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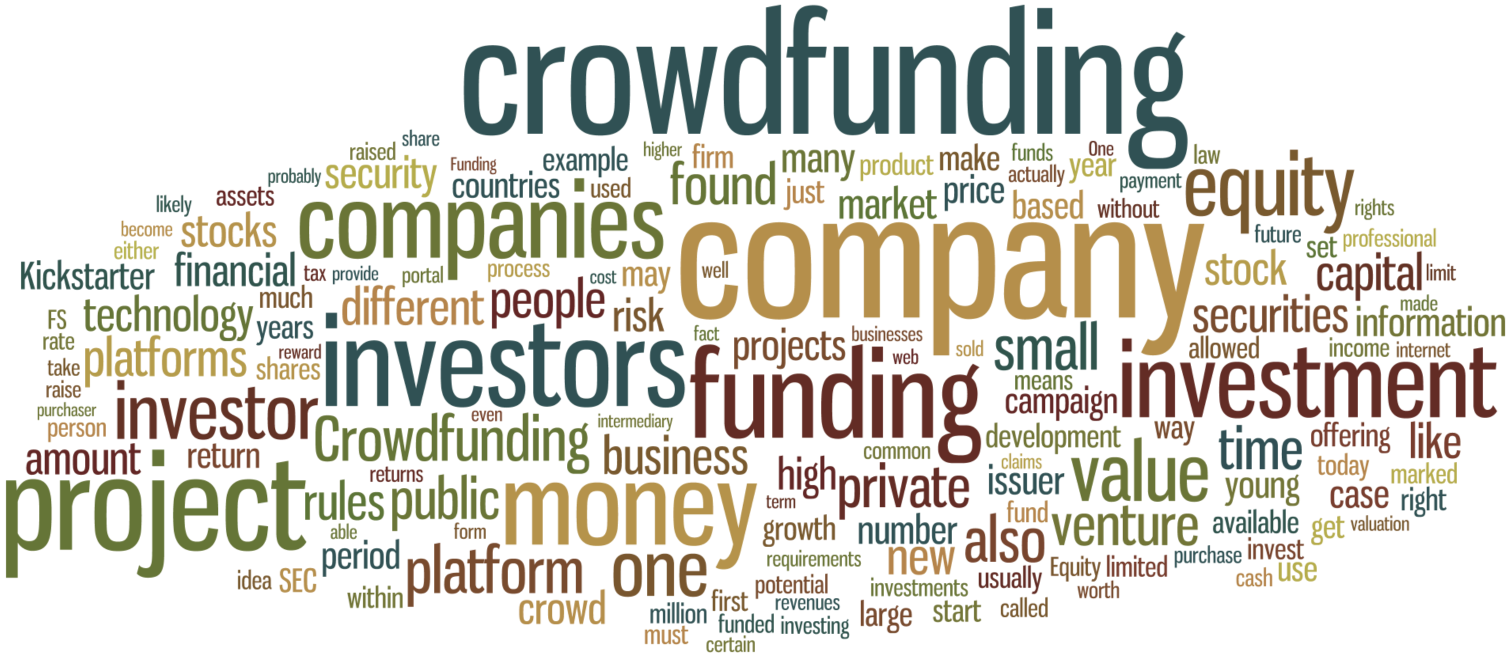
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Abstract

Equity crowdfunding is a phenomenon that is emerging at this very moment. Although charity funding has existed for probably, centuries and reward based for years there is natural development and continuation aspiring now.
The next big step is equity crowdfunding open for broad public. So far, only certain qualified private investors and private entities were eligible.

The challenge is to open it for everyone. The process will truly take off when regulation authorities in the countries around the globe will adopt the laws and rules for that.
New rules apply to crowdfunding platforms from October 2014 in UK and in USA; they are in the final process of negotiation.

There are many opportunities and pitfalls. First, the current equity crowdfunding experience studied to draw some conclusions for future development. Few examples from already funded projects used to illustrate the points.
This work focuses on the key areas of public available crowdfunding also called crowd investing. Probable solutions discussed and criticism from experienced private investors addressed.
Different countries are trying to overcome the fact that their securities regulations and laws adopted long before the term crowdfunding came into life. Few countries exemptions from current regulations studied and compared.

Based on the information collected a model for equity crowdfunding process is discussed. Discussion includes proposal to special equity crowdfunding security note and what properties it should have. Some thoughts on further process regulation like continuous funding campaign, internal and external audits by venture backers are described. A potential evolutionary way of funding through funds and further development of crowdfunding platforms is proposed.

The whole crowdfunding process is looked at solely through perspective of a technological startup venture searching for the funding and other cases are omitted.
The most attention is paid to equity in form of securities funding. Lending, as being mostly, a straightforward process, is touched briefly and mostly overlooked.
Further research section lists opportunities for investigation as the whole process rolls out over time.

Table of Contents

Introduction

Crowdfunding (CF) is something that the world just starts to talk about while it has existed in one or another form for centuries. A historical precedence describes John Taylor, 17th century poet who persuaded about 1650 readers to pledge money to his journey to Scotland on foot for a new book. (Qiu, 2013)
Kickstarter, one of the web platforms, announced recently that it has topped $1 billion in pledges for its rewards-based opportunities, and peer-to-peer lending leader Lending Club is preparing for its IPO. (Medved, 2014)
In today's world an MIT student can start a profitable business right from his dorm room crowdfunding might be one of the ideas of a matter of supporting it. (Brown, 2011)

Public interest to CF is growing. This is illustrated by some examples of finished funding campaigns described further in respective chapters.

There are many definitions of the crowdfunding phenomena. The term is a set of two words: crowd, also a large group of people and funding meaning the practice of supplying a project or a venture with preferably small amounts of money. In other words, it is an alternative and convenient way of raising funds.
Some claim that, the term itself, was defined by Michael Sullivan in 2006 while he was working on video blogging community project called Fundavlog. (Crowdfunding Wiki, 2013)
There are many ways and purposes to raise money within crowdfunding. Therefore, it is considered as an umbrella term for several different techniques.
A clear and single definition of the term has yet to be proposed. One from Hemer (2011), who defines crowdfunding as an "open call, essentially through the Internet, for the provision of financial resources either in form of donations (without rewards) or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes"

Money are usually raised through a web site, a platform also called intermediary. This is very convenient for all parties, as platform is usually open for most ideas seeking funding. It is working 24/365 and implies no physical borders. Whole world can participate in funding provided that people know about the endeavor, are willing to invest and can process the payment from the country of residence. To advertise the funding need most common method is to use connection with social networks, online forums and blogs. This enables the viral – and inexpensive – marketing of the project. The point is to inspire as broad group of people as possible, by triggering collective fund raising via network effects. Some projects can then be implemented despite being rejected by traditional financial institutions, because the crowd considers the project to be worth supporting. (ScoreAdvisor, 2013)
Another great potential area for crowdfunding sites is in the leveraging of data from a wide range of startups to forecast what sort of companies will succeed and which will fail. A crowdfunding platform can serve as a prediction market based on customer preferences.
Crowdfunding is becoming a popular mean of supporting new ventures and creative projects. Many artists, filmmakers, musicians, software developers, entrepreneurs, and other professionals have already flocked to crowdfunding sites and some have already succeeded in raising money for their ventures.
Sites like Kickstarter or Indiegogo are most well-known. However, the number of sites is growing so rapidly and uncontrolled that exact number of them cannot be set. Today

there are more than 500 crowdfunding platforms available worldwide; they can be searched through a specialized search engine that allows for searching and comparing the crowdfunding sites: Seederella.com. Table in Appendix shows Alexa ranking of platforms web sites.

Figure 1 Number and location of crowdfunding sites. (Source: econsultancy.com)

When fully developed, equity crowdfunding is expected to grow in amount of raised money to vast numbers; some claim the numbers can grow to $300 billion also 10 times more than already deployed in business angel sector. Scott Steinberg, the author of "The Crowdfunding Bible" expects it to be "a virtual gold rush" (Davaney, Stein, 2012)

Crowdfunding in itself has become a hot topic in the media for several reasons. One is a novice effect of something new people have discovered and everyone can see a potential in crowdfunding phenomena. As result of public attention authorities have discovered that there is no or non-complete regulation for the area and many have started to discuss the rules for that.
Appendix has two diagrams showing crowdfunding process flow and components of it.

Background

The first equity crowdfunding attempt was undertaken by two executives who in 2009 created a website to collect money from individuals to buy American company Pabst Brewing Co. This is a brewery, making one of hipster favorite beers. The funding goal was $300 Million and they actually have managed to collect subscription to about $282 Million before authorities (SEC) stepped in and halted the deal. At that time such money collecting from private persons also called uncredited investors was not legal. The money were actually never paid by the company as small investors who wanted to participate were just signing up for the deal and would pay money when funding goal would have be reached.
Since that time crowdfunding through internet has become much more common but no one have yet tried to collect small funds to purchase a major company. (Akammer, 2011; Engel 2013; Best et al, 2013)

In USA there has been a long path to bring the crowdfunding up to daily agenda. Entrepreneurs were generally not satisfied with Securities Act of 1933 that was preventing them to raise funding through internet. Offline cost time and administrative burden is unproportionally high for small businesses and startup companies. Business was able to demonstrate that up to 25% of the raised money went to fundraising costs. After financial turmoil in 2008, there was a broad push against authorities to create a framework for alternative capital sources.
Startup Exemption framework was brought first to SEC and then to Congress. The work has resulted in new law called JOBS act signed in 2012.

Technology development has allowed aspiration of crowdfunding. Recent development of social networks, online payment systems, electronic company registration, cloud computing, outsourcing and many other. All this decreases the cost of creating a new business. Few years ago, the amount of money needed to fund a new company was so much higher than it is now that small crowd investments would like drops in the bucket for most startups. A web-based service or application that once might have cost millions to launch can see the light of day for a little over $100K (Blanding, 2013)

The need for crowdfunding

Crowdfunding has originated from two perceived needs:

- That smaller retail investors did not have access to early stage investment opportunities.
- That start-up companies did not have adequate access to available capital, particularly online capital raising

Crowdfunding has the potential to become an alternative form of early-stage fundraising for businesses. (Röthler, Wenzlaff, 2012)
Investing in startups is very risky. Statistics show that roughly 50% of all small businesses will fail within the first few years. Investments in startup companies are long-term investments. They will likely show return (if at all) within a period of years, not months. (Galvin, 2013)
According to the US Small Business Administration, 25% of small businesses fail within twelve month of launching. Small business funded by crowd will automatically get hundreds of supporters. The famous entrepreneur mantra says, “find 1000 true fans for your business and you will survive” (Best et al. 2013)
Crowdfunding means also a direct funding of a venture based on own judgments. Supporting factor for equity crowdfunding emergence is lack of thrust to existing financial system. Since mid-2000 private stock market investor are withdrawing capital from public equity marked. Chicago Booth and Kellogg School of Business investigation shows that only 15% of Americans trust US equity markets and tendency is accelerating (Best et al. 2013)

Source	Not used		Minor source		Major source	
	NF	YF	NF	YF	NF	YF
Personal savings	13	25	15	24	72	51
Personal credit card	55	53	25	28	21	19
Money from another business that the founders' also own	85	96	6	2	9	2
Government grants	93	94	5	5	2	1
Delayed payment terms from suppliers	87	78	8	13	5	9
Advance payment from customers	86	78	9	14	5	8
Loans from family members	86	91	9	6	5	2
Loans from friends, employers or colleagues	95	96	4	3	1	1
Founders' personal secured-bank loans	83	84	4	6	12	11
Founders' other personal loans, overdraft or other credit facilities from a bank	85	84	9	9	6	6
Secured bank loans to the business itself	92	91	3	4	5	6
Other loans, overdraft or other credit facilities from a bank to the business itself	94	92	5	6	1	2
Loans from any other organisation to the business itself	96	94	3	3	1	2
Equity from family members	95	91	4	6	1	2
Equity from friends, employers or colleagues	98	99	1	1	1	0
Equity from other private investors ('business angels')	98	99	1	1	1	0
Equity from Venture Capital firms or any other organisations	100	100	(one case each among NF and YF, respectively)			

Note: NF – Nascent firm; YF – Young firm. Entries in per cent. Entries may not sum to 100 due to rounding.
"Major" was defined as representing at least 20 per cent of total funding needs.

Figure 2 Per cent of nascent and young firms using different sources of funding. Source: Tompkins, 2013

Traditional capital sources requires provision of collateral and is mainly available to successful ventures. One can conclude that “Access to credit is especially restricted for the poor, owing to their inability to provide collateral...existing poverty and wealth inequalities may therefore tend to be perpetuated.” (Ghosh et. al. 1999) Table shows financing source preference for Nascent and young firms.
Bank lending to startups has during recent years declined become a difficult funding source. Several source report decline in lending amounts
It is believed that crowd funded company will not have a *“tunneling”* effect. It will be eliminated by presence of a large number engaged shareholders and high transparency level. Tunneling is described as “the transfer of the assets and profits out of the firm for the benefit of controlling shareholders” (Johnson et al., 2000)

Venture experts believe that equity Crowdfunding will transform capital marked because of 2 primary factors.

- High payback opportunity.

Founder of Rock The Post (rockthepost.com) platform Tanya Prive says While most startups won’t achieve Facebook or Dropbox returns (62000% and 39000% ROI, respectively), a long-term investment of 5-8 years in the right startup could produce higher returns than any other asset.” (Prive, 2014)

- Accessibility

Crowdvalley founder Markus Lampinen says, “New access and transparency created by online models will open the door for discovering new investment opportunities in private securities potentially anywhere. Along with the right information, research and processes to protect investors and evaluate the cases, this can lead to a new paradigm where we as investors are not limited to our own local community, but can access information from around the world.”(Medved, 2014)

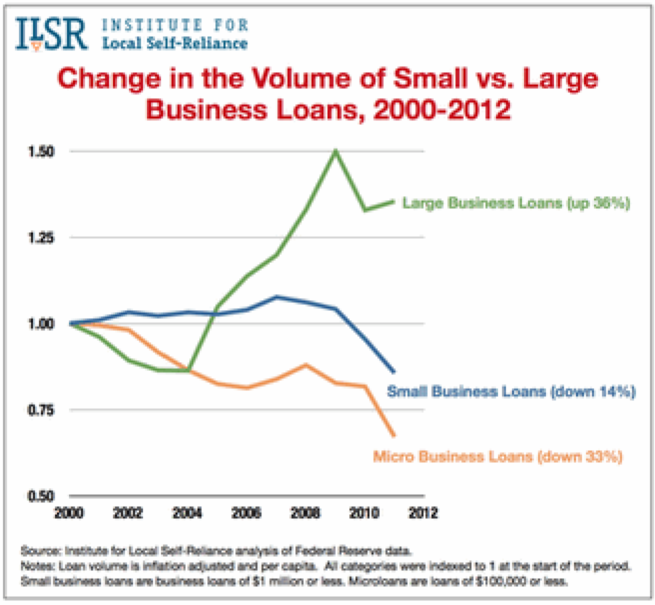


Figure 3 Large vs small business loans source: Mitchel, 2014

State of the art

Power of crowdfunding

In 2011, In Europe counting all types of crowdfunding it was raised around 300 million euros. At the end of same year, there were around 200 platforms active. (Buysere et al., 2012)
Examples below are in some aspects special and picked from various types of funding. Listed campaigns en-visualize the true power of crowdfunding.

Forbes.com reports that Minnesota's GiveMN (givemn.org) raised $16.3 million in one day using crowdfunding site Razoo.com in November of 2012. This has become a major annual event in the community in Minnesota, 4,381 participated, raising money from 53,339 people on "Give to the Max Day." At the writing moment, the platform reports that this charity project has raised $94 million. (Thorpe, 2013) This is a nonprofit project and for the moment this type of campaigns are much more successful than technology projects.

Theoatmeal.com reports that In 9 days, they managed to raise over 1 million dollars to go towards buying back Nicola Tesla's old laboratory, located in Shoreham, New York. At its peak, the campaign was raising $27,000 per hour and average contribution of 41$. (Theoatmeal, 2014)

Figure 4 Avegant-Glyph courtesy Avegant

Betakit.com follows technology development and gives example of pre-order fundraising.
Avegant's Glyph have raised over one million dollars in pre-orders. It is retina-beaming virtual reality glasses, which promise an immersive entertainment experience. It has successfully raised 100% of their Kickstarter campaign goal of $250 K in just over four hours of being live and had doubled it in just two days. The company raised $1.1 million dollars still one week ahead of deadline. (Emrich, 2014)

July 2012, a console video game project called Ouya hit the million-dollar mark on Kickstarter in just little above eight hours. It was the biggest single-day crowdfunding total in Kickstarter history at the time. The project went on to receive more than $2.5 million in pledges within 24 hours. With just a few days remaining in its campaign, it has 46,914 backers and a whopping $6 Million in pledges. Project have in total received over $8.5 Million (Mitchell, 2014)

Another unconventional example is New York-based Prodigy Network that markets the Trump SoHo hotel condominium. They are bringing crowdfunding to real estate, soliciting thousands of investors to buy slices of a skyscraper in exchange for a share of rents and property appreciation. In Colombia, Prodigy has crowd funded a building called BD Bacatá that will be the nation's tallest. About 3,100 investors devoted $171.8 million of the $239 million needed to build the 66-story skyscraper in downtown of Bogotá.

Figure 5 Arkyd telescope, source: Planetary resources, Reuters

A technology venture choosing a right perk or reward can afford serious funding. Arkyd project funded on Kickstarter with $1.5 million in July 2013 demonstrates that. Here the project is aiming to develop a geostationary telescope that is publically accessible. The telescope will have a screen on board fixed outside with a small photo camera pointing onto the screen. The reward to the public with donation of above $25 will see the photo send by project supporter on the telescope screen and this photo will be pictured with Earth or stars as a background. There are other perks designed for bigger donations. People supporting this project are assured to contribute to new technology development at the same time as they are paying for an exceptional entertainment.

Figure 6The Micro 3D printer, source: CNet.com

Last example shows how eager people to fund a project that is aiming to develop a product they need. It also shows an everyday increasing interest to crowdfunding.

A M3D company has started pre-sale and perk funding campaign for a small 3D printer called “The Micro” that supposed to work out of the box without painful manual calibration and controlling software troubles. This is also to be called an affordable printer and everybody donating above $300 with actually get the printer when it is ready. At the moment, all 2500 units are pre-sold.
Campaign started on 7th of April 2014 and 11 minutes later project was funded with $50,000 which actually was funding goal to collect within 1 month. At writing moment, 2 days later, the project has collected $1.6 Million from 5,680 persons with a minimum pledge of $1.
Kickstarter is definitely one of the most popular crowdfunding platforms yet it is amazing that so many people are following this web site and are able to collect so much money within just a couple of days.

Models and funding strategies.

It is common to distinguish a charity or altruistic crowdfunding that has existed for centuries. Another type sometimes called Crowdfunding 2.0 or actually, crowd investing assumes monetary return on investment.

Non-equity based

The simplest models are non-equity based.

- Donation model

The most common way of collecting capital from the crowd is donation. When people get passionate about a product or service and they are welcome a technological development that will eventually influence their life. As an example a project, developing

a device that would help to fight a certain disease or help to minimize damage after a disease or a disability will collect money from people understanding the cause and wanting the technological progress to help common mankind. It usually is personal or emotions driven.
Another large group of people participating in donations is close relatives or people that know personally the venture members.
An individual at this model will make a financial contribution to cause without expecting anything tangible in return or later repayment. This model comes from philanthropy and largely used by charity collections. All money collected to use on a specific project and collector will keep donors updated about progress thus ensuring long-term relationship

- “Reward”, ”token” or “perk” model

At this model, donation or contribution is made but may result in some reward. Reward is usually a small value or something that cannot be priced at all but have very encouraging effect on donator. As an example in a list of project supporters contributors who have donated above certain money value are mentioned in project supporters list. Indiegogo.com recommends displaying up to 20 perks of different value and art. They can be added or removed at any time. and have to tangible, personal and beneficial to contributor.
Non popular perks can also be edited if not claimed after campaign launch. Kickstarter terms of use states: “A Project Creator is not required to grant a baker's request for a refund unless the Project Creator is unable or unwilling to fulfill the reward.”

- Pre-purchase model

Here an individual makes a donation or an upfront payment and expects a certain right to purchase a product at a discount price or be the first one in a distribution queue. As an example people may support a mobile phone application and when it is done will be the first one to get it. This way developer will also get marked demand feeling for the product looking at funding response.
Customers essentially pay for the product they want to get. In reality project backers have to be prepared to not to get anything in return at all and no refund.
One of most popular platforms like Kickstarter always emphasize the “No Refunds “policy

Equity based models

Equity crowdfunding offers funders more than just an intangible reward for supporting a company. It also gives a direct share in the company or a debt obligation

- Peer-to-peer lending (P2P)

This model involves matching borrowers with lenders where the first one expect repayment of the principal amount together with interest on the original investment. Here money are borrowed from private persons instead of banks.
Motivation for lenders is expressed in higher financial return and for borrowers in lower rate than a bank would give, providing little amount or no securities for the loan. Some borrowers will not receive a bank loan at all. The return rate is pre set and displayed at funding moment. The return rate is risk based and calculated with financial data and personal securities. There is no money creation within a platform as it in a bank therefore the systematic risk of default is not present. Experience shows that default rate

for P2P lending is very low and usually below 1%. This is growing and profitable endeavor. European lending market is estimated to be about 20 million euro per month. A special case is called Peer-to-business lending where platforms provide loans to small and medium size businesses.
Peer-to-peer lending sites like Lending Club or Prosper are used to finance small businesses, home improvements, medical treatment, vacations, and purchases of durable goods. Sites like Ratesetter,Smava, Prêt d'union, or the Payday lending sites (Cash America, Advance America) are more for individuals. One of the most famous is Zopa ("Zone of possible agreement").

