

The Motivational Foundations of Lenders

Social Lending through Crowdfunding Platforms

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Dissertation submitted in partial fulfillment of requirements for the degree of MSc in
Business Administration, at the Universidade Católica Portuguesa, Spring 2013

ABSTRACT

Thanks to the development of the Web 2.0, the new-generation interactive web focuses on involving its users as value-creating agents. As such, the way companies do business online and interact with their customers has also been changing. Organizations can rely on this technology to innovate and create new distributed business models that are also profitable and sustainable (Villarroel & Gorbatai 2011a, 2011b).

As such, a recent organizational concept, crowdsourcing, enables firms to make an open call to source ideas, work, etc. from the crowd. In particular, as the concept found new areas of application, it is now possible to source the crowd for funding through “crowdfunding” platforms.

This thesis focuses on social lending initiatives - in which individual members of the crowd support social causes and other individuals, helping them to get funding for their projects through crowdfunding platforms. The aim is to study the motivational foundations of lenders.

The results show that social lenders’ motivations are intrinsic in nature. On one hand, lenders do contribute more often in social lending initiatives if: they have humanitarian and altruistic *values*; need to *protect their ego* from the negative features of the self; and if they enjoy and have *fun* during the process of investing. On the other hand, when it comes to extrinsic motivations, lenders do participate less often when they have *social pressure*; or when they feel they have to *protect others* from the negative features of their lives.

In order to contribute more times and support more projects, lenders must be intrinsically motivated, since extrinsic motivations make them feel obliged to help, which decreases their *frequency of participation*.

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PREFACE

Acknowledgements

I would like to express my very great appreciation to all those who contributed to this research. Mentoring, advice and assistance provided by professor Andrei Villarroel, my dissertation advisor, have been of great help, during the Crowdsourcing Business Models (CBM) Seminar. His recommendations, valuable and constructive feedback, as well as the time spent mentoring me were truly appreciated and crucial for the development of my thesis.

I acknowledge the close collaboration with CBM Seminar participants, Sebastiano Fortis and Vanessa Pinto, in our joint data collection effort, and all eight dissertation seminar participants for sharing their enthusiasm and support for our common research theme. I also acknowledge Kiva.org for their comprehension and all the Kiva platforms lenders who graciously contributed with their answers to our survey.

Finally, I wish to thank my colleagues, and my friends and family for all the support and encouragement.

Motivation

Nowadays, lending or donating money to far away countries, effortlessly and while simply staying at home, is a growing reality. More and more people take advantage of the Internet to do good all over the world and give money to support projects through crowdfunding platforms.

For instance, through Kiva.org – a non-profit crowdfunding platform, subject of this research – I personally supported a group of 10 people living in Kenya, by helping them to get funding to buy farming inputs to plant sweet potatoes, millet and sorghum (Exhibit 1). Other 20 lenders also contributed, and together, the group raised the \$400 they needed. After 11 months, all the lenders receive their money back without interest rate, which is donated to the borrowers that only have to pay a lower interest rate to the microfinance institution on the field. As the reader can see through this example, I could personally experience how: as long as borrowers are able to convince the crowd of lenders to support them, they can get funding without using the traditional banking systems. In the beginning of 2013, Kiva accounted for more than 940,000 lenders and had already raised up to \$440,000,000 in loans¹.

This phenomenon has been growing rapidly in the last decade, and the trend seems to continue (see Villarroel & Onofre 2013). This means that it is important to study and understand what triggers people to participate in these platforms and lend or donate money to help strangers in need.

This research study aims to complement existing literature, by researching about lenders' motivations to engage in social lending initiatives, through crowdfunding platforms. At first, an overview about the topic is presented in the Literature Review section, based on known and well-cited authors, who have developed groundbreaking work on the subject. Then the analysis is presented (Exhibit 2), which comprises: a) Survey Sample, b) Analysis Factor, and c) Analysis Regression Analysis. Finally, the results are presented as well as the discussion and the conclusions. All exhibits and tables can be found in the Appendices section.

¹ www.kiva.org/about/stats

LITERATURE REVIEW

For the purpose of this research, it is crucial to spotlight specific literature related to crowdsourcing and crowdfunding, and how these boosted the impact of microfinance and social lending in alleviating poverty around the world. Although there are already several papers on these topics, the literature is still missing of some important aspects related to the motivations of people participating in crowdfunding initiatives. Some papers already address the individual motives for charitable giving and altruistic donations, nevertheless, the reasons driving the “crowd” to contribute on social lending platforms constitute a gap in the literature reviewed as a preamble to this research.

Clary et al. (1998) studied the grounds why “millions of people devote substantial amounts of their time and energy to helping others”, focusing on volunteerism and on trying to understand the “process that move people to action”, undertaking a functional analysis. Villarroel (2008:Ch4), and Villarroel & Tucci (2009), also followed this functional analysis to study what motives contributors in firm-sponsored crowdsourcing initiatives (originally referred to as e-collective initiatives by the authors), verifying not only the importance of monetary incentives, but also proving the significance of another important motivation – fun or enjoyment – to explain the participation in these type of crowdsourcing initiative.

While the literature has already focused in understanding motivation in helping out through volunteerism, self-organized e-collective work, and firm-sponsored e-collective work, this thesis focuses on understanding motivations in online social lending, through crowdfunding platforms. Therefore, it addresses the research question:

What are the motivational foundations of lenders in social lending platforms?

Crowdsourcing and Crowdfunding

*"Simply defined, crowdsourcing represents the 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. The crucial prerequisite is the use of the open call format and the large network of potential laborers."
(Howe 2006)*

For over a decade now, the Web 2.0 has been evolving together with developments in IT. Social network sites, as well as other forms of computer-mediated communication, emerged and became crucial for the success of some business models, allowing users not only to create content and profiles, but also to interact and form groups or teams, according to their shared interests, views, or beliefs (Boyd & Ellison 2007). Web 2.0 developments have facilitated the access to a large crowd and promoted a closer relationship between all stakeholders.

The concept of crowdsourcing is related to Open Innovation, which states that companies should open their boundaries to the outside, in order to benefit from the wisdom of the crowd. There are resources outside the company that can and should be used to create value for the business (Chesbrough 2003). Given that, companies use several crowdsourcing initiatives to enable the crowd to contribute with solutions, ideas, money or other type of support.

Thanks to crowdsourcing initiatives, companies can save time, money, and solve their problems (Villarroel 2012: 175-177). The connection between the crowd and a company is possible because of the Web 2.0, which allows companies to create platforms and advertise online what they need. Through the right incentives, contributors can feel intrinsically or extrinsically motivated to participate and engage in those initiatives.

“A very small number of crowdfunding platforms dominate the landscape. While the leading platforms of this field may change, crowdfunding is likely to remain a “winner-takes-most” environment.” (2012:3)²

IT developments in the last decades allowed entrepreneurs to reduce costs on the number of individuals they need to launch or boost a business, as well as the number of tangible assets, since computers can perform more tasks and support more data and software. Given those developments, the only thing which could potentially prevent an individual from developing and launching his own project is the lack of investment. However, not only people can create, change, adapt, and share their own content through the Web, but also fund or get funding from the crowd.

This phenomenon known as crowdfunding can be defined as “the financing of a project or a venture by a group of individuals instead of professional parties like, for instance, banks, venture capitalists or business angels” (Larralde and Schwienbacher 2010). It has been growing in the last years, due to the Web 2.0 that makes possible to build online platforms where everyone can join, contribute and participate. Crowdfunding platforms are specifically designed to intermediate between applicants and contributors, changing the way some projects or products get funding. Social media has also been decisive to boost the interaction with the online public, triggering contributors to share their willingness in supporting an idea, regardless of their geographical location or viewpoints.

