

## A Social Network Approach toward Entrepreneurial Crowdfunding

**Abstract:** Social network plays a key role in entrepreneurial crowdfunding, which has recently emerged as a novel source of capital for entrepreneurs. Based on literature review, this paper puts forward several propositions about the social ties in the setting of entrepreneurial crowdfunding. Social ties associate positively with the success of entrepreneurial crowdfunding campaign; the strong ties are positively related to the early success of pitch, which in turn triggers the success of campaign; the weak ties are positively related to the success of campaign accordingly; and the feedback mediates the positive relationship between the social ties and success of campaign. After studying several cases, the limitations, implications and further research directions have been discussed finally.

**Keywords:** Entrepreneurship, Crowdfunding, Social Network

We have learned a lot that social network plays a key role in crowdfunding. This includes for example studies of social networks in funding new venture, social capital and successful campaign, strong ties and early finance support (e.g. Mollick, 2014; Zheng et al. 2014; Colombo et al. 2014; Lehner, 2012; Dellarocas, 2003; Lin et al., 2013; Hsu, 2007; Shane and Cable; 2002). However we have limited understanding about how the social network catalyzes the successful crowdfunding. We do not know what about the schema of strong or weak ties in the process of crowdfunding. In this paper we investigate these questions by drawing from social network and entrepreneurial finance theory to elaborate the support of social network ties in the crowdfunding setting.

Social network theory has contributed substantially to research on entrepreneurial finance. Albeit crowdfunding is an new realm emerging in recent years, several scholars have built on Schwenbacher and Larralde (2010) theoretical article analyzing crowdfunding model (Ibrahim and Verliyantina, 2012; Lin et al., 2013; Burtch et al., 2013), motivation (Gerber et al., 2012), critical successful factors

(Mollick, 2014; Zheng et al. 2014; Klein and Yonatan, 2012), internal social capital (Colombo et al., 2014; Shane and Cable, 2002), geography (Agrawal et al., 2011), knowledge search (Afuah and Tucci, 2012), crowdfunding social capital and successful campaign, respectively. Some practitioners have provided some useful suggestions and tips for successful crowdfunding (Gass, 2011; Steinberg, 2012).

To the best of our knowledge, about fifty papers on crowdfunding or social network were published during past years, and their theoretical bases are primarily in social capital, entrepreneurial finance, crowdsourcing, and resources based view. A conceptual analysis of these reveals that the two clusters of fund raising online research exist in the setting of social network. Many focus on the role of supporting online where overtime, increasing population has a positive effect on birth rates. Increasing liker signals greater attention which in turn creates greater attention through their social ties. The second cluster of research examines the effects of social capital on successful crowdfunding, with effects dependent on the number of backers, amount of fund addressed. For example, the number of supporters and the fund raising at early stage increases success possibility of crowdfunding. Unfortunately, only four or five articles touch upon the roles of social network ties.

In the next sections of this paper we review this limited literature base and develop a set of propositions about the effects of social ties on crowdfunding. We describe the strong or weak social network ties the propositions used to assess social network, the successful crowdfunding. To foreshadow propositions of the analysis, we found that social network ties has a close relationship with the crowdfunding. However the strong ties play a key role at the very beginning of crowdfunding, while the weak ties is important in the medium and late stage supporting. As the pool of potential supporter grows, the feedback is a critical reference for others to decide whether or not to support the crowdfunding campaign.

## THE RISING OF CROWDFUNDING

Fundraising is an essential part of new venture creation. How to get enough funds to start up has surely been a serious concern for entrepreneur and policy maker as well. In addition to bootstrapping (Bhide, 1992; Winborg and Landstrom, 2001; Ebben and Johnson, 2006), entrepreneurs often ask for help from family, friend, founder, fans and fool (5Fs) (Harrison, 2013). Often times, the funds from 5F is insufficient, they turn to banks, angel investor or venture capital. However, most banks require collateral, which entrepreneurs usually lack. While soliciting help from angel investors or venture capitalists, most entrepreneurs feel uncomfortable for giving up equity or decision-making power. Smith and Smith (2004) listed 25 sources of entrepreneurial finance; most of them come from institutions rather than individuals. Stakeholders cutting across entrepreneurial finance spectrum have expressed concern about the high level of insufficient funds in much of the emerging countries. Research in a number of disciplines, ranging from economics to management, has shown that insufficient entrepreneurial funds leads to higher rate of failure of start-up, and is associated with many issues including underdeveloped R&D, less innovative products, and higher level of job-seeking.

As a new approach to raise funds from crowd in terms of internet, crowdfunding is an emergent approach for entrepreneurs funding by soliciting mass funding from backers. Originated in North American and extended to European countries, crowdfunding is now popular around the world including China and other Asian countries. Media and the public alike recognize the promise of crowdfunding for nascent entrepreneurs. To arrest the growing number of successful cases of fund raising, entrepreneurs, investors, and policy makers have emphasized the role of the state in alleviating funds for start-up through soliciting funds from crowd and regulation efforts.

Crowdfunding has been described as the coming together of two existing concepts (Vitale, 2013): micro finance (Morduch, 1999) and crowdsourcing (Poetz and Schreier, 2012). Aiming at financing the poor, microfinance refers to uncollateralized start-up loans to groups or individuals in developing countries (Khavul, 2010), it has now spread to developed economies where entrepreneurs also find micro loans difficult to secure (Freedman, 2000). It focuses on how to raise funds, especially a small amount of funds, for micro and small firms, which is the business that traditional financial institutions are not interested in (Bruton et al., 2015). Usually, the lender may be more interested in the social good promoted by the venture than any return generated by the loan, thus including patronage model elements as well. While crowdsourcing intends to access resources outside. It was coined first by Howe and Robinson (2006) who defined it as an “act of a company or institution taking a function once performed by employers and outsourcing it to an undefined (and generally large) network of people in the form of an open call”.