Another form is social lending when no interest will be repaid. This is used for example to provide micro financing in developing countries where it is possible to start new business with fairly small amount of money. Watsi platform allows people to donate as little as 5$ toward low cost and high impact medical treatment in third world countries. Web site features patients photos and their stories. The same does Kiva services allowing for example to lend money to a restaurant owner in the Philippines to examine her loan proposal and repayment schedule.
Lending model is mostly straightforward and will be not examined much further here.

- Equity crowdfunding - Crowd Investing

Equity investing is injection of relatively small capital into a business in exchange of some ownership right. The business on its side expected to grow using this capital. Investor is buying the claims on future assets and return of the company. Investment yield can be realized by selling the ownership, which is usually represented by securities like stocks or shares. Today this type of investment is in most countries unregulated or falls into the same category as investment into public companies and thus regulated by the same rules as stock purchase.
Micro money investment with heavy strict reporting to authorities makes it non profitable and regulators in many countries are developing exemptions in exchange for investment restrictions.
Implementation of exemptions will turn any citizen to "micro angel investor" (Best et al.)

- Models variations

There is possible mix and variations to mentioned above models.

- Revenue sharing

A special agreement between funders and developer to receive payout based on future revenues or a royalty agreement. The agreement terms can vary and become fairly complicated stating the amount of revenue to share at different time or turnover level. This is subject to contract agreement between parties. This requires good legal skills from both sides to avoid future conflicts.

- In kind reward or funding

Payoff is given "in kind", depending on initial input and have substantial worth but not expressed in cash and have non-monetary worth.

- Social Banking and Social money

Social Banking is the application of Web 2.0 or social paradigms to banking. Special banks establish a dialogue between customers and encourage peer-to-peer financial transactions relying on transparency, authenticity and openness for dialogue. Decisions

are made through a democratic process and a dialog. Common welfare is the primary aim of such bank. Examples are the German Fidor Bank (fidor.de) and the "Demokratische Bank in Austria.
Social money is a type of local currency issued as a cash substitute of national currency. This currency is losing value over time and this is intended to encourage money owners to spend their money quickly in order to improve local exchange of goods and services. Social money and regional currencies are often used when discussing alternative forms of payment

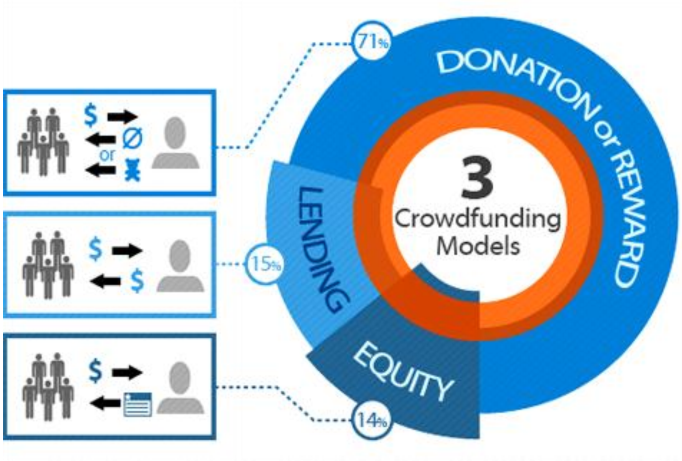


Figure 7 3 CF models. Source:www.virtualwallstreet.com

Crowdfunding strategies

- All or nothing

Many crowdfunding platforms collect money at the method where a deadline for collecting certain necessary to project completion amount of money is pre set. It is called a funding goal.
A cut-off date, by which the fundraising must be completed otherwise If the fundraising goal is not met within the allotted time, all involved usually withdraw their financial support and money are returned to the backers. Advertiser and the project gets no funding in this case.
In practice this means that interested users are invited to donate a certain amount for specific projects via Internet donations. Each project has an initial target budget which should be reached within a limited time frame. If the targeted percentage of the budget is reached, the project is considered successful and can be implemented.

- Keep what's gathered

Some platforms like Indiegogo actually allows the startup company to keep the money that are gathered within assigned period month even if the funding goal is not met.

Equity crowdfunding regulations

Laws and regulations are one of the largest challenges of the way of crowd investing in most countries today. (Meyer, 2014)
There are several overlapping layers of legislation and one will need to comply with them all to avoid committing an offence. Country law, companies' legislation and financial services rules all apply. This is a particularly complicated area and there are numerous exceptions. (Watts, 2012) Authorities are looking for measures to reduce the "red tape" also the cost and accessibility to business creation. Figure in appendix shows comparison from some countries.
This chapter contains some very brief information on how different countries approach equity crowdfunding dilemma with rules introduction and modifications of existing laws. Only few countries are selected of those who have made an effort with regards to this. Although Donation and Reward models are most common and does not require specific regulations other forms like equity, pre-purchase, P2P lending are not so obvious. Different countries are in various stages of creating and adopting specific rules for crowdfunding. There is particularly money rising through loans and securities that is unregulated completely in most countries today. The main focus in this review is directed towards solutions with regards to equity crowd investing available to public without restrictions.

Most countries allows for funding by institutional and so called qualified investors (wealthy persons) Regulation with regard to this group is mostly not considered here.

Table below shows a comparative summary of forthcoming detailed description. Current and planned state of equity crowdfunding regulations is set up to be compared at 4 parameters for some selected countries. As the authorities, regulative approach in different countries may be completely different it is challenging to set up a more common parameters table, as same criteria would not always apply

Table 2 lists some interesting examples of crowdfunding platforms in respective countries.

Table 1 Overview Acting limitations

Italy	Germany	Canada	UK	US	NZ
Most common equity crowdfunding					
Equity to Innovative startups only	Silent partnership, AIFM for accredited investors	Equity, pending in most provinces	Lending and Collective investment schemes	$2K/company/Y. 10% for high net worth	Debt, equity
Investment cap investor					
€5 M/Y no prospectus required	€200 K	CAD2,500/ project, CAD10,000/Y, Ontario, CAD1,500/ project British Columbia	10% investable assets, self-certified	$1M/Y	None
Allowed to raise for venture					
5% from professional investors, €5 M/Y	€100 K/Y, silent partnership, €5M/Y without prospectus	CAD150K /6 month, CAD1,5 M/Y in Ontario, British Columbia	€5M/Y without prospectus	$1M/Y	$2 Million/Y
Acting crowd funding Regulation					
221/2012, law in 2013	July 2013 "AIFM-D" regime, Kreditwesengesetz, with amedments. No specific law	Ontario rules proposed March 2014, Prospectus registration Sept, 2009 National Instrument 45-106	FCA Act 2000, final rules April, 2014	Proposal rules 2013, Law announced in 2014	April, 2014

Table 2 Selected crowdfunding platforms

Italy	StarsUP - the first platform. Siamosoci - created investment groups “club deals”. Crowdfundme - free to use
Germany	Innovestment - offers market based business appraisal by hosting an auction. Seedmatch - provides relationships between the investors and the startups. Mashup Finance - offers project funding and invests in the startups Bergfürst - has the “BaFin Lizenz”ordered.
Canada	SeedUps Canada- Equity Crowdfunding Portal, Podium Ventures-equity Investment for High Tech Startups Acapanda -for research and peer review, Alberta Booster -for local business
UK	Crowd2invest - equity and lending Crowdcube, Squareknot-both equity and lending, Americrowd Funding, AngelsDen, CapitalVines, GroupLend-P2P Borrowing and Lending Site (WIP)
US	StartupValley, AngelList, SecondMarked, Seedrs, Equitynet, Wefunder
NZ	Boosted, charity platform, Snowball effect, equity platform

- **Unified regulation**

The first and probably the biggest industry challenge is incomplete or absent rules. There is no pre juridical praxis so in case of a major conflict brought into court will have to resolved with help of other acting laws.
Moreover, the regulation shall ideally be harmonized across borders. The leading media enabling crowdfunding technology today is internet network and network payment systems. Investors before putting money into a project developed abroad would have to be sure that they juridically covered. This will enable fundraising of larger money amounts than just a few dollars.

- **European Union**

On 3 October 2013, the European Commission has started a public consultation asking for opinions on a (possible) harmonized regulation of Crowdfunding until 31 December 2013. The aim of this public consultation is “to explore how EU action, including soft-law measures, could promote Crowdfunding in Europe”. The EU Commission papers outlines the various forms of crowdfunding, and the typical risks associated with it.
In Europe there is no established policy present but European commission is collecting information and opinions from member countries and have issued a public consultation document titled “Crowdfunding in the EU-Exploring the added value of potential EU action. The Entrepreneurship 2020 Action Plan 4 aims to increase the level of employment through reinforcing entrepreneurship across Europe. It invites Member States to "assess the need of amending current national financial legislation with the aim of facilitating new, alternative forms of financing for start-ups and SMEs in general, in particular as regards platforms for crowdfunding".(EU commission memo, 2014)

National legislations in European countries covers different types of companies from limited liability to publically traded companies. EU has attempted to create a single norm for these companies. One of them is Societas Privata Europaea (SPE) proposed to go live from 2010. This is essentially a limited liability company that does not have to be registered as local entity while operating in different jurisdiction thus lowering the administrative burden. This is particularly intended for SME's and allows easier cross borders access to funding. (Röthler, Wenzlaff, 2011)

As step toward unified and single regulation alternative EU has created The Alternative Investment Fund Managers Directive ("AIFMD"). This directive had to be adopted by member national authorities before July 2013. "AIFMD covers those responsible for the portfolio or risk management of all types of alternative investment funds, such as hedge funds, private equity funds and property and commodity funds". AIFs are defined as any collective investment undertaking which: raises capital from a number of investors, with a view to investing it in accordance with a defined investment policy for the benefit of those investors; and is not already regulated under the UCITS Directive (Article 5 of Directive 2009/65/EC). AIFMD provides a much lighter touch regime for AIFMs with total assets under management in AIFs not exceeding either

(i) €100m; or
(ii) Where the AIFs managed are all unleveraged and all have a lock-in period of at least 5 years, €500m These smaller AIFMs are subject only to a registration requirement. (Taylorwessing, 2012). Given the above definitions, the provision of services relating to Crowdfunding is capable of constituting management of an AIF.

- **Italy**

According to PRWEB only Italy, as first country in the world has adopted law with regard to equity crowdfunding. It has been voted by parliament on December 17, 2012 and tasks the Commissione Nazionale per le Società e la Borsa (CONSOB), to issue the regulatory provisions necessary for the implementation of the bill – the "Decreto Crescita Bis" or the Italian "Growth Act 2.0" bill. Law is finally signed by CONSOB commissioners in July 2013. (PRWEB, 2013)
Before amendment, equity crowdfunding was responsible for only 5% of overall crowdfunding revenues globally year 2012. With this law, the number expected to grow exponentially.
The bill focuses on innovation as a factor of sustainable growth, and as a way to enhance the competitiveness of enterprises in Italy. The provisions introduce, for the first time, legislative frameworks that encourage the creation and growth of innovative startups. (Campo, 2013)
The law says that for general solicitation:

1. An offering must receive 5% investment by a professional investor, financial institutions for innovation and development or innovative startups incubators, before the offer is published. *Professional investor will this way owe 5% of the company before crowdfunding.*
2. The maximum raised cannot exceed €5 million per year. There is no personal investment limit for individuals. Any European company domiciled in Italy is eligible to crowdfunding, regardless of the nationality of its shareholders. There will be an exemption for small investments lower than €500 for individuals and €1000 for companies.
3. Individual investments must be concluded by broker-dealers to comply with anti-laundering laws and the E.U. Markets in Financial Instruments Directive (MiFID).

According to Crowdsourcing.org Individuals and institutions that wish to run equity, crowdfunding operations must apply to be included in a special register that will list all the equity crowdfunding portals. A special section will include existing banks and financial institutions/intermediaries. The register is published online and available to all.

4. The law defines professional or "accredited" investor by the E.U. MiFID, Schedule 2, as an individual or organization that possess the experience, knowledge and expertise to make investment decisions and properly assess risks

Platform owners will have to be able to assess the business plans submitted by the startups, from an economic and financial point of view, rather than a technological-innovation one.

Platform will have to provide retail or unprofessional investors with a set of mandatory information in order for them to be able to make informed decisions. Risks connected to investment in startups (e.g. loss of capital, liquidity, rarity of dividends, dilution, diversification) must be displayed. Another information like right of withdrawal; the periodicity and the methods and the status of pledged, the amount subscribed and the number of investors; fees and costs charged to investors; the applicable law and the competent court; the language or languages in which they are provided with the information concerning the offer.
The retail investor must demonstrate that they understand the nature of the activity of the portal.
The CONSOB is required to decide within 60 days of receiving an application if a platform meets the necessary requirements to be admitted to the register (Carotenuto et al., 2013)

For now, equity crowdfunding ***is limited to innovative start-up***s, filed in a special registry, Lerro notes. This is probably the biggest limitation of the Italian crowdfunding regulation.
Innovative startup term is explicitly defined by the law

CONSOB's regulation introduces a measure to reduce administrative burden by allowing electronic communication through the use of certified electronic mail (PEC).
This certified mail system is described by Farnesina-Ministry of foreign affairs in Italy as a system that provides senders with legally valid electronic documentation of the sending and delivery of electronic documents. Other criteria to comply to be eligible for crowdfunding:

- the company purpose should expressly include "development and commercialization of high-tech value products or services"
- at least 51% of the company must be natural persons (not legal entities)
- no distribution of profits
- no more than 48 months in operation
- total value of yearly output should not exceed 5 million Euros (from the second year) (Tompkins, 2013)

- **Germany**

Germany is the single largest market in all of the European Union and is regarded as the economic engine of the continent today.(Meyer, 2014)

Anyone intending to provide financial services including brokering in Germany commercially requires a written license from the German Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht – "BaFin" as per German Banking Act (Kreditwesengesetz).
Some exemptions have been adopted to facilitate equity crowdfunding among accredited investors. Platforms offering investment broking and/or contract broking mainly regarding silent partnerships. They operate without any licence with following requirements: investment and contract broking only allowed on new issues. No ownership on customers' shares or funds.
(Aschenbeck-Florange et al., 2013). Section 2(3) of Capital Investment Act allows offerings below €100 K in 12 month to proceed without any special investor protection and requirement of issuing prospectus. Same limit applies to crowdfunding platforms. Another limitation is that maximum 20 shares or total share price of €200K is allowed (ScoreAdvisor, 2012)

There are platforms selling securities (Vermögensanlagen) and acting as trade marked for them. The operator of the platform is then provides financial services in the frame of the German Banking Act (Kreditwesengesetz) and therefore, as a general rule, requires a licence by BaFin
Companies offering securities must be arranged as private stock enterprise. No trading at platform is allowed. (Aschenbeck-Florange et al., 2013)
In Germany equity offerings to crowd are very limited. It is allowed to have interest in silent partnerships with initial offerings only. These purchases are rarely tradable. This way no direct stock purchase from issuing company to public is allowed. Silent partnerships come with a €100,000 cap on funds raised

- **Australia**

The Australian Corporations Act, 2001, chapter 6D sets out the rules and procedures required to raise funds from the public via the issue of shares. Prior to offering a disclosure, document has to be lodged with ASIC.
There are exemptions, defined in s708 of the Act for the offers that are:

- Personal offers (less than $2m and no more than 20 investors in a 12 month period)
- Offers to sophisticated investors (defined as person with net assets of >$2.5m or gross income for the last 2 years of at least $250k)

Offers to professional investors (e.g. listed entities with assets of at least $10M). No other equity crowd funding from public is allowed unless the rules of Chapter 6D were followed. As it is legally prohibited to make false or misleading statements or engage in misleading or deceptive conduct information memorandum is usually presented. Its role to present true statements and it typically requires input from professional accountants and lawyers, which can turn into high fees. Current legislation enables the raising of funds from the public at high cost of compliance and complexity at high risk. It makes almost impossible for private companies to access the public for investment with the legislation in its current form.
Accredited investors can invest through ASSOB platform, which operated under ASIC Class Order 02/273 exemption. It costs a company $4,500 to list on the platform plus $400 per month to retain the listing, sponsor fees for investor documentation average $3,000 plus, with typical fees of $8,000 upwards. Other fees applies and transaction cost is 2.5% and 8% on successful capital raising campaign. (Tompkins, 2013)

- ### Canada

In general, there is no express equity Crowdfunding prospectus and registration exemption in Canada. Two frameworks have been proposed by the Provinces of Ontario and Saskatchewan. Some registered dealers in the country (like www.seedups.ca) have established websites where they sell securities to the public under what is called the offering memorandum (OM) exemption (the OM exemption) (National instrument, section 2.9, 2009)

OM implies relief from the audited financial statement requirements for the issuer provided that

- the issuer and related raise no more than $500,000;
- no investments more than $2,000 in any 12-month period;
- The issuer is not a reporting issuer, investment fund, mortgage investment entity or real estate.
- the issuer does not distribute complex securities

The OM-Form Exemption Order can be found on sfsc.gov.sk.ca/

This memorandum differs in different state in Canada. There are no common rules that apply in the country instead each province follows a model or does not allow any exemption from securities law at all.

Summary of the rules under OM exemption.

- the purchaser purchases the security as principal; and British Colombia model:
- at the same time or before the purchaser signs the agreement to purchase the security, the issuer:
  - delivers a prescribed form of OM to the purchaser;
  - obtains a signed and prescribed form of risk acknowledgement form from the purchaser; and
  - Satisfies other requirements as discussed below.

Or in Alberta model:

- The purchaser is an “eligible investor” or the acquisition cost to the purchaser does not exceed $10,000. An eligible investor is combined definition that reveals a person with an income level above certain value or partnership or a trust
- at the same time or before the purchaser signs the agreement to purchase the security, the issuer:
  - delivers a prescribed form of OM to the purchaser;
  - Obtains a signed and prescribed form of risk acknowledgement form from the purchaser; and satisfies other requirements as discussed below.

OM exemption requirements:

- No commission or finder’s fee may be paid to any person, other than a registered dealer, in connection with a distribution to a purchaser.
- An OM delivered must be in compliance with the prescribed form requirements, as set out in Form 45-106 F2 - Offering Memorandum for Non-Qualifying Issuers, which describes the form requirements for private issuers.
- Purchaser has a contractual right to cancel the agreement to purchase the security by delivering a notice to the issuer not later than midnight on the second business day after the purchaser signs the agreement to purchase the security.

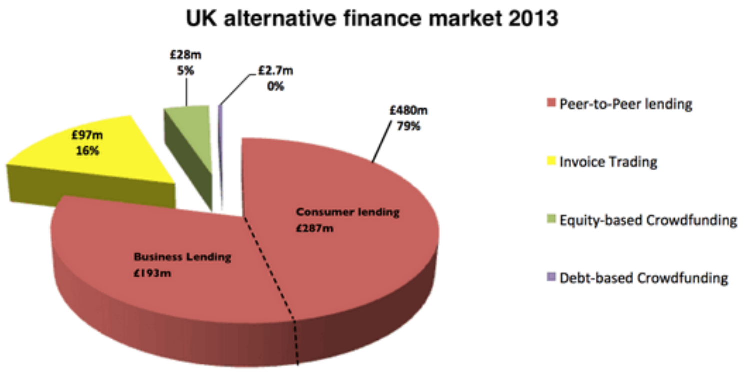
- Return all consideration to the purchaser promptly if the purchaser exercises the right to cancel the agreement to purchase the security.

- **New Zealand**

From April 2014, the country will receive new regulation that further relaxes the rules adopted earlier. Before, companies had to issue a prospectus or investment statement before raising money from public.
There will be no investment ceiling for private investors but companies would be limited by $2Million from 20 investors in raised money a year.
Funding platforms are subjected for licensing by Financial Markets Authority prior to operation commence. (Parker, 2014, Fletcher, 2014)
Charity donations are subject to tax reduction (Davis, 2014)

- **UK**

The first companies in the UK raised equity from a crowd site as recently as July 2011(Gray, 2012)
According to Nesta (a think tank), equity-based crowdfunding grew by more than 600% between 2012–13, from just under £4m to over £28m in UK (Miller, 2014)
The UK security-based crowdfunding market is far smaller than P2P lending (Finextra, 2014).