Crowdfunding refers to crowdsourcing initiatives where companies or individuals seek for funding, because the most common channels might not be available. So crowdfunding emerged as an alternative or even as the first choice to get funding. It can be used for different purposes and there are different models/categories³:

1) Donation-based – *a donor contract without existential reward.*

2) Equity-based – *shareholding contract, shares, equity-like instruments or revenue sharing in the project/business, potential up-side exit.*

² White Paper: Consumer Interest in Investment Crowdfunding, FundingLaunchpad.com (March 29, 2012)

³ Buysere et al., A framework for European Crowdfunding, (2012)

3) Lending-based – *credit contract, credit is being repaid plus interest.*

4) Reward-based – *purchase contract for some type of product or service.*

The equity-based and lending-based models are the “most effective for digital goods (e.g., software, film and music). These categories, on average, raised the largest sum of money per campaign. Donation-based and reward-based crowdfunding for cause-based campaigns that appeal to funders’ personal beliefs and passions perform best (e.g., environment).”⁴

Depending on the type of initiative, a company must adapt the incentives and the platform design in order to attract contributors and applicants. By understanding the motivation of contributors, companies can leverage their business, by matching contributors’ expectations with reality, which will attract more users and promote the network effect.

Crowdfunding platforms design is critical to enhance the relationship and the interaction between applicants and contributors (Kittur et al. 2013). These platforms seek to attract and retain as many users as possible, in order to benefits from the network effect, which means that “as the installed base of users grows, more and more users find adoption worthwhile” (Shapiro & Varian 1999). The strongest platforms will achieve critical mass and take over the market, becoming the dominant platform. According to Shapiro & Varian (1999), firms in which the network effect is negative, working against the retention of users, will struggle to stay in the market, and eventually will have to exit.

When platforms are able to attract and retain users, increasing their user-base, those firms can manage to be better than its competitors. It enables a firm to experience a situation of temporary monopoly, attracting more and more users, while its competitors have less and less. It happens when the benefit to each individual user increases with the number of other users in the same network

⁴ CROWDFUNDING INDUSTRY REPORT Market Trends, Composition and Crowdfunding Platforms, Research Report Abridged Version (May 2012)

(Shapiro & Varian 1999). Still, it depends on the number of users willing to join the network.

Even if changing to another network would leave all user better off, no one wants to be the first one to leave the existing platform and join the new one, which means that the first mover advantage can play a decisive role (Shapiro & Varian 1999).

Crowdfunding platforms represent a two-sided virtuous cycle, because the more users contributing for the projects, the more users will join to participate with their projects (Hagiu & Julian Wright 2011). So, the more people contributing on one side with financing, the more people contributing on the other side with projects. The effect also works the other way around. If a platform isn't able to attract users to contribute to existing projects, then no one will participate with projects in that platform (Rochet & Tirole 2010).

Social Lending and Microfinance

“The social impact of online Microfinance has also helped growing awareness of the needs and the rights of poor people to financing. This needs to be captured, at some stage, by brick and mortar MFIs who could then accompany the entrepreneurs in a more human way than a website.”
(Ashta & Assadi 2009)

Depending on its purpose, each crowdfunding platform can be classified into different categories, as presented above. Focusing on the lending-based crowdfunding, which this thesis intends to address in more detail, peer-to-peer (P2P) social lending websites have proven to be the most successful crowdfunding platforms, by bringing investors and borrowers closer. Lenders prefer this process of investing in which they easily know to whom they are lending the money, instead of using the conventional financial institutions (Ashta & Assadi 2009).

When considering online social lending, “notions of the individual within community, transparency and broader ethicality are fundamental” (Hulme 2006) to attract as many lenders as possible. In the future, social lending will keep growing in importance and “the likely future market of social lending will be ‘niche mass’, which

will, nevertheless, increasingly fulfill an established role within investors' and independent financial advisors' portfolios" (Hulme 2006).

The understanding of the profile of those who engage and contribute to fund loans in lending-based crowdfunding platforms is an essential contribution to the literature, since it can help these platforms to boost their user-base, attracting and retaining as many contributors and applicants as possible. Previous literature already states that lenders tend to support borrowers who are similar to them or to individuals instead of groups (Galak, Small, and Stephen 2011). However, there is still plenty of room to study lender's motivations to engage in social lending initiatives.

Social Behavior and Motivations

Academic papers about motivations and reasons to participate and contribute for a cause are quite explored. A highly cited paper⁵ related to volunteer participation, Clary et al. (1998) studied volunteers' motivations, and through a functional framework, reached interesting conclusions. This framework considers six functions that comprise the motivational foundations of volunteerism:

- 1) Values – the volunteer expresses values related to altruistic and humanitarian concerns for others.
- 2) Understanding – the volunteer seeks for new experiences and intends to exercise knowledge, skills, and abilities.
- 3) Social – the volunteer concerns about his relationship with others, and chooses to engage in activities that will please his friends.
- 4) Career – the volunteer engages in these initiatives to obtain career-benefits
- 5) Protective – the volunteer wants to ease his feeling of guilt over being more fortunate than others.
- 6) Enhancement – the volunteer is focused on his self-esteem and personal growth.

The factors identified in Clary et al.'s (1998) conceptual analysis were confirmed by the exploratory and factors analyses conducted with the data collected, and

⁵ Clary et al has 1,077 citations on Google Scholar, as of June 17, 2013

volunteers' motivations grouped themselves according to what was hypothesized, confirming the significance of these six-factor structure to explain the motivations of volunteers.

Oded Nov (2007) studied "what motivates content contributors" in Wikipedia, using the volunteerism factors approach and introducing two new factors to explain the reason people participate.

- 1) Fun – contributors have fun in writing/editing content in Wikipedia.
- 2) Ideology – contributors edit content in Wikipedia because they believe information should be free.

The results showed that users do not contribute more just because their ideology is high or low. However, when it comes to the fun factor, it was identified a strong correlation with the contribution levels.

Villarroel (2008:Ch4) and Villarroel & Tucci (2009), build on the same constructions as Clary et al., including the variable *fun*, in order to study the impact of this "typical motivation in open source communities"⁶ on the participation and contribution performance of users in Amazon's Mechanical Turk. Their findings confirmed that fun reliably explains different performance factors, namely: average hours per week (effort), frequency of participation, and number of tasks executed. Regarding the *frequency of participations*, that research adds to the literature a three-way confirmation that the more fun participants have during the process, the more often they will contribute.

Nonetheless, literature on the motivations of lenders in crowdfunding platforms is still scarce. This work builds on Clary et al.'s and Villarroel & Tucci's approach to further analyze the motivational foundations of lenders in crowdfunding platforms.

⁶ Villarroel A., Tucci C. 2009. Motivating firm-sponsored e-collective work. MIT Sloan School of Management

Research Hypotheses

The study of lenders' motivational foundations is critical to ensure the success of social lending crowdfunding platforms and to complement existing literature on this topic. The above review of the literature, provides support for hypothesizing that the motivations to lend money through these platforms are the same factors Clary et al. (1998) identified for volunteerism, namely: values, social, enhancing, protecting, understanding, career. Given that, their volunteerism constructs must be considered to explain lenders' motivations (values, understanding, social, career, protective of self, and enhancement). It is expected that most of those dimensions are significant and have a positive impact in motivating lenders to participate in social lending initiatives.

H1: *Volunteerism* is a predictor explaining gracious help provided to others.

