

# Supply and Demand in Crowdfunding Creative Projects: the role of Friends and Family

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July 2015

Very Preliminary - This is an ongoing project.

## Abstract

Friends and family (F&F) play an important role in crowdfunding prospects. More than a secure support, they can also represent a social proof, signaling the trustworthiness of a project holder (Lin, Prabhala and Viswanathan, 2013). A project holder's social capital positively predicts the success of his campaign (Mollick, 2014, Agrawal, Catalini and Goldfarb, 2015). According to the literature, F&F are the ones who back at the early stage of a campaign (Fisk et al., 2011) and have influence on the funding process (Kuppuswamy and Bayus, 2015). There is however little empirical evidence showing that F&F do back during the early phase.

F&F have an impact on the success of a project by three means: the funds they transfer, the "social proof" they represents and the visibility they bring. The aim of this article is twofold: we aim to confirm empirically that F&F back at the beginning of a campaign and we distinguish the two effects of F&F on the number of backers (the visibility effect and the observational learning effect). To do so, we use coupled data: on one hand, data provided by a French platform of reward-based crowdfunding on individual contributions (namely Proarti) and on the other hand, survey data collecting information on the specific social ties between backers and project holders for each contributions.

**Keywords:** Experimental economics, crowdfunding

**JEL classification:**

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# 1 Introduction

In the context of crowdfunding, friends and family (F&F) play a crucial role representing around 30% according to Slava Rubin, the CEO of Indiegogo. They are individuals who know the project and might have a higher valuation in backing it, certainly because of prosocial motives or a feeling of social obligation. In the case of reward-based crowdfunding, prosocial motives are at the core of the backing decision as it enhances the emotional attribute of helping someone. The probability that the project holder succeed depends on her ability to attract people and to make them sensitive to her objectives. FF also attract potential backers.

In this article, we focus on the role of friends and family in the case of reward-based crowdfunding for artistic projects. Contributors are exposed to risk of moral hazard and adverse selection (Belleflamme, Lambert and Schwienbacher, 2014, Bernard and Gazel, 2016), except for F&F who are less exposed. F&F have an impact on the success of a project by three means: the funds they transfer, the "social proof" they represents (Masum, Tovey and Newmark, 2012) and the visibility they bring. We aim to distinguish the last two effects. To study the herding behavior effect, we follow previous literature and analyze the effect of past backing behavior. We also deepen the analysis by studying the effect early contributions according to the mean level of contributions. We seek to find a difference between the effect of early contributions of high valuation and low valuation. Our second analysis aim to study the indirect effect of recommendation by F&F as an effect of information diffusion.

To do so, we use coupled data: one set of data is build upon an online survey and the other one is composed of archive data from a French crowdfunding platform (CFP): proarti. Thank to the online survey, we investigate on the social ties contributors have with projects holder for every contribution a backer made. Our article is the first to provide quality information on social ties. One additional goal would be thus to study the F&F behavior and to locate contributions from the F&F of the project creator.

## 2 Related literature

The size of the social capital of an entrepreneur have been shown to predict the probability of her project success (Mollick, 2014, Colombo, Franzoni and Rossi-Lamastra, 2015). Several reasons can explain this: funding from F&F reduces asymmetric information and increases the visibility of the project.

As F&F know personally the project holder, their exposure to asymmetric information on the quality of the project and the ability of the creator are minimized. In a context of crowdfunding, F&F play an informative role: their contributions signal to other potential contributors the quality of the project and the trustworthiness of the creator (Lin, Prabhala and Viswanathan, 2013). Literature gives evidence of such observational learning, or herd behavior in the case of crowdfunding (Zhang and Liu, 2012, Burtch, Ghose and Wattal, 2013, Agrawal, Catalini and Goldfarb, 2015)

F&F play another crucial role less studied in the literature: they increase the probability to discover the project through information diffusion (Colombo, Franzoni and Rossi-Lamastra, 2015, Lu et al., 2014). Online networks and platforms make it easy to share and recommend a project to friends via the "Twitter" or "Facebook" buttons. It is worth noting that with crowdfunding, "word-of-mouth" is credible as it supposes a real financial investment. One stylized fact seems to reinforce the idea that the effect of the intern social capital is mediated by the "visibility effect" lies on the fact that many contributors in reward-based platform are unique contributors.

According to CFP and to the literature, F&F are early contributors. Kuppuswamy and Bayus (2015) create a "family" dummy by analyzing names on Kickstarter and find that contributions from family members are more likely to occur in the first five days<sup>1</sup>. Fisk et al. (2011) call the first phase of a campaign, where close friends register on the CFP only to fund the project, the "*friend-funding phase*". CFP generally advice entrepreneur, when preparing their contribution, to solicit their own social network to insure visibility

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<sup>1</sup>They also find some evidence that family members are likety to contribute at the end of the campaign. According to authors, these patterns can explain the U-shaped curvature of the backing process.

at the beginning of the campaign (De Witt, 2012). The French CFP Ulule<sup>2</sup> even applies a "incubator system" according to which a project is only referred on the website if it attracted at least 5 contributors. This system works as a moderator: if the project does not succeed to reach enough members of the close circle, it will not succeed to reach anyone at all.