One of the common crowdfunding method in UK, apart from lending, is Collective investment schemes (CIS).
A CIS may only be operated in the UK by an FSMA authorized firm (Watts, 2012).
It is when investor receives a contractual entitlement to profit from a project without issuer/shareholder relationship (Aschenbeck-Florange, et al. 2013)
Investors contributions are pooled together as well as profit or income coming from the venture. Investors have no involvement or influence over daily venture management. (Aschenbeck-Florange et al., 2013) Prior to conducting investment users of funding platforms have to certify themselves. If one do not qualify as wealthy person or linked to professional investment circles then it is obligation to testify that *no more than 10% of persons assets* will be spent on crowdfunding on any year. This applies to 2 first investment years. After that investor is considered experienced and investment limit ceases. This has reduced the amount of regulation for issuers and intermediaries.(Garside, 2014)
An exemption allows to make offers for less than €5 Million/12 month without prospectus publishing
The Distance Marketing Directive requires that most financial contracts give the customers the right to cancellation, subject to certain limitation. To the extent that the

products offered on a platform do not have a secondary market, the 14-cancellation right provisions apply. (Masons, 2013)
On Oct, 24 2013 FCA (Financial Conduct Authority) has released a consultation paper regarding regulatory approach crowdfunding. (FCA CP13/13, 2013)
Firms will be required to comply with prudential requirements to hold the higher of: (i) a fixed minimum amount; and (ii) a percentage of a volume-based measure. The fixed minimum amount until 31 March 2017 will be £20,000, after which date it will be increased to £50,000.
The volume-based measure will take into account the amount of funds loaned on the platform, and will be:

- 0.3% of the volume of loaned funds up to £50m
- 0.2% of the volume of loaned funds above £50m up to £500m
- 0.1% of the volume of loaned funds above £500m

Lending based crowdfunding is clearly distinguished by FCA and have separate set of rules not discussed here.
UK legislation provides tax incentives - a relief to compensate for high risk investments. Purchase of equity in companies that are not listed on a stock exchange and qualify under SEIS (Seed Enterprise Investment Scheme, launched 6.04.2012) are eligible. (Tomkins, 2013)

- **USA**

In US crowdfunding legislation starts with JOBS act. "PUBLIC LAW 112–106—APR. 5, 2012 JUMPSTART OUR BUSINESS STARTUPS ACT also referred to as JOBS act especially with regards to section III devoted solely to crowdfunding. It "establishes a foundation for regulatory structure for startups and small businesses to raise capital through securities offerings using the Internet through crowdfunding." It is also aiming to help small businesses to raise capital at relatively low cost. The Act requires the Commission to adopt rules to implement a new exemption that will allow crowdfunding. Until then, we are reminding issuers that any offers or sales of securities purporting to rely on the crowdfunding exemption would be unlawful under the federal securities laws." (SEC Proposed Rules, 2013)
This law has started frame development rules by market regulator.

Overview of SEC proposed rules.

Security Exchange Commission is an US federal government agency responsible for endorsing federal securities law and regulating the securities industry, the nation's stock and options exchanges, and other activities and organizations, including the electronic securities markets in the United States" (A-Z Index, 2014)

SEC has made rules proposal (SEC Proposed Rules, 2013) and released for comments in autumn 2013. Background for rules change is the fact that today's Securities Act of 1933 and the Securities Exchange Act of 1934 are not fully suitable for the crowdfunding. Rules change proposal is a consequence of Title III of the Jumpstart Our Business Startups Act enacted by US president in April 5,2012. Prior to this several bills were passed through senate with regards to formation of small capital ventures and entrepreneurship.

Under the proposed rules:

- New Section 4(a)(6) of the Securities Act of 1933 would be implemented, which provides an exemption from the registration requirements of Securities Act Section 5 for certain crowdfunding transactions
- A company would be able to raise a maximum aggregate amount of $1 million through crowdfunding offerings in a 12-month period
- Investors, over the course of a 12-month period, would be permitted to invest up to:
    - $2,000 or five percent of their annual net worth, whichever is greater, if both their annual income and net worth are less than $100,000,
    - otherwise 10% during 12 month and allowed to purchase for more than $100,000

- Transactions must be conducted through an intermediary that either is registered as a broker-dealer, or is registered as a "funding portal."
- Broker-dealers and funding portals may not offer investment advice, solicit investments or compensate employees based on sales. However, these intermediaries would be required to provide investors with educational materials and reduce the risk of fraud. Registering as a broker-dealer means the business has undergone a rigorous examination process and met formal requirements for professional conduct. (Caldbeck, 2013)
- Companies conducting a crowdfunding offering would be required to disclose certain information, including the following:
    - Information about officers and directors as well as owners of 20% or more of the company
    - A description of its business and how the proceeds will be used
    - The price to the public of the securities being offered, the target offering amount and the deadline to reach the target offering amount
    - Financial statements of the company, including audited financial statements for offerings of more than $500,000
    - Annual reports must be filed with the SEC and provided to the company's investors
- Certain companies would not be eligible to use the crowdfunding exemption, including: non-US companies, companies that already are SEC reporting companies, and Investment companies.

On 23 October 2013, the Financial Industry Regulatory Authority (FINRA) also issued its own parallel set of proposed rules (Pinsent Masons, 2013)
According to proposed rules funding portal must ask investors to disclose their income to check the compliance to above limits but this information investigation is not required.

A limit of $1Million in 12 month period is more strict than another one liberalization of SEC rules called "Regulation A Plus" which will have 50M$ offering limit condition following:

- Audited financial statements included in offering
- Ongoing disclosure and reporting requirements. Annual audited financial statements, semi-annual financial reports and current event updates similar to those that apply to public companies.(Fabens et al., 2013)

It shall be noted that regulation do not set any requirements to sophistication of financial skills of the investor other than limits the investment amount.
All offerings must be electronic only.

Resales of securities issued in an exempt crowdfunding offering would be restricted for one year, subject to certain exceptions such as sales to the issuer or an accredited investor. After that, securities are freely tradable.

Critics and comments of the SEC proposed rules

SEC proposed rules receive a lot of critics and comments. There is a lot of attention to what final rules will be adopted within largest economy in the world. Many countries will probably proceed with their national rules strongly influenced by the US laws and regulations.

- **Rules limitations**

Equity crowdfunding today is limited to accredited investor only.
An accredited investor is the person who:

  - Earned income that exceeded $200,000 (or $300,000 together with a spouse) in each of the prior two years, and reasonably expects the same for the current year, OR
  - has a net worth over $1 million, either alone or together with a spouse (excluding the value of the person's primary residence). (SEC Pub. No. 158 (9/13)

The number of accredited investors in US can be estimated to 8.7 million people. Out of those 3%, participate in Crowdfunding or approximately 264000 investors. (Mirabile, 2013)

- **Fundraising limits**.

The amount of money a qualified issuer can raise through CF in a 12-month period is limited to $1 million. This amount is sufficient for a small business but a capital-intensive emerging technology will most likely find it insufficient and will have to look for other capital sources.
The amount of money that can be received from an individual investor with net worth less than $100 K is the greatest of $2K or 5% of their annual income. This limits the capabilities of an investor but also reduces the risk in case all money will be lost in particular project. Estimating net worth impose some problem for funding portal. The cap set by the rules is based not only on current income but also on "net worth". The latter term can include all assets in possession excluding primary residential property. This mean everything from car, furniture, saving, real property and event retirement pension money. Summing up all that can mean substantial worth especially for people at age close to retirement.
For example, one study found that the median amount saved in retirement accounts by individuals between ages 45 and 54 was $101,000.40 (L.A. Smith 2013)
The congress investor risk mitigation measures are building on the fact that investment cap are based on net worth and therefore an accredited investor can afford to lose some of the wealth.

- **Use of Intermediaries**

Companies are prohibited to seek or advertise funding directly but have to go via an intermediary or a platform, which have to be registered within SEC as either broker or funding portal and comply with rules. This brings the whole process online so all interested parties shall be on internet. People looking for investment alternatives on local newspaper will probably miss it.

Funding portal is prohibited to give investment advice or solicit purchase so private investors will have to seek advices somewhere else.
Since funding campaign is allowed to be run through one portal only, it must be carefully selected.

- **Financial Information disclosure**

The amount of shared financial information varies depending on the size of offering. Companies running offering campaign for amounts lower than $500K need to provide description of company's financial condition and income-tax returns.
Above that limit and up to $1 million companies are required to disclose audited financial statements. That requirement may deter some companies from participating in equity crowdfunding. The requirement means spending $20-30 K to have an audit, which can be very expensive process for an early stage company. For this reason, companies may intentionally limit their crowdfunding amounts to less than $500,000 to avoid having to hire an auditor.
An audit in itself does not fully protect an investor from fraud either. There are famous examples of the companies audited on regular basis yet they have managed to hide their true financial condition like Enron, Tyco, WorldCom.
On the other hand a fresh start up company does not have the same accounting capability as those large cap companies mentioned above. Audit have to become strong anti-fraud prevention measure and investor protection. To compare, venture capitalists are according to Cameron Keng contributing article in Forbes magazine spending $50-$100K dollars in due diligence through lawyers, accountants and other professionals. (Keng, 2013)

- **Dividends and taxation**

Every year investors receiving income through stocks and dividends are requested to fill out a tax form 1099-DIV in US and RF-1088 in Norway. This means the company that have issued and sold stocks of shares and paying dividends will have to send information about it to tax authorities. As the number of investors is very large and their investment is small the company will most likely to refuse to pay dividends at all. This is also because of limited reporting opportunity and high cost associated with it.
To take some numbers estimated by Cameron Keng in the same article. Assuming 1,000 people invest $1,000 dollars into a $1 million dollar fund. This will require a full time accountant at cost of $80 K or to hire an accounting firm with hourly charge of $350, an even more expensive solution. The accountant would need to buy software to file the 1099-DIV returns. Processing one investor through online software will cost about $5, disregarding cost of postages, errors and so on.

- **Liability considerations for issuer**

Any person purchasing crowdfunding security can file a private lawsuit against issuer This alludes to the possibility of liability by intermediaries. If issuer makes an untrue statement of material fact, or omits to state a material fact he can be judged for that. An "issuer" is defined to include "any person … that offers or sells a security" in a crowdfunding offering. This means that issuing company and intermediary officers including directors, partners and principal executives can be made liable. This also applies to prospectus disclosures, with a "knowledge" exception for misstatements or omissions (Jacobs, 2013)
This is significantly expansion of personal liability of employees acting on behalf of the company.

Not only investors can file lawsuits against venture creators. As an example, one of the first cases can be used when a state attorney filed a suit against Ed Nash and his company Altius Management. The company had raised over $25 K form 810 backers in 2012. The target was to deliver special design playing cards called Asylum. Nash was silent for about a year and was not delivering the product. The suit seeks restitution of the cash, as well as fines up to $2,000 per backer for violations of the *Consumer Protection Act* In civil penalties, and money to cover the state's costs and attorneys' fees meaning the total could top $1.6 million. (Soper, 2014; Caffeinforge, 2014).

- **Holding period**

According to the rules, securities purchased during crowdfunding campaign can only be transferred to issuer, family member or accredited investor within the first year.

- **Enforcing the investment limits**

Investment limits, the cap is set to be what a private investor can afford the lose. SEC stating that funding portals are required to monitor the individual investment caps. This will be hard to enforce as the intermediaries market is highly segmented. There is an unknown number of platforms present today although not all of them will be registered as funding portals. Several web platform poses the problem of how to control the amount invested for each individual. Moreover allowed investment if a fraction of person's net worth which also vary over time and not a static value.
One of proposed solutions was that each portal would monitor activity for each investor and then report it directly to SEC. Investors would have to report to portals all securities purchased during 12 month and portals would require to keep that data (Rockethub 2012)
Another suggestion went on creation of a database accessible to portals where each individual investment would be available for crosscheck. Each investor would then have to be registered in this database with personal information and own identification.

- **Ownership verification.**

There is no central system holding registry of purchased liability exists today. Purchases and donations are registered within web site.
Regulation D, another exemption that allows to offer and sell their securities without registering it with the SEC. Main intention for this is to allow small companies to make offerings and not bear the cost of registration with SEC. This "Reg D" program has allowed to raise more than $1.3 Trillion in 2012 and number of offerings are above 37000 since introduction in 2009(Conner, 2013). This exemption is one of the key steps into equity crowdfunding also on multinational level.
Many believe that legislation opens for different and better funding methods than appealing to broad crowd. Here is comparison table of choices available today.

Table 3 USA rules exemptions provisions. Table source: Jacobs,2013

Method-limitations	Crowdfunding	Regulation A+	Regulation D Rule 506
Maximum allowed to raise	$1 M/12 month	$50M/12 month	Unlimited
Number Investors	Unlimited within money limit	Unlimited	Unlimited accredited investors, Up to non-accredited
Maxim investment per investment	Limited by income/Net worth	Unrestricted	Unrestricted
Investor disclosure	Required, to be filed with SEC	Required, to be filed with SEC	Not required if only accredited investors
Intermediary requirement	Broker/dealer or Funding portal	No	No
Obligation to SEC reporting after funding	Annually of more frequent	Audited financials annually	No
Disclosure liability	Full disclosure liability with a knowledge exception	Full disclosure liability with a knowledge exception	Only anti-fraud
Shares resale restrictions	One year restriction	No	Yes. Public companies can sell under Rule 144 after 6 month
Advertising and General Solicitation	Not allowed	Allowed	Allowed for sales to accredited investor
Ability for public, foreign, investment companies to use exception	No	Yes	Yes
Local state filing Required	Depends on state rules	No if sold to qualified purchasers or listed	Yes

Issues with crowdfunding

Figure 8 Oculus Rift, image credit mashable.com

The September 1st, 2012 Oculus Rift (oculusvr.com) project was successfully funded on Kickstarter. With pledge goal of $250 K project has received $2,43 Million from 9522 backers. 5642 people, also most part, pledged above $300 to receive early rift developer kit and a game. 719 backer would receive a poster, a T-shirt in different combinations. Oculus Rift is a new virtual reality (VR) headset designed specifically for video games. According to Wikipedia page about the project it has received $91 million in total (Oculus VR, April 2014, Wikipedia).
Norwegian military tries to drive armored vehicles using these glasses (Urke, 2014)
On March 25, 2014, Mark Zuckerberg (CEO Facebook)

announced that his company would acquire Oculus VR for US$2 billion.
This example brings up one of crowdfunding dilemma that people that believed the project and funded the company in the very beginning gets something negligible as a T-shirt or a self-assembly prototype kit while the owners can sell the company for a hefty price.
This means that founders of the company could raise very **cheap capital** and get high return but capital providers hardly get something in reward.

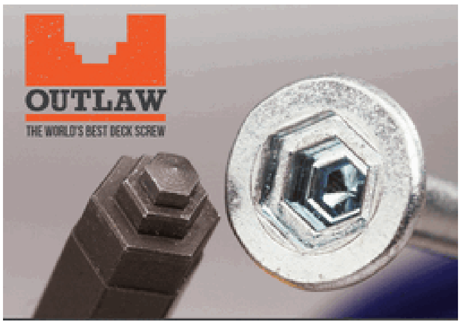


Figure 9 Outlaw fastener, image credit:www.crowdfundingpr.org

Outlaw Fasteners has filed a project on Kickstarter as well. They have collected modest $110 K while the goal was $100K. Those who donated would in majority receive a custom bottle opener or a beverage carrier. (Outlaw, 2013) In reality the technology offers a revolution within fasteners industry. It features tiered-hexagonal screw head shape with up to 18 points of contact. It is 14 more points that the Phillips screw. It t creates the highest torque to drive ratio and single bit fits any size of Outlaw screw.(Charlotte, 2013) It is an example of disruptive technology.(Kwon, 2013) Screw has been patented in 27 countries and this promising technology arises in return of some small rewards to the backers.

Another dilemma is that equity crowdfunding proposes **adverse selection**. This is because this funding method provides very cheap capital and is available to everyone. Good entrepreneurs will try to raise capital traditional way and not go to crowdfunding sites. Good investors are not going to crowd fund because they have broad access to good entrepreneurs. Thus, equity crowdfunding sites will be left with entrepreneurs who couldn't raise capital and investors who couldn't get into deals.(Wald, 2013) For this reasons sceptics will say that funding becomes accessible to companies that would not have been funded in first place and when the time to scale up and meet professional investors will come they will most likely strive to get funding from them. (Bogost,2012). Adverse selection principle is strengthened by *"Market for lemons*" concept and Buzz sections described below.
In other words if a company able to demonstrate a game changing technology and wise money spending they can succeed with crowdfunding only but if project will be delayed or take another turn and crowd will lose faith they will have to go to **second phase financing** turning to professional VCs and probably go into "Series A crunch".
(A Series A round is company's first significant round of venture professional funding and capital-raising issues associated with that.)

Crowd Money are also considered to be **dumb.** The reason is that there many projects successfully funded but their creators have no experience or possibility to complete the project.
Sam Fellig, a Brooklyn-based entrepreneur has started Ougrow.me platform for successfully crowd funded but not necessarily completed projects. He points out that crowd money allows to get rid of Angel investors whose' money are considered to be *"smart*". They do not only invest but also bring value and knowledge to the company. He says: "This whole idea of crowdfunding is that you're getting rid of VC's quite often. It is

not just about getting dumb money--you want smart money. And you lose that when you go through the crowdfunding route. You lose the smart money." (Markovitz, 2013)
The term Angel investor includes private persons who invest their own money in a range from $150 K-$2 M. Usually they are wealthy people who have had executive positions, they are experienced and sophisticated. Therefor advices coming from these people are highly valuable. (Prive, 2013)
Companies seeking crowdfunding shall not rely on idea that new technology will resolve all the funding problems. Instead they should keep to be realistic about the difficulties they'll face down the development line.

University of Pennsylvania professor Ethan Mollick has examined a dataset of 47,000 Kickstarter projects. He have found that 75% of design and technology related companies **delaying products delivery** and do it later than promised. (Mollick, 2013)

Many customers have very high expectations about project outcome and a product that does not exist. They are frustrated if project is delayed or having troubles. **Customer satisfaction** is an issue. (Markovitz, 2013)

Another criticism is about **judgment of general public**. Sceptics say that it is unlikely that common people will pick right i.e. profitable company to invest in to. In any case they will be beaten up by venture capitalists. Michael J. Roberts, a senior lecturer at Harvard business school says: "Imagine a world in which there are millions of unsophisticated investors who don't have the time or experience to evaluate these businesses. Would you expect their returns to be higher or lower than the VCs who have spent decades doing this? "I can't imagine this will become an investment vehicle with attractive average returns," (Blanding, 2013)
On the other hand there is a term "***Wisdom of the crowd***". This is phenomenon when large group of people performs better than any of its member. As an example in experiment run from 2007 to 2011 where an online community was polled about public stocks performance on open marked. Result revealed that investments based on their prediction was on annual base gave slightly higher return than those made based on recommendations from professional analysts (Nofer, Hinz, 2014).
This has led to development of "crowd intelligence" theory as collective mind. Wikipedia can illustrate that. The accuracy of Wikipedia's collectively written science entries was found to be comparable quality as Britannica's articles (Giles 2005).

Another theory supporting crowd wisdom is "**seer-sucker theory"**. It states, "No matter how much evidence exists that seers do not exist, suckers will pay for the existence". In other words expertise is of little value, especially with regards to predictictions.(Nofer, Hinz, 2014, Armstrong, 1980)

Pebble project illustrates wisdom of the crowd. It has started as crowdfunding project on Kickstarter as a result of failure to attract attention and get enough funding by venture capital under name inPuls. The device is a Smartwatch compatible with Apple and Android devices.

Figure 10 Pebble watch, image credit: www.engadget.com

Funding by crowd was very successful. Initial target of $100 K funding was met after 2 hours. (Pebble (watch), 2014). This is definitely one of the most funded projects with total amount raised above $10 Million. (Emrich, 2014)
The project is considered to be one of the most controversial as well. Many devices were pre-sold to crowd backers with promise to deliver first to them. While they were waiting longer than planned to receive the item BestBuy local store started sale advertising campaign. (Davis, 2014). Obviously, obligation to fulfil the promise and deliver the product to company supporters was not prioritized here.

In spite this effect some argues that the crowd will not be able to better investor than professionals. As an example in 1999 the PayPal was voted as one of the top 10 worst ideas by public. (Gray,2012)

A large group of people joining at funding platform looking for a project to invest into may suffer another psychological phenomena called **crowd behavior**. It happens when an individual gives up own judgment abilities in favor of dominating public. "Crowd behavior is heavily influenced by the loss of responsibility of the individual and the impression of universality of behavior, both of which increase with the size of the crowd" (Crowd psychology, 2014)

This can lead to the fact that people will jump on and invest into a project that already collected money or sold many shares. This will lead to some projects become very popular and others forgotten. This is also called **Matthew effect** which is described as a phenomena where "the rich get richer and the poor get poorer" (Gladwell, 2008) This effect dubbed by Robert Merton means that among 2 equally successful projects the one that is presented by more successful in the past person will get more attention by the public. (Shaywitz, 2008)
It is noted that this effect is magnification of the presented project quality. It gives better chances to higher quality projects. (Mollick, 2013)

Famous entrepreneurs participating in the project can also influence shares sale dramatically.
Josh Lerner, Professor of Investment Banking at Harvard Business School says: "The global **brand-name angel investors** will be able to leverage it to raise more money for their companies much more quickly. Such a result would likely lead to the opposite of the future envisioned for crowdfunding, allowing some big projects to get the lion's share of funding, while more experimental entrepreneurs lose out. (Blanding, 2013)
To counter fight these project creators may start flash mob-like campaign selling shares to relatives and families or paying somebody to increase number of investors on the project page counter just to attract other investors.

Crowdfunding is built on trust and people tend to trust somebody they know or at least can talk to directly. Funding based on donation model seems to eliminate geographical distances (Agrawal et al., 2010). Equity crowdfunding is believed will mostly evolve in **local communities**. People will support local projects that they can directly benefit of. Ramana Nanda, an associate professor in the Entrepreneurial Management unit at Harvard Business School says: "If there is hope for crowdfunding, it may be to help local companies, where individuals have a direct connection to the business and are invested in the outcome. I can imagine platforms emerging that will allow people to play a role in funding local businesses through debt or equity" (Blanding, 2013)

Investor community exerts a great deal of ***fraud*** concerns. First, it is broad usage of social media to attract investors into a company offering and then dump it. This is especially true for *small offerings* below $1 million that will most likely not be followed closely by regulators. Common people also called unsophisticated investors are feared will be making wrong choices and inevitably start losing money without any recovery. As a result, they will start suing regulators for allowing non-viable companies to run funding campaigns and not be able to protect investors with the rules. In Madoff case Litwin foundation actually sued SEC for not have stopped him in time (Savitz, 2012)

As one of attempt examples "Little Monster Productions" was collecting money on Kickstarter for game called "Mythic: The Story of Gods and Men" production. They have managed to get few thousands in pledges before the funding drive was shut down by the platform. It turned out they have borrowed game images from some other web site. (Wasik, 2012)
Otherwise, small investment amounts will most likely not justify a lawsuit in case of fraud attempt. The same applies to plaintiff attorneys. The potential gain is too small to bring lawsuit to contingency. (Pesok, 2014). If the issue will be left unaddressed, retail investors will be left with little recourse unless they will be able to organize and file a class lawsuit.

