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Geography of pledging and application of funds of crowdfunding platforms and the impact on their online notoriety

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Abstract

Geography of pledging and application of funds of crowdfunding platforms and the impact on their online notoriety

Online crowdfunding is a relatively new way of financing projects and ventures through the internet. This study gives an industry view focusing on the geographic perspective of pledging and application of funds through a model explicating the local and global dimensions. Four possible combinations are then possible: LPLA (Local Pledging/Local Application of funds), LPGA (Local Pledging/Global Application of funds), GPLA (Global Pledging/Local Application of funds) and GPGA (Global Pledging/Global Application of funds). A sample of crowdfunding platforms were analyzed to understand how these characteristics relate with the online notoriety of the platform. The analysis indicates that platforms are experimenting different approaches to the locus of pledging and application of funds and statistical results show that platforms with local characteristics in both pledging and application of funds (LPLA) are outperformed in terms of notoriety by all the remaining combinations.

Preface

Being a student of the major in Innovation and Technology with an interest for entrepreneurship it was my goal to find a subject that could fit in these categories. After studying Innovation Management with Professor Andrei Villarroel whose main research topic is crowdsourcing, I felt that my dissertation should be in a related subject.

After analyzing and discussing some possibilities in the Online Distributed Organization seminar led by Professor Villarroel, crowdfunding was the choice my colleagues and I made. The main reason has to do with my belief that this alternative form of financing is not only changing the logic of launching projects or enterprises but also how society is organized.

Acknowledgements

I am extremely thankful to my supervisor, Professor Andrei Villarroel for his time, valuable insights, mentorship and support through this research. I have learned a lot in the process of working with him and my colleagues in our seminar.

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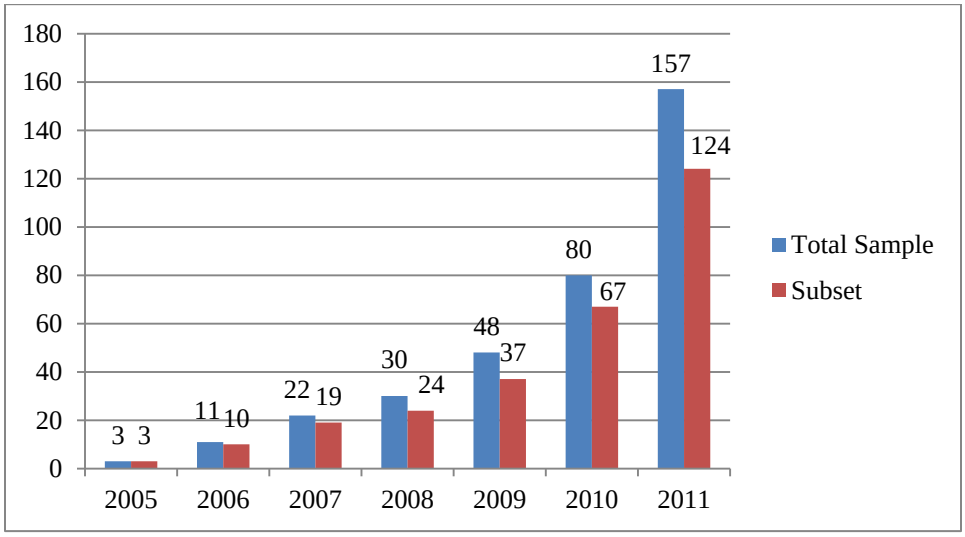
I. Introduction

This dissertation addresses crowdfunding, a form of raising funds, by tapping the general public (or crowd), essentially thought the internet, to fund projects or ventures. The funding is made either in the form of donations or in ex-change for some form of reward. (Lambert & Schwienbacher, 2010)

Being a very recent phenomenon, crowdfunding is experiencing a growing interest surrounding it[1]. Also, the number of platforms created per year keeps increasing year after year. As figure 1 shows, in 2010 and 2011 only, the number of platforms created more than doubled the ones formed in the previous five years.

Figure 1: Number of platforms created by year (2005-2011)



Source: data collected in this study

Contributing to this momentum are, surely, the well-known cases of the 2008 Obama's campaign election which was able to raise a breaking-record $750 million from 4 million donors[2] and more recently Pebble[3], an e-paper watch for iPhone and Android that was

[1] Appendix 1: Web search interest in the word "crowdfunding"
[2] See Final Fundraising Figure: Obama's $750M, ABC NEWS, Dec. 5, 2008, Available at: http://abcnews.go.com/Politics/Vote2008/Story?id=6397572&page=l#.UDUTnaDfKSo

funded in more than $10 million from nearly 69.000 people through a platform called Kickstarter.

Contrasting with existent literature (Gaston 1989, Florida & Kenney 1988, Florida & Smith 1993, Lerner 1995, Sorenson & Stuart 2001, Zook, 2002) which predicts that early-stage investors tend invest in companies located near them, Agrawal et al. (2011) showed that crowdfunding seems to eliminate most distance-related economic frictions in early stage financing by studying the platform Sellaband. Nevertheless, different platforms present several characteristics that have impact on the geographic reach of both the pledging and application of funds and no industry study as yet focused on that.

With hundreds of players already operating and many more expected to come[4], the online notoriety of a platform seem to be increasingly important to its success.

We proposed a 2 by 2 framework for locus of project and funding to be used on the platform level. This framework is used to answer the following research question:

How does the geography of pledging and application of funds of a crowdfunding platform relate with its online notoriety?

We start by reviewing the available literature under the subjects of distributed knowledge, crowdsourcing, crowdfunding and geography of financing. It is then followed by the Methodology, where the research methods, variables, tools used and datasets are explained. A third section is reserved for the results. Finally, the last chapter presents the conclusions and implications. Limitations and future research opportunities are also explored.

[3] See http://www.kickstarter.com/projects/597507018/pebble-e-paper-watch-for-iphone-and-android

[4] Massolution's crowdfunding report expects the number of platform to increase 60% in 2012. A preview of the report is available at http://www.crowdsourcing.org/document/crowdfunding-industry-report-abridged-version-market-trends-composition-and-crowdfunding-platforms/14277

II. Literature review

2.1) Crowdsourcing

The word 'crowdsourcing' was used for the first time in June 2006 in an article of the Wired Magazine by Jeff Howe who defines it as an '*act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call. This can take the form of peer-production (when the job is performed collaboratively), but is also often undertaken by sole individuals"* (Howe, 2006)

As Howe (2008) argues, the trend is appearing now not because the Internet made crowdsourcing possible, but because it made it more effective. Particularly thanks to the possibilities of Web 2.0, organizations can interact with other parties more effectively facilitating online collaboration and sharing among users (Albors et al., 2008). Kleemann et al. (2008) consider Web 2.0 as a prerequisite to the development of crowdsourcing arguing that its structure is essential for companies to be able to reach networks of consumers easily.

This concept, and its close cousin crowdfunding discussed next, is drawing increasing attention from management theorists (e.g. Villarroel, 2008; Brabham, 2008; Van den Ende, Villarroel and Tucci, 2009; Malone, Laubacher and Dellarocas, 2010), adding to the debate regarding the impact of the crowdsourcing on the organization of work and innovation (Villarroel and Gorbatai, 2011a,b).

2.2) Crowdfunding

One of the first definitions was provided by Andrea Ordanini considering crowdfunding as an initiative with the objective of raising money for a new project, by collecting small to medium-size investments from several other people (i.e. a crowd) (Ordanini, 2009)

Lambert and Schwienbacher built on the characterization of Crowdsourcing (Kleemann et al., 2008) to create their definition: *"Crowdfunding involves an open call, essentially*

through the Internet, for the provision of financial resources either in form of donations (without rewards) or in ex-change for some form of reward and/or voting rights in order to support initiatives for specific purposes" (Lambert & Schwienbacher, 2010:6).

Despite the term crowdfunding being very recent and associated to Web 2.0, the phenomena of "*collecting small amounts of money from many people has a history in the sphere of charity and social cooperation*" (Ordanini et al., 2011:445). As an example, back in 1885, the newspaper *The World* raised $100,000 to pay the pedestal of the Statue of Liberty thanks to the donations of roughly 125,000 people[5].

What is new in crowdfunding is that "*it exploits the capabilities of social networks and other new features of Web 2.0, especially the function of 'viral networking and marketing', which enables the mobilization of a large number of users in specific Web communities within a relatively short period of time.*" (Hemer, 2011:8)

Many of the available scientific articles focus on specific sectors like social projects, NGO projects and the music industry. Kappel (2009) made the distinction between ex ante crowdfunding of music projects and ex post crowdfunding for political lobbying and projects. Finally, Agrawal et al. (2011) focused on the geographic dispersion of financiers of small, early-stage projects by studying the platform Sellaband.com and the results were very insightful.

2.3) Crowdfunding models

Hemer (2011) states that as the industry is still on its early phase and regulation is still low in most countries, experimentation is taking place. In his research he identified the following business models: "Threshold pledge model", Micro-lending models, Investment models, Holding model and Club model. Castrataro (2012) identified the Reward-based crowdfunding, Investment and Microfinance. Finally, Milliken (2012) divided the models as: Microfinance, P2P loans, Donation-Based and Investment.

[5] See http://www.nps.gov/stli/historyculture/joseph-pulitzer.htm Accessed on July 25, 2012

Table 1: Organizational models

	Investment	**Lending**	**Contribution (or donation)**
Small description	Users invest their funds expecting future financial returns	Users lend funds expecting the repayment installments in the future	Users donate their money with no expectation of any financial return
Rewards	Equity or future revenue share	Interest	Experience or object related with the project, product pre-order, intangible
Main beneficiaries	Start-ups, businesses	Individuals, small businesses	Project owners, artists and NGOs
E.g. of platforms	Growvc.com and Sellaband.com	Prosper.com and Kiva.org	Donorschoose.org and Indiegogo.com
Hemer (2011)	Investment models, Holding model and Club model	Micro-lending models	"Threshold pledge model"
Castrataro (2012)	Investment	Microfinance	Reward-based
Milliken (2012)	Investment	Microfinance, P2P loans	Donation-Based

Table 1 groups the descriptions and suggests the division in three major business models, based on the types of transactions generated: Investment, Lending and Contribution-based models.

The investment model offers the crowd the possibility to get equity or a future revenue share in exchange for their investments (Milliken, 2012). Hemer (2011) and Castrataro (2012) mention that some platforms recruit potential funders as member of a closed "investment club" while others create a "*cooperative vehicle as the collecting mechanism for the investment*" (Castrataro, 2012). This model of crowdfunding gained a lot of momentum when Obama signed a law called the Jumpstart Our Business Startups Act (JOBS) in April, 2012. This act allows small companies to raise up to $1 million in equity per year through crowdfunding, without having to go through the rigorous process of the Securities and Exchange Commission (SEC).

The Lending model is characterized by the lending of funds by the crowd to individuals. Hemer (2011) called it "micro-lending models" and Castrataro (2012) "microfinance". This model presents two sub-models. One often called P2P lending which occurs "directly

between individuals without the intermediation of a traditional financial institution"[6] and the other micro lending, which consists in loans to "*low-income clients who traditionally lack access to banking and related services*" (Milliken, 2012).