In the investigation of Clary et al. (1998) regarding volunteerism, a set of factors have been argued to define volunteerism and explain why people move to action and help others: values, understanding, enhancement, career, social, and protective of others. Given that, hypothesis H1 comprises 6 sub-hypotheses, which consider the factors proposed by Clary et al. (1998).

H1.1: Lenders have altruistic and humanitarian **values** that motivate them to participate in social lending initiatives. [intrinsic]

H1.2: The **understanding** lenders gain in participating in these initiatives, where they engage in new experiences, learn and develop abilities and skills, motivates them to participate. [intrinsic]

H1.3: Lenders are motivated to participate in social lending by the need to **enhance** their ego, personal growth and self-esteem. [intrinsic]

H1.4: Lenders have **career** concerns that motivate them to enroll in these initiatives. [extrinsic]

H1.5: Lenders have **social** bonds with friends and people they respect that

motivate them to participate in social lending initiatives. [extrinsic]

H1.6: Lenders are motivated to participate in social lending initiatives by the need to **protect** their ego from the negative features of the **self**. [intrinsic]

Nevertheless, previous literature also refers to the importance of enjoyment and fun, and how it motivates contributors to participate and enroll in crowdsourcing initiatives, from e-collective initiatives (Schroer & Hertel 2007) to open source software projects (Lakhani & Wolf 2005). Villarroel (2008:Ch4), and Villarroel & Tucci (2009) also found that fun (joy, entertainment) was not only a typical motivation in open source communities, but that it was also a good predictor of contributors motivations to participate in crowdsourcing initiatives. Given that, it makes sense to include this dimension when studying lender's motivations.

H2: Lenders experience greater **enjoyment/fun** through social lending, which motivates them to participate more. [intrinsic]

Finally, besides those dimensions identified through the literature review, an additional extrinsic motivation was identified through a conceptual analysis: *protective of others*. Lenders care about others' welfare and feel impelled to engage in social lending initiatives to protect and help others. This dimension is focused on how much lenders feel that others need them or their contribution. Do they feel more motivated if they think their contribution is essential to improve borrowers' living conditions or happiness? This dimension differs from protective of self, since the focus is not on the misfortunes of the self, but of others. Caring about others welfare appears as a reasonable explanation for participation in social lending initiatives.

H3: Lenders care about **protecting others** through social lending, which motivates them to participate more. [extrinsic]

Lenders may be intrinsically or extrinsically motivated. Intrinsic motivations are expected to have a stronger impact in explaining lender's motivations, given the social context and the lack of prizes or monetary rewards. Still, one can divide the

motivation factors presented in the hypothesis into intrinsic (values, understanding, protective of self, enhancement, and fun), and extrinsic (social, career, and protective of others).

In this analysis, the first factors to be analyzed will be the ones referring to volunteerism, and first presented by Clary et al. (1998); and then the non-volunteerism factors, which comprise the fun factor studied by Villarroel & Tucci (2009), and the protective of others, which is a new factor explored in this work.

CASE DESCRIPTION: KIVA.ORG

“We are a non-profit organization with a mission to connect people through lending to alleviate poverty. Leveraging the Internet and a worldwide network of microfinance institutions, Kiva lets individuals lend as little as \$25 to help create opportunity around the world.”⁷

Founded in 2005, Kiva had until 2013 more than 935,700 active lenders in its platform, 190 field partners, 450 volunteers, and contributed with more than \$434,164,700 in 67 countries, helping about 1,045,400 borrowers, with a repayment rate of 99.00%. The objective of this platform is to facilitate the access to capital to those that may have more difficulties in getting funding through traditional banking systems, in order to help alleviate poverty, mostly in developing countries, support those in need and improve their living conditions.

Kiva chose to focus on lending-based crowdfunding, while other companies opted for other categories of crowdfunding. The market is still very fragmented, with no companies standing up with high market shares. One can consider that crowdfunding platforms are still in the fermentation stage, and until the dominant design is established, the number of players in the market is expected to increase. However, companies already established, like Kiva, are benefiting from first mover advantage and from the network effect, which are strong entry barriers. Once the dominant design is defined, the number of crowdfunding platforms in the market will decrease.

Given that, it is extremely important that Kiva keeps on improving its platform and business model, studying its users and the best way not only to attract new users, but also to retain them.

How does this platform work? There are two main sides to analyze: 1) Borrowers' side, and 2) Lenders' side.

Borrowers are all individuals or a group of individuals that need money to launch or to improve their business. Each borrower has a profile in Kiva, where their personal

⁷ www.kiva.org/about

story, the loan amount, and the repayment terms and schedule are presented. Kiva volunteers around the world are responsible for the translation and submission of borrowers' profiles and they intermediate the relationship between borrowers, the Kiva partner on field (microfinance institution), and the platform itself. The pool of loans that can be submitted is large, but it always respects the social intention of Kiva. Borrowers need to convince the crowd to help and lend money to their projects.

Lenders are all individuals, mostly in developed countries, willing to engage in these initiatives, and fund loans in Kiva. Lenders have to register in the platform and can create their own profile too. Once they complete the registration stage, lenders can choose a loan to support, and search for borrowers' profiles, using different criteria, from the country, to the gender or even the sector of the project.

Each loan has a funding goal and a deadline, being all-or-nothing, which means that, until the deadline, if the funding goal is not achieved all lenders receive their money back. If the goal is achieved, lenders only receive their money back, without interest rate, after some months, depending on the repayment schedule. Besides that, it is also possible to interact with other lenders and create or join in lending teams, which enables a deeper connection between lenders in the community (Exhibit 3).

Kiva is taking advantage of crowdfunding, changing the way people help through social lending. It benefits from first mover advantage and from the network effect. Being in the market since 2005, it was able to increase their user base, establishing itself as one of the most important platforms in social lending crowdfunding. The more loans are available in the platform, more people will register and lend money, and vice-versa, which will translate into more loans getting funding, and less poverty in the world (Exhibit 4).

“Kiva is primarily funded through the support of lenders making optional donations. We also raise funds through grants, corporate sponsors, and foundations.”⁸

⁸ www.kiva.org/about

Being a non-profit organization, Kiva does not charge any fees to borrowers or lenders. It works as an intermediary between borrowers and lenders, working closely with its partners on field. Microfinance partners are responsible for the repayments and interest rates applied on field. Most of the times borrowers have to pay an interest rate to the microfinance institution to cover administrative expenses and other expenditures. However, lenders give up on their interest rate, donating the interest to borrowers. For instance, lenders can help fund a loan with \$25 at a given time, and receive the \$25 back some months later, losing the interest of that period. When they receive the money, there is the possibility to withdraw or reinvest it. However, there is always a risk rate associated to each microfinance partner, and lenders can find that information on borrowers' profiles, being aware that some loans are not paid back.

Kiva should study lenders to get insights that can be used to leverage its platform. By analyzing all information and data, Kiva can know what lenders value and why do they lend. For instances, they can use that information to make the platform more user friendly or more oriented for some topics, depending on lenders preferences, loan patterns, comments, and interaction in the platform (Exhibit 5).

METHODOLOGY

In order to collect data on the subject of motivations to contribute to social-lending, lenders in Kiva were asked to answer a survey. The main objective was to reach as many lenders as possible, ensuring a high diversity of respondents. Given that, not only autonomous lenders, but also lenders in teams were asked to answer the survey about their experience. Kiva teams were not pre-selected to avoid bias resulting from sharing the survey only with a particular group of respondents. In the end, more than 300 different teams received the message asking for collaboration.