As a specific form of outsourcing (Afuah and Tucci, 2012), crowdfunding is the process of asking the general public (crowd) for donations that provide start-up capital (fund) for a project and/or a venture (Steinberg and DeMaria, 2012; Lehner, 2013). Schwienbacher and Larralde (2010) define it as “an open call, essentially through the internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes.” From this approach, the entrepreneur for instance announces a new product or service online, and the backer decides whether or not to buy after their investigation. If yes, they will get the reward within the period of promised time.

By moving away the goal of crowdfunding efforts and goal of investors due to its ambiguity and complexity, Mollick (2014) refers it at “the efforts by entrepreneurial individuals and groups --

cultural, social, and fro-profit -- to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries.” Kleemann et al. (2008) suggested that crowdfunding takes place when a firm outsources specific tasks to the general public (the crowd), with the intention of soliciting individual contribution for free or for significantly less than its worth. Usually, crowdfunding is an open call, mostly through the internet, for the provision of financial resources either in form of donation or in exchange for the future product or some of reward and/or voting rights (Belleflamme et al., 2011). For example, Ibrahim and Verliyantina (2012) illustrated how crowdfunding to support small and micro businesses in Indonesia through a web-based platform.

Crowdfunding ranges greatly in both goal (i.e. from art, film to publish) and magnitude (i.e. from a small amount of funds to hundreds of thousands of dollars in seed capital), which are also the criteria of classification (Mollick, 2014). Based on the form, Schwienbacher and Larralde (2010) identify three crowdfunding business models: donation, passive investment, and active investment, which are also called donation-based, rewards-based and investment-based crowdfunding (Dragojlovic and Lynd, 2014). Based on rewards, it could roughly be divided into four categories (Harrison, 2013; Mollick, 2014). The first is donation without any reward, the backers support entrepreneur for free, and this is typically complete altruism that could be found in art or humanitarian projects. The second approach, common called pre-order, is the most prevalent as of the time of writing. Regarding the reward, it could either be visible products, such as books, discs, or invisible products such as open courses, membership etc. (Harrison, 2013). There are many websites dealing with the pre-order situations. The third one is lending (Lin and Viswanathan, 2013). The borrower launches a project with a promising interest package, the lender decides to accept it or not.

Prosper.com and Kiva.org are the typical platforms. They are also many companies bridging the borrowers and lenders in China now, such as 8.baidu.cm, 360Finance. The fourth is to sell the share of company to investors who are in turn the owner of equity stakes or similar consideration for their funding. As of mid-2012, equity crowdfunding is not permitted in the United States, and still relatively high level of regulation (Hemineay and Hoffman, 2010). It is not applicable in China right now.

There are more than 800 crowdfunding platforms worldwide (Harrison, 2013), most of them based in North America (e.g. Kickstarter, Indiegogo) and Western European (e.g. SellaBand, Crowdcube, Wised), and some of them based in Asian (e.g. Demohour, Zhongchou). It has reported to increase more than 350% in 2012 compared to 2007 (Hildebrand, 2013). Crowdfunding is a strategy used to fund any and all enterprises from iPhone cases to dental surgery (O'Flynn, 2012), and has helped many nascent entrepreneurs and small business owners pitch idea straight to everyday internet users who provide financial backing (Steinberg and DeMaria, 2012), and even applied into science research (Wheat, et al., 2013; Dragojlovic and Lynd, 2014). These platforms together raised about \$1.5 billion in more than one million successfully funded campaigns. For instance, crowdfunding is an effective ways to raise fund for music industry, where the fans are not only the consumers of music but also involved in the production of albums, saying, to suggest which song should be included in (Belleflamme et al., 2010). Verity Price, the South African singer, recorded her album without assistance of a record label in 2005. Aiming to advance an up-front investment of ZAR400,000, she set up a website to ask her fans to pre-order her album at ZAR200 with the compensation of non-monetary rewards, such as their name credited on her website, voting for which

song should be included, etc, and she succeeded finally.<sup>1</sup> Similar cases could be found in China also. Recently, tankee, a Netizen from Shenzhen, Guangdong province, China, launched a campaign of producing a new high-tech mobile phone. They aimed to raise one million RMB just in one day. Actually, he got 3.76 million RMB on Sept, 28, 2014, much higher than expected.

Since its inception, there are some academic researches, although limited, about crowdfunding. Some papers distinguish crowdfunding from other ways of fund raising (Hildebrand et al., 2013), such as crowdsourcing (Afuah and Tucci, 2012), online charity donations, and peer-to-peer lending (Zhang and Liu, 2012), some classify different kinds of crowdfunding that are based on rewards, for instance, product or service (Belleflamme et al., 2014), particular interest rate (Zhang and Liu, 2012), equity shares (Ahlers et al., 2012), while others analyze successful factors from different approaches, for example, geographical location (Agrawal et al., 2010), timing (Kuppuswamy and Bayus, 2013), entrepreneurial finance tools (Cosh et al., 2009), and even provide some tips and processes (Steinberg and DeMaria, 2012, Gass, 2011). As we all know, social network ties can affect entrepreneurs by connecting the friends and acquaintances while asking for supports after posting an interesting projects at the very beginning, when entrepreneurs consider announcing a pitch, they will face challenges as to how to make full use of social network ties. Yet, how to attract the strangers through their weak ties is unanswered, research about the social ties of proponents and backers is still at initial stage, some scholars have relatively been silent on crowdfunding and its relationship with social ties. Therefore, bringing the social network ties into research is necessary in order to understand the broad range of backers' supportive consequences, as well as to understand how such consequences affect

---

<sup>1</sup> Another interesting case is Taposé that asked for \$10,000 to create a multifunctional iPad app. If the backer pledged some fund ranging from \$10 to \$10,000, they would be rewarded a copy of app, or app plus something else. The more donations the more rewards. Eventually, they surpassed the estimated goal with total fund of \$26,561. Wikipedia is also an exciting case of crowdfunding. They did raise the necessary \$6 million for the 2008-2009 fiscal years, among which \$4.5 million was donated by the members of the Wikipedia community (Gass, 2011, p.9-10).

backers' behaviors.