The contribution-based model (or donation-based model) is characterized by not granting any financial return. (Milliken, 2012) Instead, users contribute with the expectation of getting a reward related with the project, may it be more material (e.g.t-shirt or even a product pre-order) or more intangible (e.g. credits or thank you message on website) (Castrataro, 2012). This model is most commonly used by platforms focused on creative (e.g. music, movies, games and art) or philanthropic projects but it is also being used for some business oriented projects like the Pebble watch[7].

2.4) Geography of financing

Substantial research has covered the effect of geography in different types of financing.

Petersen and Rajan (2002) and Berger et al. (2005) study the impact of geographical distance between borrowers and lenders in the banks' business.

Berger et al. (2005) state that large banks lend at a greater distance than small banks but are not as effective at alleviating credit constraints, adding that being close to the client makes small banks have an advantage in lending thanks to the easiness of collecting soft information.

According to Petersen and Rajan (2002) the distance between small firms and lenders has been increasing over time and they are communicating in more impersonal ways. This however has not made lenders having poorer decisions. According to the same authors what appears to be explaining these phenomena is the improvement in lender's productivity which is a result of advances in computing and communications.

[6] See http://www.investopedia.com/terms/p/peer-to-peer-lending.asp#axzz25mjxUsY6

[7] Peble is an e-paper watch for iPhone and Android, was able to raise more than $10 million from nearly 69.000 people through Kickstarter. The amount was a record for a contribution-based platform. See http://www.kickstarter.com/projects/597507018/pebble-e-paper-watch-for-iphone-and-android

French and Poterba (1991) study investors preferences and behavior to show that, despite the recognized advantages in risk reduction through portfolio international diversification (Solnik, 1974), investors in each nation expect returns in their domestic equity market to be higher than other markets and so invest almost exclusively in domestic assets. They explain the lack of diversification to be the result of investor choices, rather than institutional constraints.

Malloy (2005) investigates the effect of geographic distance on the accuracy of equity analysts' forecasts and provides evidence that geographically proximate analysts are more accurate than other analysts.

Coval and Moskowitz (2001) document that geographical proximity is inversely related to the cost of information acquisition and so mutual fund managers perform better when investing in the stocks of nearby companies.

Ivković and Weisbenner (2005) confirm this strong local bias in individual investors adding that by exploiting local data the average household generates an additional annualized return of 3.2% from its local holdings relative to its nonlocal holdings.

Seasholes and Zhu (2010) also focus on individual investors and document that purchases of local stocks significantly underperform sales of local stocks. This underperformance remained even when focusing solely in stocks that are local and so, more likely to have higher levels of information asymmetry. They then conclude that individuals do not help incorporate information into stock prices, directly contradicting Ivković and Weisbenner (2005).

Some authors focused specifically in Venture Capital.

Venture capitalists differ from traditional investors by not being passive. They add value beyond the money supplied by offering advice and being involved in critical corporate decisions (Sapienza, 1992).

Zook (2002) finds that the location of VCs were key in the concentration of the Internet industry in a few regions in the USA due to the perceived need that entrepreneurs placed on speed and reliance of VCs local network and knowledge. He concludes that the ability to provide these non-monetary inputs is assisted by geographic proximity.

Tian (2008) argues that proximity allows VCs to monitor their investments more effectively and consequently improve firm performance.

Cumming and Dai (2010) document that VCs exhibit strong local bias specially when investing alone.

2.5) Geographical distance between entrepreneur and investor

New projects and ventures face difficulties in getting financed at their very initial stage, regardless of whether they resort to bank loans or equity capital (Cosh et al., 2005). While Venture Capital and Business Angels fill gaps for large amounts, small initial investments are usually done by the entrepreneur himself or its family and friends (Lambert & Schwienbacher, 2010). According to Parker (2009) family and friends are the source of 31% of the start-ups' funds.

What these traditional early stage investment methods have in common is that they tend to be local. Not only due to the local nature of social networks (Hampton and Wellman, 2002), but also due to "*face-to-face interactions for conducting due diligence, monitoring progress, and providing input are relatively important for investors in early-stage ventures and the costs of these activities are sensitive to distance"*. (Agrawal et al., 2011:1)

In what regards to Venture Capitals, Lerner (1995) showed that distance to the firm is an important determinant of the board membership of venture capitalists because of the highest costs of over sighting distant firms.

Florida & Kenney (1988) and Florida & Smith (1993) say that many prefer to invest locally or with another venture capitalist that is located near the firm. Zook (2002) adds that they do it in order to monitor and assist the companies they invest in.

Sorenson & Stuart (2001) report that "*venture capitalists invest in companies 10 miles from their offices at twice the rate of ones situated 100 miles away*" (Sorenson & Stuart, 2001:1581).

In what regards to Business Angels, Gaston (1989) conducted a study in the USA and reported that only 7% had no geographic preferences for their investments while 72% had intentions of investing in companies within 50 miles of their location.

Furthermore, this is not only true for start-ups and small businesses, but also for non-profit early stage projects seeking for funding (Katz, 2006).

Contrary to traditional methods of financing early stage projects, Agrawal et al. (2011) note that crowdfunding platforms are designed to overcome distance-related frictions by allowing virtually anyone with internet access to post a project and to invest a small amount ($1 in some cases). It is also common to provide the amount of money raised by each project to date and the existence of tools that allow the communication between investors and the project owner.

Agrawal et al. (2011) examined the locations of the artists and investors on Sellaband, a crowdfunding platform that allows musicians with no label to raise funds to produce an album, and found out that the mean distance between investors and their investments was approximately 5,000 km. These results contrast with the previous literature that showed the importance of spatial proximity in early stage financing. To our knowledge Agrawal et al. (2011) is the only study that introduces a geographical analysis in the field of crowdfunding.

2.6) Research Hypothesis

The existent literature (Florida & Kenney 1988, Gaston 1989, Florida & Smith 1993, Lerner 1995, Sorenson & Stuart 2001, Zook 2002) says that distance in what concerns to the funding of projects matters. Several authors (e.g. Gaston 1989, Sorenson & Stuart 2001, Zook 2002) studied it by measuring the distance between the investor and the location of the companies in which they invest. Agrawal et al. (2011) are, to date, the only authors who have conducted a geographic study in a crowdfunding platform and did it by measuring the distance in miles between the investors and the bands. Although results are very insightful by only taking into consideration the miles distance one can only conclude if those investments are being made from close or far away, meaning that it does not take into consideration boarders and different cultures or languages. Also, from how many miles can someone consider that a distance is far?

In this study, we propose a model with four quadrants combining the local and global for pledging and application of the funds that we believe is appropriate to evaluate

crowdfunding platforms. The reason is related with the characteristics of the platforms, which can leverage or restrict not only the location from where investors are contributing with funds but also the locus where the funds are being applied.

Platforms were classified according to their geographic characteristics in terms of pledging and application of funds[8], as follows:

LPLA (Local Pledging/Local Application of funds)

LPGA (Local Pledging/Global Application of funds)

GPLA (Global Pledging/Local Application of funds)

GPGA (Global Pledging/Global Application of funds)

Authors that research on geography of financing such as Gaston (1989), Lerner (1995), Sorenson & Stuart (2001), Zook (2002) and Cumming and Dai (2010) suggests that investors prefer to invest in early stage enterprises that are geographically close to them. Others such as Tian (2008) add that those local investments improve firms' performance. As crowdfunding platforms are used mainly to fund early stage projects, one should expect that platforms with a more local focus to have higher performance indicators such as online notoriety. Using the proposed model, the first hypothesis is:

H1: LPLA (Local Pledging / Local Application of funds) platforms have higher online notoriety than the remaining platforms.

Nevertheless, advances in computing and communication increased the availability and timeliness of hard information, which is allowing more impersonal and distant lending without compromising performance (Petersen and Rajan, 2002). Transposing this to the CF phenomenon it suggests that platforms that allow for global application of funds should have better performance than those only focusing locally.

Also, Agrawal et al. (2011) argue that *local and distant investors clearly display distinct patterns* but are both positive for the success of a pledge. They conclude that crowdfunding seems to eliminate most distance-related economic frictions in early stage financing, arguing that projects and funding are global in crowdfunding platforms. This suggests that

[8] The criteria used to do the classification of the platforms is further explained in the section 3.1) Variables

platforms that pledge globally are more likely to be attractive for more people than platforms who only pledge locally and therefore cannot capture distant investors.

Given this, the second hypothesis is:

H2: GPGA (Global Pledging/Global Application of funds) platforms have higher online notoriety than LPLA platforms.

Sapienza (1992) shows that the value of venture capitalists' involvement is strongly positively correlated with venture performance as they can add value besides the money supplied and so choosing the right VC is a very important decision. Contrary to VC in CF typically there are many supporters who make small to medium investments (Ordanini, 2009) so the focus of a project owner should be in gathering the maximum number of investors. I therefore hypothesize that in CF tapping a wider crowd is more important to improve the performance of a CF platform than focusing solely on local investors even if the platform only allows local projects.

Applying this in the proposed model led to the third hypothesis:

H3: GPLA (Global Pledging/Local Application of funds) have higher online notoriety than LPLA platforms.

Finally and in line with the two last hypotheses, the fact that a platform presents a global characteristic related with the application of the funds, even if only accepting local investment, suggests that they should get higher notoriety than the strictly local platforms, and so the fourth and last hypothesis is:

H4: LPGA (Local Pledging/Global Application of funds) have higher online notoriety than LPLA platforms.

To our knowledge no other study looked at the phenomenon of crowdfunding from this perspective, and so we believe it will give new insights.

III. Methodology

After searching the literature available under the subject of crowdfunding we found out that very little had been done at the industry level. Prof. Villarroel prompted us to create a database of the characteristics of the crowdfunding platforms that we were able to identify. To this end, we received a template derived from a previous characterization of crowdsourcing platforms developed by Prof. Villarroel, and a set of crowdfunding characteristics identified in the Crowdfunding Survey performed by crowdsourcing.org (2012). We used these to build a classification of a list of crowdfunding platforms. Our main inspiration for this work was Malone et al's Collective Intelligence Genome (2010).

To identify the crowdfunding platforms we started by using crowdsourcing.org[9] list, wich presented 450 websites. Besides these we identified 5 more crowdfunding platforms (eg. Movimento 1 Euro). We analyzed them all and deleted from the database all the websites that were inaccurately considered crowdfunding platforms (e.g. Quirky) or that we were unable to surf in the website to get sufficient information (e.g. Wazooke).

We finished this process with 390 crowdfunding platforms[10] that were then systematically coded[11].

[9] A list of 450 crowdfunding initiatives can be found at: www.crowdsourcing.org/directory. Accessed on April 15, 2012)
[10] See Appendix 2: List of the 390 analyzed platforms
[11] See Appendix 3: Systematically coding platforms

3.1) Variables

A list of variables used in the analysis is shown in table 2.

Table 2: Variables

Dependent variable
Notoriety index
Independent variables
GPGA (Global Pledging/Global Application) LPGA (Local Pledging/Global Application) GPLA (Global Pledging/Local Application) LPLA (Local Pledging/Local Application)
Control variables
Years Active
Org_Contribution Org_Lending Org_Investment

3.1.1) Dependent Variable – Notoriety Index (Websites linking in)

Links coming into a website are an important figure when comparing websites because they indicate a measure of popularity of the website content and are one of the main factors to determine the position inside the search engines results page.

