Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 181 (2015) 115 – 124

Procedia Social and Behavioral Sciences

3rd International Conference on Leadership, Technology and Innovation Management

The determinants of crowdfunding success: evidence from technology projects

Alessandro Cordova[a] , Johanna Dolci[b] , Gianfranco Gianfrate[c], c*

[a] Bocconi University,Management Department,Milan, 20136, Italy
[b] CMC Capital, London, SW1Y 4JU, UK
[c] Bocconi University,Finance Department,Milan, 20136, Italy

Abstract

Crowdfunding is a potentially disruptive way to finance new ventures. At the crossroad of micro-finance and social networking, crowdfunding is undergoing intense scrutiny from scholars and policymakers to understand where it positions in the chain of start-up funding. By studying 1127 technology projects posted on four distinct crowdfunding platforms, we highlight the factors explaining fundraising success over failure and the determinants of overfunding. We find that an increase in the project funding goal is correlated with a lower probability and extent of success, that project duration increases the chances of success, and that chances of success are positively related to the dollar amount contributed per day. The latter results supports the view according to which the crowdfunding patter follows the so-called "reinforcement model", as opposed to the substitution one (Shang and Croson, 2009)

Keywords: Leadership styles, Learning orientation, Firm performance, High performing organizations

Peer-review under responsibility of Uluslararası Stratejik Yönetim veYöneticiler Derneği (usyyd) (International Strategic Management and Managers Association).

1. Introduction

Crowdfunding allows initiatives of cultural, social or for-profit nature - which are advertised on the web by individuals or group of individuals in search for financial support (Mollick 2013) – to gather financial resources from a large pool of small-scale investors rather than a very small group of sophisticated ones (Belleflamme et al., 2012; Riedl, 2013). Proposed projects range from one-time events, such as parties, holidays, weddings, to the starting of new ventures. Accordingly, these projects differ in terms of requested investment amount and kind of compensation promised to investors. One-time events usually require lower amount of financing, at times even less than $100, and are either donation-based or offer some kind of reward (e.g. a gadget) upon contribution. The magnitude of funding implied by new business projects instead, more likely resembles the one made by business angels and venture capitalists in the seed/early stage and investors are offered either rewards (e.g. the product which is going to be

* Corresponding author. Tel. + 39-02-5836-5397 fax. +39-02-5836-5920

E-mail address: gianfranco.gianfrate@unibocconi.it

Peer-review under responsibility of Uluslararası Stratejik Yönetim veYöneticiler Derneği (usyyd) (International Strategic Management and Managers Association).
doi:10.1016/j.sbspro.2015.04.872

developed by the crowfounder if the fundraising campaign is successful or financial compensations, such as revenue/profit-sharing arrangements) or equity shares. In this scenario and thanks to the evolution of the Web 2.0 technologies (Agrawal et al 2010), crowdfunding platforms have emerged as a new innovative channel to raise capital for new ventures. This new phenomenon encompasses now about 450 platforms in the world and is growing at a very rapid pace: $1.5 billion of capital was raised in 2011, 2.7 billion in 2012 (more than 1 million projects were funded) and an expected 5.1 billion will be raised in 2013 (Massolution 2012, 2013).

Despite reward-based platforms (such as Eppela, Ulule, Starteed, Indiegogo and Kickstarter) are currently the most widespread, equity-based ones (such as Assob, Seedrs and GrowVc) are rapidly growing in importance (Espositi, 2012; Karabell, 2013) and are attracting a great deal of attention in media and among policy makers, especially so after crowdfunding was included by President Obama in the JOBS Act of 2012. In fact, policymakers assumption is that, similarly to more traditional forms of capital investments in SMEs (i.e. angel investing and venture capitalist funds), these platforms are likely to lead to the funding of highly innovative ventures, potentially making crowdfunding a relevant contributor to innovation, employment, and ultimately economic growth. In this paper, using a dataset comprising 1127 technology projects from four distinct crowdfunding platforms, we investigate the determinants of success in funding campaigns.

