Learning to Fail: Experiencing Public Failure Online Through Crowdfunding

Michael D. Greenberg
Segal Design Institute
Northwestern University
Evanston, IL USA
mdgreenb@u.northwestern.edu

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

ABSTRACT
Online crowdfunding platforms like Kickstarter are gaining attention among novice creatives as an effective platform for funding their ventures and engaging in creative work with others. However, a focus on financial success of crowdfunding has obscured the fact that over 58% of crowdfunding projects fail to achieve their funding goals. This population of failed creatives however, gives us an audience to study public creative failure in an online environment. We draw inspiration from work in organizational behavior on failure, and work in Human Computer Interaction (HCI) on online behavior, to study online public failure. Using a mixed-methods approach with data scraped from Kickstarter and interview data with failed crowdfunding project creators, we answer the following question: What do project creators on crowdfunding platforms learn and change through the process of failing? We find that creators who relaunch their projects succeed 43% of the time, and that most individuals find failure to be a positive experience. We conclude the paper with a series of design implications for future creative platforms where public failure is part of the creative process.

Author Keywords
Crowdsourcing; Crowdfunding; Feedback; Failure

ACM Classification Keywords
H.5.3 Group and Organizational Interfaces: (CSCW)

INTRODUCTION
Creative work, and the associated design process is often characterized by a process of learning through iterative failure [10]. Successful creatives fail repeatedly and consistently, before eventually succeeding. Moving creative work online presents challenges, as many individuals are reluctant to post negative progress online. As Human Computer Interaction (HCI) researchers, we want to understand public online failure so we can design platforms where public failure is used as a stepping stone to eventual public success.

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We study public online failure within the context of Kickstarter, a crowdfunding platform for creative projects. The popular press heralds crowdfunding as a way for people, typically with limited access to capital, to raise money for ventures, and for a crowd, a distributed network of individuals, to support them [24, 28, 1]. Crowdfunding has rapidly risen in popularity, with Kickstarter, the largest of the creative crowdfunding platforms, raising over $400 million since 2008 [5], and the entire crowdfunding industry raising over $2.7 billion in 2012 alone [2].

While much of the focus on online crowdfunding platforms has been on their financial success, many have ignored the fact that roughly 58% of crowdfunding projects on Kickstarter fail to reach their funding goal [5]. The large quantity of failed projects on Kickstarter, however gives us a unique opportunity to observe the reactions to public failure and engage with a large population of failed creatives. While others have discussed the failure of project creators to deliver goods and the determinants of failed projects, research on the experience of failing in the context of crowdfunding is limited [21]. This paper seeks to use crowdfunding as a means to understand the experience of online creative failure by answering the following broad question:

What do project creators on crowdfunding platforms learn and change through the process of failing?

Since little is known about this phenomenon, we take an exploratory approach to the research. Our data come from 11 interviews with crowdfunding project creators who have failed,
as well as a dataset of roughly 16,000 projects hosted on Kickstarter.com. We present a mixed methods investigation of how crowdfunding project creators react to and learn from failed experiences and present a series of design implications for future online platforms that promote iterative failure and the design process.

This work is motivated by literature from organizational behavior, entrepreneurship, and HCI research on crowdfunding and online behavior. Research from organizational behavior and entrepreneurship tells us that people who fail are more likely to succeed, while previous HCI research on crowdfunding tells us that crowdfunders, successful or not, learn about social media marketing, communication design and creative work in general [11, 19]. Theoretical work in HCI, however, indicates that posting negative updates online is uncomfortable for users and they're unlikely to do so [29]. While our HCI colleagues have studied why people fail to reach their goals [21, 18], we don't have a clear understanding of how people experience the failure and relaunch of their projects on Kickstarter. By better understanding this experience, as HCI designers, we can better design platforms that support this outcome and recognize failure as an integral part of the creative process. Our study builds on existing HCI research in crowdfunding by providing empirical evidence of this common experience.

RELATED LITERATURE

We draw on theory from the fields of organizational behavior, entrepreneurship studies and HCI to explain the role of motivation, success and failure in online creative work. To discuss these themes, this section is structured as follows: First we discuss research from organizational behavior and entrepreneurship on the experience of failure. We continue with a discussion of current research on crowdfunding, highlighting recent HCI work on the tasks involved in running crowdfunding campaigns. Finally we conclude with a discussion of current HCI research on social network usage patterns as it pertains to crowdfunding work.