To deal with the issue of a website getting a big number of links from a singular source, the dependent variable used (notoriety index) was the number of links of a website from websites visited by users in the Alexa[12] traffic panel because multiple links from the same website are only counted once.

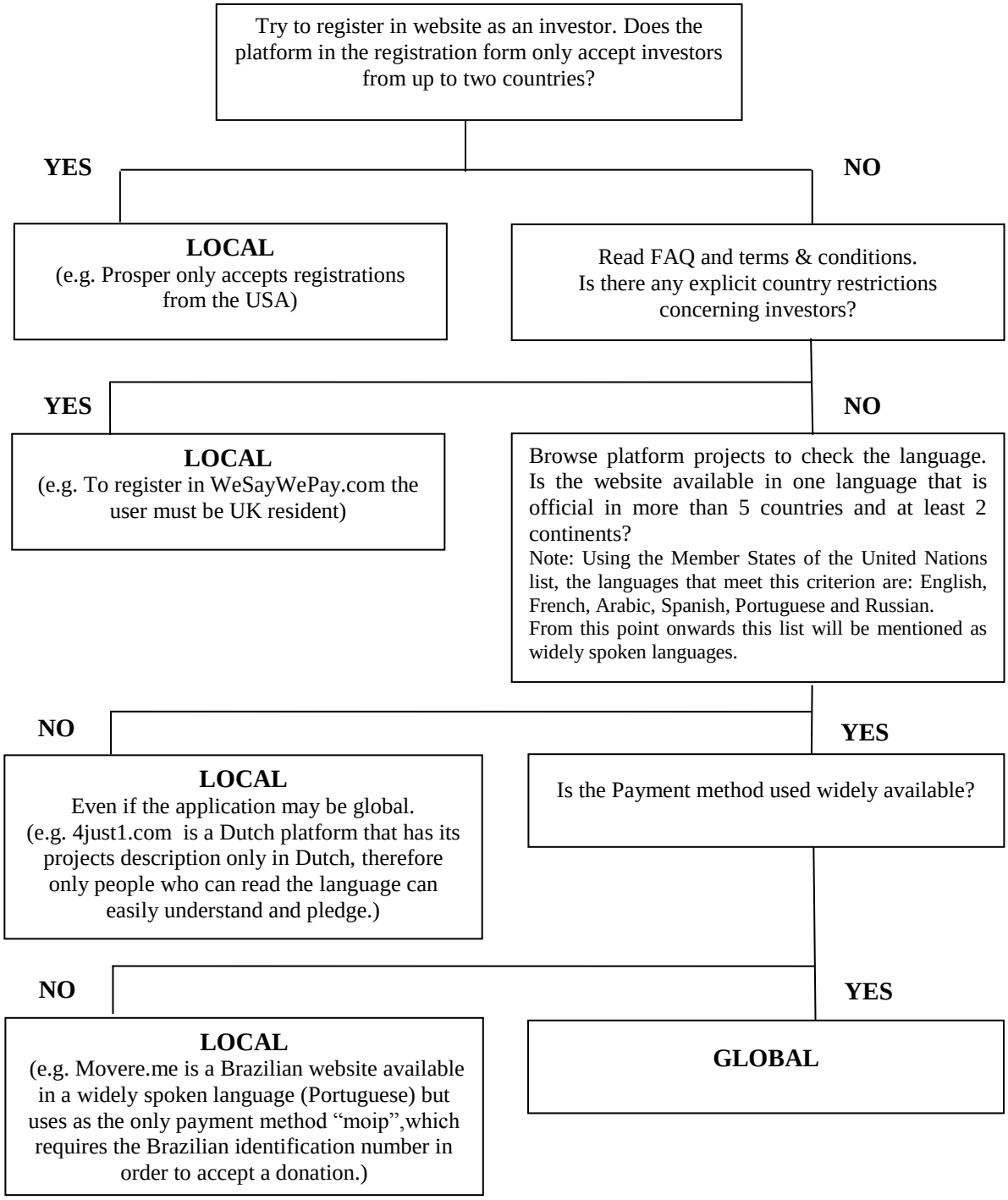
To gather this information each website URL was typed in alexa.com search bar and the number of "Sites Linking In" was stored in our database. This task was performed between the 24th and 26th of April 2012 and as Alexa only updates it monthly, all the numbers report to the same period.

[12] See Appendix 5: About Alexa Internet

3.1.2) Independent Variables

Pledging[13]

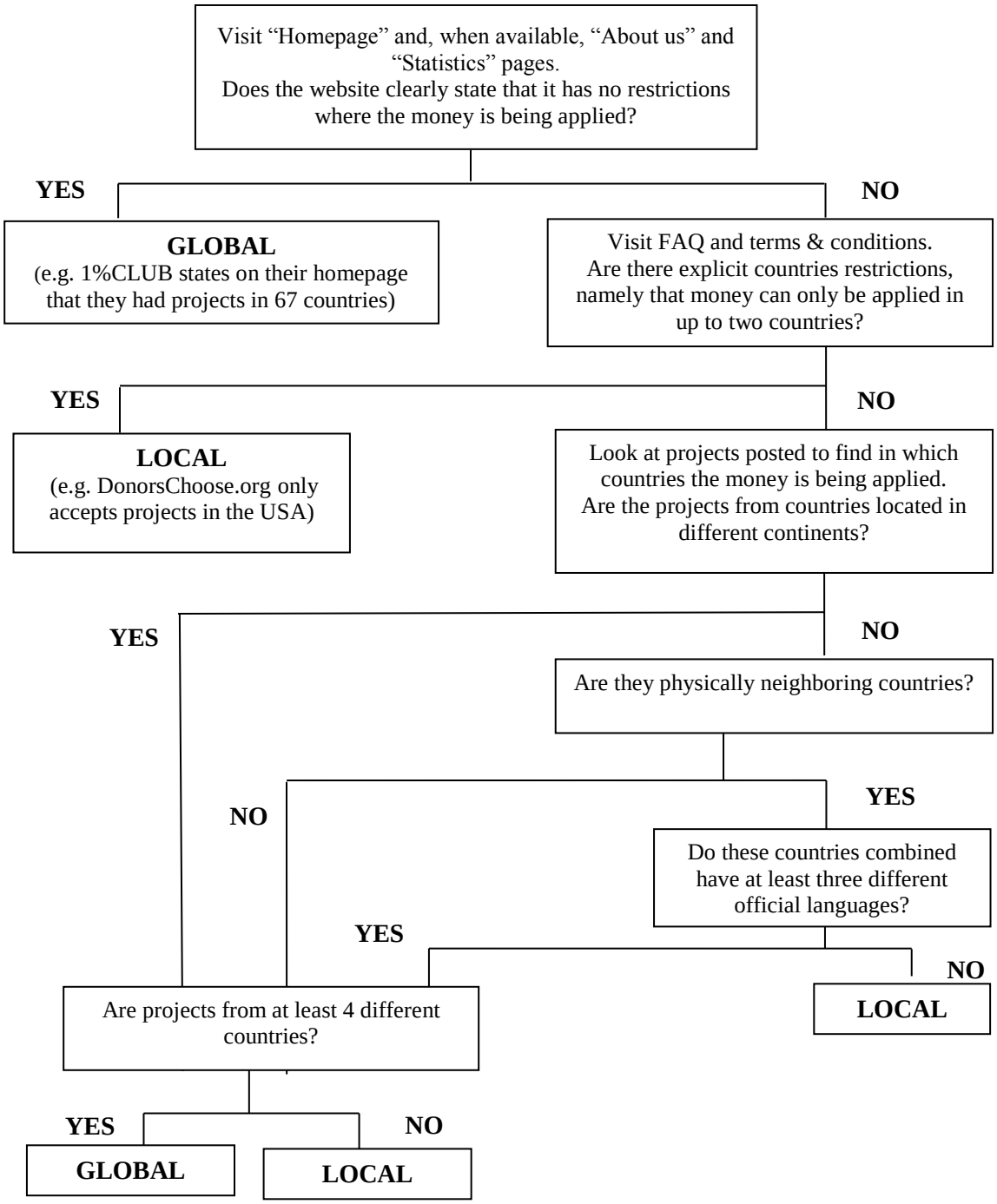
Pledging stands for where the transactions are coming from. The variable was coded in either Global or Local. The criterion to perform it was the following:



[13] For further detail on how the coding was done please see appendix 6:Coding the independent variables

Application of funds[14]

In order to understand where the money raised in the platforms is being applied the variable "Application of funds" was also coded in either Global or Local. The above criteria were followed:



[14] For further detail on how the coding was done please see appendix 6:Coding the independent variables

After coding according to these criteria, there was enough information about 361 platforms.

Table 3: Independent variables

		Pledging
Application of funds	GPGA* (Global Pledging Global Application)	LPGA* (Local Pledging Global Application)
	GPLA* (Local Pledging Global Application)	LPLA* (Local Pledging Local Application)

*Mutually exclusive

There are four combinations of the locus of pledging and application of funds (see Table 3). These are: GPGA (Global Pledging/Global Application), LPGA (Local Pledging/Global Application), GPLA (Global Pledging/Local Application) and LPLA (Local Pledging/Local Application).

3.1.3) Control Variables

Table 4: Control variables

Years Active
Org_Contribution* Org_Lending* Org_Investment*

*Mutually exclusive

Years Active

Older platforms are expected to have higher notoriety, so Years active was used as a control variable.

Organizational Models

As the type of crowdfunding used might have a significant impact on notoriety of the platform it was used as a second control variable.

All platforms were classified using dummy variables according to the three major types of crowdfunding organizational models: Contribution-based, Investment and Lending.

For the purpose of the analysis only the platforms with just one organizational model were considered in order to have a mutually exclusive variable. A total of 9 platforms were ignored for presenting more than one organizational model.

3.2) Method

To get insights about the data gathered, two statistical programs were used: JMP10 and STATA 12. First, JMP10 was used to create a number of reports and graphics in order to study the distribution of the dataset. Also, platforms were grouped by their characteristics, namely locus of projects and application of funds and subsets were created to know in depth the characteristics of each one.

3.2.1) Analyzed Dataset

In order to increase the trustworthiness of the analysis the following restrictions were imposed in the total sample:

1) All the platforms that were offline at the moment when the data was gathered and the ones with messages on their website saying that they had ceased permanently or temporarily their operations were excluded from the analyzed sample. Platforms with clear signs of being abandoned for a long time, that is, with no website and Facebook activity for more than 3 months, were also coded as “dead” and excluded.(N=54)
2) All the platforms without notoriety index were also excluded. (N=2)
3) All the platforms created in 2012 were excluded because many of them had only a couple of months or even weeks of existence when the data was gathered. Also, we are confident to have covered the majority of the crowdfunding platforms created until 2011 and if we would include the ones created in 2012 there was the risk of missing many of them. Also, most of the platforms created in 2012 would have a

low notoriety index not due to their combination of pledging and application of funds but because they were very recent. (N=20)

4) All the platforms created before 2005 were also excluded because some claim to be created many years ago (e.g. ACCION was created in 1961) and so, it very likely that they only become crowdfunding platforms more recently. As this could bias the results and they only represent around 3% of the total sample they were excluded. (N=13)
5) Only platforms with one organizational model were included. The reason was to create a mutually exclusive variable. Therefore, all the platforms with more than an organizational model or that we were unable to identify the organizational model were excluded. (N=14)
6) All the platforms that we were unable to code for both the pledging and application of funds were excluded. (N=2)

Therefore, the analyzed subset consists in the "alive" platforms, with a Notoriety Index higher than zero, created between 2005 and 2011, with exclusively one Organizational Model, and with the Pledging/Application of funds information available. (N=284)

3.2.2) Statistical analysis

In a second step, STATA 12 was used to test the hypotheses. The four possible combinations of Pledging and Application of funds were used in the analysis as independent variable and the variable LPLA was picked as the baseline in the regressions because as literature predicts, traditional way of financing early stage projects tend to be done locally. A negative binomial regression of the logarithm of the notoriety index (dependent variable) was used for the analysis.