2. Literature Review

The most recurrent definition of crowdfunding is the one provided by Schwienbacher and Larralde (2010). They defined crowdfunding as "an open call, essentially through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes". This definition has made many authors see crowdsourcing, the outsourcing of a given task to a large group of people in the form of an open call (Howe, 2006), as the antecedent to crowdfunding (Dell, 2008; Howe, 2008; Kleemann et al. 2008; Belleflemme et al., 2010; Rubinton 2011; Poetz and Schreier, 2012). The only difference between the two being that instead of pooling labor resources, crowdfunding pools another factor of production: capital (Harms, 2007). The open call takes place on online platforms which provide the way for crowdfounders and investors to connect without standard financial intermediaries (Mollick 2013). In this direct interaction with crowdfounders, potential investors can see the level of support from other project backers, suggesting that social information could have a role in the ultimate success of a crowdfunded project (Kuppuswamy and Bayus 2013).

Another distinctive feature of this new financing phenomenon is that crowdfunding platforms, which provide all the means for investment transactions to take place - legal groundwork, pre-selection, the ability to process financial transactions, etc. (Ahlers et. al 2012) - not only have the potential to help crowdfounders (the entrepreneurs) satisfy their financing needs, which makes crowdfunding alike micro and social finance (Harms 2007), but also to test new products and run new marketing campaigns (Lambert and Schwienbacher 2010, Mollick 2013). In this sense, crowdfunding draws inspiration from social networking, where consumers actively participate in online communities sharing information and providing suggestions about new initiatives and/or brand (Ordanini et al. 2011). Moreover, when crowdfunding is used as a mean to demonstrate demand for a proposed product, successful initiatives become a signal to venture capitalists of a potential good long-term investment, possibly leading to additional future financing for crowdfounders (Mollick 2013)[a].

Research conducted so far has both focused on the crowdfounders and investors' side and has mainly relied on data from reward-based crowdfunding platforms. On the one hand, scholars have investigated the reasons behind people's decision to use crowdfunding platforms to raise funds. Belleflamme et al. (2010) found that raising money, getting public attention and obtaining feedback on product/service, are all relevant factors in motivating the launchers of initiatives on crowdfunding platforms. Seemingly, by conducting a grounded-based research, Gerber et al. (2011)

[a] Beyond all these positive aspects of crowdfunding, some authors suggest there are also potential flaws in the crowdfunding system. For instance, Riedl (2013) recalls that crowdfunding may encourage poorly funded companies to put their best ideas on the Internet before they have enough money to get patent protection for them. On the same issue, the author makes notice how crowdfunding platforms face patent challenges too, e.g. Kickstarter is being sued by a musician for allegedly violating his 2003 patent on crowdsourced funding of creative works by artists. In a SWOT analysis, Jegeleviciute et al. (2013) mention administrative and accounting challenges as one of the weaknesses crowdfunding shows. Because recording contributions and sending rewards to large number of investors is time consuming, it is to be expected that as we move toward equity-based crowdfunding and a large number of investors become shareholders, business will face even bigger administrative and accounting challenges, especially to precisely calculate the share of profits each investor is entitled to (Sigar, 2012).

found that the main reasons why crowdfounders use these platforms are: to raise funds while maintaining full control over the project, to receive validation, to connect with others, to replicate successful experiences of others, and to expand awareness of work through social media. Finally, Belleflamme et al. (2012) noticed that, when used to invite consumers to pre-order a product, crowdfunding allows entrepreneurs to price discriminate: consumers who enjoy higher utility will pre-order the product and pay more with respect to later consumers, who will wait until the product is offered on the market at a lower price. In their analysis, they concluded that this strategy is proved profitable as long as initial capital requirement remains relatively small, in contrast with crowdfunding through profit-sharing, where the benefits are higher when capital requirements are large.

On the other hand, academics have researched the reasons that motivates investors' decision to support crowdfunders' initiatives. Harms (2007) conducted a questionnaire-based research which led him conclude that, in addition to self-expression and enjoyment, the overall benefit investors derive with respect to their contribution (economic value), the presence of a guaranteed tangible output of the project (certainty effect), the degree to which the functional benefits of the project outcome serves a functional need of the individual consumer (personal utility), all significantly drive funders' intention to invest. Van Wingerden and Ryan (2011) distinguished between intrinsic motivations - control of use of an innovation, improvement of current circumstances, enjoyment, and sense of involvement - and extrinsic motivations - financial reward. Finally, Ordanini et al. (2011) found public recognition and patronage also add up to the list.