The motivation questions in Clary et al. (1998), Nov (2007), and Villarroel (2008) were adapted to the new context of social lending, keeping as much as possible the same intention and the core message, since those questions had already been tested in those previous studies. Lastly, the order of several questions was randomized to avoid bias resulting from a specific arrangement of the questions.

In order to motivate lenders to take the survey, the message asking for help, intended to bring them closer to the researchers, highlighting some similarities, like the fact that the ones asking for answers have also helped in the same platform experiencing the same process. Besides that, they were told they could have access to the survey results, if they wanted, after completing it. Through these intrinsic incentives, lenders' willingness to take the survey is expected to rise.

Data

The survey was administered on the Kiva platform. 5,572 respondents started the survey, however, 1,262 respondents dropped out without completing it. The total number of completed answers was 4,310, accounting for a completion rate of about 77%. The resulting dataset with complete data for analysis consists of 3,485 observations.

In the final dataset, there were 45% males and 55% females. Their ages ranged between 18 and 82 years old, being the median age 44 and the mean 44,6 years. Almost half of the respondents were married (49%), while 29% were single.

Regarding their education, most respondents (81%) had a bachelor's degree or higher, with only 1% having "less than high school degree". Most of them were employed (59%) or self-employed (16%), and only 2% being unemployed. Retired individuals accounted for 11% of the sample. The income levels varied between "no income" and "\$120,000 or more", being 7 – between "\$60,000 - \$74,999" – the median of income, without considering respondents who answered "prefer not to answer" (16%). Regarding the country of origin, US individuals played a great part, accounting for 49% of the total respondents (2,034 individuals), followed by Canada (8%), UK (6%) and Australia (5%).

From these data, one can conclude that the pool of respondents is consistently investing for a long time, it is diverse and well-educated.

Variables

The 24 variables analyzed in this work are shown in Exhibit 6. Except for the *frequency of participation*, all the other variables were used to explain the reason why lenders invest in social lending initiatives, and what are their motivational foundations.

Independent variables were measured by a likert scale, where the respondents had to rate to what extent they agreed with each sentence, from 1 to 7, being 1 "completely disagree" and 7 "completely agree". The variable *frequency of participation* is the **dependent variable**. On average, each lender invested in about 86 loans, but the median was 17 loans. The maximum value is 6,338 loans.

The **control variables** used in the regression are: age, gender, education, income, and tenure.

Method

First, a factor analysis was conducted in SPSS Statistics 21, in order to prove whether the volunteerism variables would load together into the same factors as Clary et al. proposed. With that purpose, the factor analysis used iterated principal factor analysis with promax rotation, and the 18 volunteerism variables did group together

in the 6 factors presented before (Exhibit 7). Furthermore, the scree plot of the eigenvalues showed that there were six factors before the plot becomes a straight line, supporting previous findings.

After that, the non volunteerism variables (fun and protective of others) were added to the analysis. Once again the same factor analysis was conducted, and almost all variables loaded as expected, which is a good indicator of the consistency of the survey. The scree plot of the eigenvalues showed that there were 6 to 8 factors before the plot became a straight line. In eight factors, only the variable *understanding* did not fully group together, which allows one to confirm that Clary et al. (1998) measures are robust to the introduction of the new variables (Exhibit 8).

These factors were transformed into eight variables, by computing the average (Exhibit 9). These variables were used for the regression analysis, in order to measure and explain the motivations to invest in social lending platforms, using *frequency of participation* as the dependent variable. In exhibit 10 are presented the correlation among regression variables, later used in the regression.

After finishing the factor analysis, 5 models were considered in the regression analysis, computed in StataSE 12.

Additionally, in order to measure the *frequency of participation* it was asked to each respondent the *number of loans* in which they had invested until that moment. This variable follows a negative binomial distribution, therefore it was used a binomial negative regression.

Model 1 considers only the control variables, while Model 2 studies the impact of volunteerism and control variables in the *frequency of participation*. Model 3 and 4 regress the variables *fun* and *protective of others* one at a time, in order to analyze the stability and significance of the other variables. In the complete model, the model 5, the 8 variables obtained from the factor analysis and the control variables were used to explain the *frequency of participation*. In all the binomial negative regressions the parameter alpha was statistically significant and different from zero,

suggesting that the binomial negative regressions fit analyzed data better than other regressions would.

RESULTS

Exhibit 11 - Regression analysis using *frequency of participation* as dependent variable

	Model 1	Model 2	Model 3	Model 4	Model 5
	coef/se	coef/se	coef/se	coef/se	coef/se
Age	0.028*** (0.004)	0.030*** (0.004)	0.029*** (0.004)	0.030*** (0.004)	0.031*** (0.004)
Female	-0.516*** (0.107)	-0.520*** (0.106)	-0.539*** (0.107)	-0.547*** (0.106)	-0.577*** (0.098)
Education	-0.009 (0.034)	-0.006 (0.033)	-0.009 (0.033)	-0.004 (0.032)	-0.018 (0.031)
Income	0.066** (0.026)	0.077*** (0.023)	0.080*** (0.025)	0.076*** (0.024)	0.081*** (0.022)
Tenure	0.389*** (0.035)	0.382*** (0.032)	0.387*** (0.033)	0.387*** (0.033)	0.385*** (0.032)
Values		0.021 (0.055)	0.028 (0.057)	0.019 (0.056)	0.130** (0.057)
Understand		0.039 (0.062)	0.007 (0.066)	-0.019 (0.067)	0.039 (0.058)
Enhance		0.102** (0.042)	0.056 (0.048)	0.028 (0.048)	0.050 (0.045)
Career		0.107* (0.064)	0.100 (0.069)	0.111 (0.067)	0.090 (0.066)
Social		-0.131*** (0.045)	-0.130*** (0.047)	-0.140*** (0.044)	-0.133*** (0.044)
Protective of Self			0.107** (0.050)	0.099** (0.050)	0.122*** (0.045)
Fun				0.153*** (0.040)	0.164*** (0.037)
Protective of Others					-0.321*** (0.074)
_cons	0.944*** (0.231)	0.302 (0.413)	0.313 (0.411)	-0.182 (0.440)	0.506 (0.458)
/lnalpha	0.624*** (0.035)	0.605*** (0.036)	0.600*** (0.037)	0.589*** (0.038)	0.566*** (0.034)
Number of observations	3,485	3,485	3,485	3,485	3,485

Notes:

*** p<0.01, ** p<0.05, * p<0.1

Binomial negative regressions with robust standard errors

Analyzing the 5 models computed (Exhibit 11), one can take several conclusions, from the impact of the control, volunteerism and non-volunteerism variables to the

role of intrinsic and extrinsic motivations in explaining the *frequency of participation* in social lending initiatives.

From Model 1 to Model 5, when more variables were being added to the regression, almost all control variables kept their core essence, presenting the same signal and the same statistical significance. The variables age, income level and tenure have a positive effect in the *frequency of participation*, which was already expected. However, even having collected more responses from women, which could be an indicator that women are more involved and active in social lending initiatives, one can conclude that being female negatively impacts the number of loans a lender supports. Women may be more active in the platform, but tend to invest less often than men. All these control variables (age, income, tenure, and female) are statistically significant to explain the *frequency of participation* ($p < 0.01$). However, the level of education was not statistically significant in any model, which was also expected, since there is no studies or researches pointing the fact that people with higher levels of education tend to engage more often in do-good initiatives.

