Understanding and Leveraging Social Networks in Crowdfunding: Implications for Support Tools

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 investigate how crowdfunders strategically use their social network to reach their campaign goals. We interviewed 47 crowdfunding project creators to understand the challenges they face. We identified three main themes, 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, creativity support tools.

ACM Classification Keywords
H.5.3 [Group and Organization Interfaces]: Design

Introduction
Crowdfunding—the online request for resources from a distributed audience often in exchange for a reward [6]—
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 [11]. To further investigate these claims, we perform an interview study with 47 crowdfunding project creators to uncover the central challenges that novice s 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.

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 [15] and Giudici [9] found that signals of individual social capital, such as social network size, are correlated with crowdfunding success. Moisseyev found that signals of social approval, such as the number of Facebook “likes” for a project page, were also correlated to fundraising success [14]. Similarly, Wojciewowski described the importance of project creator credibility [18], 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.

We define a crowdfunder’s social network to be anyone connected to directly or indirectly, on or offline, who could support the project in anyway. 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 [4,10], two necessary activities of crowdfunding. For instance, directed content sharing supports the spread of information to key individuals and groups [3,8]. In addition, connections with certain tie strengths improves the likelihood of receiving and sharing new information [1,10], receiving resources [7], and making connections to new groups [4,10]. However, research in network literacy has shown that people often have an incorrect mental model of their audience [13] [2], which hinders their ability to leverage their network effectively.

Methods
The data are based on semi-structured interviews with 47 crowdfunders (novice and experienced) in which we asked questions about how people engage in the crowdfunding process, the role of community, and motivations for participation. Interviews were conducted through phone, video call, and in-person. This data has been used to inform previous studies [6,11]. In this study, we focus on a previously uncovered emergent theme of difficulties with social networking for novice crowdfunding project creators.

Of the 47 creators that we interviewed, 33 were launching or had launched a project for the first time. Participants used three of the most popular crowdfunding platforms, Kickstarter, IndieGoGo, and Rockethub. We recruited these participants by starting out with an initial random sample of 36 by soliciting interviews with project creators from all project types. The remaining 11 were snowball sampled to identify unique participants. Projects areas were diverse and included Art, Comics, Design, Education, Fashion, Film & Video, Food, Games, Music, Photography, Publishing, Science, Technology.
and Theater. They raised between $71 and $313,371 dollars. About 50% met their funding goal on at least one of their projects, which is similar to the success rate of Kickstarter, the largest crowdfunding platform.

We followed a grounded theory approach and employed selective coding and analysis [17] to understand the challenges related to social networking that project crowdfunders faced. We flagged each instance where participants communicated challenges and recorded it in an Excel spreadsheet. As data was analyzed for underlying patterns and themes, we simultaneously researched pertinent literature to understand existing theory and uncover related phenomena. We identified 16 different themes, abandoning those for which there was insufficient data and clustered the remaining into three groups based on frequency of occurrence.

Findings
The creators faced three major network-based challenges: understanding network capabilities, activating network connections, and expanding network reach.

Understanding Network Capabilities
Many crowdfunding project creators have trouble estimating their network size and willingness to give. One creator who did not reach his funding goal for a food project expressed dismay about how his strong ties, such as close friends and relatives, failed to provide the expected amount of support:

“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:

“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 often better at providing access to new resources. These findings also suggest that creators have difficulty identifying which groups are most likely to give support.

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 network potential support size allows creators to set attainable funding goals and adequately prepare for reward manufacturing.

**Activating Network Connections**

Similar to the challenge of understanding the size of one’s support network, project creators also describe difficulties with understanding what motivates certain groups over others. 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 joke-y 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 outside of 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 [15], and participants often don’t realize the need to build up this network of enthusiastic 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 novice creator described the years of effort he put into building up his credibility 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, that kind of thing. And with that, I was able to get some modest success and then build upon that and build upon that.”

This creator 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 at the time of their campaign launch.
Crowdfunding differs from traditional consumer transactions because crowdfunding supporters follow the project from concept to realization. This stands in contrast to the one-time act of purchasing a finished product on a consumer website like Amazon, where buyers have minimal to no connection to the original designer.

**Discussion and Implications for Design**

Based on our findings, we propose three design principles to guide the design of future crowdfunding support tools: 1) help measure size of support network, 2) uncover motivations for different audiences, and 3) identify opportunities to build reputation.

Research suggests that one’s support network size can be estimated by number of friendship ties and signals of relational investment. These values are already being used in tools to measure social influence online, which HCI researchers have found to be correlated with the ability and likelihood to receive help online [5]. Our findings suggest that these signals may be helpful in determining one’s financial support network size, and therefore, crowdfunding support tools could provide estimates during the campaign preparation stage.

In addition, we suggest that crowdfunding platforms and tools help project creators understand what motivates different audiences in order to determine who is more likely to give funds and what messages to send them. While we have already carried out a qualitative study to understand what motivates crowdfunding supporters in general, 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. Our findings suggest that there are differences, and support tools to help creators determine these differences would help them craft their strategy and language.

Third, people with a strong reputation could be signaled via high degree centrality [16] 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 [16] and getting endorsed by [12] someone with a strong reputation increases one’s personal reputation level through association. A tool that would help crowdfunding build their reputation, such as informing them who to reach to or connect with, would help them expand their support network size before and during the campaign. Reaching out to weak ties has shown to provide access to new people who could be seminal in expanding one’s network size [10].

**Future Work**

In moving forward, we will begin to develop a SNA support tool for novice crowdfunding based on the findings in this study. Previous research shows that crowdfunding are motivated to spread the word about their project [6], while this current study describes specific opportunities where support is needed. Once we recruit users, we plan to perform an empirical analysis of the tool’s utility 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.
Conclusion
Crowdfunding provides a unique opportunity for social networks to help novice crowdfunders understand and leverage their network to achieve funding success. By understanding the challenges they face, we can better develop support tools for crowdfunders.

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