Always focusing on investors, other researchers have investigated how their contributions change overtime, focusing on how investors react to earlier investment by peers. Kuppuswamy and Bayus (2013) and Burtch et al. (2013) find evidence that additional backer contribution is negatively related to its past backer support, a phenomenon labeled in the public goods literature as substitution effect (Shang and Croson 2009), as opposed to the re-inforcement effect, which takes place when future contributions by investors depend positively on previous pledges[b]. By using a dataset of crowdfunding initiative for mobile apps, Kim and Viswanathan (2013) further study the peer effect by distinguishing between two types of investors: reputable funders (app developer investors and experienced investors) and the rest of the crowd. They show the former tend to contribute earlier than the latter and, consequently, their investment serves as a signal of project quality for later investors.

Another important branch of the literature centeres on the impact geography has on the probability of success of new crowdfunding ventures. While theory predicts that investors in early-stage firms will tend to be local, because the costs of gathering information, monitoring progress, and providing input are sensitive to distance (Tribus 1970, Florida and Kenney 1988, Florida and Smith 1993, Lerner 1995, Sorenson and Stuart 2001, Powell, Koput, Bowie, and Smith-Doerr 2002, Zook 2002, Mason 2007), Agrawal et al. (2010) show that the availability of online platforms tends to eliminate most distance-related economic frictions. In fact, a mean distance between entrepreneur and investor of approximately 3,000 miles is found, as opposed to an average of 70 miles between lead VC and target firm (Sorenson and Stuart, 2005), which suggests there is no significant difference between the number of local and distant investors. However, because within a single round of financing, local investors contribute relatively earlier than distant ones and the latter are more responsive to others' investment decisions, geography is still found to play a role in so far early contribution by family and friends can determine the pattern of subsequent contributions by far-away located investors. Focusing on reward-based projects advertised on Kickstarter, Mollick (2013) also finds that geography is important in the crowdfunding context, showing that investors proximity to crowdfounders is positively correlated with the latters' fundraising successc.

---

[b] While the former authors attribute the observed crowding out to the fact later investors assume others will provide the necessary funding – building off the well-established social psychology theory around diffusion of responsibility effects (Fisher, et al. 2011) – the latter retrace it to the fact that the marginal utility contributors gain from giving to a particular project is diminished by others' contributions.

[c] While what described so far represents the most developed part of the literature, other authors have started investigating additional aspects of crowdfunding. Those that follow are some examples. Cheng et al. (2013) studied the role crowdfunding can play within individual enterprises, i.e. employees allocating money for employee-initiated proposals at an Intranet site; Greenberg et al. (2013) have applied a variety of machine learning classifiers to learn the concept of a successful online crowdfunding project at the time of project launch, with the aim of building a tool for novice project creators to get feedback on their project designs. Kim (2013) studied the impact of the way crowdfounder present their project on their probability of success, establishing that creators must be half-way between making credible claims and refraining from disclosing too much information; etc.

3. Methodology

3.1. Research Goal

With respect to the existing literature, this paper will focus on the crowdfounders' perspective. However, instead of concentrating on the motivations that lie beneath their decision to launch projects on crowdfunding platforms, it will rather attempt to discover what factors influence their ability to succeed in their fundraising efforts. More specifically, the authors extend the research previously conducted by Mollick (2013) through the use of a wider dataset, which includes crowdfunding initiatives not only drawn from Kickstarter but also from other three crowdfunding platforms (Ulule, Eppela and Indiegogo), and through the investigation of which factors possibly contribute to the over-funding of a successful project, instead of limiting the analysis to the understanding of the determinants of a project success over failure.

3.2. Sample and Data Collection

This research uses a dataset containing 1127 cases of technology start-ups seeking funds in the solar year 2012, and throughout the first 7 months of 2013. The decision to limit the sample to technology cases depends on our focus on initiatives that aim at becoming long-lasting enterprises. As mentioned earlier, in these cases crowdfunding can in fact develop as an important source of capital investments in new innovative SMEs, in a similar way as angel and venture capital investments. Data is extracted from four different crowdfunding platforms: Kickstarter, Ulule, Eppela, Indiegogo. More specifically, we have been able to extract: 97 successful Ulule projects; 9 Eppela projects; 597 successful Kickstarter projects; and 424 Indiegogo projects.

3.3. Analyses and Results

The first database we are using is made of all the technology projects extracted from the US-based Indiegogo and the Italian-based Eppela. Interestingly, only 30% of the 410 projects have been successful, while the Mean of the SuccessRate, measuring the magnitude of the amount Financed (the total investment received by a given project) with respect to the amount of funds Requested by each crowdfounder in percentage terms, is relatively higher: this is because some projects have been highly successful, as it can be seen from the maximum value that SuccessRate takes (one project has obtained an amount of investment about 24 times higher than the initial goal). Almost 70% of the projects are launched in the USA, while European-based projects amount to 15% of the total. The number of Funders can range from a minimum of 1 to a maximum of 9645, the mean dollar amount contributed by each funder (mean contribution) moves in a range that goes from €6 to about €1,200, as opposed to the mean dollar amount contributed per day (contribution frequency) which goes from a minimum of €2 to a maximum of about €22,000.