**Motivation, Success and Failure**

Research from organizational behavior focuses on individual and group reactions to failure. Scholars explain the idea of the duality between the public and private self and how the two selves affect notions of failure. Brown and Gallagher described the reconciliation between these two selves [9], and they find that individuals are less inclined to fail publicly. Those who do experience public failure, however, exhibited a more egalitarian view towards self and others. Amy Edmonson expands on these themes by describing a theory of psychological safety, wherein individuals on teams are self motivated not to take risks as to not endanger the progress of the entire team [14]. The concept of psychological safety has implications for crowdfunding platforms, where platform designers are encouraging users to engage in risky behaviors without fully explaining the social implications of failed actions.

In addition to beliefs on the causes of team failure, organizational behaviorists have also developed theories of the cause of individual failure. Wood and Bandura have popularized the theory that beliefs about self-efficacy can act as a motivator for success and failure [27]. Their model of self-efficacy posits that there are four intrinsic factors that feed into specific behavioral patterns endemic to either success or failure. These factors are: 1) prior experience, 2) behavior models, 3) persuasion from others and 4) assessment of physical/emotional state. The combination of these four factors feed into either a high or a low efficacy state, which lead to high percentages of success or failure [27]. In an online environment, all four of these factors are able to be monitored, as they correlate with actions taken within the environment.

Perhaps most closely related to the topic at hand is research on reactions to failure within entrepreneurial ventures, as the work associated with online crowdfunding is similar to that of establishing and running a small entrepreneurial venture [19]. Cope et al. describes the learning experience of failed entrepreneurial ventures, discovering that failed entrepreneurs are often better prepared to proceed forward with new ventures [11]. Furthermore, Cannon and Edmondson describe specific methods for how ventures can learn from entrepreneurial failure, as a means of education for employees [10]. They subsequently describe a series of designed learning activities and guidelines for proceeding with the re-framing or halting of new ventures. Additionally, Singh et al. proposed a framework for understanding the coping mechanisms for failure in new entrepreneurial ventures [25]. Using a qualitative approach they uncover that entrepreneurial failure leads to economic and social learning experiences, which are motivated by the endemic cause of failure. Projecting these insights to an online environment, an ideal platform for launching new creative ventures would pay strong attention to the self-efficacy beliefs of its members, as well as encouragement for failed creatives to re-factor and relaunch. As such, crowdfunding platforms should support their members in these ways.

**Crowdfunding**

Crowdfunding platforms support the request for financial resources in exchange for a reward offered by a requester [20, 26]. These platforms enable a group of individual backers to contribute micro-contributions to support the development of a new venture. Crowdfunding represents a new path for entrepreneurs to realize new ventures by leveraging a crowd of supporters. A high-exposure example of a crowdfunding campaign is that of the Pebble smartwatch team, a group of five individuals who raised over $10 million to fund the development and manufacturing of a smartwatch by soliciting contributions from over 68,000 people [4, 6].

Unlike entrepreneurial and creative ventures, the notion of a failed or successful project is well defined on crowdfunding platforms. The project creator is asked to set a fundraising goal (eg. $3,000) and a duration (eg. 30 days) for each project, both of which are fixed. On Kickstarter, the most popular of the crowdfunding platforms, and the focus of this study, a project is deemed “successful” if it achieves financial pledges equal to or beyond that of its fundraising goal. If the project does not achieve the goal then the project
is permanently labeled on the website as a “failure” and the pledged funds are returned to the backers. Others have named this the “all-or-nothing” model [19]. For example, if a project has a goal of $4000 and raises $3999 in pledges, it would be a “failed” project. These failed projects remain on the Kickstarter website and are not removed. Other crowdfunding platforms do not necessarily use the “all-or-nothing” model. For example, IndieGoGo uses a model where creators may keep the amount they raised regardless of whether they achieved their goal at a penalty of paying a higher percentage to the platform as fees. For this paper however, we are only considering data from Kickstarter, as it is currently the most popular crowdfunding website.

Previous HCI research on crowdfunding centers on understanding the actions and the needs of the population of crowdfunders. Greenberg and colleagues positioned crowdfunding as a new form of complex-crowdwork, where the crowdfunding platform brokered the exchange of several kinds of resources [17]. Muller and colleagues described the experience of crowdfunding within enterprise settings, finding that crowdfunding success is tied closely to the marketing efforts of individuals [23]. Hui et al. described the work involved in the planning, running and execution of a crowdfunding campaign and found that project creators learned a variety of skills, from business planning to social media marketing [19]. Gerber et al. described the motivators and deterrents to participation in online crowdfunding, discovering that monetary reward was not the only motivating factor for participants, while deterrents are largely focused around avoiding impending failure [16]. However, as a community, we know very little about how crowdfunding communities can be designed to motivate users to run multiple projects, even after an initial failure.