Trying to understand social network ties in crowdfunding campaign, we try to study following questions. What are the roles of social ties? What are strong ties and weak ties entrepreneurs consider before soliciting support? What are the implications for nascent entrepreneurs and government regulation as time goes on? Together, these findings suggest that there is substantial value in further studying the social network ties, since it sheds light on a variety of subjects of interests to academics and policymakers, with implications for entrepreneurial financing, the role of strong and weak ties, and some features in new ventures. In the next sections, we focus on the social network ties of entrepreneurs/backers first; in particular, we examine the roles of social network ties that connecting both proponents and supporters, then we will build some propositions based on literature review.

## **THEORY AND PROPOSITIONS**

### **The Role of Social network ties in Crowdfunding**

A social network is composed of social actors and dyadic ties, where the actors are individuals or organizations, and the ties are links between these actors. Mollick (2014) offers a description of the underlying dynamics of success and failure among crowdfunded venture based on Kickstarter data set of over 48500 projects, and concludes that personal networks is associated with the success of crowdfunding efforts.

Relating to social network, social capital is “the sum of actual and potential resources embedded within, available through and derived from the network of relationships possessed by individuals or social units” (Nahapiet and Ghoshal, 1998). It is not a single entity, but a variety of different entities consisting of some aspects of a social structure and facilitating certain actions (Coleman, 1988). In the management context, social capital has three dimensions: structural, relational, and cognitive. Using



dimensions above as building block, Zheng et al. (2014) compared the impact of an entrepreneur's social network in terms of social capital on crowdfunding, and found that an entrepreneur's social network ties had significant effects on crowdfunding performance in both China and the U.S., the predictive power of social network was stronger in China than it was in the U.S. Shane and Cable (2002) and Shane and Stuart (2002) show that direct and indirect social contacts, another word of social ties, between high-tech entrepreneurs and ventures capitalists are positively associated with the provision of seed capital. Further, by examining the determinants of the success of crowdfunding campaigns, Colombo et al. (2015) show that not only personal social contacts, but also social contacts build within crowdfunding communities, called internal social capital by them, may be a vehicle to attract seed financing. So we propose the proposition as follows:

*Proposition 1. The social network ties are positive associate with the success of crowdfunding.*

*The more social ties, the more successful crowdfunding campaign.*

### **Strong Social ties and Early Supporter**

According to Granovetter (1973), there are three kinds of ties: strong, weak or absent. Strong ties refers to high interactions among the actors who are usually close connected, the messages conveying through strong ties are often repetitive, redundant. While the weak ties conveys non-repetitive information among different actors or cliques who have a tendency to have more homogeneous opinions as well as sharing many common traits, each member within the clique would also know more or less what the other members knew, so the member of the clique will turn to other friends and acquaintances when they want to find something new so as to add or correct original point of view. And the absent ties mean there is no connection between the actors.

In the crowdfunding setting, strong ties of social network have often been related specifically to

family, friends, and even acquaintances, etc., while the weak ties have been related to strangers or even those who have no connections with the entrepreneurs before, they have no idea about the information including the quality of project and capability of entrepreneur, which are private for nascent entrepreneur.

While soliciting funds for business, the first response for nascent entrepreneur usually is to turn to 5Fs, who have a close contact with entrepreneur, put it other way, they are the strong ties of entrepreneurs. Some scholars have investigated the social network community where an entrepreneur is embedded, the results show that the amount of capital collected is heavily dependent on the range of social network where entrepreneurs belong to (Mollick, 2014; Lehner, 2012). One of critical features of strong ties is trustworthy, for instance, family trust members to initiate their business in the absence of any evidence, they just think things will “work out” (Gambetta, 1988; Gartner and Low, 1990). Because the role of trust is central to all social transactions even there is no idea about actions and outcomes. Thus, the less information or evidence we have, the more we need to trust (Aldrich and Fiol, 1994). Jefferson et al. (2012) show that online loans of borrowers who appear more trustworthy are funded with a higher probability, compared to loans of borrowers who appear less trustworthy. Because the backers are not sure whether the entrepreneurs are worth to trust at the very beginning of crowdfunding campaign, they just support entrepreneurs with feasible projects who have a strong tie with them. By studying the case of three crowdfunding platform of Sellaband, Trampoline and Kapipal, Ordanini et al. (2011) document that in the initial phase of a crowdfunding program; most contributors are close friends of entrepreneurs who join the friends only to support their friends’ initiative. Lin et al. (2013) test which role social networks and in particular “the company that borrowers keep”, i.e. the borrowers’ friends, play for the lending outcome. Actually, the evidence

provided by the nascent crowdfunding literature is consistent with previous studies in entrepreneurial finance that have paid much attention to strong ties of social network so as to overcome the information asymmetries between the entrepreneurs and backers (Shane, 2009; Shane and Cabel, 2002).

Good beginning is the half done. The people who have strong social ties with the entrepreneur are more likely to lead supporting at the very beginning of campaign, which sets a good example for others, this in turn will trigger more participation. According to the statistics, if the entrepreneur gets the 20% of the total funding within the first week, he/she will probably to reach the goals of pledge. Colombo et al. (2015) found that internal social capital is positively associated with both the amount of early capital and the number of early backers. On the contrary, if the initial participants are few, an initiative's fate is cursed. This was evidenced by Schelling (1978) who documented Saturday-morning seminar cycles and spontaneous volleyball matches improvised in grassy areas of the campus. We can also find many supporting case in online communities as well, such as books purchasing from Amazon.com (Cheng et al., 2011), software downloading (Duan, et al., 2009), micro leading (Zhang and Liu, 2012), and the development of open sources software (Oh and Jeon, 2007). Crowdfunding is no exception. So we have the following proposition.