As a first take, we can confirm the results reported in Mollick (2013) according to which, "failures happen by large amounts, successes by small amounts". The mean value of success rate for failed projects, defined as the ratio between the difference between the amount Requested by the crowdfounder and the amount actually Financed over the amount Requested, is only 18% of the initial fundraising goal, i.e. on average failed projects miss their request by 82%.

Successful projects, on the other hand, obtain on average only an additional 13% of their inital goal. This extra 13% is also affected by few cases with very large success rates: only about 10% of the projects have a success rate above 2 times their initial goal and only 5% above 5 times. We also confim Mollick's evidence of that self-financing (project founders contributing with their own money to their project) isn't the leading reason for such phenomenon to take place: this is because the average success rate of smaller projects (defined by Mollick as those projects requesting an investment below €1,000) is higher than that for bigger projects (60% vs. 17%). In case there had been self-financing, the opposite outcome would have been observed: the smaller the projects are, the more convenient it is for the crowdfounder to self-finance. Thus one would expect that those small projects that have achieved a relatively high success rate (e.g. between 50% and 99.9%) have turned successful in the end (via self-financing) and only those with very low success rates (below 50%) are left. This would imply a lower, and not higher, average success rate for small projects in comparison to larger ones, which is not the case in our database. As Mollick (2013) points out, this may be a signal of the fact crowdfunding investors take into account the quality of the projects like venture capitalists do. Low quality projects will therefore gather only a negligible amount of money.

We perform a regression with the aim of understanding whether quality signals (such as the number of Updates that are given by the crowdfounder on her project or whether a video is included in the project pitch) influence the probability a project is successful. Specifically, we do use probit regressions where the probability of success of a given project is regressed on the following variables:

- The logarithmic transformationd of the crowdfunder's financing goal (the Requested amount of investment) on each project
- The number of funders that contributed to a given project
- The logarithm of the mean amount contributed by each funder (i.e. Mean Contribution)
- The duration of the project (the number of days the crowdfounder has decided to allot to the fundraising campaign)
- The logarithm of the mean amount contributed to the project on each day
- Two country-dummies: the first (USA), takes value 1 if the the project has been launched within the US and 0 otherwise; seemingly, the one named Europe, takes value 1 when the project has been launched in one of the 27 countries of the European Union
- The number of updates on the project that have been given by the crowdfounder
- The number of comments written by investors (and which the crowdfounder can respond to)
- A variable called "TypeofFinancing", which takes value 1 in case the crowdfounder has opted for an All-or-Nothing fundraising campaign and value 0 if he opted for a Keep-it-All instead

Two separate regressions are run. As it can be seen from Table 4, which displays the results of the probit regressions (the average marginal effects of the regressors, the standard errors, in paranthesis, and the number of observations in each regression), the first model focuses on "all projects" available in the database; the second model, instead, only includes projects with a Requested above €5,000 (what we named "large projects"). As Mollick (2013) points out, because crowdfunding projects greatly differ in terms of financing goal, the underlying models for, let's say, €100 projects can be widely different from the €100,000 ones. In particular, only investments in crowdfunding projects with financing goals above a certain threshold (Mollick adopted a threshold value of 5,000 dollars) are actually comparable to seed financing provided by venture capital and angel investors.

Table 1: Probability of Success-*Results from probit regressions*[e]

Variables	All projects	Only large projects
LnRequested	-0.188795	-0.121729
	(0.016199)**	(0.021288)**
Funders	0.000319	0.000109
	(0.000115)**	(0.000117)
LnMeanContribution	0.037343	0.010337
	(0.014271)**	(0.017264)
Days	0.004295	0.003494
	(0.000724)**	(0.001008)**
LnContributionFrequency	0.149213	0.113354
	(0.013142)**	(0.021020)**
Comments	-0.000017	-0.000057
	(0.000129)	(0.000108)
Updates	0.002727	0.001327
	(0.001407)	(0.001010)