A Kickstarter project called the "Tech Sync Power System," aiming to develop a system for controlling home lights from mobile devices over a Wi-Fi connection is one of the fraud attempt examples. The project have raised over $27 K from 419 investors. The reward was the mobile system. Many investor thought this was too good to be true and requested more evidence of project progress. As the venture creator refused to communicate fraud became evident. 419 backers actually came together to shut down the project and Kickstarter otherwise did not have any obligation to do it on their own. (Pesok, 2014)

The issuers in crowdfunding campaign is not promising to *deliver anything* to investors. The promise is to use the funds to develop their business in exchange for a non-tangible, non-saleable (in USA for at least a year) equity interest in the company. If the companies fails or it becomes apparent that fraud is occurring investors are left with a claim option. Issuer can be held liable for "making an untrue statement or omission of a material fact" and "does not sustain the burden of proof that such issuer did not know, and in the exercise of reasonable care could not have known, of such untruth or omission". (Pesok, 2014)

Liability

Market regulators obliges crowd investing platforms to verify documentation provided by funding campaign initiators. On the other side it is questionable that platform can or will be hold liable for their actions or lack of actions. The recent Supreme Court decision in Janus Capital Group, Inc. v. First Derivative Traders confirmed Intermediaries in securities transactions could not be found liable for the issuer's or seller's violation of that rule. (Gordon, 2011) Ruling was according to Rule 10b-5 of the Securities Exchange Act of 1934. "This rule deems it to be illegal for anybody to directly or indirectly use any

measure to defraud, make false statements, omit relevant information or otherwise conduct operations of business that would deceive another person; in relation to conducting transactions involving stock and other securities.” (Rule 10b-5)
FINRA Regulatory Notice 10-22, April 2010 reminds broker-dealers their obligation to perform due diligence obligation. To quote from the Notice, “The Securities and Exchange Commission (SEC) and federal courts have long held that a [broker-dealer] that recommends a security is under a duty to conduct a reasonable investigation concerning that security and the issuer’s representations about it.”
Large companies and banks organizing IPO are performing very thorough documents check because they can be held legally liable according to Section 11 of the Securities Act of 1933. Small internet platforms performing private placement are in many cases doing superficial checks. The reason is that small platforms may lack resources to actually perform the job. In addiction, it cost resources to do the due diligence and if the placement is not successful then the costs cannot be recovered. External service providers may also perform paid due diligence but then again quality has to be assured. (Gordon, 2011)

Any internet *platform* facilitating crowdfunding and depositing money can potentially *regarded as a bank*. In some countries, limits are fairly low. In Germany it is sufficient to have 25 people depositing money or to have at least €12.500 in total deposits in order to have to register as a bank. (See §1 Abs. 1 Nr. 1 KWG)
Crowdfunding platforms often have no intention to be regarded as bank. Therefore they create *escrow accounts* (blocked to spending) in which the money is held, but not used for further investment.
The British crowdfunding platform Buzzbnk states in their FAQ:
“Buzzbnk is not a bank in a legal or financial sense – we do not hold saving deposits and act only as an agent to introduce the Backers to the Ventures. Funds are held on behalf of the Ventures until the fundraising period is either successful and the funds are transferred or if unsuccessful, returned to the Backer.”(Buzzbnk, FAQ)
Furthermore, the crowdfunding platforms often cover all expenses related to the transaction of payments, making it almost risk-free for prospective funders

Copyright and immaterial goods

Crowdfunding campaign means exposure to whole world that is attached to internet and disclosure of the project information. Project idea has to be presented in some detail and with at least minimal technical information.
Most countries do not legally protect ideas by copyright. Countries with case- and statutory law systems, require a certain threshold of originality to be reached before a copyright can be claimed on an immaterial good. This applies both to idea itself and the business plan.
There is a fine balance between how much information is to be disclosed to investors in order to enable their decision and encouraging competitors to jump on the same idea. When advertising project to a broader audience, the funding success is based on how feasible a project is deemed to the potential funders.
If a project owner displays too much information on the funded project, other people might *imitate the idea* and claim commercial exploitation rights before the initial project has been fully funded.
A majority of crowdfunding platforms encourage or even demand teaser presentations, videos or similar visuals to describe a project to the prospective funders. These project

supporting materials are often quite professional and include digital effects and professional narrator comments.
Patent is a good protection measure for an invention. A public funding campaign usually starts after patent application is filed and patent set to pending. Venture creators have to perform an IP (intellectual property) investigation and ensure that their campaign is unique. Platforms are set to check it.

Equity Crowdfunding taxation

Money raised through crowdfunding is subject to taxation in all countries of the European Union. There are three main areas of taxation

- Sales tax (VAT) This tax can be applied to pre-sold items received in reward based model. Same applies to material perks received by backers. Complication is that different items can have different tax rates. Books are usually not taxed contrary to other goods.
- Income tax. Depends on the status of money collecting entity. A private person will be subjected to income tax and corporation if profitable will be subjected to income tax. All received money are subjected to sales tax. In many cases, private persons “forget” the tax payment on received funds. They simply use collected money.
- Capital gains tax.

Taxation is one of the factors preventing cross countries and world wide capital gathering. Some platforms allows only domestic contributors to avoid the necessity to deal with different taxation rules. As an example a Swiss platform ivestiere.ch declines web access from certain countries like US. Some platforms has replicated their web sites in different legal domains. As example German Startnext.de has established startnext.at to work in Australian marked (Röthler, Wenzlaf, 2011).
In UK tax relief is given to initial purchasers of stocks directly from the company. Second hand purchase does not give it. Therefor there is a danger that first crowd investors will be locked in the stocks because no VC will be willing to buy them out. (Gray, 2012)
Many countries provide also tax deduction on charity pledges. (Davis, 2014)

Payment and Transaction methods

For cross border funding platform following money transaction issues exist:

- Managing multi-currencies including non-convertible ones
- The risk of conversion rate
- Accepting local means of payment

The internet has overall made significant reduction on transaction costs and made crowdfunding more practical (Agrawal et al., 2011)
Statistic shows that favorite means of payment vary. In France and in UK, it is the debit/credit card with 80% of the transactions. In Netherlands 54% of all payments are going through IDEAL payment system charging on line payments directly to bank account. 18% of backers in Germany prefer invoice receival prior to credit card payment. 16% will use ELV, which is also direct account debiting system. This is considered to be a high-risk payment as contributor can cancel the payment at any time.
In Portugal “Multibanco” is used in 30% of payments. This payment method sends a code to user that have to be validated at local ATM machine.
In Belgium national cards Bancontact/Mister cash is used in 30% of payments.
Transaction fees varies in different countries a lot and can be multiple times higher. Some countries allows also for chargeback. Usually it is used in case of fraud payment. (Mangopay, 2014)

International platforms like Indiegogo have realized quickly the need for global payment solution. Since they have launched several currencies, languages and localizations they have seen a 20% international activity increase. Ayden payment system is doing transactions with minimum fee of $0.18 per payment
Symbid internet platform uses separate bank account for each investment project and when funding is complete transfer all the money to the venture company.
Some lending internet platforms are operated by a bank and it is dealing with money transactions and fees. Leading French lending platform Prêt d'Union is operated by Crédit Mutuel Arkéa which is one of the major banks in the country. (ScoreAdvisor, 2012)

Project advertisement

Equity crowdfunding is a form of financing in which entrepreneurs make an open call for funding on the Internet, hoping to attract a large group of investors. The open call and the investments take place on an online platform that provides the means for the transactions (the legal groundwork, pre-selection, the ability to process financial transactions, etc.) (Ahlers, et. al, 2012)
Audio visual material is the most important. A video about the venture is the must. One of the key parameters is video length. No one will really watch presentation that is longer than 90 seconds (Davis, 2014)
Informative advertising is most appropriate out of persuasive and complementary to consumers who are not aware of the brand (Bagwell, 2007, Ackerberg, 2001) Brand here is the venture and project itself both seeking information to and support from large number of backers. (Qiu, 2013). The primary function of advertising is to inform more people about existence of the project.
Attention to project funding is highest in the beginning and the end of the campaign if it is limited in time. (Ordanin et al. 2011). Existing backers are used have interests in positive funding completion and are widely encouraged to inform more people through "word-of-mouth" communication (WOM). It is the process of direct information exchange about new product between people that will influence their behavior as a consumer. Introduction of Web 2.0 (internet communication facilitated by social networks) has brought to live electronic communication eWOM (Qiu, 2013)
Broad advertising has a crucial impact on funding campaign success. The more people will be aware of the venture the more money can be collected even the relationship is nonlinear. There are companies offering services for better exposure. One of them, Universal Media offers help in advertising materials production, press releases, and media contacts and so on. (Universal Media, 2014)
As the projects numbers will grow, services around crowdfunding will grow in number as well.

Funding portals.

Funding portals today are mostly represented with the ones offering charity or perk based funding. Equity portals are smaller in number and do not have that many visitors due to the fact that their business is regulation-restricted and quite recent. Broad public is not yet aware of their presence. Table in appendix shows statistic of most popular web portals by number of visits to their web site.

Segmented Marked

Crowdfunding platforms marked consolidation is required. Industry estimates the number of platforms in existence today to 500 active but some quote 9000 different domain names related to crowdfunding. (Caldbeck, 2013) It is highly segmented market. Some of the platforms are very small and provide funding just to few projects. It is especially true to local national platforms where crowdfunding is just opens up for the public. For example, Movation.no in Norway has innovation market 3in.no which helps to collect money to about 15 projects at the moment. On the other hand we have highly branded names like Kickstarter which at the moment has about 5000 projects live. (Kickstarter Stats)

Venture creator seeking funding needs to select a platform to advertise and raise money on. Most popular donation based platforms operates today at different rules and statistics. Just to compare two, probably largest platforms:

Platform	Establis hed	Fully funded projects	Commissio n, not funded	Commission, project funded	Regulation	Countries available	Technologica l campaign meet funding goal
Kickstarter	2009	44%	0%	5%	Strict guidelines what can be funded	US, Canada, UK, New Zealand, Australia, Netherland	34%
Indiegogo	2007	9,3%	9%	4%	Looser rules	Over 200 countries	3,6%

Indiegogo unlike Kickstarter does not exercise the rule “All or nothing” but encourages project creators to collect all the money they have declared by charging higher commission.
It also accepts projects that Kickstarter would not allowed like funding a couples newborn child, or children’s soccer team uniform. (Jeffries, 2013)
Kickstarter have strict and detailed guidelines what type of project can be published on their website. As example, they recently declared, “creators cannot offer genetically modified organisms a reward” (Geere, 2013).
Canonical, developing the high tear mobile phone Ubuntu Edge was seeking funding on Indiegogo because it covers so many countries. Kickstarter would not have allowed them to raise single donations above $10 K as per their rules. The funding goal was set very high but still Canonical have managed to raise ample amount of money. $8.3 Million was raised in just 2 weeks. (Jeffries, 2013)
It can be argued which platform would be most successful in raising money for a particular project. New venture creators will have to cope with the platform rules and always evaluate which one will suit best. It can though be difficult because not all platforms are publishing statistics that would allow comparison. Indiegogo is keeping this information nonpublic so all estimations are done indirectly.

On local Germany marked one single platform dominates others in terms of capital raising. The Startnext platform had about 82% share with €1,975 Million raised in 2012

while next rival VisionBakery had funding volume €149 K same year.(ScoreAdvisor, 2012).
Seedmatch is considered to be marked leader in amount capitals collected and went around €100 K limitation by using second exemption from prospectus publication rule. The biggest funding “Projekt AoTerra” has collected above €1 Million by introducing a form for shareholder loan. (Seedmatch.de, Meyer, 2014) These numbers are fairly modest compared to what international and US platforms have gathered as shown in some examples here.

Even the largest national platforms are small compared to multinational ones. Nevertheless, they probably will survive in case platform globalization will fail. They will also stand for local projects. Benefit of being national is the cultural understanding between venture creators and funders they speak the same language and are covered with same legislation.
British P2P lending is very popular instrument and has gone far in the platform development. Platforms have formed an association (P2P Finance Association) to have unified rules and ethics. (Röthler, Wenzlaff, 2011) This may trigger a start for market consolidation.

Funding portal accountability and legal liability

Platforms like Kickstarter do take their commission but do not take any liability. Here are their conditions: “Kickstarter does not guarantee projects or investigate a creator's ability to complete their project. It is the responsibility of the project creator to complete their project as promised, and the claims of this project are theirs alone." (Kickstarter, FAQ). “By backing a fundraising campaign on Kickstarter, you as the Backer accept that offer and the contract between a backer and Project Creator is formed. Kickstarter is not a party to that agreement between the Backer and Project Creator. All dealings are solely between Users.”(Kickstarter, FAQ).
Nevertheless, situations when project creators fails to deliver result it will certainly affect funding portal reputation. Backers can start even legal prosecution. (Markovitz, 2013) International platforms may face legal difficulties by operating in many countries simultaneously. What is common in one country may be forbidden in another. Like any multinational, the platform will either operate at the legislation of origin or choose different law system. This may prohibit platform expansion to some countries.

Private Investor considerations.

Steve Blank defines start up as “a temporary organization that is designed to search for a scalable and repeatable business model.”(Blank 2012)

Therefore, as an investor, finding out what hypotheses the startup has formed and what data they have collected that either validate or invalidate those hypotheses will be helpful in determining what type of progress has been made to date. Not to mention, it will shed light on the methodology being implemented to find product/market fit, which is what, ultimately, every startup strives to achieve.

Investing into startup companies implies a dilemma of choice. The companies are many but which one will shoot up and which will do down.
In 1997, the founders of Google wanted to become academic instead of being entrepreneurs. They were willing to sell their initial search engine for about $1 Million. No

One in Silicon Valley wanted to buy and Yahoo turned the offer down as well. In 2002 Yahoo was offering $3 Billion for the company which is now valued to more than $150 Billions. (Siegler, 2010; Basuthakur, 2013)
Youtube was started as profitless web site by two individuals just above 20 years old, after late night dinner party. It was sold to Google for $1,65 Billion in October 2006.

These two and many other examples shows that early stage investor can win big if invested into right company at early stage. Investor shall get into promising company early and analyze viability of the business even with low level of information available. Projects posted on websites have quite high likelihood of being funded. 43.47% of projects are fully funded on Kickstarter and 43.5% on Spot.us (Wash, 2013). Analysis of the projects shows that those who request small amount of funding have higher chances to success. (Mollic, 2013)
Private investors seeking high return participating in equity Crowdfunding campaigns are always made aware of high risk associated with it because internet platforms and issuers of direct public offerings are obliged to do so.

There some simple steps crowd investor can undertake to limit the risks.

- Investment diversification

Building a portfolio of high-quality startups. Crowdfunding ushers in easy access to new asset class - private companies. Main driver is the fact that "30-40% of startup businesses across the board fail within two years". While investing small amounts "can minimize your potential losses and the risk involved." (Medved, 2013)
The winners companies included into portfolio will compensate losses incurred in failed ones. Correctly, set up portfolio, will, in overall, have positive return (Medved, 2013)
Diversification will require a lot of effort. Private investor is like a very small-scale angel investor. Selection process can take a lot of time and effort. Taking analogy from VC who claim that they invest only in 3% of all the available deals. (Gray, 2012)

- Invest in what you want.

As a consumer, private person will have more sense for what there will be future demand for. Gamers invested into Oculus Rift project because they wanted the product. VC did not see the opportunity because there was no demand for non-existing product at the time.

- Do due diligence.

As an investor, even small one, it is important to check financial statements and other documents disclosed by the company. Litigation history. It can be investigated, if the company was subjected to lawsuit.

- Check the venture team

It is better to invest into company consisting of professionals, even, if, the idea they have, is not finally formulated. There rather have to be a team then only one person.

- Information asymmetry.

Crowd investing is essentially the "***market for lemons***". The term is used to describe a situation when there is asymmetry in information between the securities offering and buying sides. There is no possibility for the buyer to find out the true worth of the company by external examination, as he does not have access to internal information. The seller is then encouraged to sell the average company for the price of premium. The lack of history makes it even difficult for the buyer to rely on reputation or regulation. This is a critical concept of a marketplace where companies of low quality will perform offerings because the market will overvalue them. High quality companies will not be offered because market will undervalue them. (Akerlof, 1970; The market for lemons).
Understanding this principle will help to make the right investment choice.

- Buzz

Investor shall keep in mind that high quality startups usually stay quiet. Working on something similar to disruptive technology they focus and work on it in silence. They will most likely shun press and public until they are ready for it. Information disclosure is potential to invite competitors. Raising money on a website surrenders the secrecy and in this case, crowd investing is not an option. (Breilinger, 2013)

There are some psychological aspects occurring on both sides among investors and project developers. Goal setting influence motivation among developers. Following has been pointed out

- People contribute more when assigned goals that are challenging
- People contribute more when assigned specific, numeric goals
- People contribute more when assigned individual goals rather than group goals (Wash, 2013)

Social psychologists have identified the term ***social loafing,*** which is the reduction in motivation when individuals work collectively. (Wash, 2013)

In other words, people are less motivated to work on group goal because they do not see a strong relationship between individual effort and common outcome. Economists identify this as voluntary provision of public goods. *A public good* is something anyone can benefit without limitation regardless of participation in creation. Public goods are unrivaled and nonexclusive as they are. A research consistent with this idea shows that on Kickstarter backers are much less willing to support a project that already has reached funding goal. (Kuppuswamy, Bayus, 2014)

Crowdfunding project have to have a clear goal to achieve and this will motivate crewmembers to work on it. On the other hand, situation when multiple people working on the same goal provoke the internal "*free rider*" problem that management have to be aware of. (Wash, 2013)

Venture creator perspective

Figure 11 Ubuntu Edge. Credit: Canonical

An exceptional crowdfunding attempt was performed by a company called Canonical in July 2013. In just one month it was attempted to raise $32 Million of Indiegogo platform (Ubuntu Edge, 2013). The project called Ubuntu edge was aiming to develop a smart phone out of the normal with an open source operating system Ubuntu installed working on the phone the same way as on a personal computer.

This would imply technological advance both in hardware-the phone itself and the software for it. It is remarkable device in itself but the fact that so large amount of money was tried to raise in so short period of time is something few would dare to repeat. The project was funded with almost $13 million which were below the target mark and all the money were returned to investors. Appendix contains infographic with comparison of Ubuntu Edge with an IPhone 5

Figure 12 Funding campaign, Source: Canonical

Figure 13 Wie phone source:facebook.com/WiePhone

Taking another example of technology based project Wie phone that was aiming to collect a reasonable amount of money on Indiegogo. Initially project was about to develop a smartphone that would provide communication anywhere on the planet absolutely for free utilizing a technology that creators would not tell before project was finished. The campaign was a failure collecting some money but most of contributors seemed not to believe in this secret technology. (chris200x9, 2012)

The cases show typical problem with crowd funding for a technology venture.

When developing a completely new technology it is difficult to predict the exact budget, time scale and even viability of the idea. There are many examples of the projects that were abandoned very late in their development. As the projects, progress engineers may discover that new device or technology is not performing exactly as expected or not performing at all. A bright idea in the beginning eventually appears to be mistaken.

The effort of regulators of most countries trying to encourage the crowdfunding marked goes in the direction of easing the project documentation. This mean less effort to proof that technology one is aiming to develop is viable. Professional investors will read carefully and comment on business plans and technical documentation while single unprofessionals will most likely just *follow the stream.*

Getting money from the large group of people with very few of them understanding technically what technology is about can encourage opportunistic behavior at project starters.

On the other hand the risk is high of not completing the project as presented to the crowd and consequences can be very hard to take.

Figure 14 Hanfree source: kickfailure.com

On May 11, 2011 the project “Hanfree Ipad accessory” was funded with 233% to its goal of $10K. In May 2012 Neil Singh Arizona insurance lawyer, filed paperwork in Arizona's Justice Court claiming breach of contract.
In 2011, Neil browsed the web and came across Kickstarter project page offering product in return of $70 pledge. He considered as a good deal and thought that funding was like shopping where the product is delivered somewhat later.
Seth Quest project creator and designer started to raise money without supplier contracts and unclear proprietary rights within company. In November 2011 he declared project as failed and was set to return the money to the backers even he actually spent them all on the product development. There was no fraud attempt just poor project management but it together with lawsuit has derailed project creators life for long. He commented like this “Your backers can give you massive support, but they can also tear you down if you fail." (Markowitz,2013)

Most venture creator who have been through crowdfunding campaign points out that this is very demanding process. The most common comment: “It’s a full time job” for the whole funding period. “By the time it finishes, you feel like you’ve really exhausted all your resources” (Davis, 2014)

Technology venture

Today, postindustrial companies that are creating products, designed directly for consumers use, beat many of traditional industrial companies. Top 20 list of largest market capitalization on NYSE is headed by Apple Inc., while oil production giant Exxon Mobil Corp. comes second. Some decades ago, it would be unthinkable that company producing gadgets that are not covering peoples primary needs would beat a global energy corporation. Third place is taken by Google Inc. whose primary business is done on internet also non-material space. Even industrial conglomerate General Electric Co. that has existed for more than 100 years comes on the list as number 6. (Data from The Online Investor Staff, 2014) Se Appendix for capitalization ranking of large cap companies.
Consumer oriented technology companies are created today in large numbers. A high return potential, like the one demonstrated by Oculus VR or Pebble projects will attract private investors. New companies will be able to sell stocks of shares due to high public technology interest.