IV. Results

The 390 crowdfunding platforms are from 40 different countries[15].The country with the highest number of platforms is the USA with 151 platforms (38.9% of the total) followed by the United Kingdom and France with 37 and 27 respectively. Although there are platforms in all continents[16], around 85% are based in Europe or North America. Europe is the continent with the highest number of platforms with 167 (43% of the total), just followed by North America with 164 platforms (42% of the total).

Table 4 presents a summary of the 361 platforms for which we were able to code for Geographic Pledging/Application of funds and the imposed restrictions.

Table 5: Total sample with geographic Pledging/Application of funds (N=361)

Geographic Pledging/Application of funds		Notoriety index	One Org. Model	Alive	2005-2011	Analyzed Subset
GPGA	149	99.3%	97.3%	90.6%	90.6%	118
GPLA	94	98.9%	96.8%	89.4%	85.1%	68
LPGA	11	100.0%	90.9%	100.0%	100.0%	10
LPLA	107	100.0%	98.1%	92.5%	93.5%	88
TOTAL	**361**	**99.4%**	**97.2%**	**91.1%**	**90.3%**	**284**

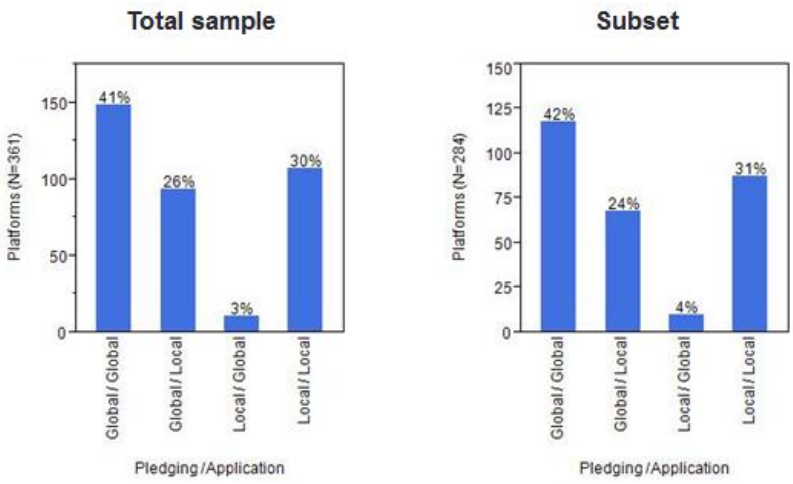
From the table is possible to see that none of the restrictions were particularly severe. Even though, the highest was the years restriction which was the reason to drop 9.7% of the platforms, followed closely by the "dead" platforms which represented 8.9%.

GPGA platforms are the most common type with 149 platforms, followed by LPLA and GPLA with 107 and 94 platforms, respectively. An interesting insight is that LPGA are the rarest type of platforms with only 11 identified, representing 3% of the total sample.

By type, GPLA platforms suffered slightly more than the other types, but differences in the distribution between the total sample and the analyzed subset are not relevant. This last claim becomes even more evident by looking to figure 2.

[15] Appendix 12: Total sample vs analyzed subset - Countries distribution
[16] Appendix 13: Total sample vs analyzed subset - Continents distribution

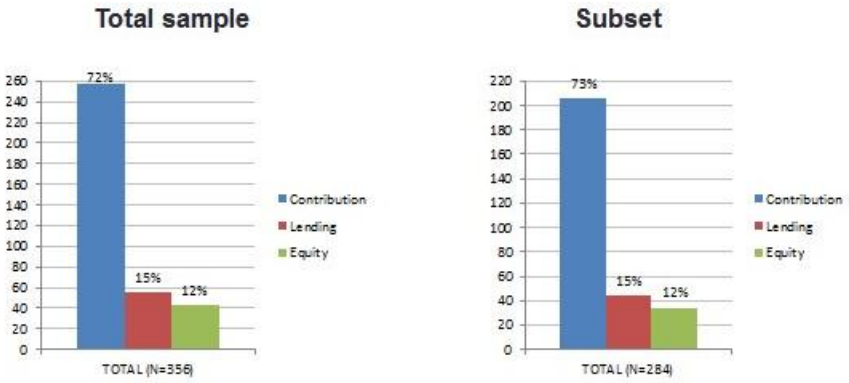
Figure 2: Number of platforms by Locus of Pledging/Application of funds



In what Organizational models are concerned, the Contribution-based model is the most common, being used by 72% of all platforms. Lending and Equity only represent 15% and 12% of all platforms, respectively.

Figure 3 shows that the distribution of the variable Organizational Models is also very similar in the total sample and the analyzed subset.

Figure 3: Number of platforms by Organizational model (mutually exclusive)



Focusing at the analyzed subset (N=284), figure 4 shows the distribution of the organizational models by Geographic Pledging/Application of funds.

Figure 4: Distribution of platforms by Organizational model by Locus of Pledging/Application of funds (N=284)

This framework exposes the differences in the organizational models adapted by the platforms. As the scale presented is the same in all quadrants, the size of the bars represents the number of platforms. Additionally, the weight of each organizational model is presented in each quadrant.

From figure 4 it is possible to see that Contribution based platforms are the majority in all quadrants. Despite this, they only represent 50% of the LPLA platforms, which is much lower than the remaining combinations, where they vary between 78% and 86%. Lending platforms have a particularly high weight in this quadrant representing 33% of the LPLA platforms.

Table 5 adds more information to figure 4 by showing the distribution of each type of platform by geographic pledging/application of funds.

Table 6: Total sample with geographic Pledging/Application of funds (N=284)

Organizational model	#platforms	GPGA	GPLA	LPGA	LPLA	TOTAL
Contribution	206	49%	26%	4%	21%	100%
Lending	44	23%	9%	2%	66%	100%
Investment	34	21%	32%	3%	44%	100%
TOTAL	284	42%	24%	4%	31%	100%

Two thirds of the Lending platforms are LPLA and the main reason is related with the legislation of each country. For instance, Prosper.com only operates in the USA (and even there only in some states) not because they chose to do it, but due to the legislation in the USA. Not only some USA states have been rejecting licenses for lending platforms but also back in 2008, Prosper was shut down for 8 months by the Securities and Exchange Commission (Manjoo, 2011).

Concerning the Investment platforms, 76% have local application (44% LPLA plus 32% GPLA) showing that projects in Investment platforms tend to be from just one or few countries (please see section 3.2.2 for further clarification on criteria). Curiously the majority of the platforms are pledging globally (21% GPGA plus 32% GPLA), meaning that these platforms are not offering barriers for investors from around the world.

The next analysis provided by table 6, explores the indicator of performance used in the analysis (Notoriety index) aggregated by Geographic Pledging/Application of funds.

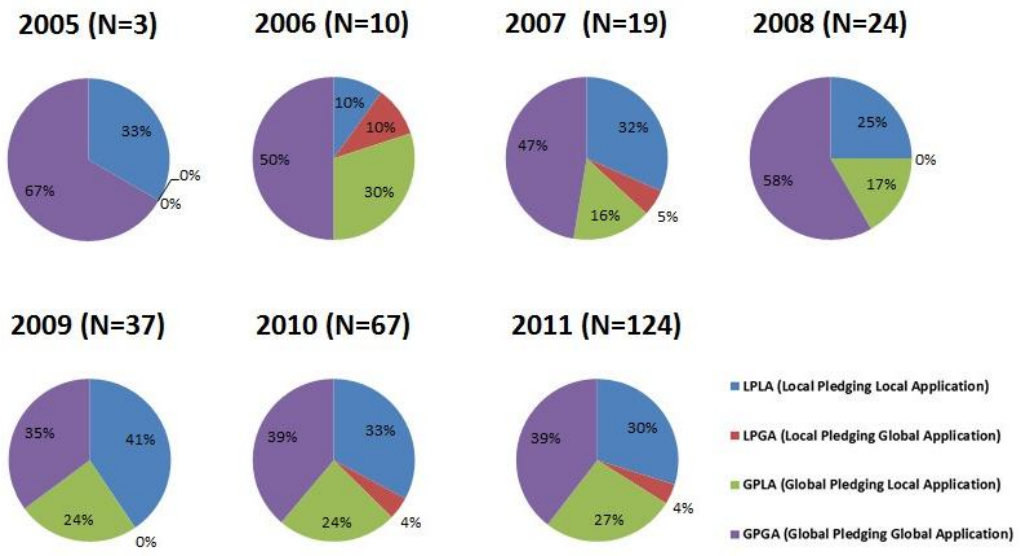
Table 7:Notoriety index by Geographic Pledging/Application of funds

Geographic Pledging/Application of funds	#platforms	Sum of Notoriety index	Average of Notoriety index
GPGA	118	129692	1099
GPLA	68	25596	376
LPGA	10	2333	233
LPLA	88	16449	187
TOTAL	**284**	**157621**	**555**

The table shows that GPGA platforms have the highest average notoriety index, with 1099 websites linking to them on average. The second highest average notoriety index belongs to GPLA platforms indicating that platforms with Global Pledging tend to have higher notoriety index. Although LPLA platforms are the second most common, they show the lowest average notoriety index (187).

By analyzing the yearly distribution of new platforms by Geographic Pledging/Application (figure 5) it is possible to note that from 2005 until 2008 the majority of the platforms being created were GPGA, varying from 47% in 2007 and 67% in 2005. From 2009 onwards the dominance of GPGA platforms decreased representing 35% of the platforms created in 2009 and 39% created in 2010 and 2011. It is also interesting to note that in 2009 the majority (41%) of the platforms created were LPLA, but that percentage decreased in the last two years to 33% and 30% respectively. GPLA platforms have been constantly increasing since 2007, when they represented 16% of the platforms, until 2011, representing 27% of the platforms created that year.

Figure 5: Platforms created by Locus of Pledging/Application of funds (by year)



4.1) Geographic Pledging / Application of funds and Notoriety

This section presents a statistical analysis conducted in the subset (N=284) which, as illustrated previously, is representative of the total database.

Table 8 presents a set of three regression models[17] created to evaluate the impact of the locus of pledging and application of funds in the online notoriety of the crowdfunding platforms

Table 8: Impact of Locus of Pledging/Application of funds in Notoriety index

Variables	Model 1	Model 2	Model 3
GPGA	+++	+++	+++
LPGA	•	+	+
GPLA	+	+++	+++
Years active		+++	+++
Org_Investment			- - -
Org_Lending			•

+++ (positive impact p<0.01), ++ (positive impact p<0.05), + (positive impact p<0.1)

- - - (negative impact p<0.01), -- (negative impact p<0.05), - (positive impact p<0.1)

• (not statistically significant)

baseline: LPLA

The base model (model 1) includes only the independent variables – GPGA, LPGA, GPLA and LPLA (as baseline).