Video	0.025448	-0.024948
	(0.024287)	(0.036383)
USA	-0.029090	-0.012207
	(0.024337)	(0.024279)
Europe	-0.020501	-0.001333
	(0.030717)	(0.034665)
TypeofFinancing	0.146011	0.191969
	(0.095709)	(20.922187)
N	410	303

* $p<0.05$; ** $p<0.01$

Considering both models, three variables are found to significantly impact the probability a given project will be successful: lnRequested, Days and LnContributionFrequency. In other words, either when we consider all projects or when we focus only on those that resemble VC and angel investing, we find that: a 1% increase in the amount requested, reduces the probability the founder will reach or exceed her funding goal. The same increase in the amount contributed per day to the project, instead, increases the likelihood that the project will be successful. Precisely, the reduction in the P(success) caused by a 1% increase in LnRequested is about 18% for all projects and 12% for big ones only; an increase in the Contribution Frequency, on the other hand, leads to a 14% and 11% rise in the P(Success) respectively.

One possible reason for the lower impact that lnRequested has on the P(success) when we consider only big projects is that, while in smaller projects investors' contribution can be proportionately relevant in getting the overall amount Financed closer to the funding goal, and therefore they may consider a higher Requested as reducing the relevance of their contribution, this is less the case in bigger projects: when investors are faced with a relatively large project, they know their contribution is not going to be determinant for the success of the project all along and, consequently, pay less attention to this threshold amount, focusing rather on other factors (e.g. how much they like the project). This hypothesis could be confirmed by the fact that the Mean Contribution, expressed as a percentage of the Requested, is higher in smaller projects (with a Requested below €5,000) than in larger ones, for a value of 4.5% vs. 0.65%. In other words, each investor contributed more, in percentage terms, in smaller projects; therefore, an investor's contribution is more relevant in helping a project turn successful if it is small. Seemingly, the coefficient in front of the LnContributionFrequency variable could be smaller when considering big projects because it is easier for an investor "to pay attention" to the amount contributed each day on these projects: if investors monitor a given project by accessing its "webpage" more than once, it is easier for them to notice increases in the frequency of contributions when the Requested is smaller (because the amount left to finance reduces more quickly). Finally, also the duration of the project is associated to a higher probability of Success in both models: the longer in time the fundraising closure is, the higher the likelihood contributions will add up to an amount equal or above the one originally requested by the founder.

A difference between the two models is represented by the fact the number of Funders and the Mean Contribution have an impact on a project P(success) only when all projects are considered. In particular, when pooling smaller and bigger projects together, results show that the higher the value that each of the funders contribute and the higher the number of funders, the more likely the project will be successful. This is potentially due to the fact that a new investor interprets the fact that a project has received many contributions and/or a higher donation per contributor as a signal of higher quality. However, this result does not longer hold when smaller projects are ruled out. This discrepancy could be due to the fact that, because the mean number of funders per project is much higher in larger than smaller projects (250 vs. 40), observing one additional investor contributing to bigger project is not as "impressive" for investors as when a new investment is made in smaller projects. Seemingly, because the mean amount contributed per investor, expressed as a percentage of the Requested, is higher in smaller projects, then an increase in this amount is for investors more "impressive" in smaller than larger projects. This same reasoning cannot be applied to the project duration and consequently to the Contribution Frequency, because the number of Days does not vary widely across failed and successful projects (the mean amount is 48 for failed projects vs. 43 for successful ones).

In both models, the remaining variables don't show any significance: a higher number of updates is not associated by investors to higher project quality, thus not giving them a reason to contribute more; seemingly, investors seem to

be indifferent with respect to a higher number of comments posted by other contributors, projects with a video pitch, one type of financing mechanism with respect to another, those features all seem to have a zero effect on the P(success). Seemingly, launching a project in the USA or in Europe does not seem to increase its P(success) with respect to cases where projects are launched outside of these two continents.

The second database includes only successful projects and it includes 723 observations which are extracted from Eppela, Indiegogo and Kickstarter. We regress the success rate of successful projects (overfunding) onto the same regressors as in the probit models, in order to test whether quality signals affect the overfunding rate of successful projects.