*Proposition 2a. The strong social ties are positive associate with the early success of crowdfunding. The stronger the social ties, the more the early success.*

*Proposition 2b. The early success is positive associate with the success of crowdfunding campaign.*

### **Weak Social ties and Crowdfunding Campaign**

Given the proposition above hold, what about the whole campaign? Does the early success results in

the successful campaign? That is an intriguing problem that deserves to be studied. Apparently, albeit family members, friends and the acquaintances could provides early fund for entrepreneurs, of course it is not enough; otherwise there is no need for asking financial support from crowd. In the process of crowdfunding, all backers could be divided into two parts, early supporters and the others. As for the criteria of early stage, that depends on the amount of target fund, the duration of pitch, etc. Comparing with strong ties of social network, weak ties would be more helpful in supporting nascent entrepreneurs due to “the strength of weak ties” (Granovetter, 1973). By means of description which has effect of word-of-mouth (Arndt, 1967) around the project, more early backers may tell something interesting about the project to their friends, and the friends spread the news among their friends afterwards, which is another kind of marketing through their social network (Dellarocas, 2003). Accordingly, the strangers who have a weak tie with the entrepreneurs will have a powerful influences for promoting the project. For instance, the Kickstarter project pages contains “Facebook”, “Twitter”, “LinkedIn” in USA, and Demohour.com, Zhongchou.com contain “WeChat”, “Sina”, “Renren” in China, and more social network buttons that enable users to circulate information to their friends effortlessly.

*Proposition 3. The weak social ties are positive associate with the successful crowdfunding campaign.*

*Proposition 3a. The weak social ties take effect after strong ties. That is to say, the strangers take action after entrepreneur’s family, friends, etc.*

### **Feedback mediates the supporter and entrepreneur**

Looking at crowdfunding platform, one could find that crowdfunding is not only the process of fund raising, but also an interaction between the entrepreneurs and crowd. Under such a circumstance,

contributors aren't just customers; they are part of campaign players acting as saviors, mentors, teachers and preachers in terms of social network as well. It would be helpful if the later supporter take the feedback of early supporter seriously.

In the crowdfunding setting, there are two kinds of social network pertaining to entrepreneur and backer, respectively. The first is the platform on which the entrepreneur posts his/her project, to communicate with friends and/or fans in terms of Twitter, Facebook, LinkedIn, Wechat, and other social media that are platforms through which individuals and communities share, co-create, and modify information and ideology. The principle role for many entrepreneurs is to build a network to talk with a range of parties, especially at the planning stage talking, while at later stages, they seek ways to build and establish the business (*Greve and Salaff, 2003*). *Ward and Ramachandran (2010)* found that the demand for crowdfunding projects is driven by peer effects and crowdfunding allows consumers to refine their information about the quality of the goods. Because the projects posted online are often underdeveloped with some defects or errors at first, the early backers are willing to offer suggestions or feedback that proponents use to modify their projects continuously to anticipate problems, to know backers' preference, and to meet the needs of a broader audience (*Gerber et al., 2012*). So entrepreneurs may update their prior information from their investor's social network, and the success or failure of related projects may influence their campaign.

Regarding to the second network for backers, the main use is to communicate with their friends, fans or acquaintances, to update the news or responses, so others can take action on the basis of feedback and/or his (her) supporting behavior. Usually, it is the contributors who share similar backgrounds, experiences, or expectation with the entrepreneurs that they like and support the campaign. For most contributors, they are not good at the project, have no idea about the campaign,

but they expect to know the progress of process, so feedback can convey updated news, which would in turn generate the effect of work-of-mouth (Arndt, 1967) around the project, and even trigger a “success-breeds-success” process eventually.

Obviously, the feedback is based on the interaction between the entrepreneurs and backers, between early and later backers as well. Feedback would catalyze the process of crowdfunding. In the absence of prior research to guide our proposition but with an expectation that the more feedback would enhance the projects with more attraction and more successful pledge finally, so we have the following proposition.

*Proposition 4a. The feedback mediates the positive relationship between social ties and successful crowdfunding campaign.*

*Proposition 4b. The feedback mediates positive relationship between weak social ties and successful crowdfunding campaign.*

## **CASE STUDIES**

We will use two cases to illustrate the propositions above. One is about the crowdfunding platform, the other is about the case of raising fund to initiate the crowdfunding platform.

### **Case 1 The crowdfunding platform**

Most campaigns raise fund by crowdfunding website, such as Kickstarter in USA, Demohour in China. Kickstarter is one of most popular crowdfunding platform in the world. After posting the project online, the next step is to struggle for the support from the backers in terms of social media, such Facebook, Twitter, You Tube or LinkedIn, to reach the first level of entrepreneur’s friends and connections that multiply his or her reach exponentially. Once one has a good idea of who their audience is, the task is to get news into the media outlets that their audience consumes for information.

At the same time, the entrepreneurs are asking their friends to pass along news of the campaign by reposting and retweeting their Kickstarter news, it's also a way to remind them about the campaign without explicating asking them for money. For instance, the partners behind the March 2012 Kickstarter campaign for The HuMn Wallet, a minimalistic wallet that blocks radio-frequency identification signals, instituted a formal referral system to promote pass-alongs (Steinberg, 2012).

After tapping their friends and family, and then their online friends and followers, they will need to reach out to the communities of shared interest that are likely to support their project. Some of these communities they may already be part of; others they will need to find. For example, "Aurora Guerrero is a filmmaker who used Kickstarter to raise money to finish making *Mosquito y Mari*, a quiet dramatic feature film about two Latin girls who have a romantic relationship. She reached out to Latino cultural organizations and their websites and newsletters. She reached out to the independent filmmaker community" (Steinberg, 2012, pp119-137).

As shown above, the first audiences the entrepreneurs turn to are the family, friends who are the strong ties of them for initial fund, then they ask communities, which are weak ties for them, for other fund.

Another website case is Seedrs, which is an online platform of raising seed capital in terms of discovering and investing in startups, regardless of the number of fund the campaign hope to get from two groups. One calls network investors who are friends, family, members of their communities that can act as mentors, supporters and advocates for young companies, the others are independent investors who are ordinary people seeking to find the potential great startups and enjoying the excitement of being part of dynamic, high-growth businesses. Comparing with network investors, the independent investors are much more. Obviously, the network investors are strong ties of the

entrepreneurs, and the independent investors are weak ties of the initiators.