Model 2 and Model 3 include the volunteerism variables based on the research of Clary et al. (1998). In Model 2, the variables *enhancement*, *career*, and *social* were statistically significant to explain the *frequency of participation*; but when introducing the variable *protective of self* in Model 2, only the *social* variable stays significance. *Protective of self* is shown as significant, while the other variables only have a marginal impact in the dependent variable, failing to explain it when more variables were introduced to the regression. Still, the volunteerism variables have a stable performance across the five models, only with *understanding* switching signal.

Considering the volunteerism variables in the last model, one can conclude that not all variables proposed by Clary and his colleagues explain lender's motivations to participate. These research findings support some of the sub-hypotheses, but reject others. One can conclude that lenders do have altruistic and humanitarian values, which offer support to the hypothesis H1.1. Furthermore, they not only feel motivated by the social bonds they have with their friends or people they respect, supporting hypothesis H1.5; but lenders also do feel motivated by their need to

protect their ego from the negative features of the self, which means hypothesis H1.6 is accepted. However, the understanding they gain in participating in these initiatives do not motivate them to invest more often. Given that, hypothesis H1.2 is rejected. Likewise, their need to enhance their ego, or their career concerns also do not explain the *frequency of participation*, because these variables are not statistically significant, which does not offer support for hypotheses H1.3 and H1.4.

In Model 4, the first non-volunteerism variable (*fun*) is introduced to the regression and the results were expected to be similar to the ones found in Villarroel (2008) and Villarroel & Tucci (2009). In the social lending context, the variable is still statistically significant ($p < 0.01$), showing that when lenders have fun and enjoy the process of investing through the platform, the *frequency of participation* is higher, which offers support for the hypothesis H2.

In Model 5 the last non-volunteerism variable (*protective of others*) was added to the regression. This variable is also statistically significant ($p < 0.1$), negatively explaining the *frequency of participation*, which means that lenders who feel they must support loans, because borrowers need them to be happy and to improve their living conditions, tend to invest less times than lenders who don't think it is important to protect others from their misfortunes. These results could be anticipated by previous literature (Clary et al. 1998), where the motivations to help others were shown to be more centered in protecting the self from the negative characteristics of the ego, than in protecting others. The more lenders are concerned about protecting others from the negative features of their lives, the less often they tend to lend money to support social lending initiatives, rejecting the hypothesis H3.

DISCUSSION

With the purpose of identifying what motivate lenders to invest money in social lending platforms, three major hypotheses were tested using the *frequency of participation* as the dependent variable and 8 independent variables that represented possible intrinsic and extrinsic motivations. The insights reported are from 3,485 respondents who answered the survey, sharing crucial information about their experience in Kiva and their motivations to lend.

The main results are highlighted and discussed next:

1. Volunteerism variables, representing intrinsic motivations - **values and protective of self** - arise as statistically reliable predictors of participation levels in social lending initiatives, having a strong positive effect on the *frequency of participation*. The more lenders do feel they have to ease their guilty feelings for being more fortunate than others, and the more they have altruistic and humanitarian values; more loans they will support and help. These findings meet Clary et al. (1998) conclusions about volunteers' motivations.
2. All the other volunteerism variables representing intrinsic motivations – **understanding**, and **enhancement** – are not statistically significant to explain the *frequency of participation*, which means that the change of context, from the volunteerism to the online social lending one, leads to some changes in the motivations to participate. The *understanding* volunteers gain in participating in volunteerism initiatives may be important to explain their motivations, however its significance decreases when one considers an online panorama. This makes total sense and justifies why this variable isn't significant to explain lenders' motivations. The *enhancement* variable also loses importance and significance with the change of context, since the extent people seek and need to enhance their ego and self-esteem is different if someone is volunteering on the field, or lending money through a platform. As this variable is not significant, one can also conclude that lenders in Kiva do not seek for personal growth, but for other type of returns.

3. The variable **social** (extrinsic motivation) that represents the social pressure some lenders may feel and that motivates them to join in these platforms has a negative impact, in which the higher this social pressure is, the less projects lenders will support. Kiva is currently promoting the interaction between their platform and other social media networks, such as Facebook, which may reduce the number of loans some lenders are willing to participate, since this social pressure has a negative impact in the *frequency of participation*. This finding is supported by several comments collected through open-ended questions in the survey, in which numerous respondents state they are dissatisfied with some new features of the platform, like the possibility of login through Facebook or the constant requests they receive to share everything they are doing through their social networks. It is important to stimulate social interaction across several platforms and websites, however Kiva should define a limit of action in order to not promote negative social pressures that will negatively affect the number of loans lenders will support.

4. The variable **career** (extrinsic motivation) was not significant to explain the *frequency of participation*, which means that people do not support or help others to improve their career. As expected, lenders' motivations are more of intrinsic nature than extrinsic, being the *social* variable the only statistically significant extrinsic motivation.

5. According to Villarroel & Tucci (2009), the *frequency of participation* is higher if people enjoy or have fun during the process. The findings of this research also points in the same direction, with the variable **fun** positively impacting the *frequency of participation*. Lenders who enjoy the process of investing in social causes and have fun in the platform invest more times. Given that, it would be important that crowdfunding platforms improve its features in order to increase the enjoyment people feel when lending money to others. As Oded Nov (2007) referred in his study, platforms should highlight "the fun aspects of contributing", especially when users do enjoy the participation process.

6. **Protective of others** was a new variable that intended to test if lenders do worry and care about others, or if they are more concerned about protecting their self from being more fortunate than others, as proposed by Clary et al. (1998). From

the regression analysis, one can see that the relation between these variables is *negative*, which means that the more lenders express they have to help others, because others need their contributions, the lower will be their *frequency of participation* in social lending initiatives. Instead of feeling motivated, lenders feel obliged to help, which has a negative impact in their *frequency of participation*. People do not invest more times just because they feel others really need their contribution. From this finding, one can conclude that when people feel pressured to help others, they end up investing less often. Social lending platforms must be careful when presenting the projects' stories to get fund, trying not to promote these type of feeling in which people feel obliged to lend money and support these initiatives.

Limitations

The access to the information needed to address the research question and test the hypotheses was limited to one platform.

In general, crowdfunding platforms' settings limit the range of action, making it difficult to share the survey link and the request for help with their contributors. Since most platforms do not allow contributors to interact directly through channels outside the projects page, the survey was only launched in one social lending platform – Kiva.org – and the questions were customized to lenders' experience in the chosen platform.

Furthermore, it isn't possible to randomize the set of respondents, which means that an important limitation of this research is that the respondents self-selected to participate. One can conclude that only the most active lenders answered the survey, and it would also have been important to collect information related to less active lenders', in order to better understand their motivations to participate in social lending initiatives.

Some limitations could also be related with the questions of the survey. Bias could arise from the wording used, with the scaling method of each question, and with the options provided that could not perfectly match respondents real answer. The

survey was based on Clary et al. (1998), Villarroel (2008), and Villarroel & Tucci (2009) previous research. The questions were adapted to the new context, keeping their core intention. Given that, the bias is expected to be as low as possible. Besides that, there could also be self-reporting or social-desirability bias in the survey, especially when they had to answer to some more intimate questions or the reasons why they lend money through Kiva. In order to reduce this source of error, there were many redundant but randomly presented questions available, and open-ended questions to obtain more accurate information.

In the end, the results are consistent with Clary et al.'s (1998) volunteerism factors - values, social, and protective of self - as well as Villarroel (2008) and Villarroel & Tucci's (2009) variable - enjoyment/fun -, which were also found positive and significant in the social lending context. Hence, the results offer a fair characterization of Kiva lenders and their motivations.

CONCLUSIONS

Due to IT developments, crowdfunding platforms emerged and more and more people decide everyday to engage in social lending initiatives, joining communities and interacting with people with different backgrounds from all over the world.