Model 2 introduces the control variable years active.

Finally, model 3 includes as control variables years active and the three Organizational models. Please note that Organizational models used are mutually exclusive. Representing around 73% of the analyzed platforms, Contribution-based model was chosen as the source of comparison and for that reason it is not shown. The fact that platforms with different organizational models are unevenly distributed by each quadrant reinforces the need to use Organizational models as a control variable.

[17] Please see Appendix 14 for the complete regression results

Results show that the control variable years active has a highly significant positive impact in the Notoriety index of 0.522($p<0.01$) in model 2 and 0.538($p<0.01$) in model 3. This means that older platforms tend to have more websites linking to them, as expected.

In terms Organizational models, model 3 shows that Investment platforms have a highly significant negative impact in the Notoriety index of -1.042($p<0.01$) when comparing with Contribution based platforms. We think this results are logical because equity or future revenue are incentives which are relevant to a more sophisticated investor than an object or an experience related with the project which are typical in contribution based model. Lending platforms do not present significant results.

All the models present highly significant positive results for GPGA and GPLA, meaning that always outperform LPLA platforms even with the different Organizational Models as control variables. These results disprove H1: "LPLA (Local Pledging and Local Application of funds) platforms have higher notoriety than the remaining platforms."

Results indicate that GPGA platforms are always the one who present the strongest and statistically significant positive impact in the notoriety index throughout models. Presenting values of 1.772($p<0.01$), 1.547($p<0.01$) and 1.284($p<0.01$) in models 1, 2 and 3, respectively. This result confirms H2: "GPGA (Global Pledging/Global Application of funds) have higher notoriety than LPLA platforms"**.**

GPLA platforms also present statistically significant positive impact in the notoriety index throughout models. The main difference is that they increase their significance from 0.700($p<0.1$) in model 1 to 0.851($p<0.01$) and 0.650($p<0.01$) in models 2 and 3, respectively. These figures confirm H3: "GPLA (Global Pledging/Global Application of funds) have higher notoriety than LPLA platforms"**.**

Finally, LPGA platforms do not present any significant results in the base model but when added the control variables, they present a statistically significant positive impact in notoriety index of 0.802($p<0.1$) and 0.825($p<0.1$) in models 2 and 3, respectively. This particular result has its limitations because of the reduced size of the LPGA platforms, although confirms H4: "LPGA (Local Pledging/Global Application of funds) have higher notoriety than LPLA platforms"

Please see Appendix 15 and 16 for more information on the statistical analysis.

V. Discussion and conclusions

This study tries to give the reader an industry view on the crowdfunding industry by analyzing it with a geographic perspective. To do it we propose a 2 by 2 framework that segments crowdfunding platforms according to their characteristics by the locus of pledging and application of funds. Four combinations were possible: GPGA (Global Pledging/Global Application), LPGA (Local Pledging/Global Application), GPLA (Global Pledging/Local Application) and LPLA (Local Pledging/Local Application).

We believe this model is appropriate to segment the crowdfunding industry due to the characteristics of the platforms, which can leverage or restrict not only the location from where investors are contributing with funds but also the locus where the funds are being applied.

The analysis shows that platforms are experimenting different approaches to the locus of pledging and application of funds. Some are focusing more locally by choice or strategy (e.g. only accepting local payment methods or not having the website in a widely spoken language) while others are restricted by their countries legislation.

By using the framework to analyze platforms by organizational model we get the sense many platforms are trying to mimic geographically what is the common practice in their most similar traditional financing model. For instance, in the case of Lending platforms we can see that 66% are LPLA, meaning that the vast majority is focusing only in investors and projects location to be local similarly to lending banking (Degryse and Ongena, 2005; Petersen and Rajan, 2002).

Also, in the case of the Investment platforms we observe that 76% of them offer Local Application of funds (GPLA + LPLA), meaning that the majority of platforms are restricting the locus of application of funds to a local range. This organizational model which is characterized by offering the crowd the possibility to get equity or a future revenue share is the closest to VC and this approach by the majority of the platforms is consistent with the VC theory (Sapienza, 1992; Florida & Kenney, 1988; Zook, 2002) which says that geographic proximity plays is important to supervise investments.

Looking at the statistical results, they clearly indicate that the geographic locus of the pledging and application of funds of a crowdfunding platform have a significant impact on its online notoriety.

Results show that LPLA platforms are outperformed by all the remaining Pledging/Application of funds combinations in terms of the notoriety even after controlling for the organizational models. Taking in consideration that crowdfunding platforms are mainly used to finance early-stage projects, results suggest that proximity between investor and project owner is not relevant in what concerns to the notoriety of the platform.

This contrast with existing literature (Sapienza, 1992; Lerner, 1995; Zook, 2002) which considers spatial proximity and localized networks as a key point in funding early stage projects and therefore contradicts H1: "LPLA (Local Pledging / Local Application of funds) platforms tend to have higher notoriety than the remaining platforms"

It is also demonstrated that GPGA platforms show the strongest and more significant results for all the models. Meaning that crowdfunding platforms that pledge and allow the application of money to be done globally tend to have higher online notoriety than the LPLA confirming H2: "GPGA (Global Pledging/Global Application of funds) platforms have higher online notoriety than LPLA platforms". This is consistent with prior research on geography of crowdfunding conducted by Agrawal et al. (2011) which states that crowdfunding seems to eliminate most distance-related economic frictions.

A possible explanation is related with advances in computing and communication which increase the availability and timeliness of hard information that Petersen and Rajan (2002) find as the main reason for the increase in distant bank lending, concluding that this is not compromising performance. In fact our figures show that platforms that are tapping a wider crowd by pledging globally are performing better than platforms which are only pledging locally and thus not capturing distant investors. It then comes with no surprise that also GPLA perform better on average than LPLA, confirming H3: "GPLA (Global Pledging/Local Application of funds) have higher online notoriety than LPLA platforms."

Contrary to VC where finding the right VC is considered to be a critically important task, in the case of CF typically there are many investors that contribute with small values. For that reason project owners of crowdfunding projects are more focused in getting the maximum

number of investors than finding the right one. To achieve so, CF platforms must have the characteristics to allow it. We then conclude that in CF tapping a wider crowd is more important to improve performance than focusing on local investors.

Although we only identified 10 LPGA platforms statistical results are statistically significant confirming H4: "LPGA (Local Pledging/Global Application of funds) have higher notoriety than LPLA platforms"

This result is in line with H2 and H3 and it suggests that by impacting more people, CF platforms increase the chances of also getting more projects and investors. It makes sense that platforms that allow for at least projects to be realized globally and therefore having a higher exposure to perform better on average than strictly local platforms.

From this study results we note that picking the right platform can be an important decision to the project owner as the characteristics of the platform itself influence the reach of a project in terms of the size of the potential crowd.

5.1) Practical Implications

In this study we analyzed how the locus of pledging and application of funds of a platform relates with its online notoriety.

We believe that the results are particularly useful for platform owners to deepen their knowledge about the industry and understand how their decisions in terms of platform characteristics are affecting its online notoriety.

As shown by this study, local characteristics for pledging and application of funds are an at odds with of online notoriety and very likely of other performance indicators. For this reason platform owners should understand that their platform characteristics have a direct impact in their online notoriety. Some of those characteristics are imposed by local legislations and so there are not in control of the platform (e.g. Prosper can only operate in some USA states because of the USA law for 2p2 lending platforms), but most of the remaining characteristics identified as a source of restricting a platform to be local, can be overcome. Having the website available in a widely spoken language and not restricting the

payment methods to local ones are some easy features to implement, that will be key to attract investors from abroad and turn a local pledging platform into a global pledger.

Results also indicate that platforms that are only applying funds locally are getting less notoriety. This suggests that a way to increase the notoriety of a platform might be create some kind of incentive for their users to create projects in different countries.

Also, crowdfunding is getting a lot of momentum and it is expected that not only the number of platforms being created but also the value of the industry keeps increasing. A crowdfunding industry report[18] from Massolution estimates that in 2012 the industry will provide funding of around $2.8 billion versus the $1.5 billion from 2011. We then speculate that countries that are too restrictive regarding the laws applicable to crowdfunding platforms will most likely refrain platforms based in their countries from thriving in this industry. A regulatory regime that is clear both for platform owners and users, might become a key success factor for some countries platforms outperform others.

5.2) Limitations

The first and most important limitation is related with the classification of Local and Global. Particularly, in the third step of the of the Pledging of funds, it is considered that to be candidate of being Global a platform has to be available in a widely-spoken language. The classification used is that language has to be official in more than 5 countries and at least 2 continents. While the definition tries to only include languages that are used in different regions in the Globe, it excludes some of the most spoken languages in the world (e.g. Chinese[19]). An alternative would be using Ethnologue[20] list of the most spoken languages. The ideal solution would be to know exactly who is behind each transaction on each platform.

[18] A preview of the report is available at http://www.crowdsourcing.org/document/crowdfunding-industry-report-abridged-version-market-trends-composition-and-crowdfunding-platforms/14277

[19] Despite Chinese being a language that is mostly spoken in China, there are around 50 million overseas Chinese. See http://www.china.org.cn/china/NPC_CPPCC_2012/2012-03/11/content_24865428.htm

[20] See Lewis, M. Paul (ed.), 2009. Ethnologue: Languages of the World, Sixteenth edition. Dallas, Tex.: SIL International. Online version: http://www.ethnologue.com/

Also, as most of the data was collected directly in the platforms websites and coded by hand, despite all our efforts to re-check the data it is possible to have some errors, especially subjective perceptual ones. Nevertheless as the data analyzed includes a large number of platforms (N=284) those possible errors should not have a big influence in the results.

Finally, another limitation of the study is related with the notoriety index.

This variable relies on the number of links of a website from sites visited by users who have Alexa Toolbar installed. The company analyses the online activity from the toolbar users and then extrapolates it to the population as a whole. This approach has however a limitation that is the selection bias: *"self-selection of individuals to participate in an activity"*[21], and so it does not represent a random sample of internet users, but only those who have installed the toolbar, which according to the company are millions worldwide"[22]. The toolbar allows who installs it to know more data about websites, so it is useful to people who are familiar with SEO (Search Engine Optimization) meaning that they might be over represented. As other web metrics companies also suffer from sampling, a way to deal with the problem would be use several sources (e.g. ComScore, SEOmoz) and create an weighted average metric.

5.3) Future Research

As future research it would be very interesting to apply the locus of pledging/application of funds framework using other performance indicators, such as the percentage of successful projects or funds raised by the platforms. This would indicate which type of platform is being effectively used to fund new projects.

From our analysis we note that some countries seem to be outperforming others (e.g. 39% of the platforms are from the USA and Netherlands has more platforms than Germany). Do some cultural features, e.g. Hofstede (1980) dimensions of the platform's home country, have an impact on its performance?

[21] See http://www.skepdic.com/selectionbias.html
[22] See Appendix 5: About Alexa Internet

Other research topics that can be developed are related with the funders. Are they aware of their risks? Do they know the legislation of the country they are investing in? These issues are specially related with platforms that offer financial return.