## 3 Data description

### 3.1 The online survey

Users from Proarti are invited by email to answer our questionnaire. As we design the questionnaire in partnership with Proarti, we have access to the archive data of backing decisions. Each of them is provided with a unique login, enabling us to link his or her answer with the backing historic. The participant is invited to connect into our self-contained website created for the purpose of our research. The welcome page provides general information on the purpose of our research and on the questionnaire. To motivate participant, we commit to support financially (up to \$450) projects on Proarti and offer each participant the opportunity to vote for the category of project that we would back.

The questionnaire is built in two steps: first participants are asked to answer questions at their contributions level. Over the 6974 users registered in Proarti, only 10 backed more than 6 contributions. For these ten contributors, we randomly select 6 contributions such that the questionnaire would not be too long. For the rest of the sample, we can have complete information as we ask questions for each of their contributions.

For each project one participant backed, we question her about the social tie she maintain with the project holder before the contribution and how she discovered the project.

**Questions on the social ties** We capture social ties by three following questions: (i) Can you specify the nature of your relationship with the project holder before you made your

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<sup>2</sup>In our research project, we plan to replicate the survey with Ulule's users.

Figure 1 – View of the questionnaire.

contribution on the [DATE]?<sup>3</sup> (ii) How often do you did you meet in person the project holder before your made your contribution on the [DATE]?<sup>4</sup> (iii) On a scale from 0 to 10, to what extend do you feel close to the project holder before you made your contribution on the [DATE]? (0 meaning "not close at all", 10 meaning "very close")

**Questions on the discovering process** We capture the mean to discover a project by asking: "How did you discover the project? (You can select several answers)". As answers, we consider various possibilities: the project holder recommended it to me/a relative (friend, family) recommended it to me/by proarti newsletters/on Facebook/on Twitter/on press/on radio/on television/other. We also want to capture the amplitude of "word-of-mouth" by asking the participant if she recommended the project to someone else.

<sup>3</sup>The possible answers are: "I am part of the project team"/"I am a part of his/her family"/"I am a friend"/"I am a friend of a friend"/"The project holder is an acquaintance"/"The project holder is a colleague"/"The project holder is a classmate"/"I did not know personally the project holder but I knew his/her work"/"I did not know personally the project holder and I did not know his/her work"/Other

<sup>4</sup>The possible answers are: "Every days"/"Every weeks"/"Every months"/"Every year"/"Less than every year"/"Never"

## 3.2 Data from proarti

Proarti is a French CFP created in 2012 specialized in reward-based crowdfunding for creative and artistic projects (drame, music, film, dance, performing arts etc.). 6974 contributors have an account, 252 projects were launched and 181 succeed in gathering the necessary funds (the success rate is of 72%). 94% of the contributors only backed one project, as for many reward-based CFP like Kickstarter or KissKissBankBank.

Proarti provides us with data on the contribution level and the project level. At the project level, we are informed of all the public data (duration, goal, number of backers, description, rewards, information about the creator). We can also retrace information on the contributor (amounts and dates of all their contributions).

## 4 Empirical strategy

In this section, we describe our empirical strategy to study the dynamic dispersion of contributors according to social ties, the distinction between herding behavior and recommendation and the quality of early contributions signals.

### 4.1 Dynamic dispersion, social ties and contribution value

A first analyze aims to confirm what has been suggested by the literature. Our aim is to show that the higher the intensity of the social tie, the sooner the contribution.

### 4.2 Herding behavior and recommendation

We exploit the panel structure of backing decisions on Proarti to analyze the effect of external word-of-mouth and observational learning. Following Kuppuswamy and Bayus (2015), we

estimate the number of added backers at day  $t$  for project  $j$ :

$$\begin{aligned} \text{BackersAdded}_{i,j} = & \beta_1 \text{PastBackers}_{i,j} + \beta_2 \text{PastRecommandation} + \beta_3 \text{PastBackersFF}_{i,j} \\ & + \beta_4 \text{FirstWeek} + \beta_5 \text{LastWeek} + Z_j \lambda + \epsilon_{i,j} \end{aligned}$$

### 4.3 Herding behavior and the quality of early contribution

We seek to study the impact of early contributions following Colombo, Franzoni and Rossi-Lamastra (2015)'s methodology with an interaction effect on the mean value. The underlying hypothesis is that the higher the proportion funded, the higher is the quality of the signal, by a "skin in the game" effect (Hildebrand, Puri and Rocholl, 2013). Our estimation strategy is to predict, using a robust probit model, the probability of success by the number of early backers and the mean percent funded by the early backers.

## 5 Results

Data are currently being collected. First results will be presented during the ACEI presentation.

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