

# Understanding and Leveraging Social Networks for Crowdfunding: Opportunities and Challenges

Julie S. Hui

Segal Design Institute  
Northwestern University  
Evanston, IL USA  
juliehui@u.northwestern.edu

Elizabeth M. Gerber

Segal Design Institute  
Northwestern University  
Evanston, IL USA  
egerber@northwestern.edu

Darren Gergle

Technology and Social Behavior  
Northwestern University  
Evanston, IL USA  
dgergle@northwestern.edu

## ABSTRACT

Crowdfunding provides a new way for creatives to share their work and acquire resources from their social network to influence what new ideas are realized. Yet, we understand very little about this growing phenomenon. Grounded in existing work on social network analysis, we interview 58 crowdfunding project creators to investigate how crowdfunders use their social network to reach their campaign goals. We identified three main challenges, which include understanding network capabilities, activating network connections, and expanding network reach. From our findings, we develop initial design implications for support tools to help crowdfunding project creators better understand and leverage their social network.

## Author Keywords

Crowdfunding, social networks, support tools.

## ACM Classification Keywords

H.5.3 [Group and Organization Interfaces]: Design

## General Terms

Design

## INTRODUCTION

Crowdfunding—the online request for resources from a distributed audience often in exchange for a reward [5]—is a rapidly emerging practice for people to receive donations for a variety of creative endeavors. While the media often reports on cases of exceptional fundraising, a surprising number of efforts actually fall short of their funding goals. In fact, 56% of projects fail to meet their goal, and previous research implicates publicity efforts as a major factor contributing to these failures [12].

To further investigate these claims, we perform an interview study with 58 crowdfunding project creators to uncover the central challenges that novice project creators face in

understanding and leveraging their social network to help publicize their campaign. Our results show that project creators have trouble estimating their social network capabilities, activating their social network connections, and expanding their network reach.

We then aim to address these challenges by identifying design implications for support tools. Currently, crowdfunders employ a variety of support tools that range from web applications that track campaign page views to online forums that allow for an exchange of advice [12]. However, these do little to help the project creator prepare publicity efforts before campaign launch. They also do not provide the deeper insight needed to effectively leverage social networks in ways that better support critical publicity activities [22].

## RELATED WORK

Crowdfunding provides a unique opportunity to apply social network analysis (SNA) to inform decisions to connect and ask for support on social media. Mollick [17], Giudici [8] and Moissejev [16] found that signals of individual social capital, such as social network size, and the number of Facebook “likes” for a project page, are correlated with crowdfunding success. Similarly, Wojciechowski described the importance of project creator credibility [21], which can be signaled by public symbols of approval. However, none take a qualitative approach to understand how project creators develop these signals and if they are even aware of the need to cultivate them.

SNA research has shown that interacting and connecting with certain key individuals can provide a competitive advantage in efforts to acquire resources and spread information [4,9], two necessary activities of crowdfunding. For instance, directed content sharing supports the spread of information to key individuals and groups [3,7]. In addition, connections with certain tie strengths improves the likelihood of receiving and sharing new information [1,9], receiving resources [6], and making connections to new groups [4,9]. However, research in network literacy has shown that people often have an incorrect mental model of their audience [15] [2], which hinders their ability to leverage their network effectively.

## CROWDFUNDERS NEEDS ANALYSIS

The data are based on semi-structured interviews with 58 crowdfunders. We asked questions about how they engage

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in the crowdfunding process, difficulties encountered, and motivations for participation. This data has been used to inform previous studies on the role of community in crowdfunding [12], motivations and deterrents to crowdfund [5], the affect of public failure [10]. An early version of this study has been described in a work-in-progress [11]. In this study, we include 11 more interviews and expand on emergent themes related to social networking.

We interviewed a total of 58 project creators. Projects were diverse and included Art, Comics, Dance, Design, Education, Fashion, Film & Video, Food, Games, Music, Photography, Publishing, Science, Technology, and Theater. Participants raised between \$71 and \$313,371 dollars. They used three different crowdfunding platforms, Kickstarter, IndieGoGo, and RocketHub. We recruited these participants by random sampling 47 from crowdfunding platforms and snowball sampling 11. Interviews were conducted during and after the crowdfunding campaign.

We followed grounded theory and employed selective coding and analysis [20] to understand the challenges related to social networking. We flagged each instance where participants communicated challenges and recorded it in an Excel spreadsheet. We identified 16 themes, abandoning those for which there was insufficient data and clustered the remaining into three groups based on frequency of occurrence.