This may lead to bubble situations when people will invest into a technology start ups based on speculation that it will break through rather than viable concept. This may lead to adverse selection and companies that do not deserve funding will receive money from private.

This will in many cases lead to losses due to high statistical failure rate of startups. Investors seeing mostly losses will flee the market that already is low liquid. Introduction of volatility and changing stock price will enable short-term investments and a game that is valid for public companies.

Technology Entrepreneurship

Technology as a term has many definitions.
(1) Technology is the application of scientific knowledge or engineering designs for practical purposes.
(2) Technology refers to the equipment, machines, and produces developed from scientific knowledge. (Helemnstine)
"Technology entrepreneurship is an investment in a project that assembles and deploys specialized individuals and heterogeneous assets that are intricately related to advances in scientific and technological knowledge for the purpose of creating and capturing value for a firm" (Bailetti, 2012)
Technology entrepreneurship is about:

- Operating small businesses owned by engineers or scientists;
- Finding problems or applications for a particular technology;
- Launching new ventures, introducing new applications, or exploiting opportunities that rely on scientific and technical knowledge; and
- Working with others to produce technology change. (Bailetti, 2012)

Technological entrepreneurship is dependent on scientific and technological change, selection and development of new products, assets, and their attributes. It involves specialized human resources, tapping into their skills and ability to collaboratively explore and exploit scientific and technological change to benefit the firm. This differentiates it from other types. Technology entrepreneurship, applies equally well to newly formed or established firms as well as small or large firms. (Bailetti, 2012

SME (small and medium enterprises)

Small business accounts for large portion of ***new jobs creation***. Newcomer companies introduces new ideas or production processes that pose improvement of existing ones. The rise of global companies like Wal-Mart, Microsoft, Amazon and Google from small startups is a testament to the importance of small businesses. (Kliesen, 2011)

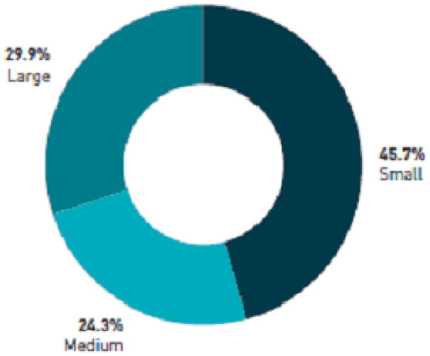


Figure 15Share of private sector employment by business size at June 2011, Source: Tompkins, 2013, ABS

At the same time, the failure rates of small business are quite high. According to the Bureau of Labor Statistics in US, only about half of the businesses that opened in 1994 were still operating five years later. (Kliesen, 2011) This gives argument that small business also destroys jobs and net job creation is not that significant.

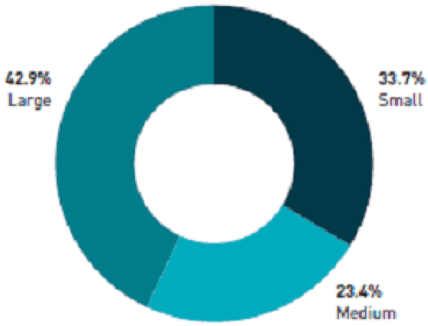


Figure 16 Contribution to private sector industry value added by business size, 2011, Source: Tompkins, 2013

The failure rate in itself is an ambiguous term. Defining a failure as a liquidation of all assets and complete money loss, will 30% to 40% of high potential U.S. start-ups estimated to fail. Defining failure as no return on investment or no revenue growth then more than 95% of startups fail. As a common rule is that out of 10 startups 3-4 will fail completely, another 3-4 will break even and 1-2 will make a substantial return. (Gage, 2012)

Another valuable potential of a small or startup company is ***disruptive technology creation***.

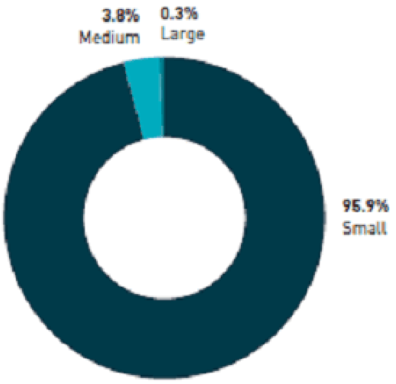


Figure 17 Distribution of total business numbers by business size, Source: Tompkins, 2013

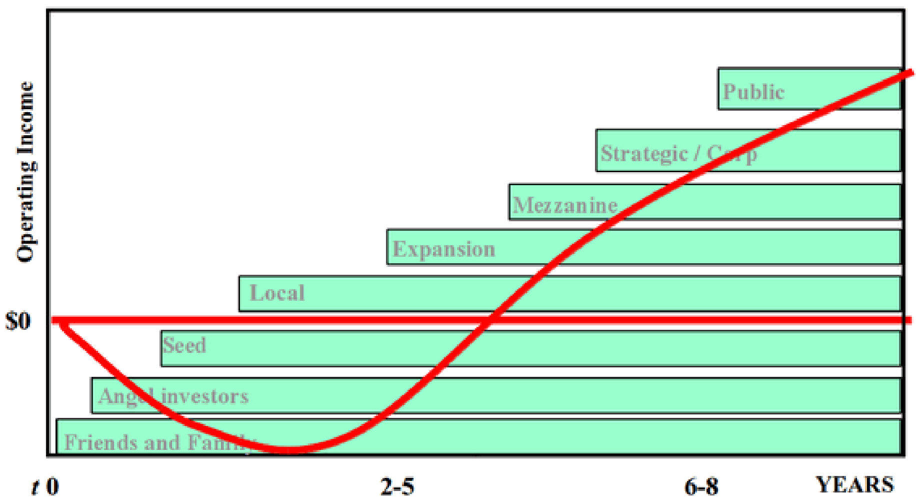
Disruptive Innovation term is proposed by Clayton Christensen. It "describes a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors." (Christensen, 2014)

The idea behind is that companies tend to innovate faster than their customers. Eventually companies produce products that are too complicated and expensive to most of their customers. At the same time competitors creates products that are not necessarily better but in most cases are actually inferior to the main product. The advantage of new product is that it is usually cheaper and easier to use and can reach to many more unsophisticated customers that competitor will eventually make the initial well established company to decline or fail. "Christensen called these low-end products

“disruptive technologies,” because, rather than sustaining technological progress toward better performance, they disrupted it. “ (Macfarquhar, 2012)
“After studying a few exceptions to the pattern of disruption, Christensen concluded that the only way a big company could avoid being disrupted was to set up a small spin off company that would function as a startup, make the new low-end product, and be independent enough to ignore what counted as sensible for the mother ship”(Macfarquhar, 2012)
As an example Andy Grove, A CEO of Intel who realized this idea and did exactly that. Intel brought out the Celeron family chip. It was a cheap product with poor performance compared to regular Intel brand chips but was much cheaper. Within a year, Celeron has captured about 35% of the marked.
This theory confirms the role of small startups as new technology creator and large and *established companies’ challenger*.

Authorities and regulators around the world are particularly interested in creating framework and stimulation to new venture creation and entrepreneurship. A new idea development usually creates a company that in most cases comes under definition of a small and medium enterprise. It usually is limited in number of employees ranging from 5 up to 100-200 working in nonagricultural sector. Limitations to capital and sales numbers also applies and are dependent on country of operation.

SME plays important role and is a keystone in society of developed countries. Evolution goes in several stages. Expansion of micro companies results in SME and their expansion creates large companies. At high level of industrialization large companies share number grows to certain level and then levels out. This has to do with capital to labor ratio. This ratio in SME is intermediate. This means that workers use intermediate technologies to provide higher output. This creates a class of people with median income who in return is potentially a candidate for participation in crowdfunding on both sides.
SMEs number have tendency to grow in most dynamic and new industries. As an example internet related business creation number outperforms many other on the world bases, as it is new and fastest growing industry today.



Research by Kaufman foundation show the majority of job creation comes from small and medium sized businesses, which account for 99% of all businesses in Europe. The vast majority of them have ten or fewer employees. (Buysere et al., 2012)

In US according to the United States Small Business Association, 65% of all of the new jobs created in the past 17 years were created by small and medium-sized businesses. . Picture shows typical technology start up funding rounds and timeframe for them.

Startup valuation

Bank and VC's evaluate companies at multiple parameters prior to investment. To evaluate the company itself one shall determine:

- Presence and value of collaterals. This means evaluation of assets or properties owned by the company
- Credit rating scores of the company executives.
- Business plan and its quality
- Offline relationships

Crowd is expected to enter funding site much earlier than banks. They may use different criteria to evaluate success ratio.

- Perceptual value of the product. Here one shall become marketing specialist and estimate the marked potential for the product.
- Quality of developer's team and their quantity. Essentially evaluate if the team has enough of the people with right experience and skill set.
- Abilities of the team and their performance track record so far in the venture.

A newly established company can be characterized with some common attributes.

- Limited history

Companies seeking funding are usually quite young with limited or on operational history. Funding is critical and very hard to obtain from external sources unless company have famous entrepreneurs as co-founders.
Elon Musk, founder and CEO of SpaceX and founder of Tesla Motors, has published a white paper about Hyperloop. This is the next project about a high-speed railway line he wants to develop. After few days since publishing the idea 20,000 people have visited JumpStartFund's website seeking more information about the project. (Knowless, 2013) The budget estimates $6 billion and donations can be made through the JumpStart crowdfunding platform for accredited investors only. (LeSage, 2013) He is an example of a person who can attract both attention and capital.

- Negative cash flow

Most likely start up only consumes money without generating revenue or it is very small. Expenses are associated with business establishment rather than money making. Company is showing present and past operating losses.

- Dependence on private equity

With few exceptions, companies are dependent on private equity rather than public markets. Sometimes it is described as 3F: family, friends and fools. With development, venture capitalists contribute to sourcing in return to share ownership of the company.

- Low survival probability

Many studies in different countries shows that failure rate among startup companies it quite high. A study of 5196 start-ups in Australia found that the annual failure rate was in excess of 9% and that 64% of the businesses failed in a 10-year period. (Damodaran, 2009)

- Multiple claims on equity

Companies can raise capital in multiple stock offerings, thus equity of the early investors can be washed out and company share diminished. To protect investment companies are demanded protection against it in form of first claims on cash flows from operations, control or veto right and this can create different claims on the same equity or property.

- Low liquidity

Private investments compared to public offerings are very illiquid. This implies difficulties in selling the equity quickly and fair valuation of a non-tradable security

Private equity price can be determined using different approaches and taking into account different factors. One of the methods is described in two SEC Accounting Series Releases: ASR 113 and ASR 118. There concept of “fair value” quotation is described for equities “without readily available market quotations” (ASR No. 113, 1969 and ASR No. 118, 1970)

Methodologies proposed to be used are:

1. A multiple of earnings;
2. A discount from market of a similar freely traded security;
3. Yield to maturity with respect to debt issues; or
4. A combination of the above as well as other methods.

In determining which methods to apply, ASR 118 suggests taking into account the following factors, to the extent applicable:

1. The fundamental analytical data relating to the investment;
2. The nature and duration of restrictions on disposition of the securities; and
3. An evaluation of the forces which influence the market in which these securities are purchased and sold.

More specific factors outlined in ASR 118 include the type of security involved, financial statements, cost at date of purchase, size of holding, analyst reports, transactional information or offers and public trading in similar securities of the issuer or comparable companies. ASR 118 acknowledges that there is no single standard for determining “fair value…in good faith.” (Sweeney, Roll)

Michael Trabert, a CPA with CBIZ-SMR Business Services, describes a valuation method when others are not applicable: "You might own 1,000 shares of your company's stock, which an independent appraiser values as being worth $300 apiece. But if a potential strategic partner could recognize all kinds of synergies and is willing to pay $600 per share, then that's what your stock is worth." In other words: “...the main way to get a sense of your stock's fair-market value is -- as it's always been -- *by negotiating a deal*.”(Fraser, 2000)

There is a weak correlation between private equity valuation and publically traded stocks. For example, correlation between private equity funds and FTSE 100 is in the period 1996-2010 estimated to be 0.18. Private equity has shown better return for the period. (Ellis et al, 2012) IRR development for the period in shown on Figure in Appendix.

Unlike stock market shares, private company stocks are valued depending on purpose for valuation. The owner will want to have a range price opposite to an exact number. For tax or employee stock ownership plan purpose, it is beneficial to set a lower value. For purpose to sell shares to outside investor highest value is desirable to be set. Keeping that in mind the stock price of private company cannot be used to estimate company performance. (Fraser, 2000). This way stock price for private company is *purpose and investment deal driven*.

A model for Crowdfunding

Following section is written based on empirical research of the crowdfunding topic. It contains author's personal ideas and discussion of proposal about equity crowdfunding model.

Crowdfunding as a phenomena is evolving at right time because ingredients for its success are already here. First ingredient of all is ***post industrial economy*** and society that facilitates it. Usually it is described as an economy where manufacturing becomes less important in favor services, research, innovation and information. “The post-industrial economy is powered not by companies but by people”. (Walk, 2013) Analyzing the type of projects on crowdsourcing platforms today one can notice that new industries are taking advantage of it. One will hardly find a project seeking crowdfunding to establish a coalmine or a steel mill. These belong to previous – industrial society generation.

Crowdfunding exist today mostly as non-profitable reward or donation based funding. This has worked well for years and the next step is to start crowdfunding on stock equity base available for everyone regardless of their sophistication level.

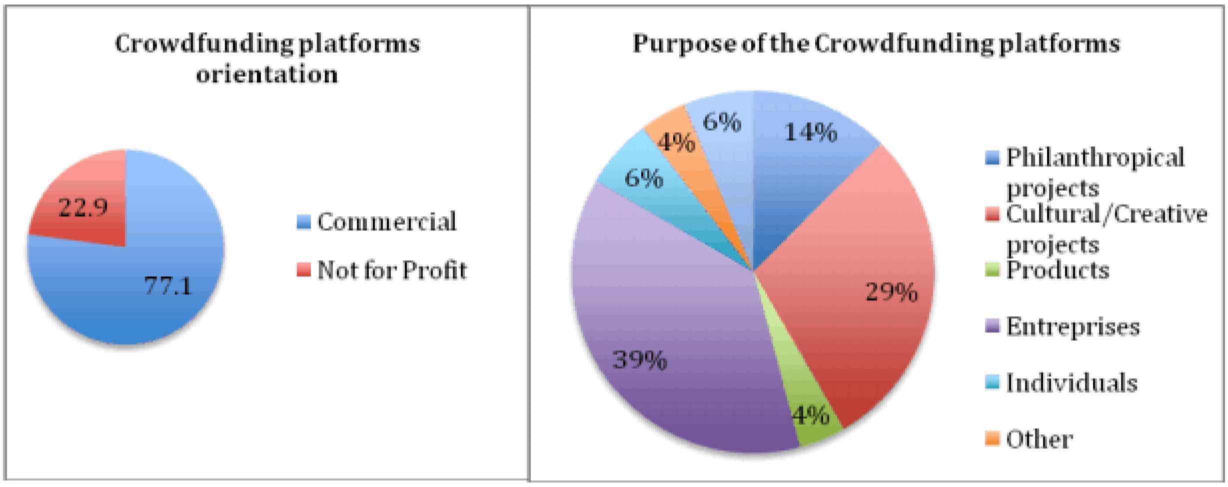


Figure 18 Crowdfunding platforms orientation and purpose, Source: Kuile, 2011

Rules shall open for equity crowdfunding available not only for accredited investors as it is today but for any private person. Technology startup companies by selling stocks or shares will get funding that it is difficult or not possible to get elsewhere. Private investors will participate in technological development as well as they get opportunity to earn money on it. Equity crowdfunding is natural extension of reward based one with moneymaking extension. An investor shall keep in mind that investing into a startup company is even more risky than investment into a public company and in worst case, *an investment will turn into a donation*. Rules and regulations have to be designed to provoke and easy application of public funding but on the other hand they should prevent abuse and fraud attempts.

Modern society projects utilizing ***peer-to-peer services*** are becoming very popular. For example, Airbnb website offers lodging and all kind of rental services directly between private persons. oDesk corporation website directly connects freelancers and job offerings for them without any third party. Getable service connects together contractors and suppliers of rental equipment.

There are many more examples of society moving towards small services and companies making everyday life more simple and affordable for their customers.
Just few years ago, there were many travel agencies offices and banks on the central street of any town, now they are much fewer as majority are moved to internet and are self-serviced.
Providing equity funding from crowd to a company is next step of the long trend of P2P services development.

Equity type selection.

The general principle of equity funding is that money are exchanged into equity or stocks. There are many types of stocks that actually can be issued. The most simple type is either common or preferred stock and otherwise debt.
Crowdfunding regardless of the form is driven by trust and prerequisite that money will be spent wisely. A project funded solely by large amount of small investors creates a clear ***"free rider***" problem. None of the investors is strong enough to question decisions made by the company and most likely few if someone will check in detail financial results decisions and choices company makes.
There are limitations set by authorities on amount project backers can invest into a single company. This will create a situation when a company will have many small investors that have no control over the company. None of them will be strong enough to vote down the owners and affiliates in case fundraising will be organized by issuing common and or preferred stocks.

For the reasons above crowdfunded company may issue stocks but without the voting right (non voting) as no one would exercise it.
In case of cross borders, funding some countries might put the requirement to keep records and information on their local languages.
The more attractive solution is non-participating preferred stock. This type of stocks senior to common stock, have some preference at liquidation, dividend payment, they may have anti-dilution protection and conversion right to regular type. This type of stock is favorite to venture capital companies (Forbes infographics)

Another questions with regards with stocks offering is number of stocks to issue and their par value. This may be difficult to determine for a fresh company without any book value except for initial owners capital. A number have to be set and is chosen based on management consideration and for tax purposes as sum of all shares will set the price on the company.
There is an option to authorize also register with authorities some maximum number of stocks but actually issue a lesser number. This will give flexibility for further issues with respect to capital changes and there will be no need to pay extra registration fees.
In case of major investment, pre-money and post-money valuation will help to set stock value.

Security prerequisites

Direct offerings of equity from a company to public has a lot of interest in most countries and authorities are trying to find the way to jump start the process. Unfortunately, they are for the most trying to adapt existing stock market security rules that have been made with 20th century Great depression and returning stock market crashes in mind. There is a clear need for new and disruptive technology financial instrument that will make the

path around the corners of the existing legislation that was adopted long before crowdfunding was even discussed.
When crowd investing will become legal in most countries, the question of what type of security companies will issue in exchange of investment liquidity. An analogy can be drawn from private placement. During private or nonpublic placements, instruments like common or preferred stock, interest warrants, provisory notes are sold to small group of wealthy private or institutional investors.

The question is which type of security shall be offered to the crowd.

Public funding of private company is new asset class that either will require creation of new security note or making a hybrid instrument using what it is available today. Existing stocks, bonds and derivatives may disqualify for several reasons. There are many issues within broad public offering that most likely cannot be solved with existing instruments. There shall be found optimal security note offering that will on one side allow a start up venture operate normally without spending too much effort to treat the crowd. The advantage crowd investing offers shall be preserved. At the same time this security shall offer confidence, predictability and profitability to retail investors.

The reason to introduce a new security is the common drive around the world to make the process of crowdfunding easier and more affordable. Financial regulators and legislation authorities in many countries has gone the way of introducing ***exemptions*** to existing respective securities laws.
The author believes that there is a little need for that. Instead, the new security, specifically designed for crowdfunding canl be introduced ***outside of existing stock legislation.***
First important property of this security has to be introduction of it as a separate class. This way it will fall out of stock legislation and all limitations it sets. This way it can be sold either directly from company to private investors or through intermediate platform. The ***obligation*** for professional audit, registration within regulator and so on will be replaced with ***right*** to do so.
Crowd is intended to enter the funding side of a venture at very early stage. At this time there are little or no assets and company valuations methods will simply not work. The new security is then meant to be of a ***pre-stock*** art or not collateral dependant.
Second prerequisite is that Funding Security has to have ***preference over the stocks*** in terms of investor protection. This means that a company in case of default will have crowd investors at first line of the claims.
Some believe that crowdfunding will disincentivize later rounds of investment usually performed with venture capital. The firms will be unwilling to put significant sums into entities that already have unwieldy capital structure with large amount of small investors. On the other hand, equity crowdfunding will most likely give access to more capital at early stages and this will allow ventures to be sized attractive to venture capitalists. (Hoberman, 2012)
Still the ***large stakeholder's number*** have to be addressed by crowdfunding security. It shall take care of exit strategy as well.

This security has to be very light in issuing and erasing. It is a class of security that cannot be transferred, inherited or lended out. Since it is reserved *to private persons*

only it cannot be confiscated to repay debt or collected into pools of derivative instruments.
It is *temporary* financial instrument and thus has very limited lifetime. Only following operations could be allowed: *issuing, erasing, conversion into stocks*.

This security have to be allowed to be initially sold without personal presence or identity verification. Only claims and conversions will require identity check.
If issuing company fails and will be dismissed holders of this security have no right to prosecute the company executives except for in case of fraud.

Crowdfunding security Note (CFS)

This special security note is further called Crowdfunding security note. Here are the special properties that this security shall possess:

1. CFS will have ***no value imprinted*** but will be sold to private investor to an initial price. This is called no par value security and they are beneficial to use due to flexibility in price setting and give less liability to shareholder in case price fall. Based on initial investment risk grade companies can sell securities to a single investors of limited value. Initial price shall be about the same as maximum initial investment for given company risk grade. After the CFS is sold to an investor its value can become any non-negative number. As mentioned above private company valuation is very difficult using most common evaluation instruments. Using debt-like instrument allows to raise money without company valuation.

