,000 (about US\$16,000) and another 73 more than ¥10,000 (about US\$1,600). But the majority of projects ended up with less than ¥10,000. Note, however, that the funding period for both record-breaking projects that raised over ¥1 million ended in August 2013, which might suggest an upward trend in this industry.

Initially, Demohour took 10 percent of the funds raised, compared with 5 percent for Kickstarter. However, the fee was cancelled in July 2013 to gain more popularity. The website now is a completely free platform.

Projects on Demohour are limited to technology, design, film and video, music, publishing, games, and photography. Film and video is the top category, followed by publishing. Food, cosmetics, medicine, infant care products, and personal care products are not supported. The website also requires that rewards must be relevant to the project and cannot be an equity stake, bond, interest returns, or cash returns of any kind.

Other crowdfunding websites in China have adopted similar rules but they are usually not comparable with Demohour in terms of the number of projects offered or the amount of funds raised. Dreamore, another Chinese crowdfunding website and Demohour's closest rival, lists 251 projects on its website, both ongoing and ended. Three projects raised more than ¥100,000 (about US\$16,000), with the highest being ¥164,000 (about US\$27,000) for a documentary. However, contrary to Demohour's decision to drop its commission fee, in 2013 Dreamore started charging 6 percent of funds raised, after trying out other business models unsuccessfully. Similar websites include Tmeng, Jue.so, and Emie.

Challenges for the industry

Illegal fundraising

China's crowdfunding websites all emphasize that reward of a project must be "physical," as any purchase of equity stakes or promise of future monetary returns might be tantamount to illegal fundraising under Chinese law, which does not allow unregistered companies or individuals to sell stakes to the public. In late 2012, Meiwei Media, a start-up company raised ¥380,000 (about US\$62,000) through selling membership cards with 100 of the company's shares attached at its Taobao store. Its Taobao account was frozen two months later and it was ordered by the Securities Regulatory Commission to return the money in early 2013.

Consequently, websites like Demohour are regarded as more of a channel for pre-sale and marketing, rather than actual fundraising. According to Dong Zhiling, the producer of *A Hundred Thousand Bad Jokes*, the money raised through Demohour accounted for only about 10 percent of the movie's total production cost. Likewise, the ¥10,000 (about US\$1,600) goal listed on Demohour for a wireless socket, a star project on the website and 479 percent funded, was less than 1 percent of its total financing and the website was mainly used as a platform to promote the product and attract manufacturers and venture capitalists (successfully), according to Zhou Zhigang, a member of the team that developed the product.

For Chai Ke, an inventor and investor active on Demohour, the website is an ideal place to meet other young entrepreneurs like himself. He has invested Y300,000 (about US\$50,000) on Demohour.

User mentality

Chinese users are more accustomed to the role of buyer rather than investor. They tend to be more interested in the physical products and benefits such as early delivery of the good or discount prices, rather than showing support for the entrepreneurial and inventive spirit, which has been an important element for crowdfunding's popularity in the US.

Project quality

Weak intellectual property protection in China prevents people from posting their ideas online at an early stage. At the same time, innovative ideas, especially in the technology category, trails far behind the United States in terms of both quality and quantity. The situation is sometimes likened to be too many ships chasing for too few fish in the river.

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