**Findings**

We discuss the challenges crowdfunders face including understanding network capabilities, activating network connections, and expanding network reach (Figure 2).

**Understanding Network Capabilities**

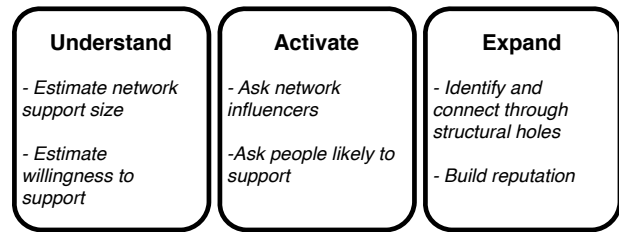
Many crowdfunding project creators have trouble estimating their network size and who is willing to give, leading them to choose overly ambitious funding goals or spam connections. Many creators and supporters express the desire to mitigate annoying others or getting annoyed by excessive requests for help. For instance, one creator of a music project described how he did not know whom to target in his campaign and decided to ask everyone he knew:

*“I basically asked all my friends. I asked everybody I’d ever met in my life, like even ex-girlfriends, if they wanted to be part of it.”*

Doing this often leads to disappointment as creators become aware of the number of their “friends” who are not willing to provide any support. One creator expressed dismay about how close friends and relatives failed to donate to his campaign:

*“I have good friends that I haven’t been able to get to the site. It’s very shocking. It kind of, like, shows you who your real friends are.”*

Instead, he found a large portion of his funds coming from weak ties:



**Figure 1: Crowdfunders have difficulty understanding, activating, and expanding their network.**

*“There are people I went to high school with, people I haven’t seen in 20 years...and I’ve gotten them onto the site and they’ve become backers.”*

Other creators had similar experiences, and were often surprised at the number of people who supported them with whom they interact rarely or had never met before. These findings are consistent with SNA research, which describes how weak ties are valuable for providing access to new resources [9]. However, while weak ties have shown to be useful, social norms prevent many from reaching out to people they do not know as well. This is consistent with findings in HCI literature, which describes how people differ in what they are willing to do for and ask their friends online [13,19].

Other creators have the opposite problem, where they raise much more money than expected. While this sounds ideal, one creator called it “the worst case scenario” because an ill-prepared creator may not be ready to fulfill rewards on such a mass scale:

*“You have to plan for...worst case success scenarios where you have way more orders than you ever anticipated to a scale where you can’t possibly produce or fulfill on the project affordably.”*

Understanding one’s potential support size helps creators identify who they should target, set attainable funding goals, and prepare for reward manufacturing.

**Activating Network Connections**

Project creators also describe difficulties with knowing how to ask for support. A creator of a community service project described how she once “faltered... sending out a mass email... expressing that [she] was in dire need,” and later changed her message to something “more positive”:

*“At the end of [the message] I would say, ‘I know that this project will be very successful on Kickstarter because of supporters like you,’ and then I listed a lot of people that that person knew that have already supported.”*

This first time creator, who ended up succeeding, also described connecting with influential people in her network in order to make her project seem more legitimate.

Others were less fortunate, even when trying similar communication strategies. A creator of a poetry project described his various attempts:

*“I reached out a couple of times, and I’ve done a variety of techniques. First, I did something that was more straightforward explaining the project, then I did somewhat jokey ones, and I haven’t really gotten much response.”*

Although he maintained a positive tone with his audience, he failed to motivate enough people to give to his campaign. This suggests other factors in addition to communication style affect why some creators are able to motivate their audiences more than others.

### Expanding Network Reach

Having a large fan base is correlated with higher funding success [17], and participants often do not realize the need to grow this network of supporters prior to their campaign. Those that don’t have a strong reputation are challenged to build one in a short amount of time. A successful creator described the years of effort he put into expanding his fan base before launching his first crowdfunding campaign:

*“When I was getting started, I didn’t have that name recognition, all I had were contacts in the community, and so I had to spend a lot of time putting myself out there, blogging, sharing thoughts, getting into discussions, going back and forth with people, responding to comments very quickly... And with that, I was able to get some modest success and then build upon that and build upon that.”*

This creator maintains followers on multiple social media platforms, such as Twitter, Facebook, and a personal blog, and raised \$3,030 for his first project. Since then he has created two more successful projects, the most recent raised over \$24,000 dollars. Other creators who failed to reach their funding goal expressed beliefs that their reputation was not strong enough when their campaign launched.