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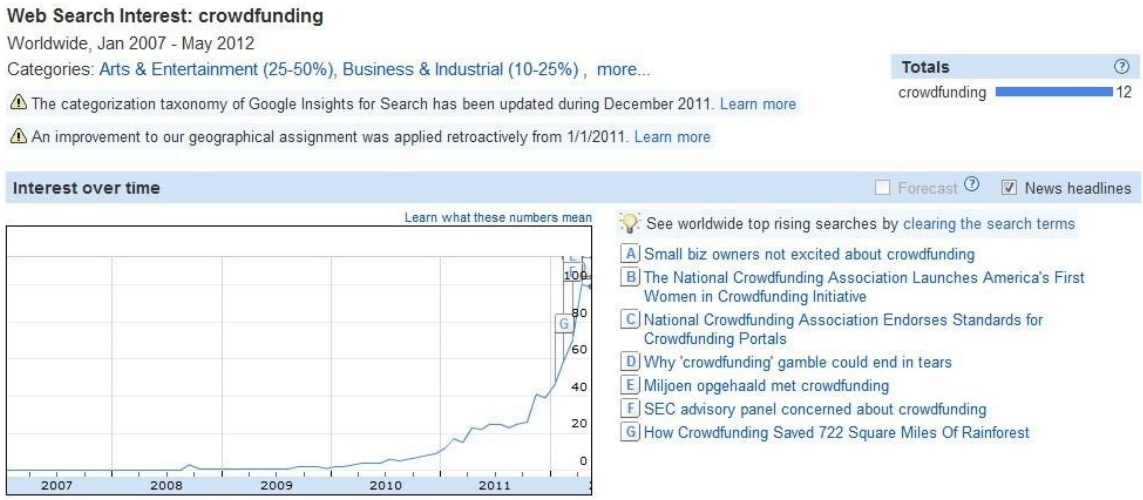
VII. Appendixes

Appendix 1: Web search interest in the word "crowdfunding"

(http://www.google.com/insights/search/#q=crowdfunding&date=1%2F2007%2065m&cmpt=q)
Accessed June 25, 2012



Appendix 2: List of the 390 analyzed platforms

1 Dollar 1 Home, 1% Club, 100 Days, 10Beyond, 33 Needs, 4 Just 1, 40 Billion, 8-Bit Funding, A8muf Crowdfund, ACCION, ActBlue, AcumenFund, Adbacker, Advert Activist, Africa Unsigned, Akvo, Ammado, Angel Shares, App Backr, Apps Funder, Artha Platform, Artiste Connect, Artistshare, Artspire, ASSOB, Ativa Ai, Babeldoor, Babyloan, Bananacash, Bandtastic, Bank to the Future, Bankeez, BBVA Friends and Family, BEEx, Benfeitoria, Better Place, Better World Network, Bloom VC, Boomerang, Busker Label, Buy Credit, Buzz Entrepreneur, Buzzbnk, Campfire, Cap Angel, Caring Bride, Carnet de Mode, Cashare, Catarse, Causes, CauseVox, Cauzoom, Changing the Present, Charity Factors, Chipin, Cine Crowd, Cinema Reloaded, Cinema Shares, Citizen Effect, Civic Sponsor, Civilised Money, CKIE, Cofolio, Cofundit, ComeçAki, Commonbox, Community Lend, Comproyecto, Comunitae, Couch Tycoon, Create Jobs for USA, Creative Selector, Crowd About Now, Crowd Cube, Crowd Culture, Crowd Mecca, Crowdbackers, CrowdBooks, Crowdfunder, Crowdfunding Facilities, Crowdrise, Crowdtilt, Deki, Demo Hour, DEVEXO, Donors Choose, Dream Bank, Dreamore, Early Shares, Education Generation, Ekjaa, Elveos, Embolacha, Emphas.is, Epic Change, Epic Step, Eppela, Eureka Fund, Everyday Hero, FABrique d'Artistes, Faithfunder, Fandyu, Feed The Muse, Field Theory, Film Funds, Finance Utile, First Giving, Fondeadora, Fondomat, Fondomat EU, Friendfund, Friends Clear, Frooble, Fund St. Louis, Fund Weaver, Fund:it, Funda Geek, Fundchange, Funded By Me, Funder Thunder, Funding 4 Learning, Funding Circle,

Fundly, Fundraise, Fundrazr, Fundstarter, Geldvoorelklaar, Gesture Crowdfunding NZ, Give a Little, Give Corps, Give Forward, Givezooks, Givology, Go BIG Network, Go Fund Me, Go Get Funding, Go Give Social, Go Green Social, Good Return, Goteo, Greater Good, Greedy or Needy, Green Funder, Green Girl, Green Note, Green Unite, Grow VC, Helpedia, Helpers unite, Hope Mongers, Humanity Calls, I Grin, I make rotterdam, Ideacious, Ideame, Ikelmart, Impulso, Incentivador, Indie go go, Indulj, Ingressar, Injoinet, Inkubato, Innovestment, Interactor, Inuka, InVenture, Invest Fashion, Invested.In, Investiere, Investors Ally, Ioby, IOU Music, Ipledg, Ise Pankur, IWN Internship Fund, Jolkona, Just Giving, Justin Wilson Investor Club, Kachingle, Kapipal, Katipult, Kickstarter, Kifund, kisskissbankbank, Kiva, Kokos, Kopernik, Kreandu, Lainaaja, Lánzanos, Launcht, Lend With Care, Lending Club, LET'S, Libros, Loanio, Look at my Game, Loud Sauce, Lubbus, Lucky Ant, MakeITopen, Maneo, Mashup Finance, Massivemov, McKenson Invest, MeBlitz, MedGift, Media Funders, Mega Total, Mercy Corps, Mes Vignes, Micro Giving, Micro Graam, Micro Ventures, Microist, Microplace, Milaap, Mimoona, Mini Donations, Mobcaster, Mobile Movement, Movere, Movies Angels, Movimento 1 Euro, Mutuzz, My Azimia, My Major Company, My Micro Invest, My Projects (Cancer Research UK), My Sherpas, My Show Must Go On, My Witty Games, MYC4, Mycause, MyELEN, Myfootballclub, Namaste Direct, New Face Film, New Jelly, Nieuwspost, Nordstarter, Oocto, Open Genius Project, Opportunity International, Opportunity International Canada, Peerbackers, Peerform, People Capital, Peoplefund.it, Petridish, Philanthroper, PIFWORLD, Pirate My Film, Pixonauts, Plan Big, PleaseFund.Us , PledgeMe , PledgeMusic , Pledgie , Pling, Polak Potrafi , Porto24 , Poz.ycz, Pozible, PPDai , PPL, PRÊT D'UNION, Profounder, Project Powerup , Projectgeld, Prosper, Proyectanos , PUBSLUSH Press, Qifang, Queremos, Querk, Quero na Capa, Rally , Rang De , Rate Setter, Razoo , Rebirth Financial , Recoup , Respekt , Revenons à la musique , Revenue Trades , Ricebowlproject , Rippple, Rocket Hub, Rusini , Sandawe , SASIX, SaveTogether, Scholar Match , Schrijversmarkt , SciFlies , Seedmatch , SeedQuick, Seedrs, SeedUps, SeeYourImpact , Sellaband, Serial Liver , ShadeFund , Share a Gift , Share2Start , Sibite , SkyFunder , Slated , Small Change Fund, Smartnme, Smava , SocialWish, Socios Inversores , Sokap, Solar Mosaic, SoLoCo, Somesha, SoMoLend, SonicAngel, SOUP , Spacehive, Sponduly, Sponsorcraft, Sponsorgoal , Sponsume, Sponzu , Spot.us, spredbudskabet, Sprigster, Springboard, Sprowd, Start Next, Start Some Good, Starteed, StartersFund, Startup Addict, StoryFunded , Symbid, Talentboek, TechMoola , TenPages , The (Iw) Movie Project , The Hoop Fund , The Modest Needs, The One Percent Foundation , The Open Source Science Project , The People of Godspell, The Point, The Wisdom of Others, ThrillCapital, TipTheWeb , Touscoprod, Trustbuddy, Tu Mecenas, Twask , Uend, UJIMAA, Ulule, Unbound, Unglue.it, United Prosperity, Vakinha, Veecus, Venture Bonsai, Verkami, Vision Bakery , Vittana, Volanda, Voordekunst, WacaWaca, We fund, We komen er wel, WealthForge, Wegetthere , Wemakeit, WeSayWePay, WildlifeDirect, WiSEED , Wishbox , Wokai , World Penny Jar, Yesideias, Yes-secure, YouCaring, Zafèn, Zidisha, Zimple Money, Zopa

Appendix 3: Systematically coding platforms

To code the characteristics of the platforms we created an account on each platform. Most of the information used in the coding was retrieved from the websites homepage, "About us" section, FAQ, Terms of Use and in the available posted projects. When a website was not online, we used the *Wayback Machine*[23] to navigate and get the information needed. Complementary we used Alexa Internet[24] to get the traffic ranks, number of websites linking in and other web metrics and each platform official Facebook page to get their number of fans. Finally, all the platforms were contacted individually by email or through contact forms available at their websites, to ask for the missing information.

Appendix 4: About Wayback Machine

(http://archive.org/web/web.php and http://archive.org/about/faqs.php)
Accessed June 25, 2012

The Wayback Machine is a tool that allows anyone to "*browse through over 150 billion web pages archived from 1996 to a few months ago. To start surfing the Wayback, type in the web address of a site or page where you would like to start, and press enter. Then select from the archived dates available. The resulting pages point to other archived pages at as close a date as possible."*

They state in their FAQ that *"The Internet Archive has relied on donations of web crawls, technology, and expertise from Alexa Internet and others. The Internet Archive Wayback Machine is owned and operated by the Internet Archive"*

[23] See Appendix 4: About Wayback Machine
[24] See Appendix 5: About Alexa Internet

Appendix 5: About Alexa Internet

(www.alexa.com)

Accessed Juy 23, 2012

Alexa Internet is an Amazon company founded in 1996 that "*grew out of a vision of intelligent Web navigation constantly improving through its users. Alexa users have downloaded millions of Toolbars, and Alexa has created one of the largest Web crawls, and developed the infrastructure to process and serve massive amounts of data.*

For users of the Alexa Toolbar and website, the results are products that have revolutionized Web navigation and intelligence. For developers, this has led to a set of tools unprecedented in scope, allowing whole new services to be created with Alexa data."

Alexa ranks *"30 million websites worldwide, offering in-depth coverage for over 125 countries"*. They also state that their website is visited by more than 6 million people each month.