Table 2: Overfunding *(results from robust linear regressions)*

Variables	All projects	Only large projects
LnRequested	-6.062724	-5.324249
	(0.528479)**	(0.594013)**
Funders	0.001372	0.001550
	(0.000485)**	(0.000555)**
LnMeanContribution	0.899732	1.455385
	(0.316959)**	(0.486607)**
Days	0.153148	0.084192
	(0.019773)**	(0.017244)**
LnContributionFrequency	5.501792	4.029878
	(0.594794)**	(0.722331)**
Comments	-0.002379	-0.001725
	(0.001606)	(0.001690)
Updates	-0.014483	0.001265
	(0.014052)	(0.016510)
Video	0.268631	0.109520
	(0.352012)	(0.668722)
USA	0.263865	0.525271
	(0.458846)	(0.488516)
Europe	0.432294	0.913651
	(0.496477)	(0.554521)
TypeofFinancing	0.485705	-0.015703
	(0.402817)	(0.427898)
_cons	12.987656	15.872238
	(1.281777)**	(2.466012)**
R^2	0.67	0.75
N	723	425

* $p<0.05$; ** $p<0.01$

With respect to the previous database, successful projects tend to show a higher mean number of contributors and, possibly for this reason, the overall number of comments is also found to be higher than in the previous database. However, because the average number of updates is also higher than before[f], it could well be that successful projects are actually characterized by a higher degree of interaction between the crowdfounder and their contributors.

The proportion of US-based projects has increased at the expense of the number of observations in Europe and in the rest of the world.

Finally, the TypeofFinancing variable shows an opposite "size" compared to the previous database, i.e. only Indiegogo observations can have a of Keep-it-all funding mechanism (as this platform allows investors to choose which scheme to use), therefore when projects launched on Kickstarter are included (which are many), the majority of observations are consequently recorded as having an All-or-Nothing financing formula.

We regress the success rate of successful projects (overfunding) onto the same regressors as in the probit models, in order to test whether quality signals affect the overfunding rate of successful projects.

When we include both smaller and bigger projects (below, equal and above €5000), the same variables are found to be consistent: LnRequested, Funders, LnMeanContribution, Days, LnContributionFrequency. In other words, a higher amount of funding requested by the crowdfounder is associated with a lower overfunding (a lower percentage of funding received with respect to the initial goal); on the other hand, an increase in the number of funders, their mean contribution, the duration of the project and the mean amount contributed per day increases the success rate of crowdfunding projects. Precisely, a 1% increase in the funding goal of a given project decreases its degree of success by 5-6 times (5 when only big projects are considered), the highest effect on overfunding among all our regressors. Still quite relevant is the impact that an increase in the speed of investors' contribution (i.e. Contribution Frequency) has on overfunding: a 1% increase in the amount invested per day leads to a reduction in the overall amount financed with respect to the project Requested equal to 4-5 times.

Interestingly, with respect to the P(success) model, the absolute number of Funders and the project Duration result in having an effect on the dependent variable also when bigger projects only are considered (while previously significance on these two variables was lost when smaller projects were ruled out). Possibly this could be due to the fact that, when an investor considers whether to invest in a project that has already achieved its goal (overinvesting), it pays much more attention to details irrespectively of whether he is facing a big or small project. Once again, all the other variables are found to have no significant influence over the dependent variable.

4. Conclusion

In this paper we look on the one hand at what factors affect the probability that a given project is successful, by comparing projects which have failed in reaching their funding goal and those who have succeeded in it. On the other hand, we investigate whether these same factors also affect the overfunding rate of successful projects, i.e. the extent to which these projects obtain a higher amount than the one they aimed at. We found that three factors have an impact on either the P(success) and the overfunding of crowdfunding projects (consistently across size of projects - when we considered all projects and bigger ones only): the investment Requested by the crowdfounder, the duration of the project and its contribution frequency. Firstly, we confirmed the results shown by other researchers (Mollick 2013a and 2013b, Kuppuswamy & Bayus 2013) as to the fact an increase in the project funding goal is correlated with a lower probability and extent of success; secondly, we found that project duration increases the chances of success and that so does an increase in the dollar amount contributed per day on a given project, in favor of the so-called "reinforcement model", as opposed to the substitution one (Shang and Croson, 2009): more contributions lead to other contributions.