Much of the existing literature on crowdfunding comes from economics and marketing, and is concerned with the locality of contributions and the potential financial impact of the crowdfunding market [7, 20]. Much of this literature is outside the scope of this paper. However, Mollick has described quantitatively the motivators of success and failure in online crowdfunding, using a regression analysis on a dataset scraped from Kickstarter.com [21]. His results indicate that perceived project quality and the size of the creator’s personal social network correlate most strongly with success on Kickstarter. Mollick also discusses the failure of successfully funded projects to deliver product on time, revealing that over 75% of projects miss deadlines at some stage of the project.

From a HCI perspective, crowdfunding is a unique kind of online community for several reasons. First, crowdfunding represents an online community where failure and success is broadcast to a personal social network. As such, unlike other online communities such as Facebook, the growth and decline of a user’s social capital is potentially tied to their record of public success online [15]. Furthermore, as social media marketing is a large part of the work involved in running a crowdfunding campaign [19, 21], running a campaign encourages individuals to post status updates on their project and to ask their friends and family for money. In previous studies of question asking and answering on Facebook, Morris et al. found that 4% of individuals reported using Facebook to ask for favors [22]. Kickstarter, however encourages individuals to disclose information and rely on consistently asking friends and family for money to ensure success. A novice crowdfunding project creator who has never engaged in previous creative ventures and who isn’t comfortable with the iterative failure process of the design process [13], might feel uncomfortable with broadcasting failures, small or large to their social networks, as it would go against their established self-image [29]. Designing crowdfunding and other creative platforms where we encourage both social media marketing and iterative failure thus is a balancing act between several factors: managing self-efficacy, managing a projected image, and maintaining a crowd of supporters.

METHODS

Study Design

We have investigated the phenomenon of failure in online crowdfunding from a quantitative as well as a qualitative perspective. The quantitative approach uses data scraped from Kickstarter.com to provide descriptive statistics of the community of failed crowdfunders. The qualitative approach uses interview data to build a model of learning from failure as well as the motivations and deterrents to relaunching crowdfunding projects [12].

We seek to answer the following research questions about failed crowdfunding projects:

**RQ1**: What happens to failed projects and their creators?

As researchers and designers of online platforms, it is important to understand user decay and the actions of users who have failed. We wish to know why people leave platforms after they failed, and where do they turn to as alternatives?

**RQ2**: What do creators of failed projects learn and change?

Failure is not always a bad experience. As literature from organizational behavior suggests, failed creatives are more prepared to try again. As such, we wish to identify the skills and behaviors learned by failed creatives so that designs could be implemented which highlight the skills they have learned to encourage relaunch.

**RQ3**: What are motivators or deterrents to relaunching failed projects?

In an online environment, the actions of crowdfunders are broadcast to their social network, since social media marketing is crucial in running a crowdfunding campaign. If we want to design tools which help people to relaunch, we need to understand what factors make relaunching appealing and unappealing to users.

We use quantitative data to address RQ1 and RQ2, and we use qualitative data to address RQ1, RQ2, and RQ3.

Quantitative Data

We use a scraped dataset of project pages from Kickstarter.com provided by the owners of TheKickbackMachine.com, a site that captures projects as they are launched...
on Kickstarter.com and shows statistics on projects [3]. The dataset provides information on over 16,000 project pages on Kickstarter.com. The Kickback Machine is a public website, but the data we used is not publicly available. We received the data through a partnership with the owner of The Kickback Machine.

We used data on all projects that were originally scheduled to finish between: 6/18/2012 and 11/9/2012. In contrast to other quantitative analyses of data from Kickstarter.com, this dataset is a complete sample of all projects that were launched during this period. Other approaches include traversing the network graph of projects and supporters, but this approach results in collecting 94% of the projects on Kickstarter and misses failed projects with 0 backers or 0 comments [21]. Other approaches, such as locating failed and canceled projects on Kickstarter via traditional web search methods is impossible, as Kickstarter puts a noindex tag on the pages of failed projects so they do not appear in web search results. In contrast, our approach captures every project launched during the set time frame. Since this work is focused specifically on describing the experience of failed projects, we have opted to use this complete sub-sample of all projects on Kickstarter as this would be best used to capture the experience of failure.