Appendix 6: Coding the independent variables

Pledging

Pledging stands for where the transactions are coming from. The variable was coded in either Global or Local. The criteria to perform it was the following:
1) Try to register in website as an investor. If in the registration form the platform only accept investors from up to two countries it was coded as local (e.g. Prosper[25] only accept registrations from the USA). If criteria not met,

2) Read FAQ and terms & conditions to find if there were explicit country restrictions concerning investors. Platform was coded as local if only allowed investors from up to two countries (e.g. to register in WeSayWePay.com the user must be UK resident). If criteria not met,

3) Browse platform projects to check the language. Site must be at least in one language that is official in more than 5 countries and at least 2 continents to be candidate for Global. Using the Member States of the United Nations list[26], the languages that were considered as Global were the following[27]: English, French, Arabic, Spanish, Portuguese and Russian. If the project descriptions are not in a widely spoken language, then likely there are local pledges only, even if the application may be global. For instance, 4just1.com[28] is a Dutch platform that has its projects description only in Dutch, therefore only people who can read the language can easily understand and pledge. If criteria not met,
4) Payment method. Platform was coded as Local if the method used is not widely available, even if the website is available in a widely spoken language. For example, Movere.me is a Brazilian website available in a widely spoken language (Portuguese) but uses as the only payment method "moip", which requires the Brazilian identification number in order to accept a donation.

[25] See Appendix 7: Example of a LPLA platform (Prosper.com)
[26] See http://www.un.org/en/members/index.shtml
[27] See Appendix 8: List of Languages by number of countries
[28] See Appendix 9: Example of a LPGA platform (4Just1.com)

Application of funds

In order to understand where the money raised in the platforms is being applied the variable "Application of funds" was also coded in either Global or Local. The above criteria were followed:

1) Visit "Homepage" and, when available, "About us" and "Statistics" pages. If it is clearly stated that they have no restrictions where the money is being applied, platform was coded as Global. (e.g. 1%CLUB[29] states on their homepage that they had 299 realized projects in 67 countries). If criteria not met,
2) Visit FAQ and terms & conditions. If there were explicit country restrictions, namely that money was just applied in up to two countries, platform was coded as Local (e.g. DonorsChoose.org[30] only accepts projects in the USA). If criteria not met,
3) Look at projects posted to find in which countries the money is being applied. The coding followed the above criteria:

   a1. Physically neighboring countries were considered local, unless when combined they have at least 3 different official languages

   a2. Same language countries were considered local, unless more than 3 countries

   b1. When in the same continent, global platforms had to be neither of a1 nor a2.

   b2. When in different continents global platforms could be of same language

   If criteria not met,
4) Existence of projects with "Global application" One project with "Global application" was sufficient condition to be coded as Global.

[29] See Appendix 10: Example of a GPGA platform (1%CLUB)
[30] See Appendix 11: Example of a GPLA platform (DonorsChoose.org)

Appendix 7: Example of a LPLA platform (Prosper.com)

Prosper is a US based P2P lending platform that was launched in 2006.

The platform rates each loan and acts as marketplace between borrowers and lenders, charging a fee between 0,5% and 4,95% once the loan is funded. They also have some special circumstances fees when some of the terms are not met.

According to Prosper's Legal Compliance, their platform is only available to lenders who reside in the following states: Alaska, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Louisiana, Maine, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New York, Oregon, Rhode Island, South Carolina, South Dakota, Utah, Virginia, Washington, Wisconsin and Wyoming.

Prosper is an example of a LPLA platform. It only accepts investors (lenders) from the USA (Local Pledging) and all the borrowers projects are also exclusively from the USA (Local Application).

Appendix 8: List of Languages by number of countries

Language	World	Africa	Americas	Asia	Europe	Oceania	Countries
English	60	24	15	4	3	14	Antigua and Barbuda, Australia,Bahamas, Barbados, Belize , Botswana , Cameroon, Canada, Dominica, Eritrea, Ethiopia, Federated States of Micronesia, Fiji, Ghana, Grenada, Guyana, India, Ireland, Jamaica, Kenya, Kingdom of the Netherlands, Kiribati, Lesotho, Liberia, Malawi, Malta, Marshall Islands, Mauritius, Namibia, Nauru, New Zealand, Nigeria, Pakistan, Palau , Papua New Guinea, Philippines, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Seychelles, Sierra Leone, Singapore, Solomon Islands, South Africa, South Sudan, Sudan, Swaziland, Tanzania, The Gambia, Tonga, Trinidad and Tobago, Tuvalu, Uganda, United Kingdom, United States, Vanuatu, Zambia, Zimbabwe
French	29	21	2	-	5	1	Belgium, Benin, Burkina Faso, Burundi, Cameroon, Canada, Central African Republic, Chad, Comoros, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, France, Gabon, Guinea, Haiti, Luxembourg, Madagascar, Mali, Monaco, Niger, Republic of the Congo, Rwanda, Senegal, Seychelles, Switzerland, Togo, Vanuatu
Arabic	24	11	-	13	-	-	Algeria, Bahrain, Chad, Comoros, Djibouti, Egypt, Eritrea, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, Yemen
Spanish	20	1	19	-	1	-	Argentina, Bolivia, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Spain, Uruguay, Venezuela
Portuguese	8	6	1	-	1	1	Angola, Brazil, Cape Verde, East Timor, Guinea-Bissau, Mozambique, Portugal, São Tomé and Príncipe
German	7	-	-	-	7	-	Germany, Austria, Switzerland, Belgium, Lichtenstein, Luxembourg, Italy
Russian	5	-	-	3	2	-	Russia, Kazakhstan, Belarus, Kyrgyzstan, Tajikistan
Italian	4	-	-	-	4	-	Italy, Switzerland, San Marino, Vatican City
Malay	4	-	-	4	-	-	Malaysia, Indonesia, Singapore, Brunei
Dutch	3	-	1	-	2	-	Netherlands, Belgium, Surinam
Persian	3	-	-	3	-	-	Iran, Afghanistan (known as Dari), Tajikistan (known as Tajik)
Swahili	3	3	-	-	-	-	Tanzania, Kenya, Uganda
Chinese	2	-	-	2	-	-	China and Singapore

Source: "The World Factbook 2012". Central Intelligence Agency

Notes: The list includes countries where each language is a de jure or de facto official language
Only UN member states were considered
Kingdom of Netherlands is composed by Aruba, Curaçao, Sint Maarten and Netherlands
English was considered an official language in Malawi. Despite not being considered in the CIA World factbook, the official website of the country's government says it is. Please see www.malawi.gov.mw.

Appendix 9: Example of a LPGA platform (4Just1.com)

(www.4just1.com**)**

Accessed August 5, 2012

Created in 2011, 4just1.com is a contribution-based platform from Netherlands, where users can fundraise for any kind of project.

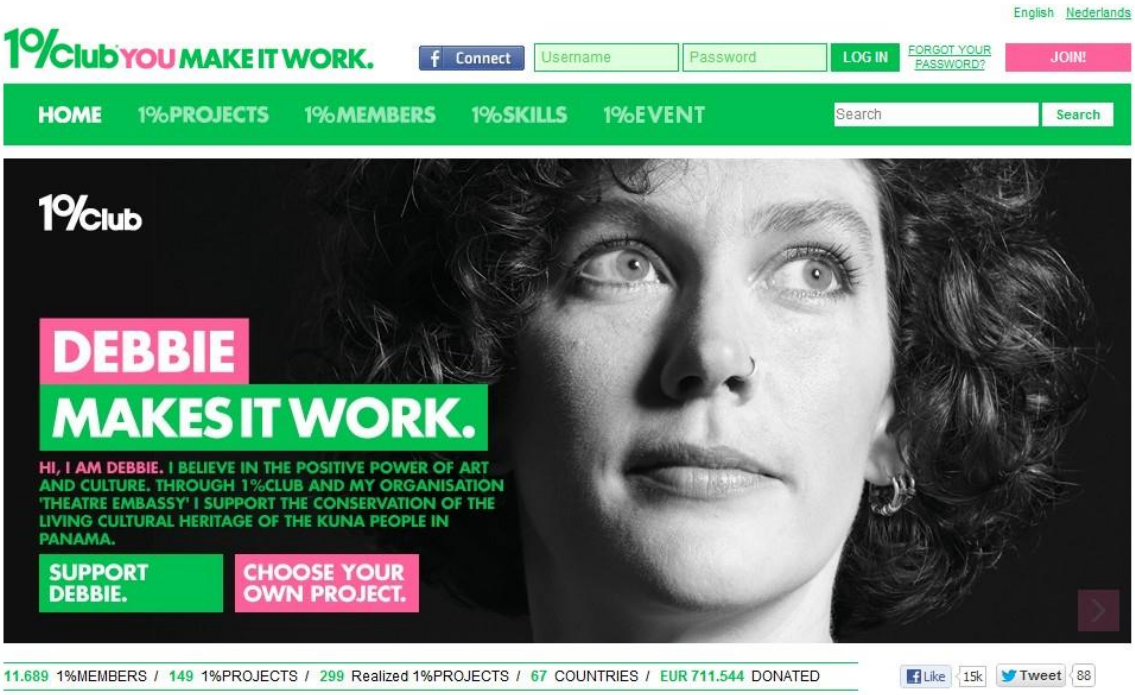
It is an example of a platform where there is no limitation in terms of the application of the money (Global), but as the projects are in a non-widely spoken language (Dutch), it was considered Local in terms of pledging. This is a case of a LPGA (Local Pledging Global Application) platform.

This particular image illustrates an initiative to financially adopt children in Indonesia. As the project description is only written in Dutch, only people who can read the language can easily understand and pledge.

Appendix 10: Example of a GPGA platform (1%CLUB)

(www.1procentclub.nl/)

Accessed September 4, 2012



Founded in 2008 in Netherlands, 1%CLUB is a "platform that connects smart development projects with people, money and knowledge around the world."

This Contribution-based platform allows people not only to donate money but also knowledge or time. In return, donors get real time project updates from the people that run the projects.

In their homepage they clearly state that they had projects in 67 countries so they are clearly Global in Application of funds. As their website is available in English and they accept credit card as a payment method they are pledging globally making them a GPGA (Global Pledging Global Application) platform.

Appendix 11: Example of a GPLA platform (DonorsChoose.org)

(www.donorschoose.org and www.donorschoose.org/html/peoplewhocansubmit.htm)

Accessed September 4, 2012

DonorsChoose.org
Teachers ask. You choose. Students learn.

To submit a proposal at DonorsChoose.org, the teacher, coach, counselor, or librarian must be:

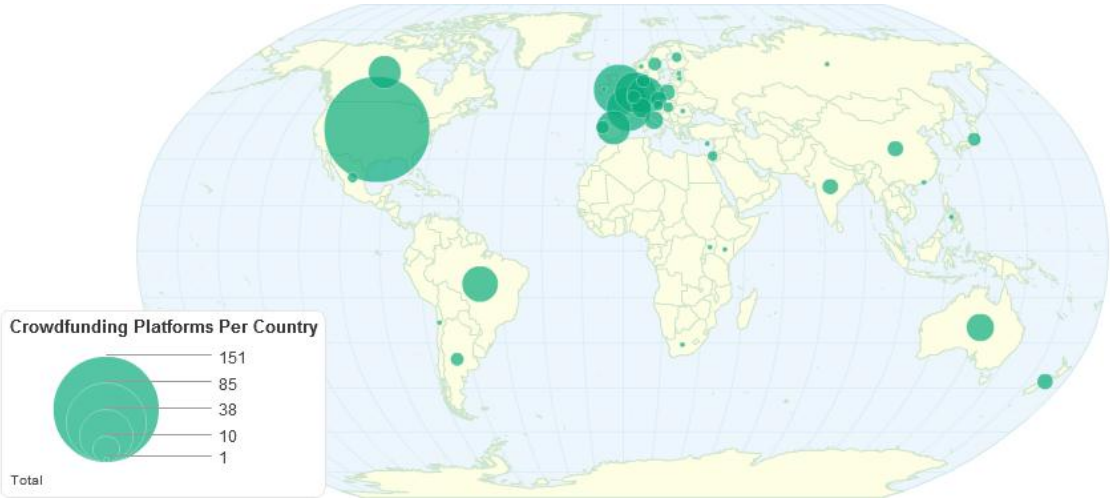
1. A full-time employee, in good standing, of the school or school system;
2. Physically located at one or more schools, or based out of a district office;
3. Primarily assigned to directly serve students; and
4. Responsible for some (preferably all) of the students to benefit from the proposal, meaning that the students concerned are on the teacher's roll book or in the teacher's club or sports team.