The obvious novelty of the topic associated with the dis-homogeneity of the data employed, pose several limitations to our findings. Firstly, further explanatory variables should be investigated because, by graphical

[f] This is confirmed when comparing the mean amount of updates between successful and failed projects in the first database we used (which contains either successful and failed projects). The mean amount of updates in failed projects is about 4 vs. 14 in successful projects (the difference is statistically significant as the Welch t-test shows p-value proximate to zero).

inspection of our regression results, we have noticed that there is a certain number of very successful projects for which we are able to capture only little part of the variance. In fact, these projects over-perform the majority of projects despite the fact they show average values in the variables we have included in our models (number of comments, updates, mean contribution, etc.). This makes us confident there is some other information that we should take into account to be able to better fit our data: the specific market niche of the project (from a qualitative analysis, it seems that most successful projects are those which have applications on frontier technologies, such as hi-phones); the organizational form adopted by entrepreneurs resorting to crowdfunding (firm vs. single entrepreneur) and information on whether projects offer a product or a service to the crowd (Belleflamme et al., 2013); a measure of the quality of the project presentation, obtained by classifying the sentiment of its text (Greenberg et al., 2013) and by calculating the number of spelling errors (Mollick, 2013); investors' experience in the field in which the project has been launched (Kim & Viswanathan, 2013); information on crowdfounders' previous experience - e.g. whether they have previously launched another crowdfunding project-, whether the project was advertised on the main page of the crowdfunding platform and whether investors are involved anyway in the new venture - e.g. revenue sharing (Kuppuswamy & Bayus, 2013). Secondly, the behavior of crowdfunding investors, including path-dependency in the cumulative contributions, should be studied more in detail. The goal should be to see whether the results obtained here (a higher Requested lowers investors' willingness to pay; there exists a re-enforcement effect for which the higher the earlier contributions are, the higher the following ones; etc.) are confirmed by investors themselves.

References

Agrawal, A., Catalini, C., Goldfarb, A., 2010. "The Geography of Crowdfunding". SSRN Electronic Journal.

Ahlers G.K.C., Cumming D., Gunther C., Schweizer D., 2012. "Signaling in Equity Crowdfunding". SSRN Electronic Journal.

Ang, J.S. (1991) 'Small business uniqueness and the theory of financial management', The Journal of Small Business Finance, 1(1): 1-13.

Belleflamme P., Lambert, T., Schwienbacher, A., 2010. "Crowdfunding: An Industrial Organization Perspective". Prepared for the workshop Digital Business Models: Understanding Strategies', held in Paris, pp. 25–26.

Belleflamme, P., Lambert, T., Schwienbacher, A., 2012. "Crowdfunding: Tapping the Right Crowd". SSRN eLibrary.

Belleflamme, P., Lambert, T., Schwienbacher, A., 2013. "Individual crowdfunding practices". SSRN Eletronic Journal.

Berger, A., and G. Udell, 1995. Relationship Lending and Lines of Credit in Small Firm Finance. Journal of Business 68, 351-381.

Burtch, G., Ghose, A., Wattal, S., 2011. "An Empirical Examination of the Antecedents and Consequences of Investment Patterns in Crowd-Funded Markets". SSRN Electronic Journal.

Carpenter, R.E. and Petersen, B.C. (2002) 'Is the growth of small firms constrained by internal finance?', The Review of Economics and Statistics, 84(2): 298–309.

Cassar, G., 2004. The Financing of Business Start-ups. Journal of Business Venturing 19, 261-283.

Cheng L., Daniels S., Geyer W., Muller M., 2013. "Crowdfunding inside the Enteprirse: employee initiatives for innovation and collaboration". CHI 2013: Changing Perspectives, Paris, France. Work-in-progress: Web and Ecommerce.

Chittenden, F.; Hall, G. and Hutchinson, P. (1996) 'Small firm growth, access to capital markets and financial structure: Review of issues and an empirical investigation', Small Business Economics, 8(1): 59-67.

Cosh A., Cumming D., and Hughes A., 2009. "Outside Entrepreneurial Capital," The Economic Journal, 119(540), 1494-1533.

De Buysere, K; Gajda, O; Kleverlaan, R and Marom, D. 2012. A Framework for European Crowdfunding . Available at: http://evpa.eu.com/wpcontent/uploads/2010/11/European_Crowdfunding_Framework_Oct_2012.pdf

European Commission, 2005. "Best practices of public support for early-stage equity finance", Final report of the expert group, Directorate-General for Enterprise and Industry.

Fisher, P., J. Kruegar, T. Greitemeyer, C. Vogrincic, A. Kastenmuller, Dieter Frey, M. Heene, M. Wicher, and M. Kambacher (2011), "The Bystander-Effect: A Meta-Analytic Review on Bystander Intervention in Dangerous and Non-Dangerous Emergencies," Psychological Bulletin, 137(4), 517-537.

Florida R., Smith D., 1993. "Venture capital formation, investment and regional Industrialization". Annals of the Association of American Geographers, 83(3), 434-5.