The structure of crowdfunding pages includes a video (optional), a goal, a project description, reward structure, and links to social media platforms. From each project page, the Kickback Machine collected a variety of attributes: goal, amount raised, category, number of rewards, duration, video, Facebook connection, Facebook friends, and success.

Data processing to identify relaunched projects occurred in several stages. A visual representation of the processing pipeline can be seen in Figure 2. To identify relaunched projects, the original dataset from The Kickback Machine needed to be appropriately cleaned and processed for further analysis. Descriptive statistics were then calculated on the cleaned dataset. A summary of these statistics can be seen in Table 2.

The original dataset was reduced down to those entries for creators who had launched more than one project. This resulted in 1230 entries in either pairs or triads of projects, each pair or triad created by one user. Using manual inspection, each dyad, or triad of projects was compared to determine if one project was a relaunched version of the previous project. We defined a relaunched project as one which was either identical or an altered version (eg. a revision of a product design) of the original project concept. Subsets of previous projects (eg. a scaled back version of production) were considered relaunches as well. We agreed on 303 projects as relaunches.

For the relaunched project pairs a variety of attributes were calculated. The summary of these attributes can be seen in Table 3.

Values for change were calculated by subtracting the original project value from the relaunched project value, associated percentage change values were calculated as well. For example, a project which originally launched with 4 reward levels, and relaunched with 2 reward levels, would be calculated to have a $-2$ for the Change in Number of Rewards attribute. Descriptive statistics on the relaunched projects can be seen in Table 3 for continuous variables, and Figure 3 for Boolean variables.

Quantitative data was collected in a Google Fusion Table for initial filtering. A .csv file was output for further data processing. Scripts for cleaning and processing the data were written in Python. Statistical analyses and data visualizations were run in R.

**Interview Methods and Participants**

To understand what people learned and changed based on the experience of failed crowdfunding, we adopted a grounded theory approach [12]. We interviewed 11 participants (2 women) over an eleven-month period. All participants ran failed projects, 7 participants have relaunched their original projects.

Creators launched projects from the categories of Comics, Design, Fashion, Film & Video, Food, Games, Music, Publishing, and Technology. We selected participants from Kickstarter since our quantitative dataset is from this platform. Participants were recruited through random sampling and through snowball sampling, which allowed us to identify a range of individuals in the crowdfunding community. Participants were not compensated for their participation.

We followed a grounded theory approach and performed user interviews, as is common practice in qualitative HCI research [8]. The study began with open data collection. Since our knowledge of crowdfunding failure is limited, we did not

<table>
<thead>
<tr>
<th>Variable</th>
<th>med</th>
<th>mean</th>
<th>min</th>
<th>max</th>
<th>$\sigma^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>5000</td>
<td>20212.9</td>
<td>1</td>
<td>15000000</td>
<td>147792.5</td>
</tr>
<tr>
<td>Rraised</td>
<td>1185</td>
<td>8452.3</td>
<td>0</td>
<td>3986929</td>
<td>66023.9</td>
</tr>
<tr>
<td>% Raised</td>
<td>28.3</td>
<td>111.5</td>
<td>0</td>
<td>240716</td>
<td>2166.4</td>
</tr>
<tr>
<td># Rewards</td>
<td>8</td>
<td>9.1</td>
<td>1</td>
<td>94</td>
<td>5.5</td>
</tr>
<tr>
<td>Duration</td>
<td>30</td>
<td>32.0</td>
<td>1</td>
<td>60</td>
<td>10.6</td>
</tr>
</tbody>
</table>