Given that, the study of this phenomenon is becoming increasingly more important, not only to enable the improvement of existing business models and platforms, but also to help other business models to come up. Innovation, globalization, and social concern are all together in one platform, which is attracting people from around the world. And what motivates these people? What are the motivational foundations of lenders in social lending platforms? (Research question)

This research aimed to answer this question, and the final results showed that the impact of intrinsic motivations is positive, while extrinsic motivations have a negative effect in the frequency of participation. These findings were somewhat expected and reveal that intrinsically motivated lenders invest more often, while the ones extrinsically motivated tend to invest less times. Even so, regardless of lenders' motivations, all users lending or donating money in crowdfunding platforms do help others to get funding for their projects.

Crowdfunding platforms should improve their platforms in order to attract more borrowers and lenders to join in and participate. They can do so by highlighting the altruistic and humanitarian aspects – *values* variable – of projects in the loans description, for example.

On one hand, the value chain of these companies relies in their human resources management and technology development, while on the other hand the primary activities - marketing and sales, as well as the service and experience they provide to both sides – became also crucial (Porter 1985). Given that, these companies must understand their users motivations in order to boost their userbase. Since the *social* variable influences negatively the *frequency of participation*, crowdfunding platforms

must test the impact of new features, like facebook login and automatic facebook sharing, before applying it to all users. Some technology improvements to the platforms may not be as beneficial as one could think.

In what concerns the support activities, technical knowledge is very important for an efficient human resources management. In the case of lenders, it is important they feel supported and that if they have doubts about what is happening to their money, for instances, that Kiva will quickly answer them. Customer support is essential. Technology development is also a key activity for Kiva. The company should constantly develop the platform, not only to be more user-friendly and have a better design, but also to be able to satisfy its users needs in terms of searching for projects, or to ensure the reliability of payment services, for example.

In the case of social lending, where lenders invest more often if they feel intrinsically motivated, platforms should for example invest in marketing campaigns that will strengthen the idea of lending because of the self, and not because someone wants the lender to do so. Interactive marketing is important, because when the company is able to get customers to be involved, then it will be easier to attract more and keep them in the platform. Kiva already cares about involving lenders, having developed the social media network inside the platform, enabling lenders to gather in teams, as no other crowdfunding platform did until now.

In order to motivate lenders to join, interact, and lend money through the platform, Kiva should invest not only in marketing campaigns, but also in developing the projects page, while presenting the loans, and Kiva Teams' pages. The company efforts should promote intrinsic motivations, turning the spotlight to the altruistic and humanitarian aspects of helping others, but also in how much fun people can have by supporting loans and interacting with other lenders.

Kiva teams should be used as a way to attract more lenders and increase their frequency of participation, by adding new features that would increase the enjoyment users have on the platform. For instance, several respondents commented how grateful they were after answering the survey, stating they enjoyed

the questions, since they had the chance to think about the foundations of what they were doing. Additionally, the number of lenders who started taking the survey (5,572) shows their interest in being asked for their opinion. In this sense, users may appreciate new features, like polls, where they could ask and answer questions to each other anonymously. There are already contests between Kiva Teams, but the company could reach another level by creating contests between countries or continents, improving the enjoyment aspect of social lending, and increasing the frequency of participation of lenders.

Given this scenario, Kiva should keep supporting projects around the world, improving constantly its platform and keeping lenders motivated, by enhancing the humanitarian and fun aspects of engaging in social lending initiatives.

Future Research

This research aimed to study lenders' motivations to participate, building on previous literature. Nonetheless, new independent variables can and must be proposed and tested, in order to explain lender's motivations. Additionally, different dependent variables can also be used. For instance, instead of computing a regression analysis using the *frequency of participation* as dependent variable, one can test the impact of the independent variables on the dollar amount each lender spent per loan. Moreover, the intention to invest in social lending could also be used as a dependent variable. In sum, it would be interesting for future research to compare the significance and importance of each independent variable when using different dependent variables. Additional studies on this topic are required to improve and validate the findings of this research.

APPENDICES

Exhibit 1 – Upendo Group – Source: Kiva.org

Upendo Group ★


🇰🇪 Teso, Kenya Agriculture | Farming

👍 Like 1
🐦 Tweet 0
🔗 Share 0

LOAN OVERVIEW

REPAYMENT SCHEDULE

LENDER COMMENTS



In this Group: Pamela, Emedel, Hassan, Jemilia, Jane, Stella, Achona, Mary, Lydia, Phillis

Upendo is a group of 10 farmers in Teso District, represented by Pamela. The group has nine women and one man. Pamela is on the right of the photo with her hand raised. Her loan will deliver her farming inputs consisting of the necessary materials to plant half an acre of sweet potatoes, millet and sorghum. Pamela joined One Acre Fund during the Long Rains season of 2012, and is now enrolling for the 2013 season. She joined the fund so that she could gain access to hybrid seed and fertilizer and grow enough food for her family.

Prior to joining One Acre Fund, Pamela was only able to harvest three bags of maize per half acre, but last year with the help of her loan, she was able to harvest seven bags! She hopes that her profits from the 2013 Long Rains season can be used to send her children to school and buy a cow. Pamela's group members will each receive input loans of half an acre each, meaning that in total they will receive inputs for five acres of millet and sorghum.

PAYING BACK

This loan has been fully funded!


A portion of Upendo Group's \$400 loan helped a member to purchase hybrid seed and fertilizer for the cultivation of millet ,sorghum and sweet potatoes.

0% repaid

Find a Loan

<u>Repayment Term:</u>	11 months (more info)
<u>Repayment Schedule:</u>	At end of term
<u>Pre-Disbursed:</u>	Feb 26, 2013
<u>Listed</u>	Mar 30, 2013
<u>Currency Exchange Loss:</u>	Possible
<u>Default Protection</u>	Not Covered

FIELD PARTNER [Learn more](#)



One Acre Fund administers this loan.

Social Performance Badges:

- 🌱 [Anti-Poverty Focus](#)
- 👥 [Vulnerable Group Focus](#)
- 🌱 [Entrepreneurial Support](#)
- 💡 [Innovation](#)