Gerber E.M., Hui J.S. and Kuo P.Y., 2011. "Crowdfunding: why the people are motivated to post and fund projects on crowdfunding platforms". Northwestern University Creative Action Lab, Sheridan Drive, Evanston. Gompers, P., Lerner, J., 2004. The venture capital cycle. MIT Press.

Gorman, M., Sahlman, W.A., 1989. What do venture capitalists do? Journal of Business Venturing 4, 231–248.

Greenberg M.D., Hariharan K., Gerber E., Pardo B., 2013. "Crowdfuding Support Tools: Predicting Success & Failure". CHI 2013: Changing Perspectives, Paris, France. Work-in-progress: Web and Ecommerce.

Harms M., 2007. "What Drives Motivation to Participate Financially in a Crowdfunding Community?". Thesis Master in Marketing, University of Amsterdam.

Howe, J., 2008. Crowdsourcing. Why the Power of the Crowd is Driving Future of Business. New York: Three Rivers Press.

Howe J., 2006. "The Rise of Crowdsourcing". Wired Magazine.

Him P. H., 2013. "TMI: Honesy claims and risk of overdisclosure in crowdfunding campaigns". Paper abstract submission to the Crowdfunding Conference at the University of Colorado-Boulder.

Kim K., Viswanathan S., 2013. “The experts in the crowd: the role of reputable investors in a crowdfunding market”. SSRN Electronic Journal. Available at: http://ssrn.com/abstract=2258243.

Kleemann F.G., Voss G., Rieder K., 2008. “Un(der)paid Innovators: The Commercial Utilization of Consumer Work through Crowdsourcing.” Science, Technology & Innovation Studies 4:1, 5-26.

Kortum, S., Lerner, J., 2000. Assessing the contribution of venture capital to innovation. RAND Journal of Economics 31, 674.

Kuppuswamy, V., Bayus, B.L., 2013. “Crowdfunding Creative Ideas: The Dynamics of Project Backers in Kickstarter”. SSRN Electronic Journal.

Lin, M., Viswanathan, S., 2013. “Home Bias in Online Investments: An Empirical Study of an Online Crowd Funding Market”. papers.ssrn.com.

Linde L., Prasad A., 2000. 2Venture Support Systems Project: Angel Investors2. Cambridge: MIT Entrepreneurship Center.

Mason C., 2007. “Venture capital: a geographical perspective" in H Landstrom (ed) Handbook of Research on Venture Capital, Edward Elgar, Cheltenham, pp. 86-112.

Massolution, Crowdsourcing LLC, 2012. “Crowdfunding Industry Report: Market Trends, Composition and Crowdfunding Platforms”.

Massolution, Crowdsourcing LLC, 2013. “Crowdfunding Market Outlook Report”.

Mollick, E. 2013. “The Dynamics of Crowdfuding: determinants of success and failure”. SSRN Electronic Journal. Forthcoming as “The Dynamics of Crowdfuding: an exploratory study”, Journal of Business Venturing.

Ordanini A., Miceli L., Pizzetti M., Parasuraman A., 2011. “Crowd-funding: transforming customers into investors through innovative service platforms”. Journal of Service Management Vol. 22 No. 4, pp. 443-470.

Paul, S.; Whittam, G. and Wyper, J. (2007) ‘The Pecking Order hypothesis: does it apply to start-up firms?’, Journal of Small Business and Enterprise Development, 14(1): 8-21.

Powell W. W., Koput K. W., Bowie J. I., Smith-Doerr L., 2002. “The Spatial Clustering of Science and Capital: Accounting for Biotech Firm-Venture Capital Relationships". Regional Studies, 36(3), 291-305.

Riedl J., 2013. “Crowdfunding technology innovation”. IEEE Computer Society.

Schwienbacher A., and Larralde B., 2010. “Crowdfunding of small entrepreneurial ventures” in D.J. Cumming, ed. The Oxford Handbook of Entrepreneurial Finance. Oxford: Oxford University Press.

Shang, J., Croson R., 2009. “A Field Experiment in Charitable Contribution: The Impact of Social Information on the Voluntary Provision of Public Goods”. The Economic Journal 119(540) 1422-1439.

Tribus M., 1970. “Panel on government and new business proceedings". Venture Capital and Management, Management Seminar, Boston College, Boston, MA, May 28.

Van Wingerden R., Ryan J., 2011. “Fighting for funds: An exploratory study into the field of crowdfunding”. Lund University School of Economics and Management.