**Table 1. Descriptive Statistics on Kickback Machine Data**

![Figure 2. Data processing pipeline.](image-url)
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>∆ Raised</td>
<td>Change in amount raised between original and relaunch</td>
<td>Double</td>
</tr>
<tr>
<td>∆% Raised</td>
<td>Change in amount raised as a percentage of the amount raised in the first attempt</td>
<td>Double</td>
</tr>
<tr>
<td>∆ Goal</td>
<td>Change in the goal size</td>
<td>String</td>
</tr>
<tr>
<td>∆% Goal</td>
<td>Change in the goal as a percentage of the original goal size</td>
<td>Integer</td>
</tr>
<tr>
<td>∆ Time</td>
<td>Change in length in days</td>
<td>Double</td>
</tr>
<tr>
<td>∆ Num. Rewards</td>
<td>Change in number of rewards</td>
<td>Integer</td>
</tr>
<tr>
<td>∆ FB Friends</td>
<td>Change in number of Facebook friends between launch and relaunch</td>
<td>Integer</td>
</tr>
<tr>
<td>Time to relaunch</td>
<td>Time elapsed between the launch of the first project and the launch of the second attempt</td>
<td>Integer</td>
</tr>
<tr>
<td>∆ Video</td>
<td>If a change in the video was present between the launch and the relaunch</td>
<td>Boolean</td>
</tr>
<tr>
<td>∆ Goal Structure</td>
<td>If a change in the number of goals was present</td>
<td>Boolean</td>
</tr>
<tr>
<td>∆ Category</td>
<td>If categories were changed</td>
<td>Boolean</td>
</tr>
<tr>
<td>∆ Time</td>
<td>If a change in the length of the campaign was present.</td>
<td>Boolean</td>
</tr>
</tbody>
</table>

Table 2. Calculated Attributes for relaunched Projects

<table>
<thead>
<tr>
<th>Variable</th>
<th>med</th>
<th>mean</th>
<th>min</th>
<th>max</th>
<th>σ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>2999.5</td>
<td>10347.84</td>
<td>10.0</td>
<td>250000</td>
<td>2642.39</td>
</tr>
<tr>
<td>Amount Raised</td>
<td>805.5</td>
<td>3482.0</td>
<td>0.0</td>
<td>103200</td>
<td>9917.71</td>
</tr>
<tr>
<td>Percent Raised</td>
<td>43.17</td>
<td>141.80</td>
<td>0.0</td>
<td>10000</td>
<td>661.18</td>
</tr>
<tr>
<td>Reward Count</td>
<td>8</td>
<td>8.89</td>
<td>1</td>
<td>29</td>
<td>5.03</td>
</tr>
<tr>
<td>Duration</td>
<td>30.0</td>
<td>30.31</td>
<td>5.0</td>
<td>60.0</td>
<td>13.1</td>
</tr>
<tr>
<td>Change in Raised</td>
<td>79.0</td>
<td>1383.0</td>
<td>-23960</td>
<td>101500</td>
<td>8204.49</td>
</tr>
<tr>
<td>Percent change in raised</td>
<td>23.55</td>
<td>-109.2</td>
<td>-8104.0</td>
<td>inf</td>
<td>789.95</td>
</tr>
<tr>
<td>Change Goal</td>
<td>-3900.0</td>
<td>-32270</td>
<td>-480000</td>
<td>80000</td>
<td>280846</td>
</tr>
<tr>
<td>Percent Change in Goal</td>
<td>-150.0</td>
<td>-845.4</td>
<td>-66570</td>
<td>81.01</td>
<td>4978.92</td>
</tr>
<tr>
<td>Change in Time</td>
<td>0</td>
<td>-2.0</td>
<td>-40.04</td>
<td>30.04</td>
<td>13.49</td>
</tr>
<tr>
<td>Change in Number of Rewards</td>
<td>0</td>
<td>-0.2</td>
<td>-9</td>
<td>13</td>
<td>3.02</td>
</tr>
<tr>
<td>Change in FB Friends</td>
<td>0</td>
<td>17.81</td>
<td>-15</td>
<td>568</td>
<td>NA</td>
</tr>
<tr>
<td>Time to relaunch</td>
<td>32</td>
<td>37.0</td>
<td>19</td>
<td>139</td>
<td>27.24</td>
</tr>
</tbody>
</table>

Table 3. Descriptive statistics for continuous variables of relaunched projects

want to approach the interviews with predetermined hypotheses but rather wanted the hypotheses to emerge through the data.

Data was collected using semi-structured interviews. All participants were briefed on a commitment to anonymity in data collection. Our semi-structured interview protocol was varied between the different categories of respondents. For all respondents we began by asking a series of questions about their crowdfunding project, its status and their experience running said project. Relaunched participants were then asked to describe their motivations for relaunching and to describe alterations they might have made to their project. Failed participants were asked to describe the reasons why their project might have failed, while canceled participants were asked why they canceled their projects. The third phase of the interview focused on future actions. All participants were asked to describe their future plans with respect to their project and crowdfunding in general. The goal of this last phase was to understand their ongoing relationship with crowdfunding.