Exhibit 2 – Data Analysis

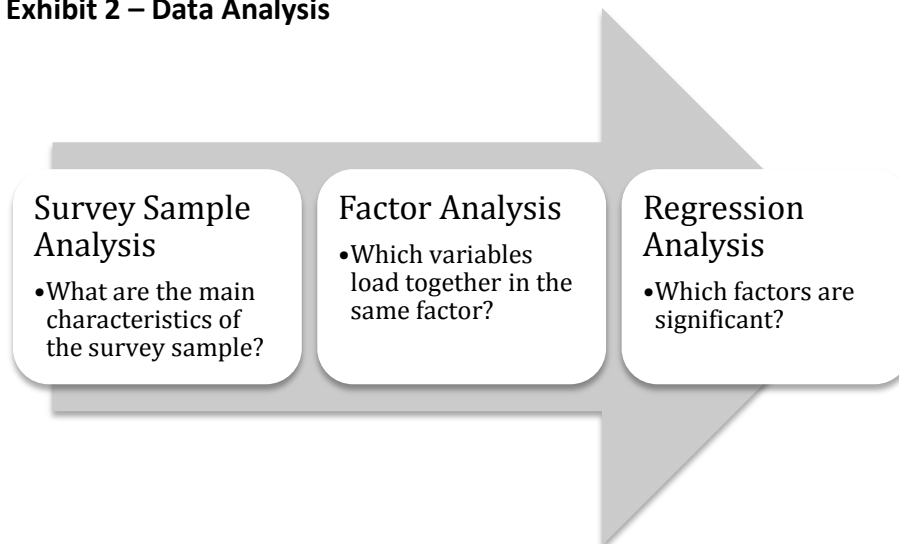


Exhibit 3 – “How Kiva works” – Source: Kiva.org

How Kiva Works, Simplified

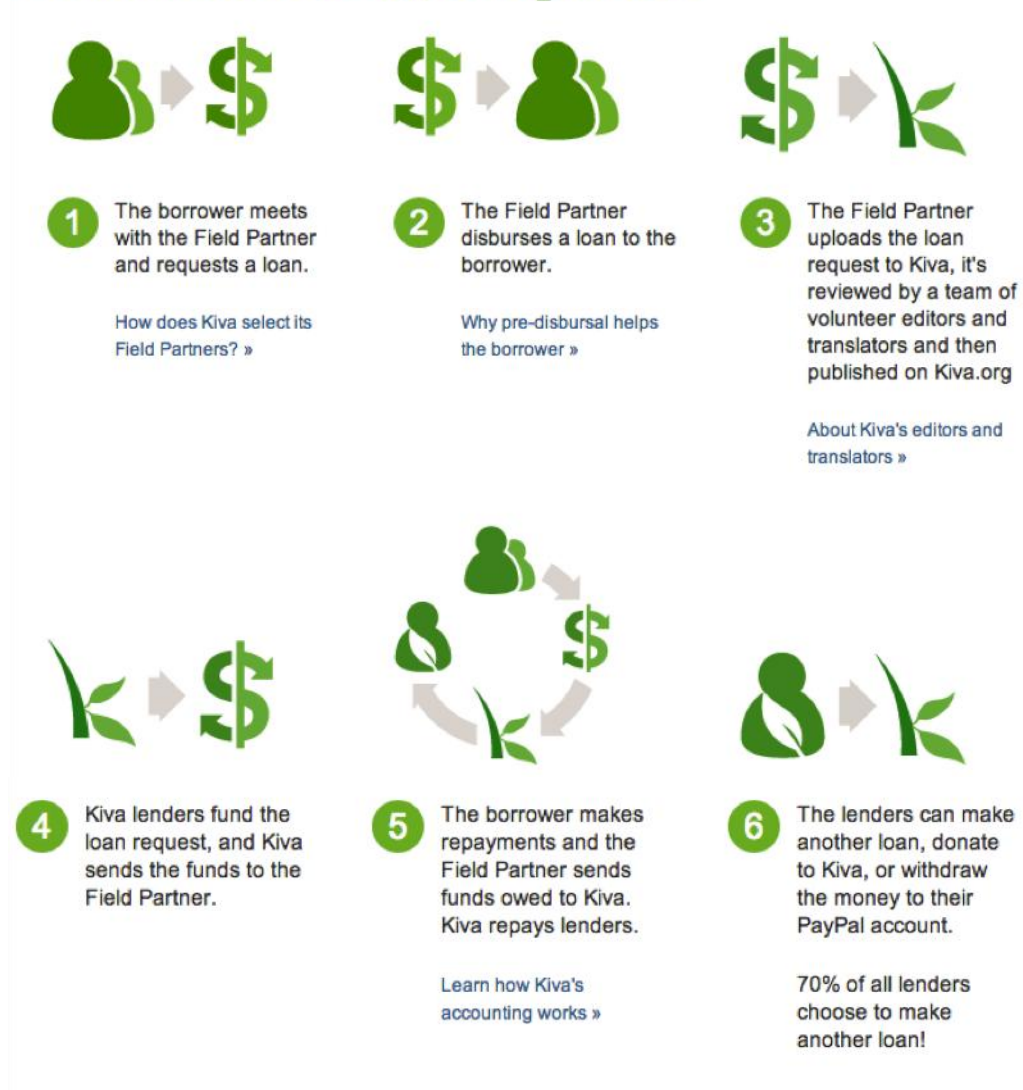


Exhibit 4 – Performance Badges – Source: Kiva.org

The Kiva Social Performance Badges:








	Anti-Poverty Focus The work of most microfinance institutions helps to combat poverty, but these Field Partners do even more. See details >
	Vulnerable Group Focus These Field Partners provide financial services to people from especially vulnerable and socially marginalized populations and groups. See details >
	Client Voice These Field Partners use feedback from the people they serve and adapt their business practices and product offerings to meet their needs. See details >
	Family and Community Empowerment These Field Partners offer support services that address the needs of their clients' families: their health, education, and/or well-being. See details >
	Entrepreneurial Support These Field Partners offer training and support to help people start, manage and grow their businesses. See details >
	Facilitation of Savings These Field Partners specifically promote savings as a practice to the people they serve. See details >
	Innovation These Field Partners embrace technology and innovation to better address the needs of the people they serve. See details >

Exhibit 5 – Kiva, the intermediary – Filipe Estrela's design

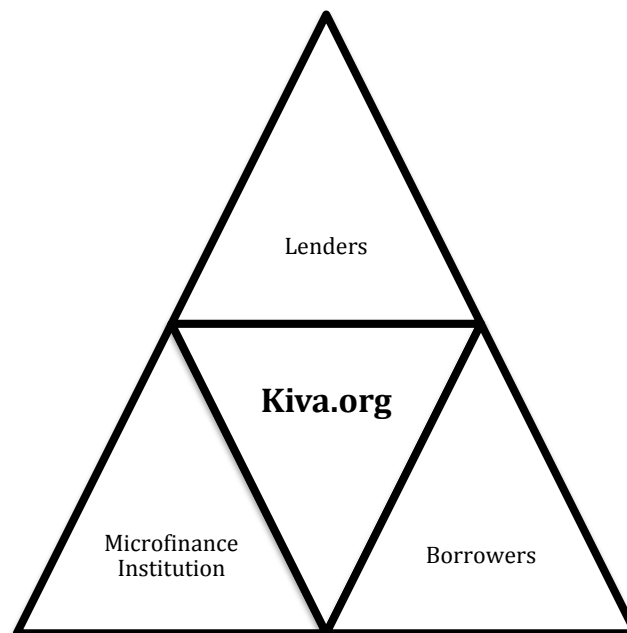


Exhibit 6 - Descriptive statistics of all variables of interest in the study

Variables and Questions	N	mean	std dev	min	max
Values					
I am genuinely concerned about the particular group I am serving.	4128	5.30	1.43	1	7
I feel it is important to help others.	4128	6.49	0.82	1	7
I can do something for a cause that is important to me.	4128	5.82	1.14	1	7
Understanding					
I can learn more about the cause in which I am investing.	4128	4.92	1.45	1	7
I'm more aware of what is happening in the world.	4128	5.16	1.40	1	7
Helping these projects is good for my self-development.	4128	4.49	1.62	1	7
Social					
My friends also participate in similar initiatives.	4128	3.17	1.70	1	7
People I'm close to want me to lend money in crowdfunding platforms.	4128	2.00	1.32	1	7
People I know share an interest in community service.	4128	3.99	1.83	1	7
Career					
I can make new contacts that might help my business or career.	4128	1.72	1.08	1	7
Being involved in social lending initiatives can help me to succeed in my chosen profession.	4128	1.99	1.33	1	7
Social lending experience will look good on my resume.	4128	1.87	1.26	1	7
Protective of Self					
No matter how bad I've been feeling, helping to fund these loans makes me forget about it.	4128	3.23	1.74	1	7
By getting involved in social lending through these loans I feel less lonely.	4128	2.69	1.55	1	7
Lending money for these loans is a good escape from my own troubles.	4128	2.63	1.63	1	7
Enhancement					
Lending money to people in need makes me feel important.	4128	3.15	1.71	1	7
Helping these loans makes me feel needed.	4128	3.53	1.73	1	7
Social lending makes me feel better about myself.	4128	4.48	1.64	1	7
Fun					
I enjoyed this process of investing	4128	5.60	1.22	1	7
I did it for fun	4128	4.23	1.72	1	7
Protective of Others					
Borrowers need my contribution to improve their living conditions.	4128	6.08	0.99	1	7
Borrowers won't feel alone, because someone is supporting them.	4128	4.88	1.52	1	7
I care about other's happiness.	4128	6.01	1.05	1	7
Frequency of Participation					
In how many loans have you invested until now?	4128	86.66	322.35	1	6338

Exhibit 7 - Complete model iterated principal factor analysis with promax rotation.