Generally speaking, the independent investors acknowledge the campaign or their business model even if they have not met the entrepreneurs before when they decide to back the project. While for network investors, the entrepreneurs spend lots of time to convince them to support in terms of social network, such as facebook, twitter, wechat, just name a few of them. Because the network investors are acquaintances, so the entrepreneurs need extra effort to persuade them, which in turn can attract more investors by means of their family, friends, and more acquaintance of them. These illustrate the roles of the strong and weak ties of entrepreneurs.

Regarding to the success of the campaign on Seedrs, if independent investors find the project is supporting quickly by others with highly possibility to fulfill successfully, they would like to back the project. And it is the first funding by network investors that the campaign can attract so much attention. This illustrates that the first support from the strong ties plays an important role for successful fund raising finally. The earlier support the more successful campaign. According to statistics, among those that have no initial funds, only less than 15 percent of campaign reaches the target fund at last. That is to say, if there is no support from the network investor, no more than 15 percent of them raise the fund successfully. Further, if the project initials 1 percent of total amount of fund at the very beginning, the possibility of successful raising reaches 27 percent, if the initial fund is 5 percent of total amount, nearly half of the campaign will succeed; similarly, 10 percent of initial fund, 70 percent of success; 20 percent results in 80 percent of success, and 35 percent leads to the success definitely. Diagram 1 illustrates the relationship between the initial fund and the rate of success.



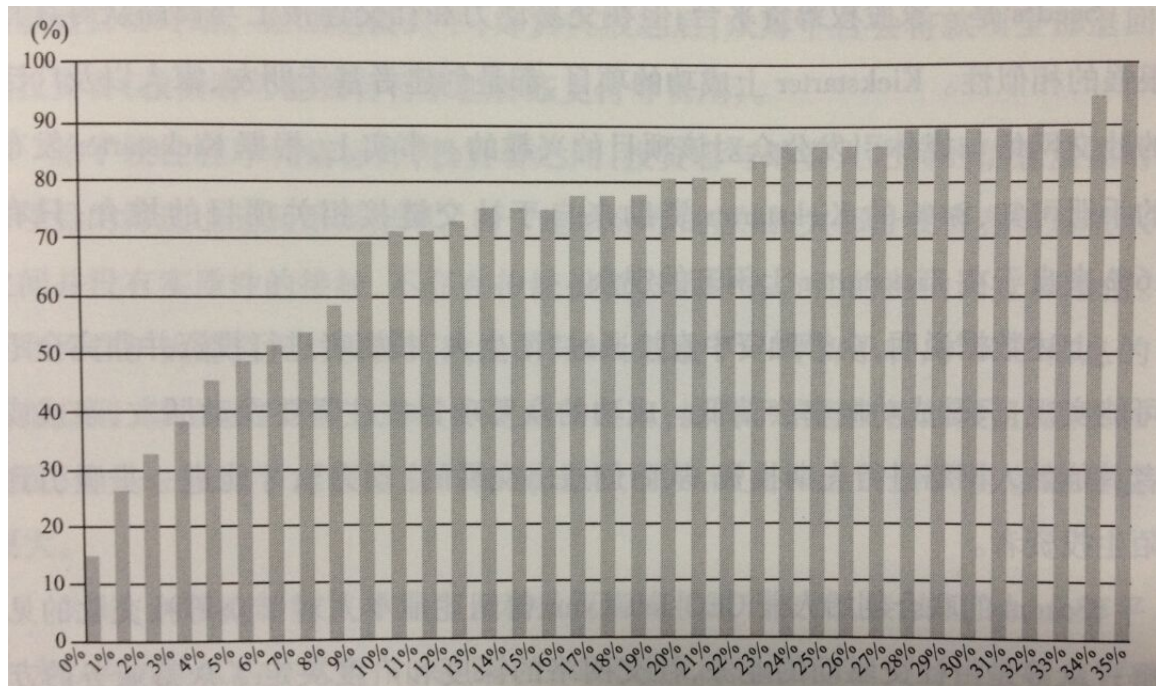


Diagram 1 the relationship between the initial fund and the rate of success on Seedrs

Source: 0-1 finance, 2014, The white book of crowdfunding 2014, China Economic Publishing House (in Chinese). 2014. pp. 19.

The above shows that the probability of success is very low if entrepreneur relies on acquaintances (network investors) only. Successful crowdfunding campaign needs the support from strangers (independent investors) triggered by the network investors, such as family, friends, and other acquaintances at the early stage, which is the impetus of further supporting which will result in a successful pitch finally. Just as the report said, “for the Seedrs and similar crowdfunding platform, the key points of the success are, only under the circumstance of potential success shown as the strong growth of initial funding led by the network investors, can independent investors make their decision to invest such a campaign” (1-0 finance, 2014).

What happened to Seedrs is also applicable to Kickstarter. Actually, the successful campaign in Kickstarter is based on the social network consisting of family, friends, and other acquaintances who invest the project at the early stage. According to the handbook of Kickstarter, 84 percent of sponsorship comes from the promotion of social linkage pertaining to the campaign, only 16 percent

comes from the audience wandering on the Kickstarter (Steinberg, 2014). Jeff Lynn, the CEO and co-founder of Kickstarter, thinks that the crowdfunding is a social network oriented business, more opportunities to participate in investment, more revenue to make for business. The target for them is to build a social network as larger and wider as possible so as to enhance the success rate of campaign (1-0 finance, 2014, pp 20).

## **Case 2 Dajiatou**

The next case is the effort of raising fund for setting up a crowdfunding website, which is the illustration of social network in China. Social network in China is similar to Guanxi, while the later has much more meanings than network used in the context of western culture (Chen and Chen, 2004). It is usually the mixture of kinship and social network. Actually, Guanxi is popular everywhere, wherever you are, and whatever you do, when something happen suddenly, seeing a doctor, hoping to contact somebody, for instance, the first response for him/her is to turn to family or friends, which has close Guanxi with him or her.