2. CFS ***does not give dividends*** and has no premium payments. Being very lite security the idea is to sell and forget for the issuing company. This makes it easy for the company as paying premium to large group of people every year is very costly process.

3. CFS is a security ***without ownership or voting rights***. The true need for crowd money as described by many is at the earliest stage of technology development. “Crowd-funding today is just a solution for the first funding round of a company“(Breinlinger, 2013). After successful funding round, the company will suddenly have a large number of small investors. It takes a lot of time to communicate with them, hold registry and probably most important disclose at times sensitive information. As shareholders, investors usually have right to some treatment. CFS essentially removes all the rights from investors except measures to prevent fraud and untrue statements. Any company is limited in resources and fragile in early days. This is a measure to protect them. Another reason is that companies seeking cheap funding from the crowd usually have limited value assets. Taking in addition failure statistic of technology startups into count, chances to exercise ownership right is fairly low. The idea of selling companies assets in case of bankruptcy and compensate for losses will in most cases not work. Instead the ownerships option is postponed to the day the company will have real accountable assets. Issuing company, when successful, will come to a point to have positive cash flow and is obliged to buy-back all issued and outstanding CFS. It is realized through buy back mechanism. CFS shall be seen only as lending amount to this company. This is similar to a bond as a debt instrument. As mentioned above a VC will be cautious to enter a company with many shareholders. CFS does not give ownership

and therefore their owners are not shareholders but rather lenders. A major investor can buy and sell shares of the company expressed in stocks and this will not be affected by CFS. Germany has a term called civil law partnerships or silent partnerships (stille Beteiligungen). (Aschenbeck-Florange et al., 2013). Investopedia explains silent partner as “An individual whose involvement in a partnership is limited to providing capital to the business. A silent partner is seldom involved in the partnership's daily operations and does not generally participate in management meetings. A silent partner is also known as a “limited partner", since his or her liability is typically limited to the amount invested in the partnership. Apart from providing capital, an effective silent partner can benefit the enterprise by giving guidance when solicited, providing business contacts to develop the business, and stepping in for mediation when a dispute arises between the other partners”. (Silent partner, Investopedia) Another similar instrument is participating, non-voting or investment shares of a hedge fund also called Class B shares. This type of securities allow shareholders to share in gains but give them no vote. (Brantley, 2014)

4. ***CFS has time-limited validity.*** Expiration date will be a very strong incentive to both parties to come to an agreement about CFS conversion or erase after buy out. At the purchase moment it shall be agreed that CFS will be bought out no later than a certain date. A technology company shall be able to get venture or another type capital onboard after say 3-4 years. These money shall be used to buy out small investors. Alternatively similar securities can be issued with later expiration date for those investors who decide to stay in the business. The expiration date will give confidence of exit to retail investors.

5. ***CFS has price ceiling.*** At the purchase moment there shall be set price ceiling on purchased security. For example is can be set that security price shall be bought out no more than X times of original price. The venture can pre-set ceiling itself and play with the value to attract investors. For retail investor this will become very predictive and encouraging at the same time put restriction on negotiating power.

6. **C*FS pricing*** is not fixed but is a subject for ***variation***. CFS cannot be traded openly like stock on the marked because there is neither marked nor trading platform to trade it. After the FS is sold to private investor and holding period is over price of it can vary and it can be sold to other private or institutional investors. Price variation mechanism will make investment attractive and serve as extra encouragement to enter venture financing early.

7. ***Buy back or conversion obligation***. CFs is temporary instrument and intended only for startup early days financing. Venture has to buy back outstanding CFS before expiration date and shall continuously make offers to retail investors but not beyond price ceiling. This can be illustrated by an example. Assume NewCo is selling CFS with price tag $250, price ceiling 5X and expiration date 5 years from now. NewCo have very promising technology and able to sell 4000 CFS and raises $1 Million. After 2 years of development a major investor wants to enter the company and is offered 10% of the company for $5 M. Pre money valuation is $45 M. and post money valuation is $50M.The company can now choose to spend funding to buy out some outstanding CFS. This can be done by open offer to public to buy out their CFS at higher price since company valuation is 50 times higher that initial capital. VC

entering the company will not be affected by CFS because he will get company shares or stocks. The idea is to reserve CFS to the public only and allow stocks when institutional investor enters the company. “If a startup comes back to a crowdfunding site for a later round, it most likely means that they can’t find anyone to write a really big individual check – and probably for good reason”. (Breilinger, 2014) To encourage issuing company to buy back or convert outstanding CFS’s it can be prohibited to file for IPO or sell the company unless crowd is bought out.

Summing up the CFS is a paper that gives the owner no rights of ownership or obligations to the issuer unless the project becomes a success. In this case CFS owner can demand the issuer to buy back the security at actual security price as it is at buy back date or to convert it to a common stock. The price of the security will be changed as function of company capitalization and project progress. In this matter, funding security is very similar to option contract that gives the owner to sell back initial investment to the issuer at higher price.

Today there is one security very close to CFS is ***convertible bond***. It is a bond with built in stock put option. This instrument is widely used by angel investors today and small financing rounds of the companies. It is essentially a bond with a fixed income and a conversion rate into stocks. When stock price of the company changes bondholder have an option to convert it into stock at any time. (Advani, 2006)
CFS is essentially simplified convertible bond, as it does not give any coupon or fixed income. The idea of skipping coupon payment is the same as for dividend payment. With large stakeholders number it will be costly process.
Adding zero coupon feature to convertible bond we will probably obtain the most optimal hybrid instrument acting as Crowdfunding security note.
This bond will have time to maturity date as time limit. Face value will act as price ceiling and the bond will then be sold with discount to public. The magnitude of discount will give price variation with biggest discount at funding start. To distinguish equity from lending model the bond issuer may be supplied with right to convert the bond into regular stock. This option will prevent the issuing company to be drained for capital.
It is also ***Zero coupon convertible bond*** that may act as Crowdfunding security note. Funding security being bond, rather than stock will be protected from shares “wash out”, (a situation when company share is diluted by new stocks issuance).

There is no standard security offering today and companies sell the most convenient security of their choice. A standardized crowdfunding security may help to make offerings more transparent and predictable for investors.

Table compares CFS to other financial instruments in a very general way.

Table 4 Comparison CFS to other instruments

Instrument	CFS	Convertible bond	Stock (all types in general)	Bond	Option
Voting right	No	No	Yes/No	No	No
Ownership	No	No, as bond; Yes. if converted	Yes	No	No
Debt instrument	Yes	Yes	Yes	Yes	No
Par value	No. initial sell price only	Face value	Par value/No	Face value	Strike value
Traded/Volatile	Yes, subject to discount.	No, as bond, Yes as stock	Yes. (No if off market and fixed)	Yes	Underlying instrument only
Special right	Buy back obligation. Convertible to stocks. Private investors only	Call stock option inside bond	Dividend claim	Fixed income	Right to exercise option
Income incentive	Price increase	Coupon, Fixed income as bond,	Dividends, Price increase	Coupon, Fixed income	Price difference
Relative risk level	High	Low	High	Low	Low

Investment factors

- Risk based evaluation.

An established company heading for an IPO (initial public offering) usually hires professional investment banks to run this whole process. Responsible banks will run a roadshow to attract investors and evaluate company's assets, potential and all other factors that may influence the stock price.

A price range is then set so when trading begins they usually start from lower limit of this price range. After that stock market decides the stock price for this particular company.

For private crowd placement, usage of external professionals to evaluate company will be too costly so investment limits shall be set based on risk factors.

Authorities in different countries enforces various limitations to amount of money that can be invested. To facilitate this further I would propose to introduce a rating score system for technology startups. The rating system scale and setting rules shall be unified for all platform and shall include 5-10 different risks steps.
The risk steps shall set limit the amount of money a single private investor can put into company.
In the beginning of funding campaign the risk is usually highest as the outcome of the project is most uncertain. Very few things are clear and failure risk is highest. Investment into such company shall be limited most.

1-2	\$25-\$75
3-4	\$100-\$300
5-6	\$500-\$1500
7-8	\$5000-\$15000
9-10	personal, up to gross 10% income last year or 30% of paid taxes

These money ranges can be adapted to project size as well. As mentioned before a private investor can invest as much money as they want to but only allowed amount of money they will be able to claim in the future.
Rating shall be set 1-2 times a year based on project duration 7-10 years but other intervals can be adopted.
The idea is to have similar system developed for established public companies, governmental and municipal debt issues and so on. Credit rating bureau (agency) evaluates and gives credit rating score as an aid to investors' decision-making process. Platforms or third party can act in similar way providing a rating for large scale funding campaigns.

- External venture evaluation

Retail investors need to have an independent and professional opinion about the venture from at least two perspectives. One shall be about the venture itself and its economic situation and second about viability of technical solution. Funding platforms can facilitate that
This can be done in a way that funding platform have experts to do the evaluation. One expert shall provide an independent evaluation on technical solution that company is pursuing to develop. The other expert shall evaluate business, marked and financing side of the project. These 2 experts shall extract the business plan of the company into a written resume that shall be limited to one page and a table of unified format.
The language these experts shall use have to be accessible to people of common knowledge level about the subject.

- Volatility

Private investors who are seeking high return with short investment horizon will look for. speculative and volatility factors. Volatility is defined as price dispersion or statistical deviation between returns on the same instrument. The higher is the volatility the higher its indicator called beta and same for price variation.
Another important role of price changing ability is to allow private investors to exit the funding and cash the profit. Without it the exit strategy will remain wage and unsolved and this will stop many.

On average it takes around 6 years or more to get to an exit. Scottish Enterprise Risk Capital Market Report, 2009-2011, shows that the average age of an investment reaching an exit in 2010 was nine years, extending to ten years in 2011 (Gray, 2012) That long period may cool off crowdfunding interest completely.
In UK crowd investment securities called “unlisted debt securities” are actually tradable on secondary market today. (Kiernan, 2013)
To ensure investor interest the price of crowdfunding security shall be variable at least after some holding period.

- Holding period

This is the period investor obliged to hold securities before they can be sold on secondary marked. For technology venture holding period can be extended to 2-5 years. Technologically and disruptive innovation aims to create new markets and are potentially game changers. Reason for extension is that during this period most of the ventures will clarify the viability of the project. The holding period can be announced prior to each funding campaign
Rules shall state only minimum and maximum holding period. Each company making offering shall decide and announce stocks holding period not later than the date of initial offering.

Registration within intermediary.

Intermediaries holding a long array list of personal information of private investors to different project will have to deal with a lot of sensitive information. This task can be very demanding. Institutions like banks and governmental offices devotes extensive efforts to keep this information for themselves only. Still hackers manage to steal personal information despite strict security routines and many information security officers. To take an example in 2011 Citigroup reveals that hackers stole personal information from more than 200,000 credit card holders. Accident made it one of the largest direct attacks on a major bank. (Wong, 2011)
Best way to prevent stealing is to keep things open or decentralized. Solutions can be many.
The funding platform shall keep only a simple list of names that is useless when stolen. Contrary to restriction on how much one single investor can spend on project it is proposed to restrict on how much one can claim to have invested. The investor himself register the securities owner name, date of birth, and an e-mail address on the web site and pays with preferred online payment system. After purchase a 25-30 symbols alpha numeric code is send to the email he has given. The same way license for software is sold online. The software can be downloaded freely but registered only after payment. This code is the proof that purchase has been made. This is also the Funding security itself.
The funding security is also just ***a code or set of symbols*** registered at platform for some name.
The funding platform has to provide a code verification application on their web page. Later on shares owner can type this code on the web page and he will see system confirmation that shares are registered to a certain person. This is similar to how airplane tickets are sold over the internet. After purchase one can get to a certain web page and after typing the code and last name ticket is displayed. The ticket does not hold any sensitive information but the name will be controlled at security desk against document. The same way security purchaser will be controlled only when he will try to sell or convert purchased securities. At this time, it will also will be visible if investment limit is actually held by investor.

Continuous funding campaign

Today funding campaigns are arranged as projects. This means that it has a beginning and end and limited in time. Technology venture is most likely a project as well but time span can be several years. It is anyway not a project like the one we can see in many reward based campaigns run today. The Micro 3D printer discussed above actually have working prototype and seeking money to start mass production. This is relatively small project that is quite late in the development phase.

When it comes to a larger multimillion-technology development, it will be more difficult to predict the overall spending scheme. Therefor several funding rounds will be required. As there are usually distinguished 5 different technology venture stages as well as at least 5 financial venture capital rounds.

Another solution is to start a ***continuous equity funding campaign*** instead of going in rounds.

Today campaigns are limited in time to check the public interest to it. Time is also limited due to "limited time offers" that reward based campaigns announces to warm up interest. As mentioned before time limitation is also excellent marketing measure. If project supporters are willing to receive the product as reward, they will try to fund as quickly as possible. Platforms use time limit to have constant change of the projects available for funding so that there is always fresh candidates. (Qiu, 2013)

There is already a "subscription crowdfunding" realized by platform "Pozible". This is reward based funding by backers can give one single pledge say $25 and then subscribe for monthly donations of $5 that will be automatically charged. (Bartled, 2014)

The benefits of continuous campaign are:

- A cash stream necessary to run the venture will depend on announcements and actual progress made by the company. This means that if company goes well and approaching results investors can put more and more money continuously.
- The venture will be saved for time and effort to organize funding rounds but instead will maintain a project web site that will be communication link with investors. Company executives can maintain relationship by answering questions, publishing reports the same way as public corporation have a section devoted to investor relations. This will also increase investors confidence in that their money are working and not stuck at some dead end.
- The project advertising problem is indicated above and venture will have better chances to attract investors by having lifetime money supply market exposure.
- The dilemma of choosing right platform on highly segmented market will also be diminished as one is less dependent on the traffic during specific time period. Moreover, one can put banners or cross-links on different crowdfunding platforms. The money will still collect only one at much greater exposure.

The disadvantages of such campaign might be:

- Unequal money arrival rate.

In the beginning of the funding process, the money arrival rate will be high due to interest to the company and as a consequence of advertising campaign. Then the money will most likely arrive at lower rate while expenses rate increasing. Company owner can choose to run several advertising campaigns or turn to major investors. Reason for that is in case company needs a large sum to fund a prototype or a trial it has to have a way to raise large amount in short period of time, have other money sources or do well financial planning.

Fraud prevention

Fraud along with unwise crowd money spending concern can be relieved by introduction of some restrictions specifically valid for smaller projects.

1. Limit the number of spending posts money can be used to.

This rule shall limit what money raised from project investors can be spent on. Ideally only CAPEX shall be allowed. This is expenditures to purchase fixed assets or create future benefits. It is usually something tangible that can be sold in case of bankruptcy. These expenses can be called project critical costs and can be identified on project web site. These are the costs directly associated with project development and can include purchase of laboratory and test equipment, purchase prototypes and trials and external tests. It can be difficult to identify critical costs as projects are very different but it can be for example everything that it can be taken picture of.

Donorschoose.org is a crowdfunding platform that is based on charity. It is intended to provide help to schoolteachers to fund hardware for a classroom.

The platform itself confirms the need for equipment by calling school principal where the project was created. Then the equipment like books, supplies are purchased and forwarded to directly to the school.

This is an example of spending of raised money directly to purchase of tangible assets only.

A technology venture usually have an office that needs to be equipped and paid rent for. Fracture spending of say 10-40% on equipment or office lease shall be allowed.

In case of developing a hardware or a product, a startup company will spend much money on prototypes and field trials, experiments, laboratory or test bench equipment. Setting limitation, that majority of money raised through crowdfunding campaign can be spent only on tangible assets will

- Limit the fraud attempts and will increase company balance and capitalization.
- Provide track able information about spending where both price, quantity and actual delivery can be verified by investors.

It can be allowed to spent some money on use of consultants, external experts, documentation to authorities, certification and remunerations expenses but in very limited amount.

This will encourage project creators to search for additional funding while the project critical costs will be covered.

Ciaran Murphy-Royal a research scientist illustrates that saying: "a simple epifluorescence microscope with a high sensitivity camera, which I use in the lab costs close to €100,000 and we have several of them." (Murphy-Royal, 2014)

2. Limiting the number of stocks one private investor can purchase, proposed by some regulators, requires provision of income documents that have to be checked or verified by tax authorities. This opens up the number of participants in the process of funding. To keep it simple there should be instead limited the number or amount of shares that can be claimed.

This way a person can buy as many stocks for any amount of money this is not something the platform shall control. Instead, intermediary shall control how many stocks a person can sell or how many he can get reward or dividends for. Limitations shall of course be clearly stated on project web site.

3. Selling small portions of project funding to large number of people means that platform or shares issuer have to keep long track record list. Regulators put limitations on how long an investment shall last. To prevent speculations SEC proposes to have a minimum holding period of 1 year. This period shall be extendable.

External Technical and innovation audit.

A company aiming to develop a technology usually have a devoted staff, full of brilliant ideas about what and how they are going to proceed. They have done a patent search and filed their own one for idea protection.
All this does not prove the viability of the concept. Regardless of what technology start up is going to develop a new disruptive and game changing or just a small improvement they are still stepping on unknown ground. There is a substantial chance that somebody else already have tried this idea and for some reason failed. A lot of products have been developed within closed and classified research centers. Just to mention few: Microwave oven is initially discovered as military radar emission, Epipen, an auto inject syringe was invented to protect soldiers against nerve agents; duct tape was initially used as ammunition weather protection.
There are many perpetual motion machine patents registered today and new are coming. Apparently no such machine is in service today. A web site kickfailure.com monitors open projects and publish the most doubtful in terms of feasibility.
The question is how an investor will be able to evaluate an idea from technical point of view without competency to do so.
Company's idea have to be audited in order to clarify following

- Competitors and marked change.

At the time crowdfunding campaign starts ventures market position has to be analyzed. What position its product has against rivals, substitutes and competitors.
As example a tech company ZionEyez raised $340,000 in 2011 on Kickstarter. They were heading to produce HD-video-recording glasses, but have so far shipped nothing. In the meantime market has changed and other similar products are commercialized. (Davis, 2014)

- Strategic vision

Audit shall discover strategic goal setting and eventually strategy gaps including project implementation plan.
Some misconception can be illustrated in example of Opus Fresh closing company. Their sourcing, production and material delivery strategy had to be completely revised after they have pre sold on Kickstarter Merino clothing line. The target was $16 K , while actual sale was $165 K (Davis, 2014)
There have to be established *a third party technical auditor* that can look into ideas and come up with recommendations to investors.
As it is discussed above companies will be reluctant or waiving to disclose technical details. They will fear competition and technology copy or stealing.
For this reason it would be reasonable to establish a technical auditor department under government department of commerce and trade.
Like any other governmental official it will be either professionals employed by state or a private person holding a license to perform technical audit services.
As an example, CPA (Certified Public Accountant) model can be taken to educate and certify such professionals. One of the requirement shall be competency and diversity.

In Norway there are different government sponsored business and innovations development bodies that provides project support at very early stage even for private venture capitalists.

Innovasjon Norge (Innovation Norway) is one of them. They use taxpayers money to support start ups in different industry but doing own project evaluation. Before funding is released, they investigate whether there is demand for the product on the marked. They do professional evaluation of business plans, key figures, growth potential, tangible and intangible assets, competitors on the marked and so on.

Organization like this can become a third party technology validator. Based on professional evaluation they can write a 1-2 pages document where they will evaluate the outcome of the project and release to public on the project funding page with disclaimer that this document represents only guideline and do not encourage to any decisions.

Auditor can personally meet with project team and if necessary, on behalf of public, verify their competency documents like diplomas, past experience, organizational structure, project progression, drawings and all other documents that project developers will refuse to publish online.

One of the most important role for the innovation auditor is very that money are collected to a real and not imaginary project, that some work is actually performed and the team exists.
A project that exists only online is difficult to verify that it is not virtual without checking presence of offline structure like office.
An auditor like this cannot be used for any size project. A limit should be set of say $1 Million to use innovation auditor.
Companies performing such audit exist today. Christopher Mobbs, consultant at Innovation for Growth consulting company gives definition: “Innovation audit is in-depth analysis of different aspects of an organization’s current innovation capabilities, procedures and processes, examining key indicators, determining strengths and weaknesses.” (Ch. Mobbs, 2011)

A quick search through reward crowdfunding projects available today shows that technology they are trying to develop in some case is either very similar or potential rivalry. Using as example 3D printers that are so popular nowadays and attracts many. In 2006 FORM1, an affordable professional 3D printer project was funded on Kickstarter with about $3 million while project creators were looking for $100 K. it is in addition to “The Micro” mentioned above. It is known of at least 8 successfully funded 3D printer development projects on different crowdfunding platforms (McAndrew, 2013). All of them are different and potential investor will probably be confused which one will hit the marked. Maybe none of them.

Internal audit by investors.

In addition to professional audit performed by independent third party the venture can use own resources to attract new investors.
People crowd investing into private companies are professionals on their daily job. Some of them will qualify to perform either technical or financial audit. The company shall encourage own investors to write a review or professional opinion about the company.

A person can reference to his own social network profile like LinkedIn or own CV published on the internet. Public will then ensure that person have relevant working experience and or education to make judgments. This person will then become project advisor or internal auditor.

He can sign non-disclosure agreement with the company and get more of insight information about the company’s technology.