Volunteerism variables.

	Factors					
	1	2	3	4	5	6
Values						
I am genuinely concerned about the particular group I am serving.				0.73		
I feel it is important to help others.				0.74		
I can do something for a cause that is important to me.				0.77		
Understanding						
I can learn more about the cause in which I am investing.						0.86
I'm more aware of what is happening in the world.						0.87
Helping these projects is good for my self-development.			0.38			0.34
Social						
My friends also participate in similar initiatives.					0.88	
People I'm close to want me to lend money in crowdfunding platforms.					0.47	
People I know share an interest in community service.					0.81	
Career						
I can make new contacts that might help my business or career.	0.90					
Being involved in social lending initiatives can help me to succeed in my chosen profession.	0.85					
Social lending experience will look good on my resume.	0.88					
Protective of Self						
No matter how bad I've been feeling, helping to fund these loans makes me forget about it.		0.86				
By getting involved in social lending through these loans I feel less lonely.		0.79				
Lending money for these loans is a good escape from my own troubles.		0.92				
Enhancement						
Lending money to people in need makes me feel important.			0.78			
Helping these loans makes me feel needed.			0.78			
Social lending makes me feel better about myself.			0.85			

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

Rotation converged in 7 iterations.

Exhibit 8 - Complete model iterated principal factor analysis with promax rotation.

All variables.

	Factors							
	1	2	3	4	5	6	7	8
Values								
I am genuinely concerned about the particular group I am serving.							0.77	
I feel it is important to help others.							0.48	
I can do something for a cause that is important to me.							0.82	
Understanding								
I can learn more about the cause in which I am investing.					0.87			
I'm more aware of what is happening in the world.					0.85			
Helping these projects is good for my self-development.			0.37		0.33			
Social								
My friends also participate in similar initiatives.				0.88				
People I'm close to want me to lend money in crowdfunding platforms.				0.47				
People I know share an interest in community service.				0.82				
Career								
I can make new contacts that might help my business or career.	0.90							
Being involved in social lending initiatives can help me to succeed in my chosen profession.	0.85							
Social lending experience will look good on my resume.	0.88							
Protective of Self								
No matter how bad I've been feeling, helping to fund these loans makes me forget about it.		0.87						
By getting involved in social lending through these loans I feel less lonely.		0.80						
Lending money for these loans is a good escape from my own troubles.		0.92						
Enhancement								
Lending money to people in need makes me feel important.			0.78					
Helping these loans makes me feel needed.			0.79					
Social lending makes me feel better about myself.			0.84					
Fun								
I enjoyed this process of investing								0.81
I did it for fun								0.81
Protective of Others								
Borrowers need my contribution to improve their living conditions.						0.84		
Borrowers won't feel alone, because someone is supporting them.						0.59		
I care about other's happiness.						0.63		

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

Rotation converged in 7 iterations.

Exhibit 9 – Factors’ descriptive statistics

Variable	Obs	Mean	std dev	min	max
Values	4128	5.87	0.86	1	7
Understand	4128	4.86	1.14	1	7
Enhance	4128	3.72	1.42	1	7
Career	4128	1.86	1.06	1	7
Social	4128	3.05	1.27	1	7
Protective of self	4128	2.85	1.42	1	7
Fun	4128	4.91	1.21	1	7
Protective of others	4128	5.65	0.88	1	7

Exhibit 10 – Correlation among regression variables

Variables	Values	Understand	Enhance	Career	Social	Protect self	Fun	Protect others
Values	1.00							
Understand	0.35* (0.0000)	1.00						
Enhance	0.20* (0.0000)	0.39* (0.0000)	1.00					
Career	0.01 (0.6269)	0.26* (0.0000)	0.39* (0.0000)	1.00				
Social	0.21* (0.0000)	0.28* (0.0000)	0.34* (0.0000)	0.45* (0.0000)	1.00			
Protect self	0.18* (0.0000)	0.45* (0.0000)	0.55* (0.0000)	0.34* (0.0000)	0.26* (0.0000)	1.00		
Fun	0.16* (0.0000)	0.28* (0.0000)	0.34* (0.0000)	0.15* (0.0000)	0.18* (0.0000)	0.27* (0.0000)	1.00	
Protect others	0.44* (0.0000)	0.45* (0.0000)	0.27* (0.0000)	0.08* (0.0000)	0.17* (0.0000)	0.31* (0.0000)	0.16* (0.0000)	1.00

Note:

* p<0.05

Significance in
parantheses

Exhibit 11 - Regression analysis using *frequency of participation* as dependent variable

	Model 1	Model 2	Model 3	Model 4	Model 5
	coef/se	coef/se	coef/se	coef/se	coef/se
Age	0.028*** (0.004)	0.030*** (0.004)	0.029*** (0.004)	0.030*** (0.004)	0.031*** (0.004)
Female	-0.516*** (0.107)	-0.520*** (0.106)	-0.539*** (0.107)	-0.547*** (0.106)	-0.577*** (0.098)
Education	-0.009 (0.034)	-0.006 (0.033)	-0.009 (0.033)	-0.004 (0.032)	-0.018 (0.031)
Income	0.066** (0.026)	0.077*** (0.023)	0.080*** (0.025)	0.076*** (0.024)	0.081*** (0.022)
Tenure	0.389*** (0.035)	0.382*** (0.032)	0.387*** (0.033)	0.387*** (0.033)	0.385*** (0.032)
Values		0.021 (0.055)	0.028 (0.057)	0.019 (0.056)	0.130** (0.057)
Understand		0.039 (0.062)	0.007 (0.066)	-0.019 (0.067)	0.039 (0.058)
Enhance		0.102** (0.042)	0.056 (0.048)	0.028 (0.048)	0.050 (0.045)
Career		0.107* (0.064)	0.100 (0.069)	0.111 (0.067)	0.090 (0.066)
Social		-0.131*** (0.045)	-0.130*** (0.047)	-0.140*** (0.044)	-0.133*** (0.044)
Protective of Self			0.107** (0.050)	0.099** (0.050)	0.122*** (0.045)
Fun				0.153*** (0.040)	0.164*** (0.037)
Protective of Others					-0.321*** (0.074)
_cons	0.944*** (0.231)	0.302 (0.413)	0.313 (0.411)	-0.182 (0.440)	0.506 (0.458)
/lnalpha	0.624*** (0.035)	0.605*** (0.036)	0.600*** (0.037)	0.589*** (0.038)	0.566*** (0.034)
Number of observations	3,485	3,485	3,485	3,485	3,485

Notes:

*** p<0.01, ** p<0.05, * p<0.1

Binomial negative regressions with robust standard errors

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