DonorsChoose.org is a contribution-based crowdfunding platform focused in helping public school teachers, exclusively from the USA, to get the materials they need to help their students. Once a project reaches its funding goal, they deliver the materials to the school. In exchange for their contribution, Donors get photos of the project taking place, a thank-you letter from the teacher, and a cost report showing how each dollar was spent. Donors, who give over $50, also receive hand-written thank-you letters from the students.

This platform is an example of a GPLA as it has projects exclusively in the USA (Local Application) but has no restrictions in what regards to pledging as it offers PayPal and credit card as payment methods (Global Pledging).

Appendix 12: Total sample vs analyzed subset - Countries distribution

Number of platforms by country (total sample)



Total sample

Frequencies

Level	Count	Prob
USA	151	0,38918
UK	37	0,09536
France	27	0,06959
Netherlands	23	0,05928
Germany	19	0,04897
Brazil	18	0,04639
Spain	16	0,04124
Canada	13	0,03351
Australia	11	0,02835
Switzerland	6	0,01546
Italy	5	0,01289
China	4	0,01031
Czech Republic	4	0,01031
India	4	0,01031
New Zealand	4	0,01031
Poland	4	0,01031
Portugal	4	0,01031
Argentina	3	0,00773
Belgium	3	0,00773
Denmark	3	0,00773
Japan	3	0,00773
Sweden	3	0,00773
Austria	2	0,00515
Finland	2	0,00515
Hungary	2	0,00515
Israel	2	0,00515
Mexico	2	0,00515
Chile	1	0,00258
Cyprus	1	0,00258
Estonia	1	0,00258
Hong Kong	1	0,00258
Ireland	1	0,00258
Kenya	1	0,00258
Latvia	1	0,00258
Norway	1	0,00258
Philippines	1	0,00258
Romania	1	0,00258
Russia	1	0,00258
South Africa	1	0,00258
Uganda	1	0,00258
Total	388	1,00000

N Missing 2

40 Levels

Analyzed subset

Frequencies

Level	Count	Prob
USA	102	0,35915
UK	27	0,09507
France	22	0,07746
Netherlands	20	0,07042
Germany	16	0,05634
Spain	12	0,04225
Brazil	11	0,03873
Canada	10	0,03521
Australia	8	0,02817
Switzerland	6	0,02113
India	4	0,01408
Argentina	3	0,01056
Belgium	3	0,01056
Czech Republic	3	0,01056
Denmark	3	0,01056
New Zealand	3	0,01056
Poland	3	0,01056
Portugal	3	0,01056
Sweden	3	0,01056
Austria	2	0,00704
China	2	0,00704
Italy	2	0,00704
Japan	2	0,00704
Chile	1	0,00352
Cyprus	1	0,00352
Estonia	1	0,00352
Finland	1	0,00352
Hong Kong	1	0,00352
Ireland	1	0,00352
Israel	1	0,00352
Kenya	1	0,00352
Latvia	1	0,00352
Mexico	1	0,00352
Norway	1	0,00352
Philippines	1	0,00352
Russia	1	0,00352
South Africa	1	0,00352
Total	284	1,00000

N Missing 0

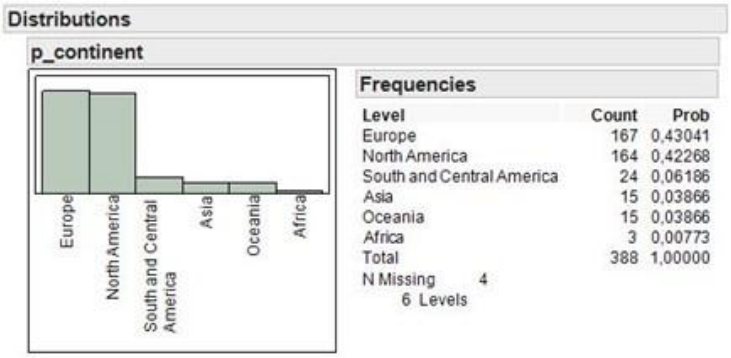
37 Levels

In this appendix we have the number of platforms per counties. Please note that we were unable to find where 2 platforms were based and that is the reason why the total sample considered in the image has a total of 388 platforms.

The subset is representative in terms of countries distribution as all the countries that weight at least 2% of the total sample do not suffer any significant change. The country with the highest number of platforms is by far USA (151 platforms in the total sample). The USA is also the country that presents the highest variation representing 38,9% of the platforms in the total sample and 35,9% in the subset. Romania, Uganda and Hungary are the only three countries that were represented in the total sample but are not in the subset.

Appendix 13: Total sample vs analyzed subset - Continents distribution

Total sample

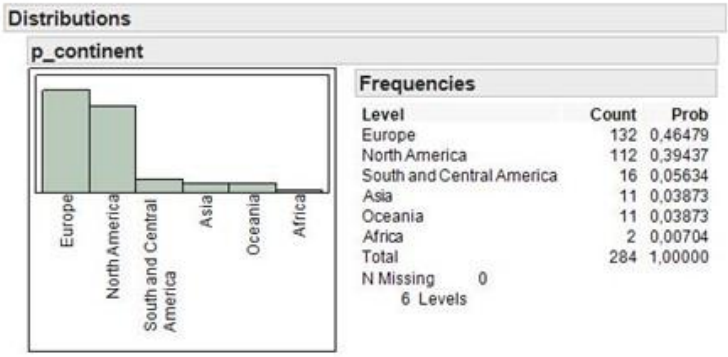


Frequencies

Level	Count	Prob
Europe	167	0,43041
North America	164	0,42268
South and Central America	24	0,06186
Asia	15	0,03866
Oceania	15	0,03866
Africa	3	0,00773
Total	388	1,00000

N Missing 4
6 Levels

Subset



Frequencies

Level	Count	Prob
Europe	132	0,46479
North America	112	0,39437
South and Central America	16	0,05634
Asia	11	0,03873
Oceania	11	0,03873
Africa	2	0,00704
Total	284	1,00000

N Missing 0
6 Levels

Although there are platforms in all continents, 85% are based in Europe or North America.

Europe is the continent with the highest number of platforms with 167 (43% of the total), just followed by North America with 164 platforms (42% of the total).

The subset is representative of the total sample despite Europe being slightly over represented (46%) at North America's cost (39%).

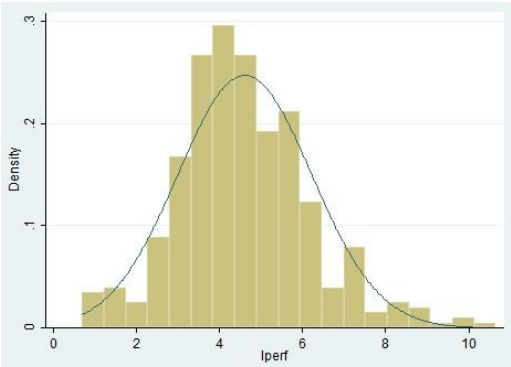
Appendix 14: Negative Binomial Regression results for Notoriety index

	perfreg1	**perfreg2**	**perfreg3**
	coef/se	**coef/se**	**coef/se**
gpga	1.772***	1.547***	1.284***
	(0.439)	(0.406)	(0.350)
lpga	0.222	0.802*	0.825*
	(0.384)	(0.452)	(0.426)
gpla	0.700*	0.851***	0.650***
	(0.422)	(0.276)	(0.242)
p_yearsactive		0.522***	0.538***
		(0.083)	(0.087)
Investment			-1.042***
			(0.216)
Lending			-0.326
			(0.351)
_cons	5.231***	3.777***	4.032***
	(0.233)	(0.254)	(0.216)
/lnalpha	0.799***	0.586***	0.554***
	(0.095)	(0.118)	(0.117)
Number of observations	284	284	284
R2			
F			

note: *** p<0.01, ** p<0.05, * p<0.1

Baseline: LPLA (Local Pledging, Local Application)

Appendix 15: Distribution of the dependent variable (Notoriety index)



The image shows the distribution of the logarithm of the variable Notoriety Index. This variable was used to analyze the impact of the combinations of geographic pledging and application of funds.

Appendix 16: Statistical analysis

Spearman's Correlation table

	lperf	lpla	lpga	gpla	gpga	p_year~e	Invest~t	Lending
lperf	1.0000							
lpla	-0.2019	1.0000						
lpga	0.0249	-0.1280	1.0000					
gpla	-0.0269	-0.3760	-0.1072	1.0000				
gpga	0.2035	-0.5649	-0.1611	-0.4731	1.0000			
p_yearsact~e	0.3631	-0.0026	-0.0246	-0.0670	0.0697	1.0000		
Investment	-0.0920	0.1047	-0.0116	0.0727	-0.1569	0.0773	1.0000	
Lending	0.0204	0.3234	-0.0290	-0.1490	-0.1635	0.2253	-0.1579	1.0000
Contribution	0.0503	-0.3383	0.0320	0.0680	0.2467	-0.2389	-0.5993	-0.6958

	Contri~n
Contribution	1.0000

Regression table

log(Notoriety index+1) regressed on LPLA, LPGA, GPLA, GPGA, Years active, Investment model, Lending model and Contribution-based model.

```
note: gpla omitted because of collinearity
note: Lending omitted because of collinearity
```

Source	SS	df	MS
Model	138.611467	6	23.1019112
Residual	543.365862	277	1.96160961
Total	681.977329	283	2.40981388

Number of obs =	284
F(6, 277) =	11.78
Prob > F =	0.0000
R-squared =	0.2032
Adj R-squared =	0.1860
Root MSE =	1.4006

lperf	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lpla	-.395426	.2363566	-1.67	0.095	-.8607094	.0698573
lpga	.0864414	.4747152	0.18	0.856	-.8480663	1.020949
gpla	0	(omitted)				
gpga	.3262042	.2159462	1.51	0.132	-.0988999	.7513082
p_yearsactive	.3922708	.0577249	6.80	0.000	.2786355	.5059061
Investment	-.404901	.3263141	-1.24	0.216	-1.047272	.2374696
Lending	0	(omitted)				
Contribution	.0502058	.2576653	0.19	0.846	-.457025	.5574367
_cons	3.84612	.3370484	11.41	0.000	3.182618	4.509622

Variance inflation factor (VIF)

Variable	VIF	1/VIF
Contribution	1.91	0.522225
lpla	1.73	0.578172
gpga	1.64	0.609888
Investment	1.62	0.615517
lpga	1.11	0.902224
p_yearsact~e	1.09	0.913778
Mean VIF	1.52	

VIF is low so multicollinearity is not an issue.

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