Because crowdfunding supporters follow the project from concept to realization, the relationship between creators and supporters is different from traditional consumer transactions, such as on Amazon, where there is a one-time act of purchasing a finished product and buyers have minimal to no connection to the original designer.

### THE DESIGN SPACE

Based on our findings, we propose three design principles to guide the creation of future crowdfunding network support tools: 1) help measure size of support network, 2) identify people that are likely to support, and 3) identify opportunities to build reputation.

#### Measure Size of Support Network

Research suggests that one’s support network size can be estimated by number of friendship ties and signals of relational investment [2,6,15]. These values are already being used in tools to measure social influence online (i.e. Klout [23]), which HCI researchers have found to be correlated with the likelihood that one receives help from others [13].

Our findings suggest that these signals may be helpful in determining one’s financial support network size. Therefore, crowdfunding support tools could provide estimates during the campaign preparation stage.

#### Identify likely supporters

In addition, we suggest that crowdfunding tools help project creators identify who is likely to provide support. Signals of relational investment, such as “likes” on Facebook or “re-tweets” on Twitter, serve as signals of relational investment. Furthermore, while we have already carried out a qualitative study to understand what motivates crowdfunding supporters in general [5], which include the desire to collect rewards and be part of a community, we recognize the need for a more granular understanding of how these motivations differ across project and audience types.

#### Identify Opportunities to Build Reputation

Third, people with a strong reputation could be signaled via high degree centrality [18] in terms of number of followers (one-way ties) and friend connections (two-way ties). Theories of communication on social networks have shown that being connected to [18] and getting endorsed by [14] someone with a strong reputation increases one’s personal reputation level through association. A tool that would help crowdfunders build their reputation, such as informing them who to ask for publicity support, could help them expand their support network.

To present a scenario building on these design principles, we describe a simple use case for a possible tool called ShoutOut:

*Amy just graduated from a product design master’s program and wants to crowdfund her idea for an eco-friendly water kettle. Because she has never crowdfunded before, she decides to use ShoutOut to determine 1) if she needs to build a stronger following, and 2) who could help expand her following.*

*To determine if she needs to build a stronger following, ShoutOut compares her online activity to others by visualizing how many connections (i.e. Twitter Followers) she has, and how often these connections respond to her posts (i.e. re-tweets). It then compares this amount to other people in her social network. If she has few signals of relational investment in comparison to her peers, it serves as an indicator she must put more effort to building a larger online following before launching her campaign.*

*In order to identify whom to contact, ShoutOut identifies friends with the highest online reputation, such as people with most friends and signals of relational investment. Amy decides to make a list of all of these “popular” friends that she is comfortable reaching out to, and considers recruiting them to be a part of her marketing team. In addition, showing signals of relational investment for individual connections helps her identify which people may be more likely to support her campaign already.*

Previous research has shown that preparing publicity efforts before the campaign launch is crucial for campaign success, and that many crowdfunders fail to do so [12]. Launching a campaign too early uses up valuable social capital, making it harder to re-launch if the campaign fails [10]. This potential tool outlines opportunities for campaign improvement before the project launch by prompting users to reflect on their network size and how they can build their network size through the right connections [5].

#### FUTURE WORK

We plan to design a crowdfunding support tool and perform an empirical analysis by testing whether reaching out to certain people identified by social network analysis actually leads to increased resource acquisition and spread of information. We hope to find that the related work describing the utility of social network support tools holds for the new context of crowdfunding. Furthermore, we believe the qualitative work in this paper as well as the description of a tool design will spark future discussion and design work on creating support tools for crowdfunders.

Furthermore, we plan to perform a more in depth analysis comparing network and publicity strategies between successful and non-successful project creators. From our initial observations, we notice that successful project creators may more often build an online audience prior to campaign launch, write targeted rather than general messages asking for support, connect with people outside their personal network, and reach out to people with interests aligned with the project. In the future, we will validate and further identify such strategies and perform a survey of project creators to test if there is a significant difference in what successful and non-successful project creators do.

#### CONCLUSION

Social network analysis provides a unique opportunity to help novice crowdfunders understand and leverage their network for campaign publicity. We perform a grounded theory analysis of 58 crowdfunders and identify challenges of understanding network capabilities, activating network connections, and expanding network reach. Lastly, we describe design principles to guide future work in creating and evaluating a social network support tool for crowdfunders.

#### CONCLUSION

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