Li qunlin, the CEO of Dajiatou ([www.dajiatou.com](http://www.dajiatou.com)), was an engineer for technology and products. He was scare of fund while he wanted to start-up, so the idea of initiating a website to raise fund for his business occurred to him. After surveying several crowdfunding platforms, he decided to raise the fund in terms of initiating a new kind of platform, the share-oriented crowdfunding. Due to the fact that most potential backers are not good at investing, it would be better that they just follow those who are experts in some fields. So he designed a mechanics of “lead + backer”, more amateurs who have less capability to identify potential projects follow the professionals to invest. After communicating and working together with the entrepreneurs, the professional investors are the acquaintances and even the friends of entrepreneurs. It is them who are familiar with program, the

amateurs and even the strangers follow them to join the program. So Li thinks that the mixture of acquaintances and strangers is the ideal approach toward raising fund online, so he turn to Microblog (Chinese Twitter) and various activities of entrepreneurial finance to seek the person who share the same vision with him. Yu Bo is the partner of InnoValley, located in Shenzheng, Guangdong province, after studying abroad for more than ten years; he is a seasoned returned entrepreneur. He thinks that the shareholder crowdfunding is a platform of micro angel investment that is an effective complement for current entrepreneurial finance, so the InnoValley was the first and only institute that invested to project, which in turn attracted another eleven shareholders. Among twelve shareholders scattered in eight cities in China, only five persons had invest experience, six of them participated in the general meeting of shareholders, five holders went through the formalities remotely. Surprisingly, four of them decided to invest without any contacting with the project in advance. Finally, Dajiatou raised one million RMB successfully within 3 months.

This is the typical case of using social capital to raise fund for specific program which illustrates several facts as follow. Firstly, social network plays a very important role in crowdfunding. Li qunlin turned to Yu bo, an experienced investor who was also the reference for others. Further, the strong and weak relationships are both important for successful pitch. Secondly, strong relationship is critical for early success. Li turned to Yu at first, and Yu led to invest that set a good example for others. Thirdly, the weak relationship determines the final success of the campaign. Obviously, there are twelve investors, and most of them are strangers who have a weak connection with the program, and four of them have never connected with the project before decision making. Due to the fact that Li designed the mechanics of “lead + backer”, we could find that the acquaintances and strangers are equaled important for successful campaign, who contributes the success of pitch at the early and late stage,

respectively.

## **DISCUSSION**

### **Contribution**

To the best of our knowledge, this is the initial effort to study social network ties and crowdfunding. Using the framework of social network ties, we found that the social tie plays a critical role in supporting the crowdfunding. First, the social tie is positive to the success of campaign, more ties means more likely to succeed. Secondly, the strong ties not only positively related to successful early fundraising, which in turn trigger the successful campaign. Thirdly, the weak ties are positively associated to successful campaign; the stronger the weak tie more successful campaign. Finally, the feedback mediates the relationship between the successful campaign and social ties and weak social ties as well.

### **Implication**

If the propositions above gain some empirical support, this research has meaningful implications for entrepreneurs, backers, and policy makers, respectively. For entrepreneurs, because the social ties associates positively to successful campaign regardless of strong or weak ties, and the stronger ties positive associates to the early success of campaign which in turn positively trigger the crowdfunding campaign. So they had better get more supporting from those who have strong ties with them at the very beginning, and if possible, those people give some positive feedback that would be more helpful for attracting more backers. For backers, in addition to conducting some researches about the project and entrepreneur do check the feedback that signal the quality of the project before make final supporting decision. Potential supporters are not sure the feasibility of project, they may be interested in the project, which is consistent with their ideal that has not completed by themselves. Nor the

backers assure the ability of entrepreneur to complete the project. Actually, generating the new ideas is one thing, while putting these ideas into practice is another, because completing the project needs more knowledge about operation management covering production, service and even marketing, etc., which are always beyond the ability of nascent entrepreneurs. Even if they have some knowledge or ability about the project, the project maybe falls into failure, because completing project needs much more work to do. So for the potential backers, checking the background information or visiting entrepreneur personal website, if applicable, is not enough. The backers who gets the pieces of information just like to play the elephant game by taking a part for the whole, and this is not beneficial to get a vivid image by piecing fragment together. While for policy makers, it would be better to establish the reputation pool for entrepreneurs to let the backer check the background information, which benefits the backers and entrepreneurs themselves as well.

### **Limitation**

While these results are intriguing, they present a first foray into the phenomena of crowdfunding. The contribution of this study should be qualified in light of its limitations, and they have a number of limitations, which implies several productive directions for further research.

Due to the crowdfunding is a nascent phenomena, the research from the social tie approach is limited, so the propositions we proposed are not convincing. Another limitation falls in the quantitative analysis. We only put forward some propositions, whether they will hold or not is an empirical question, it would be better to get data to verify them. For instance, Hsu (2007) and Shane and Cable (2002) have examined the role of social networks in funding new venture, while how to attract stranger has not yet studied.

### **Further research directions**

Albeit this paper taps the social ties in the setting of crowdfunding, there are many questions relating to theoretical and practical issues deserved to be studied further. The first approach is theoretical study, which it could be divided into different divisions. Such as why and how strong and weak ties hold? For instance, what is the bottom reason for those who have no relationship with entrepreneur at all would like to support project, is the trust works always? What is the mechanics of trust? What are the thresholds of strong and weak ties? What is the process of early and later supporting, is it always the family or friends go head? Why or why not? What is the transmission mechanism from strong tie to weak tie, saying, does the stranger follow the family or friend of entrepreneur? If so, what is the threshold of following? What is the later backers' response after checking information of supporting, or observing early supporters' behavior?

Another strand is empirical study. To build or choose a specific model is the first step, next step is to collect data to measure variables, such as social ties, success of campaign, etc. For instance, Mollick (2014) uses the number of friends on Facebook to identify the network, while Clombo et al. (2015) uses the number of supported project to identify the internal social ties, and Burch et al. (2013) uses Google search trends associated with pitch keywords, and the number of pitch views in a given day to describe attraction. Of course, the data falls in different kinds of crowdfunding, for example, pre-order, peer-to-peer lending, equity share and donation.