Today people participating in reward based campaign do also spread the word about the device they have pre purchased but they do not have ability to understand project progress and what difficulties company is running in to. They can just ventilate frustration about project delay on its web site.
Internal auditor is investor's representative inside the company and can evaluate venture success and development progress. He can actually be paid to write an annual review or verify that company disclosed information is actually true.
For example if the company reports that they have built and tested a prototype this person can actually witness the tests with own eyes and see the prototype himself.
This is to prevent fraud and false reporting from the company side. Especially during continuous funding campaign for large multimillion project lasting for several years. New investors need to verify that company is actually making progress. Rules making provision for audit prior to campaign starts but in case of continuous funding campaign audit have to be continuous as well.

Investment limit

Regulators in many countries are trying like US to mitigate the consequence of partial or total investment loss by introducing investment cap. As it is discussed above a limit set as a function of income or net worth poses control difficulties. It is unclear how to calculate the net worth and how to ensure the cap limits are not overrun. Moreover it is not clear what sanction investor will face in case of overinvestment and who will enforce the sanctions.
In my opinion enforcing the limits will be meticulous task. One of the proposed above solutions is to set limits on how much investor would be allowed to claim to have invested in all instruments combined.
Allowed to claim limit shall be set as a function of amount of paid taxes during last year or last 3 to 5 years in average. The reasons why this value shall be used as a base are several.
First the amount paid taxes number is very easy to check by request to tax authorities and this is a fixed value that does not change over time contrary to "wealth" state. In most countries the income level is considered as private information that should not be disclosed to public. The same is valid for amount of tax paid but this information can be less sensitive. One can argue that tax optimization schemes used by private people will exclude or impair someone's ability to participate in crowdfunding.
General experience shows that legal tax optimization abilities are increasing with wealth. People with average income have lower abilities to substantially lower the taxes at least not every year. This limitation will them not exclude the middle class households who crowdfunding is primarily designed for.
Therefore it is reasonable to set limit to be 30% of the least value between last year paid taxes or average of 5 years paid taxes. This is the number that is easy to verify by investor himself by showing the tax report and claiming certain amount of money invested into Funding securities. If ti can be shown that person have over invested redundant papers can be disregarded.

In case authorities will persist in usage investment limits another solution can be used. An investor could registered with a pre set spending limit. Limit will be established on the base of the person's wealth or income. Then the person can spend money up to this limit using this account at central register but making purchases at different equity crowdfunding platforms. This means that one single registrar will hold all the information about the person and his purchases. This is the same way as stock market operates.

Private person file purchase or sell order to his broker dealer but it is stock marked who is actually conducting operation and holding control of stocks ownership. In case crowdfunding will become a truly mass affair it will be difficult to hold control of all operations. Stock market operates with hundreds to thousands of companies. the number of startups is expected to be ten thousands to million companies on the globe scale.

Equity crowdfunding through fund

Neil Singh a lawyer and investor in Hanfree Ipad accessory case described his behavior like this: "I didn't know anything about Kickstarter. I was a typical backer like anyone else." …" I didn't do any due diligence. I didn't think I had to. I am not investing. I'm not doing the same sort of things a potential shareholder would do." (Markowitz, 2013)
This is probably the most typical behavior of an investor in all types of small investments. People who cannot or would not understand what prospectus says or care to read business plan just chasing easy money will close their eyes and push buy button hoping they did the right thing. This may lead to frustration as this type of investment behavior will give negative return and people will just quit investing into small and medium startups. The size of investment is small, failure rate of businesses is high and the gain may be either zero or much.

Angel investors known for the fact of conscious investment have last year's begun to organize investment pools with investment crowdfunding. There are about 330 groups in US only. (Prive, 2013) Joining forces investors will have access to more capital demanding projects. The key success factor for an angel investor is diversification. The rule is that one should not put more than 10% capital in one project. The return rate is in best case making 2,5 times, while the risk is quite high. (Wiltbank, 2012) Joining forces of angel investors will probably require more time spent on personal meetings of the group and more project documentations to go through. In return, with high level of diversification mitigates the risk.

This can be compared with the stock market. It has been long discussed whether an active portfolio management company can beat the overall market index that includes all traded public companies in some proportions. According to research done on Large Cap Blend Morningstar category stocks funds that do not hold more than 10% in bonds only 22% outperform Vanguard Total Stock Market Admiral Shares (VTSAX) index. This is very broad artificial index that includes the most of the stocks traded on US market. (Ferri, 2012) This brings the idea that one should not actively pick stocks to invest in to but rather buy a stake in all companies combined or an index fund. This type of investment will statistically be more profitable.
The same idea shall be valid for the crowd. Diversification is the key word to minimize the risk. The question remains how to buy stakes in many companies maintaining investment limit imposed by regulators onto unprofessional investors.

It is expected that eventually all small investors will turn into pools that will do investment for them. This may be a private investment fund (hedge fund), a mutual fund or an ETF (exchange-traded fund).
Most appropriate is a fund similar to mutual investment fund that will collect all the small chunks of capital that private persons will be allowed to invest. This resolves multiple problems. First the managers of such fund will be professional who are able to perform due diligence. The fund will be able to diversify the investments and have risk management system. It will be auditable. Moreover, funds can have different risk level

by having the policy to invest at earlier or later stage of a technological startup. Risk level can be adjustable.
This way private person can register within the private equity mutual fund that can take money to invest and at the same time keep track on investment limits. Such fund seems to fulfil the majority of requirements from the regulators.
A fund managing small equities like stocks will be easier to deal with for later stage investors. If a VC or large investment fund will want to enter ownership of a technology startup at later funding stage it will be much easier to buy out a fund

Equity crowdfunding platform evolution.

There is a myriad of different funding platforms in existence today. To survive many of them will have to **merge** or disappear. The process is natural. As it will be allowed to collect money on a single platform only venture creators will look for the ones that can attract most investors.
Fees imposed will be another criteria to look for. Fees are usually taken as percentage of money collected. For million-class funding process difference in 1-2% can be substantial.
Rules imposed by platform will influence greatly. Strict and demanding rules will scare away people looking for easy money. Serious actors will be attracted by the fact that rules are imposed to ensure investors security.
An equity-funding platform shall in addition to Regulators rules compliance be able to check the venture creator background, ability to deliver the product. Platform shall deliver **curation** and follow up for ventures giving them advice how to present the venture for successful campaign. Platform have to facilitate technology and financial audit of the venture and raise the red flag if nothing of these is done.
Platform have to give multiple investing opportunities not only to private persons by venture capital and angels investors as well. As mentioned above the safety of investment shall be the same for everyone regardless of investment size. There are already 50 000 angel investors registered on equity crowdfunding platforms but actually invested only 5000 of them. Total population is estimated to 500 000 so only 1 % have participated so far but many more can follow. (Medved, 2014)
Platform is a marked place and diversity keeps high interest of different customers. Someone is looking to invest into high tech interactive internet technology but some will stay more traditional and invest into tangible hardware development both categories shall be available to pick.
The author believes that actually internet crowdfunding platforms will eventually evolve into investment funds. Platforms are obliged to check viability of the project by regulators and at the same time they are handling money coming from private investors. It is natural evolution that platform will actually select startup companies, follow them up and provide funding on behalf of crowd investors.
This may be symbiosis of common crowdfunding investment funds acting in UK going further and becoming the funding platform themselves. German Mashup Finance already offer project funding via their platform but also invests in the startups. Platform do not demand any returns from the funding in the first three years, aside from taxes and wins the startups may gain. It is mostly acting on local marked for now. (Grummer, Brorhilker, 2012)

Statistic shows constant influx of private investors into public mutual funds. A total of about $15, 23 trillion is kept there as of February 2014. This number is constantly increasing. (ICI, 2014) This is clear indication of private people investment preference.

Instead of going solo to stock market via a broker majority chooses collective investment done by professionals. Crowdfunding will most likely follow the same analogy.
SEC rules today prohibits investment companies like mutual funds to participate in crowdfunding directly. (Corn, Jacobs, 2013) With time it shall be opened up for investors to organize into investment pools when authorities will realize that they have to exercise some influence onto venture creator other than just simple invest or not invest solution. Investors might find the venture idea worth trying out but disagreement with company executives have to be supported by some power. This power is investment pool consisting of crowd members that can buy or sell a substantial share of the company.

Discussion

On spot discussion is taken in respective chapters. Here are some points not treated before

The big discussion is whether rules and regulations introduction will actually speed up the equity crowdfunding process as many hope for it. There are some intrinsic problems not visible at the first look but broadly discussed among experienced VC's and angel investors.

The remarkable part is that authorities in many countries are so willing to relax the existing rules, with exemptions instruments, that it is becoming easier to fund unlisted venture with poor rating than well-established company. Some rules creates ambiguous situations like in UK where a company can issue an unlisted debt security (corporate debentures, treated by crowd investment section of the law), and a loan(treated by lending section). Both are tradable on secondary market and unclear how to be distinguished. (Kiernan, 2013)

Investment diversification is pointed out as one of the key factors to prevent overall negative return on investment. On the same time authorities put on investment amount restriction. This means that small amount is allowed to invest and if it spread up into several companies. To illustrate that we can take a UK model where it is allowed to invest "not more than 10% of their net investable assets" (FCA, Crowdfunding, 2014) At the same time statistic shows that the average salary in the country is £26,500 ($44,360) (Maguire, 2014). Average savings is reported for 2013 to be close to £ 1,700 ($2,850) (Murray-West, 2013)
Even if we take savings level as an investable asset then only $285 is allowed to invest. True diversification will require at least 10 ventures to invest in, assuming equal distribution, then each will receive $28,5. Let's assume that out of 10 companies 60% will fail and 40% will give 500% return. Then our investment payout is -285+4*5*28, 5=$285. This means that within some unknown amount of time we get 100% return, which shall be considered very good investment. But looking at the money amounts one can question the worth of endeavor. Investment takes a lot of time and effort. One will have to spend many hours browsing through different companies presentations, looking at hundreds of companies to pick 10 to invest. Looking at 6 of them defaulting may not be easy either. Because of adverse selection, inexperienced management, and all the other negative effects described above one can actually expect even higher default rate for crowd-funded companies.

I has been showed above that, failure rate for a technology venture is fairly high. One can argue if potential investors are ready to ***take losses*** for a long period. It is most likely that the first 6 years of their investment activity they are likely to see only failed companies. The question is whether they will be able to keep investing, taking losses and continue to follow up investments that still pay off.
On the other hand, it is questionable whether venture executives will be able to withstand the flood of questions and enquiries from the stakeholders. They will probably have high time managing their expectations and disappointments. Will they eventually go for this type of funding at all?

Here the key question arises with equity crowdfunding is What is its purpose? and What is the motive? The strong encouragement to support technology companies on Kickstarter is the fact that you actually will get the product as the reward so you just pre-paying for it. Return on investment shall be the key driver for equity funding but then in money amount it can be very insignificant or negative and only in some cases very profitable.

Of course, smaller projects funded today gives early payoff and therefore gets funded. It is usually about some small and fancy widgets. The big question is whether a company developing a ***complex*** cross discipline ***hardware*** based on some unexplored principles will be able to get funding.

Another big question is whether a company, making a product, the ***broad public do not understand,*** will get some attention. It is easy to pre pay a cell phone with exceptional specification that no one around you will have. Especially when you know, that developer wants to produce only several thousands of them like in case with Ubuntu Edge phone. Another approach will be when investing into a company geographically far away, aiming to discover a new drug and the investor have no expertise to verify what project advertisement states.

Investor will either have to invest blindly or, if, an internal and external technology audit, will be used as proposed here, the decision base will be much more solid. Still there is a big chance that large and complicated projects will not get funded due to small interest auditory.

Social media providers like Facebook are already taking advantages of this global development. Recently they have announced to develop an electronic payment system. (Appleinsider, 2014). Social network are already playing a great role in projects advertising. With payment system in place, they can soon take over the business of crowdfunding platforms.

Multiple literature sources describes the crowd investment process in different countries. The description is very informative but profit taking procedure is absent if we exclude the lending model. Options that available are: dividends payments, trade sale during company buy out, stocks sale after company's IPO. (Syndicateroom, 2014) The funding has many places just started and there obviously are merely no success stories showing how crowd members have benefitted their decision.

Proposed continuous funding campaign probably would turn unsuccessful campaign by Canonical to deliver Ubuntu Edge phone into successful one. If they just had enough time to expose the project onto the crowd, they would collect the targeted amount of money. Therefor platforms attitude have to be changed. At least some of them have to move away from rolling different projects on the front page into a strategic financing portal for large, time and capital demanding projects. Alternatively, they can have a long-term projects section on their project categories and could link to projects corporation's web sites

Technical and financial audit by crowd members are proposed here based on assumption that consumers will most likely support only projects they have a feeling for. Projects like virtual reality products, cell phones and other gadgets directed to consumers will have the most massive support as they are directed and marketed towards masses.

Professionals within different technology and science fields will look for projects they can evaluate. A petroleum engineer will be interested in product and service developments looking towards exploration and production at oilfield. Microbiologist will look for biological and medical products. It is hardly anticipated that the first one will invest into the others projects unless provided a background information the person will be able to understand.

This is the purpose of the audit. Crowd Members will need a third party opinion to make a decision. A professional will be encouraged to write an opinion and enlist more people because he already have made an investment. This is network marketing principle and a win-win situation for all parties. Fear for fake or fixed audits can be minimized by allowing everyone who has the expertise and it is confirmed by person's full name and published bio. Auditor reputation will be the key player here. Effects like public good and social loafing may will on the other side make it difficult to get this audit undertaken.

Most countries crowdfunding legislations imposes ***investment limits*** onto investor, company or both. As this cap is difficult to impose the idea is either have to be abandoned also no investment limit. Otherwise, a flat annual limit say $5000 shall be set by authorities the first 2 years and then no limit will apply. This way UK authorities logic will be used that third time private investor goes into experienced or sophisticated class.

Some countries impose limitation on number of investors participating in project. This is against crowdfunding principles instead one can impose limits to how much a venture ca raise a year. A $2 Million a year will satisfy the most need for any venture. Again, the limitation shall be flat and easy to impose.

Introduction of ***"cooling off" period*** like it is used in UK will serve better investor protection. This gives the right to change the mind and withdraw the investment within no shorter than 14 days. This will give time for extra risk evaluation by investor and will not delay the venture much.

Private investors are also called retail. This means that regulators and prosecutors in many countries may start look at crowdfunding like a retail purchase with all consequences it applies. The example with Altius Management described above brings this concern. This way a retail ***investor can be turned into a consumer*** and will be protected by consumer laws. Regulations in this area are usually very strict and creates a large disproportion with favor toward consumer. In this case funding by the crowd will become much less attractive.

Tax policy applies charge in case of positive return on crowd investment. Same rule shall apply on losses giving tax deduction. A model from public stock market can be used here. Otherwise the tax policy will become one sided.

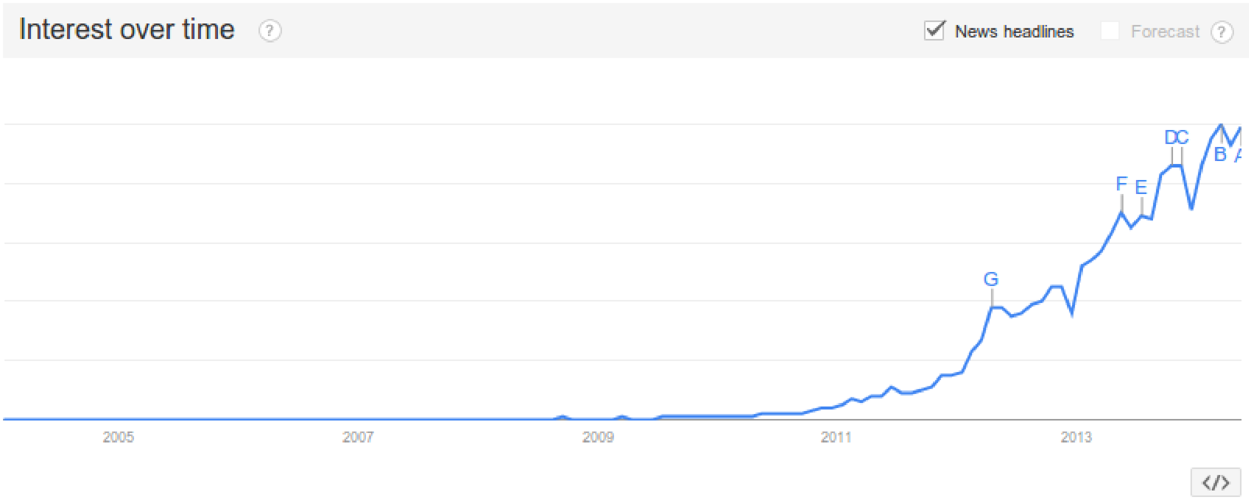


Figure 19 Relative search popularity for "crowdfunding". Source: Google trends

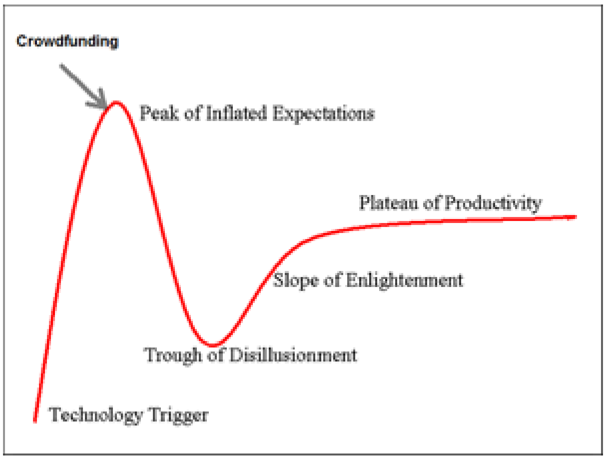


Figure 20 Peak expectation source: Breinlinger, 2013

In overall interest to equity crowdfunding has exploded recent years. Google trends graph shows interest to search word “crowdfunding” going exponential. At the same time “inflated expectation”, (Breinlinger, 2013) level does the same and is approaching to peak value. Now that this type of investment opens up for the public and lack of positive results may lead to disillusionment.

Conclusion.

Reward crowdfunding have existed for years and is based on charity, enthusiasm and altruism of the backers. Recent media, communication and payment systems development have enabled next step that is equity crowdfunding.

Regardless which way, described above or different, the equity crowdfunding revolution will break out there are certain areas that have to be addressed.

Equity crowdfunding will surely take off when the rules will be set and nonprofessional investors will enter the marked.

Disruptive technology development promises extremely high returns and recent revolutionary projects will be pulled high as flags for the public.

One of the positive factors about investing in startups is not only the potential of getting a return, but also being able to be a part of something great.
As opposed to investing in the public markets, investing in startup companies gives the investor the chance to be in communication with the team and opens the opportunity to be part of the growth. (Prive, 2013)
Impressive funding attempts like Canonical funding achievement reinforces the idea of crowdfunding as very powerful capital source.
The idea of allowing anyone to invest directly into a company of the choice seems to be tempting. Especially geeks looking for very special hardware will strongly support their development. The image can very quickly turn dark when some money intensive and long duration projects will fail with inevitable equity loss. General public investing into promising technology they understand little of, will be highly discouraged. This type of investing will then remain low liquid and unpopular. Allowing investors to bear all risk and setting investment limit as mitigation measure does not resolve it. The future is to allow unprofessional investors to turn into pools with hired risk management personnel. Crowd Investment platforms or social media can turn into such pools.

As any new happening - crowdfunding will have a lot of supporters. Some people promising it a bright future. On the other side there a lot of VS's who are skeptical to many issues that so far remain unresolved.
Recently we have witnessed exponential growth in number of funding platforms. Natural selection will bring their number down but it is most likely they all will either be replaced by platforms owned by multinational banks, platforms arranged by social networks or platforms will transform into conglomerates that will do everything: collect money, perform due diligence, risk management and profit distribution, also be acting something like a hedge or mutual fund.
Equity crowdfunding is surely exciting phenomena. It has the potential to be a disrupter for funding and innovations.
The author believes it will continue its growth but most likely will go through several rounds of transformation changes. When initial excitement will fall off it is crucial to remain flexible and fix the failing parts of the process keeping it most simple and available.
Equity crowdfunding can truly help to fund some projects that would never see the light otherwise. Many bright ideas are still remain unexplored due to heavy financing task burden. The crowd can become both a financial partner, customer and a supervisor of further technological development.

Future research.

Equity crowdfunding is yet to be explored topic and promises a lot of valuable research opportunities:

- Rules and regulations.

Further step in crowdfunding development is harmonization of the rules across borders. Development of single rules is the most beneficial.

- Payment, accounting and taxation

First step on the way to it is cross borders payment system that would be able to report to multiple tax authorities or find a way to make payments transparent to all parties.

- Inclusion of developing countries

Further evolution of the overall process shall move the way to include developing countries. Again, this is done by introducing regulations that would satisfy the most needs.

- Crowdfunding models symbiosis

It is interesting to see whether equity or lending model will overlap the pre-purchase and charity models. Further research shall focus on how these models can be brought together to embrace the largest number of potential investors. In UK there are more and more platforms offering participation at several models simultaneously.

- Publicity

Advertising for the projects available to broad public have to become more visible. Today if an internet user is not actively seeking for funding possibilities he may never come across any platform or project.

- Success story

The real need to boost the public funding in volumes comparable to public stock market participation, is several success stories. The donation model has recently received large media attention thanks to the projects described here and others with multi million class funding. Veronica Mars movies is one of them. Research have to show whether it is beneficial to make the whole process strictly controlled or allow it to self-regulate.