Regarding to mediation or moderation, the kind of crowdfunding above, the category of specific field, such as technology, arts, film, etc., in the setting of pre-order, and the geography location, the strength of ties, maybe mediate or moderate the relationship among different variables. For example, traditional successful entrepreneurial ventures are often highly constrained by geography (Chen et al., 2009; Kenny and Burg, 1999; Shane and Cable, 2002). However, researches have noted that

crowdfunding has the potential to mitigate many of the distance effects. By examining crowdfunding in the recording industry, Agrawal et al. (2011) found that the distance made a difference --- those who did invest in artist-entrepreneurs usually live in the area within the radius of 3000 miles. Mollick (2014) thought geography is related to successful fund raising. It would be interesting to explore what role the geography plays in new ventures in a crowdfunding regime. Regarding to strength of ties, which is measured by the amount of time, emotional intensity, intimacy (mutual confiding), and the reciprocal services (Granovetter, 1973), each of these is somewhat independent of the other, though the set is obviously highly intra-correlated. Whether or not the weak ties is more helpful in getting information and support from strangers, is also an interesting question in the setting of crowdfunding.

## REFERENCES

- Afuah, A. N., and Tucci, C. L. 2002. *Internet business models and strategies: Text and cases*. New York: McGraw-Hill.
- Afuah, A., and Tucci, C. L. 2012. Crowdsourcing as a solution to distant search, *Academy of Management Review*, 37(3): 355-375.
- Agrawal, A., Catalini, C., and Goldfarb, A. 2011. *The Geography of Crowdfunding*. NBER Working Paper, No.16820.
- Agrawal, A., Catalini, C., and Goldfarb, A. 2014. Some simple economics of crowdfunding. <http://www.nber.org/papers/w19133>.
- Ahlers, G.K., Cumming, D. Gunther, C., and Schweizer, D. 2012. Signaling in Equity Crowdfunding. Available at: <http://ssrn.com/abstract=2161587>.
- Aldrich, H. E., Fiol, C. M. 1994. Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4):645-670.
- Arndt, J. 1967. The role of product-related conversations in the diffusion of a new product. *Journal of Marketing Research*, 4(3), 291-295.
- Belleflamme, P. , Lambert, T., Schwienbacher, A. 2011. Crowdfunding: an industrial organization perspective, in: *Proceedings of Workshop on “Digital Business Models: Understanding Strategies”*, Paris.
- Belleflamme, P., Lambert, T., and Schwienbacher, A. 2014. Crowdfunding: Tapping the right crowd. *Journal of Business Venturing*, 29(5), 585-609.
- Bhide, A., 1992. Bootstrap Finance: The Art of Start-ups. *Harvard Business Review* 70 (66), 109-117.
- Bogost, I. 2012. Kickatarter: Crowdfunding platform or reality show? *Fast Company*.
- Bruton, G., Khavul, S., Siegel, D., and Wright, M. 2015. New financial alternatives in seeding entrepreneurship: Microfinance, crowdfunding, and peer-to-peer innovations, *Entrepreneurship Theory and Practice*, 1: 9-26.
- Burt, R. S. 2000. The network structure of social capital. *Research in Organizational Behavior*, 22: 345-423.
- Burtch, G., Ghose, A. And Wattal, S. 2011. An Empirical Examination of the Antecedents of Contribution Patterns in Crowdfunded Markets. Available at: <http://ssrn.com/abstract=1928168>.
- Chen, X., Yao, X., and Kotha, S. 2009. Entrepreneurial passion and preparedness in business plan presentations. *Academy of Management Journal*, 52(1): 199-214.
- Chen, X., and Chen C. 2004. On the intricacies of the Chinese Guanxi: A process model of Guanxi development. *Asia Pacific Journal of Management*, 21,305-324.
- Cheng, Y. Q., Wang, Q., and Xie, J. 2011. Online social interactions: A natural experiment on word of mouth versus observational learning. *Journal Marketing Research*, 48(2), 238-254.



- Coleman, J. 1988. Social capital in the creation of human capital, *American Journal of Sociology*, 94 (Suppl.): 95-120.
- Colombo, M.G., Franzoni, C., and Rossi-Lamastra, C. 2015. Internal Social Capital and the Attraction of Early Contributions in Crowdfunding, *Entrepreneurship Theory and Practice*, 1: 75-100.
- Cosh, A., Cumming, D. and Hughes, A. 2009. Outside Entrepreneurial Capital. *Economic Journal* 119, 1494-1533.
- Dellarocas, C. 2003. The digitization of word of mouth: Promise and challenges of online feedback mechanisms. *Management Science*, 49(10), 1407-1424.
- Dragojlovic, N., Lynd, L.D. 2014. Crowdfunding drug development: the state of play in oncology and rare diseases, *Drug Discov Today*. <http://dx.doi.org/10.1016/j.drudis.2014.06.019>.
- Duan, W., Gu, B., and Whinston, H.B. 2009. Information cascades and software adoption on the Internet: An empirical investigation. *MIS Quarterly*, 33(1), 23-48.
- Ebben, J., and Johnson, A. 2006. Bootstrapping in Small Firms: An Empirical Analysis of Change over Time. *Journal of Business Venturing* 21, 851-865.
- Freedman, M.P. 2000. Challenges to launching grassroots microlending programs: A case study. *Journal of Developmental Entrepreneurship*, 5(3), 235-248.
- Gambetta, D. 1988. Can we trust? In D. Gambetta (Ed.), *Trust: Making and breaking cooperative relations*: 213-238. New York: Blackwell.
- Gartner, W. B., & Low, L. 1990. Trust as an organizing trope. Paper presented at the annual meeting of the Academy of Management, San Francisco.
- Gass, D. 2011. *Crowdfunding: How to raise money with the online crowd*, Las Vegas: Jump Profit, Inc.
- Gerber, E.M., Hui, J.S., and Kuo, P.Y. 2012. Crowdfunding: Why people are motivated to post and fund projects on crowdfunding platforms. In *Proceedings of the International Workshop on Design, Influence, and Social Technologies: Techniques, Impacts and Ethics*.
- Granovetter, M. 1973. The strength of weak ties. *American Journal of Sociology* 78 (6), 1360-1380.
- Harrison, R. 2013. Crowdfunding and the revitalisation of the early stage risk capital market: catalyst or chimera? *Venture Capital: An International Journal of Entrepreneurial Finance* 15 (4), 283-287.
- Hemineay, J., Hoffman, S. 2010. Proceed at your peril: Crowdfunding and the securities act of 1933. *Tennessee Law Review* 78, 879-972.
- Hildebrand, T., Puri, M., and Rocholl, J. 2013. Adverse incentives in crowdfunding. SSRN Working Paper. Available at <http://ssrn.com/abstract=1615483>, accessed 20 Dec. 2014.
- Howe, J. 2006. Crowdsourcing: A Definition. Available at: [http://crowdsourcing.typepad.com/cs/2006/06/crowdsourcing\\_a.html](http://crowdsourcing.typepad.com/cs/2006/06/crowdsourcing_a.html).