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Appendix

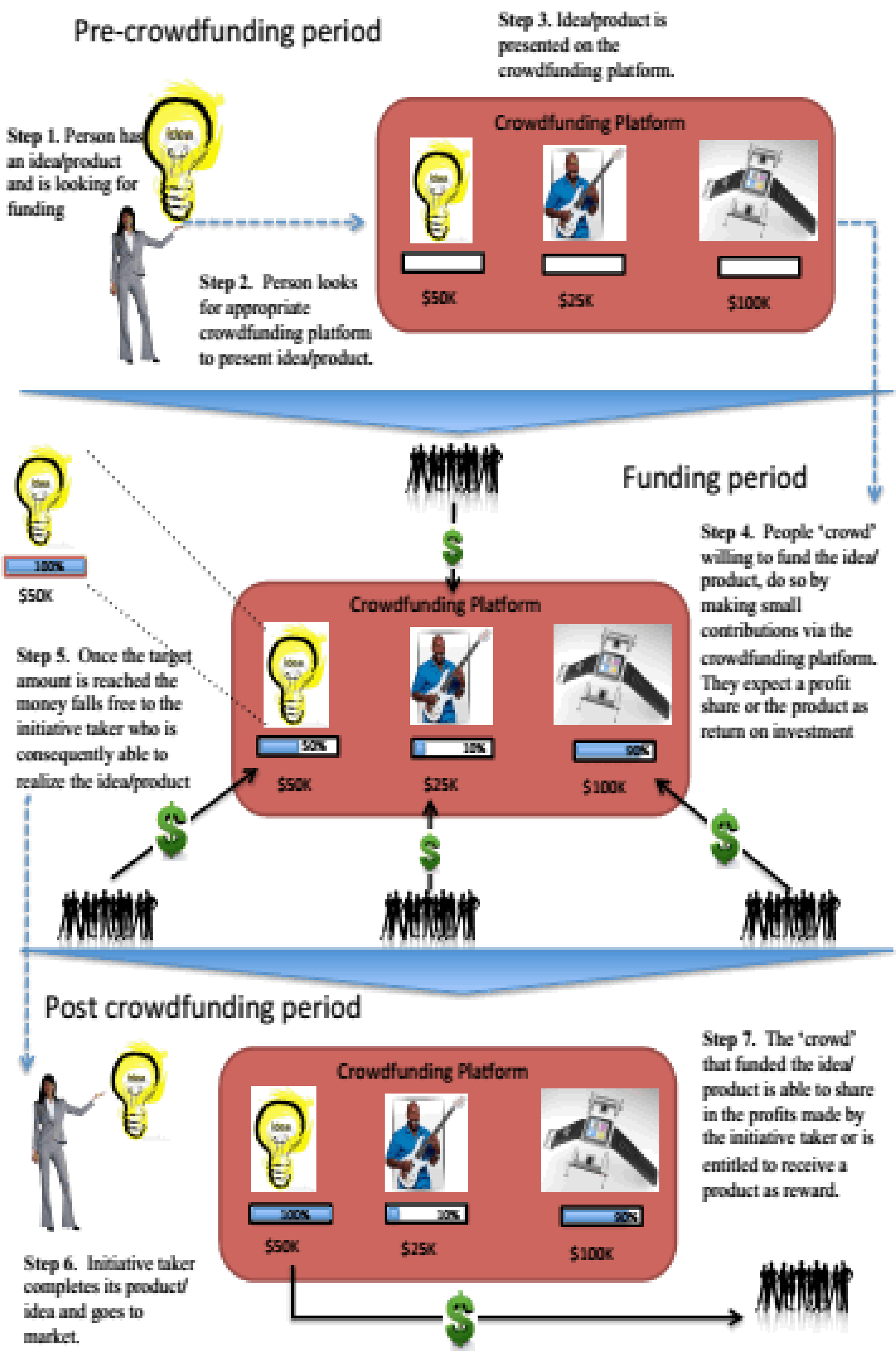

Figure 21 Figure 1 Crowdfunding flow. Source: Kuile, 2011

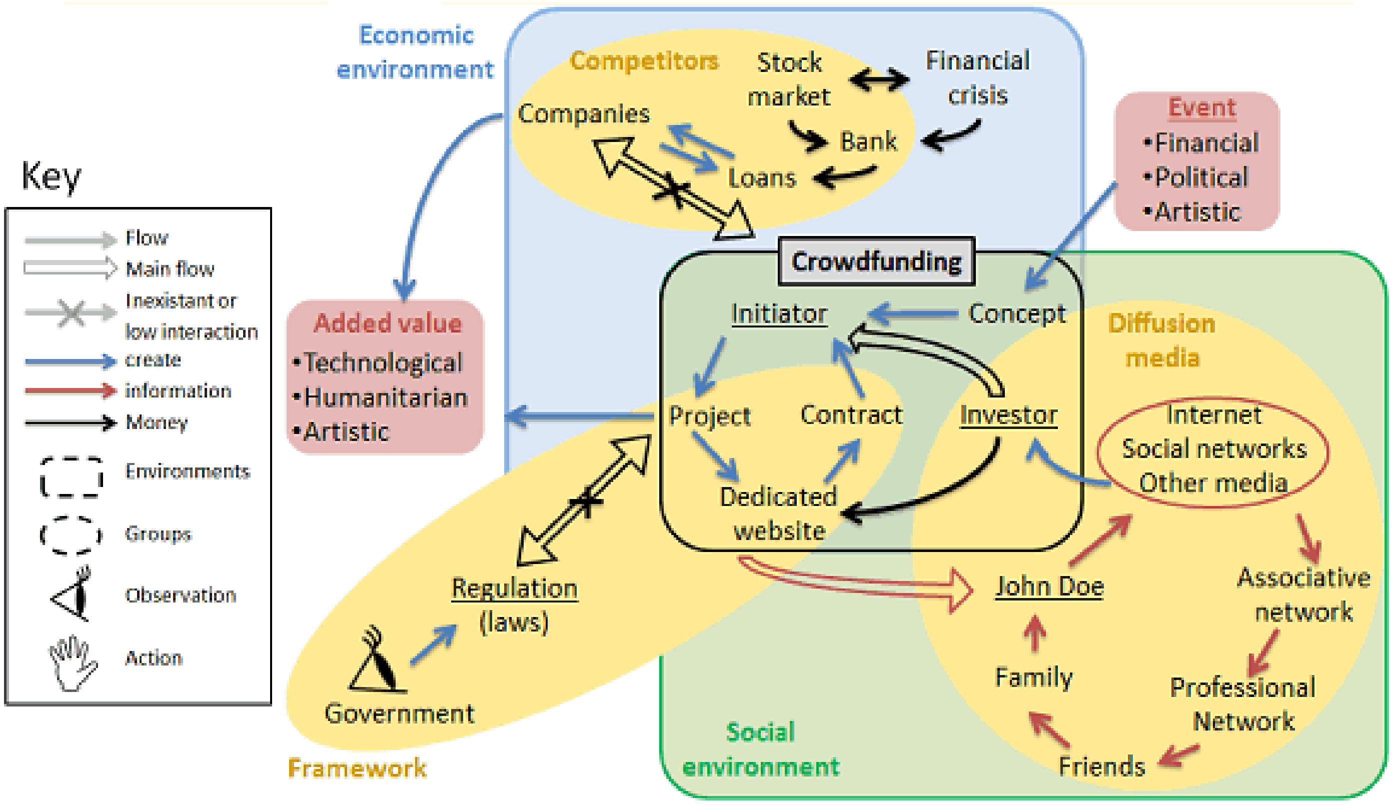

Figure 22 Crowdfunding components, Source: Cabon et al, 2014

Table 5 Crowdfunding Platform Web Traffic Rankings (as of August 28th, 2012 Alexa Data)

Kickstarter	695
IndieGoGo	1,959
GoFundMe	9,896
ChipIn	29,918
RocketHub	49,49
GiveForward	55,883
Fundable	96,83
Crowdtilt	166,285
Crowdfunder	188,628
AppBackr	148,297

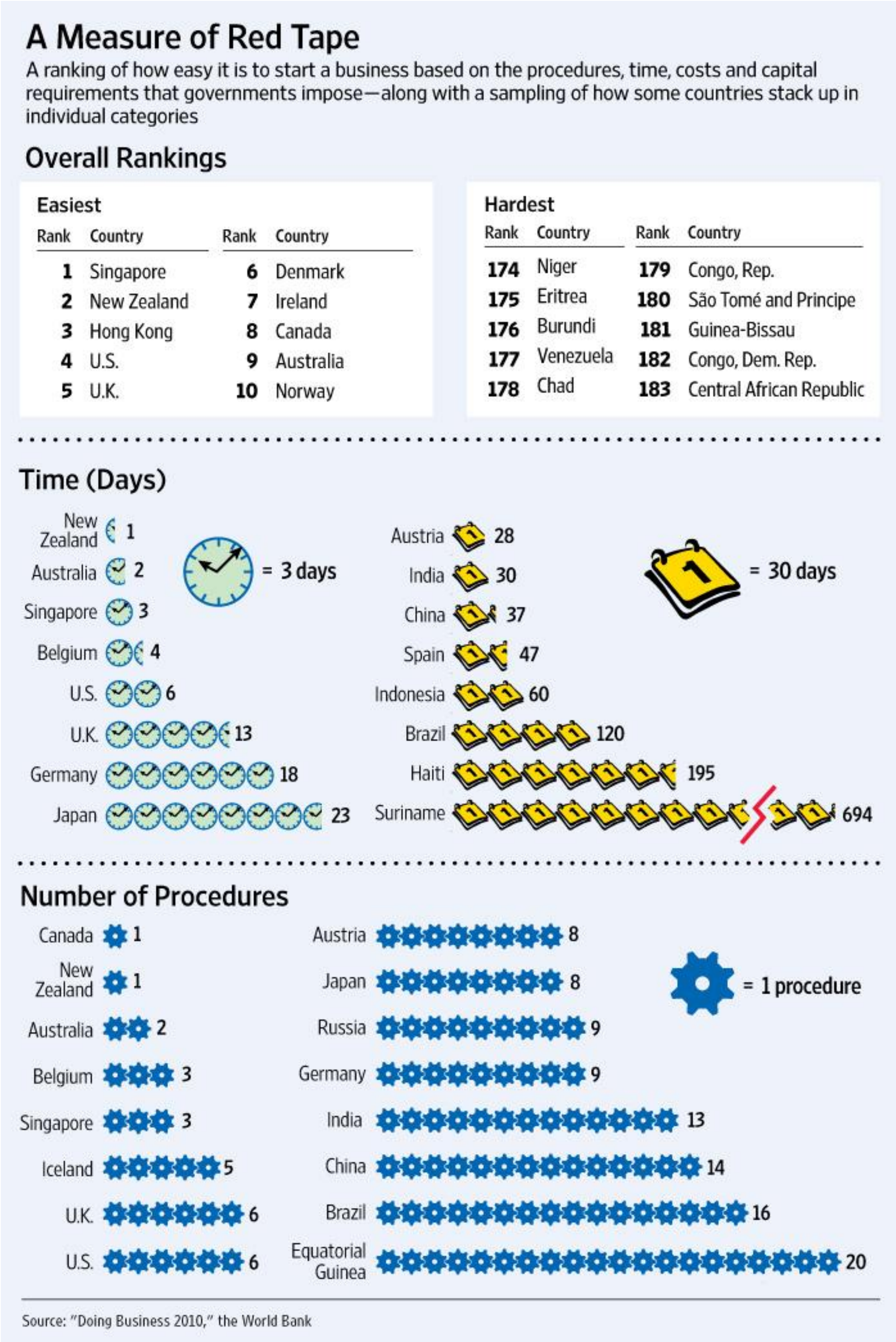

Figure 23 Measuring red tape Doing business survey. (source: http://si.wsj.net/)

Figure 24 Comparison Ubuntu Edge VS Iphone 5 Source:businessweek.com

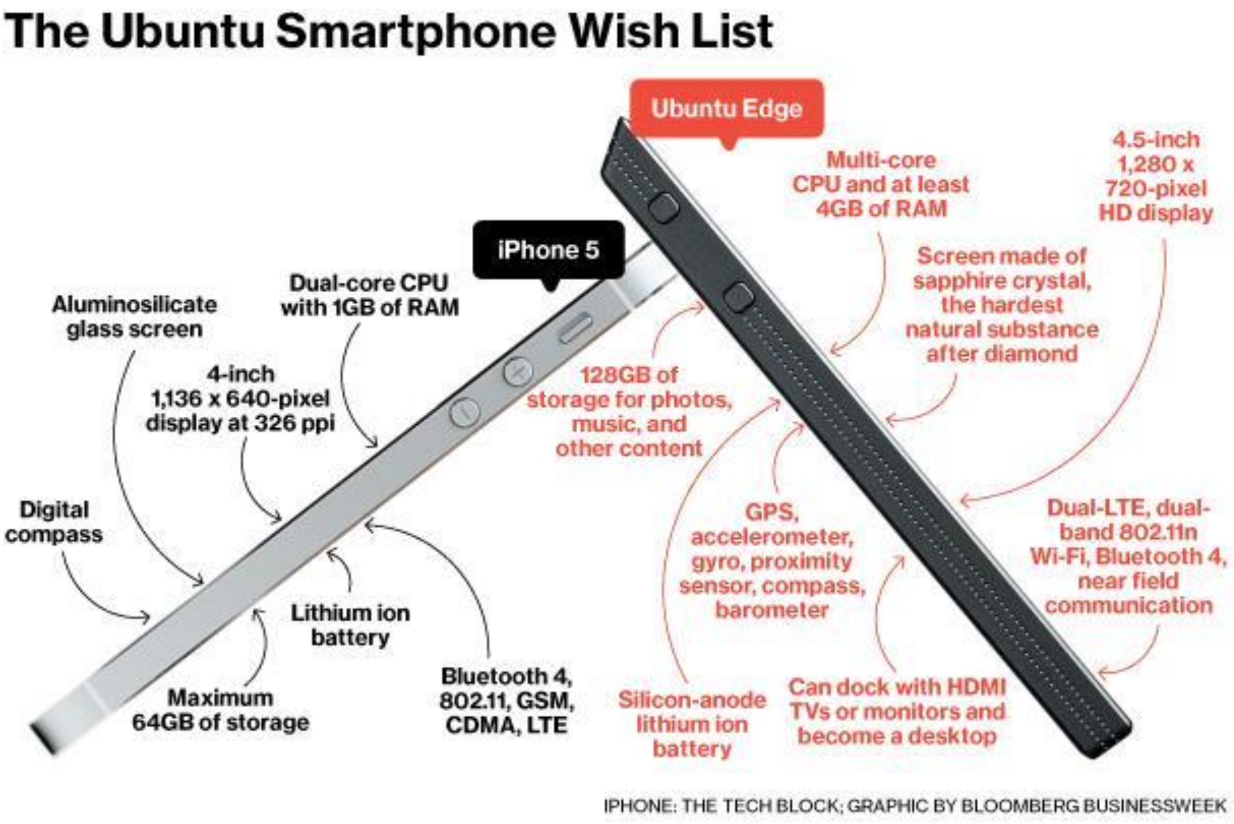

Table 6 Large cap companies ranking (source: http://www.theonlineinvestor.com/large_caps/)

Large Cap Company	Ticker	Market Cap ($in billions)
Apple Inc	AAPL	439.39
Exxon Mobil Corp	XOM	403.32
Google Inc	GOOG	257.40
Berkshire Hathaway Inc	BRK.A	243.60
Wal-Mart Stores, Inc.	WMT	238.85
General Electric Co	GE	236.78
Microsoft Corporation	MSFT	233.53
Chevron Corporation	CVX	228.01
International Business Machines Corp	IBM	226.03
Johnson & Johnson	JNJ	210.06
Procter & Gamble Co.	PG	207.55
AT&T Inc	T	202.21
Pfizer Inc	PFE	198.72
Wells Fargo & Co.	WFC	186.93
JPMorgan Chase & Co	JPM	186.80
Coca-Cola Co (The)	KO	168.46
Oracle Corp	ORCL	166.22
Philip Morris International Inc	PM	150.58
Bank of America Corp	BAC	131.98
Citigroup Inc	C	130.06

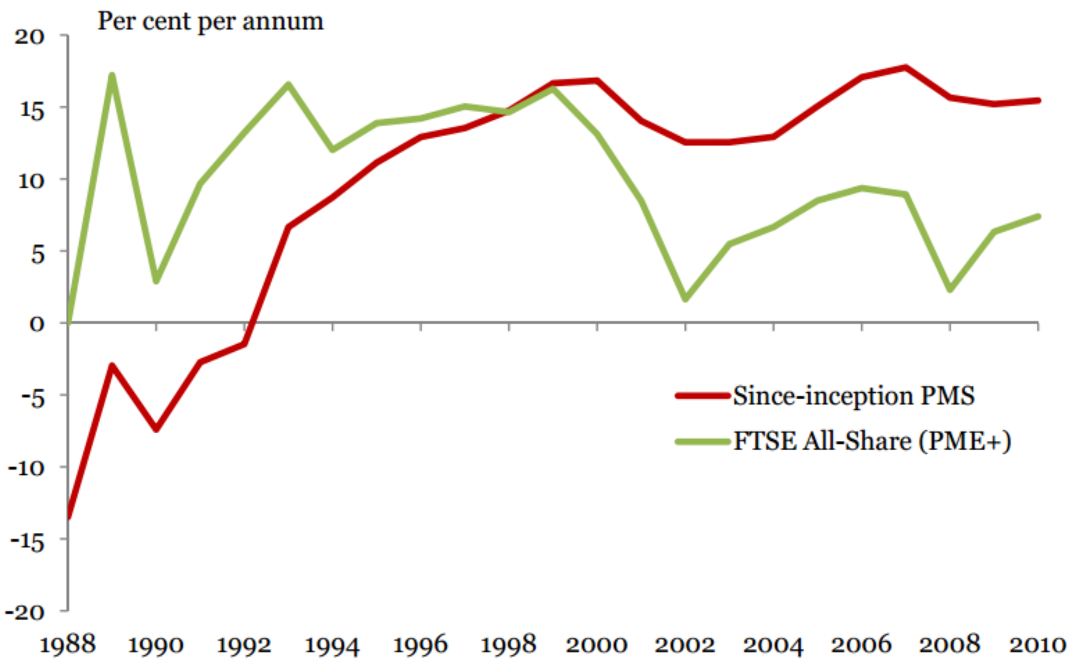

Figure 25 Cross correlation between Private Equity funds and Public equity markets. Measuring IRR. Data based on Performance measurement survey (PMS) (Source: Ellis et al. 2012)

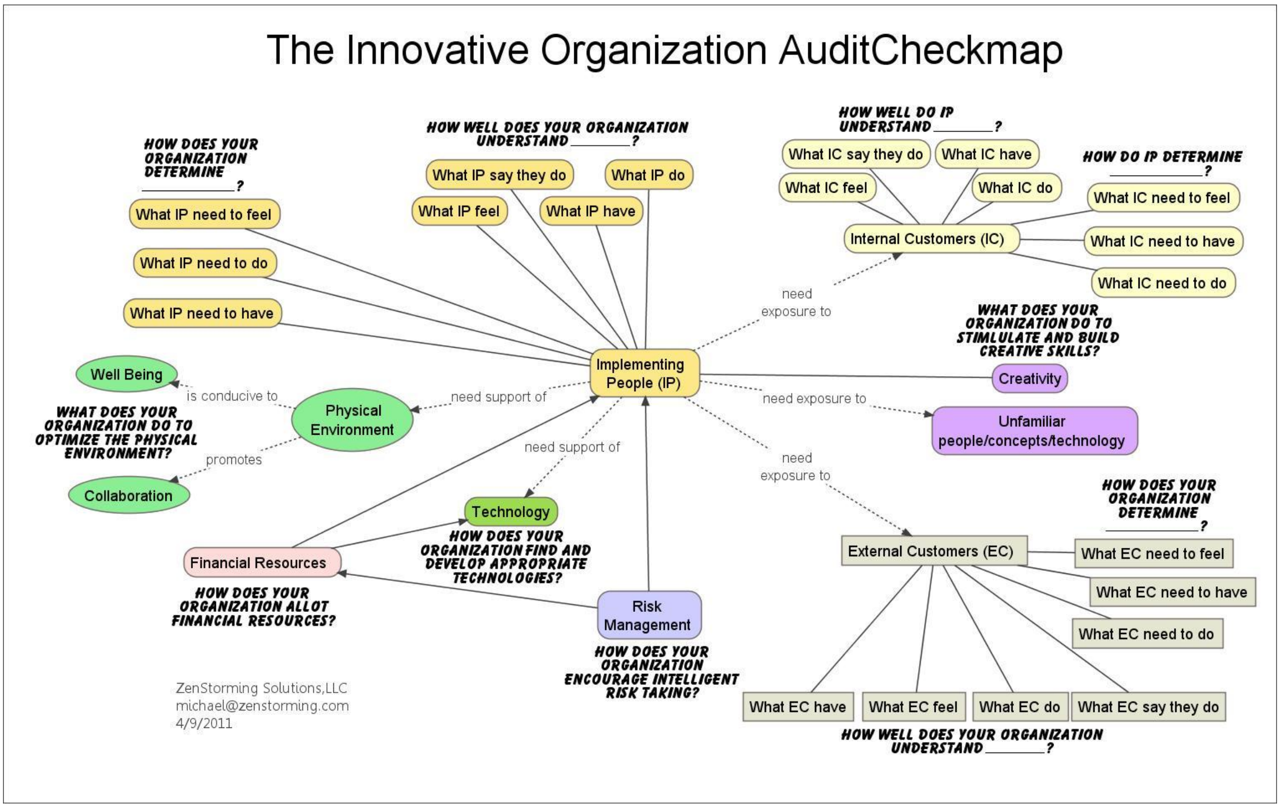

Figure 26 Innovation Organization audit check map source:zenstorming.wordpress.com