- Howe, J. 2006. The rise of crowdsourcing. <http://www.wired.com/wired/archive/14.06/crowds.html>
- Hsu, D. 2007. Experienced entrepreneurial founders, organizational capital, and venture capital funding, *Research Policy* 36.
- Ibrahim, N., Verliyantina, B. 2012. The model of crowdfunding to support small and micro businesses in Indonesia through a web-based platform, *Procedia Economics and Finance* 4, 390-397.
- Jefferson, D., Siegel, S., and Young, L. 2012. Trust and Credit: The Role of Appearance in Peer-to-peer Lending. *Review of Financial Studies* 25 (8), 2455-2483.
- Kenny, M., and Burg, U. Von. 1999. Technology, entrepreneurship and path dependence: industrial clustering on Silicon Valley and Route 128. *Industrial and Corporate Change* 8 (1), 67-103.
- Khavul, S. 2010. Microfinance: Creating opportunities for the poor? *Academy of Management Perspectives*, 24(3), 57-71.
- Klein, A., and Yonatan, R-F. 2012. How to succeed with your crowdfunding campaign, <http://techcrunch.com/2012/08/05/how-to-make-sure-your-crowdfunding-dreams-dont-turn-into-an-investor-relations-nightmare>.
- Kuppuswamy, V. & Bayus, B.L. 2013. Crowdfunding creative ideas: The dynamics of project backers in Kickstarter. UNC Kenan-Flagler Research Paper (No. 2013-15). Available at SSRN: <http://ssrn.com/abstract=2234765> or <http://dx.doi.org/10.2139/ssrn.2234765>.
- Lehner, O. M. 2012. Crowdfunding Social Ventures: A Model and Research Agenda, <http://ssrn.com/abstract=2102525>.
- Lin, M., Nagpurnanand R. P., and Siva V. 2013. Judging Borrowers by the Company They Keep: Friendship Networks and Information Asymmetry in Online Peer-to-Peer Lending, *Management Science* 59 (1), 17-35.
- Lin, M., Viswanathan, S. 2013. Home Bias in Online Investments: An Empirical Study of an Online Crowd Funding Market, Available at: <http://ssrn.com/abstract=2219546>.
- Mollick, E. 2014. The dynamics of crowdfunding: an exploratory study, *Journal of Business Venturing* 29, (1):1-16.
- Morduch, J., 1999. The microfinance promise. *Journal of Economic Literature* 37, 1569.
- Nahapiet, J., and Ghoshal, S. 1998. Social capital, intellectual capital, and the organizational advantage, *Academy of Management Review*, 23 (2): 242-266.
- O'Flynn, S., 2012. Documentary's metamorphic form: Webdoc, interactive, transmedia, participatory and beyond, *Studies in Documentary Film* 6 (2), 141-157.
- Oh, W. & Jeon, S. 2007. Membership herding and network stability in the open source community: The Ising perspective. *Management Science*, 53(7), 1086-1101.
- Ordanini, A., Miceli, L., Pizzetti, M., and Parasuraman, A. 2011. Crowd-funding: Transforming customers into investors through innovative service platforms. *Journal of Service Management*,

22(4), 443-470.

Poetz, M., Schreier, M. 2012. The value of crowdsourcing: can users really compete with professionals in generating new product ideas? *Journal of Product Innovation Management* 29.

Schelling, T.C. 1978. *Micromotives and macrobehavior*. New York: W.W. Norton.

Schwienbacher, A., Larralde, B. 2010. *Crowdfunding of Small Entrepreneurial Ventures*. SSRN Working paper.

Shane, S. and Cable, D. 2002. Network ties, reputation, and the financing of new ventures. *Management Science*, 48(3), 364-381.

Shane, S. and Shuart, T., 2002. Organizational endowments and the performance of university start-ups. *Management Science*.

Shane, S.A. *Fool's gold?* New York: Oxford University Press. 2009.

Smith, R. L., and Smith, J. K. 2004. *Entrepreneurial Finance*, 2nd edition, John Wiley & Sons, Inc.

Steinberg D. 2012. *The Kickstarter handbook: Real-life crowdfunding success stories*. PA: Quirk Books.

Steinberg, S., and DeMaria, R., 2012. *The crowdfunding bible*, published by READ.ME.

Vitale, M. 2013. *Crowdfunding: Recent International Developments and Analysis of Its Compatibility with Australia's Existing Regulatory Framework*. Mimeo. Available at <http://ssrn.com/abstract=2324573>.

Wheat, R. E., Wang, Y., Byrnes, J. E., and Ranganathan, J. 2013. Raising money for scientific research through crowdfunding. *Trends in Ecology and Evolution* February, 28(2):71-72.

Winborg, J., and Landstrom, H. 2001. Financial Bootstrapping in Small Business: Examining Small Business Managers' Resources Acquisition Behavior, *Journal of Business Venturing* 16, 235-254.

Zhang, J. and Liu, P. 2012. Rational herding in microloan markets. *Management Science*, 58(5), 892-912.

Zheng, H., Li, D., Wu, J., and XuY. 2014. The role of multidimensional social capital in crowdfunding: A comparative study in China and US. *Information & Management*, 51, 488-495.