Interviews lasted approximately 20 minutes and were all conducted via Skype or phone due to the geographically distributed nature of the participants. The interviews were recorded and subsequently transcribed.

We used selective coding analysis on the transcripts to understand the reactions to failure in online crowdfunding, facilitated by the coding package, HyperResearch. We began the selective coding process by tagging instances where participants mentioned learning or a change of behavior. Initial coding began after the collection of four interviews. Themes that emerged in the early interviews, such as social capital use, informed iterations of questions for later interviews. The emergent themes and the evidence that supports these themes are described in the Qualitative Results section.

RESULTS

We take a two-part approach to discussing the results of our analyses. We first discuss quantitative answers to research questions 1 and 2, and then follow up by discussing qualitative answers to research questions 1, 2 and 3.

Quantitative Results

RQ1: What happens to failed projects and their creators?
We find that 57.48% of projects in our dataset are unsuccessful (compared to 58% reported by Kickstarter), very few of these unsuccessful projects continue on Kickstarter either by relaunching as the same or refactoring and relaunching. By searching through a corpus of 16,060 projects (9,233 unsuccessful), we only located 303 projects which relaunched, meaning 1.8% of all projects in our dataset were relaunches,
and 3.38% of all failed projects in our dataset eventually relaunched. A summary of this can be seen in Figure 3.

Despite the low percentage of relaunched projects, we do find that 43% of relaunched projects are eventually successful. While it may appear that this is no better than the 42% success rate of Kickstarter projects in general, it is interesting to see that these relaunched projects, which were at one point unsuccessful, were able to revise, relaunch and turn an unsuccessful venture into a successful one. It appears that the creators of unsuccessful projects that do end up relaunching learn from the mistakes of their original projects and revise appropriately to become successful.

Q2: What do relaunching project creators learn and change?
We find that relaunched projects change several aspects of the content of their project, although no single group of changes can guarantee success [18, 21]. Overall, we find that 59% of relaunched projects change the video, a task that some project creators have claimed is the most difficult task in preparation of the project content [16]. However we find little correlation between changing the video and resulting success in crowdfunding \( r = -0.04, n = 306, p = 0.533 \). We also find that 70% of relaunched projects change the reward structure of their project, with the average project reducing the number of rewards by 0.2 (\( \sigma = 3.0 \)). This indicates a simplification of the project content to create a more focused project.

We also find that very few projects change the category of their project: 4.9%. This is to be expected as the category of project has little bearing as to a project’s success, rather it is mostly correlated to the marketing efforts of the creators and the value proposition or pitch presented in the project content [21, 19, 18]. We do find, however, that project creators reduce the time that projects run (64% of projects), with the average project running for roughly 2 days shorter. We see this as a realization that the length of the project has little bearing on its eventual success [18].

We find that the the average goal size for a relaunched project decreases by $32268.02 \ (t = -1.9051, p = 0.05769)$. The average, however, doesn’t tell a true story, since it is heavily weighted by projects with large goal changes. However we find that the average change in goal size by percentage is a -850% change. Very few projects increase their goal size.

We do find however that a relaunched project raises $1,383 more than its original counterpart \( t = -2.2196, p = 0.02697 \). A graphical representation of the distribution of the changes in funds raised can be seen in Figure 4.

We find that the average time to relaunch (difference between first and second launch date) was 37 days. Since the average campaign runs for approximately 30 days, we can surmise that the average project takes about a week to regroup, and relaunch.

Marketing, and engaging with social networks can have a profound effect on the success of a crowdfunding project [21]. We find that project creators on average add 17.8 friends on Facebook between the first and second launching. This shows an effort to build an audience in the days between relaunch, or that these individuals have learned the importance of engaging with a social network in order to be successful with crowdfunding.

We are not convinced quantitatively that there is a standard set of changes that a project creator can do to guarantee success in a relaunch. Others have investigated the determinants of success and failure, and no such standard set of project elements guarantee project success [18, 21, 23]. Every failed project has its own shortcomings, and a checklist of things to change isn’t what project creators need, rather they need incentive to revise and relaunch. Furthermore, much of the work involved in crowdfunding, and leading to crowdfunding success is social media marketing work, and is not captured in our dataset.

Qualitative Results

RQ1: What happens to failed projects and their creators?
Although we focused on relaunches in the previous sections, we find that many times after projects fail they continue on outside of the Kickstarter community. One participant described a potential move to another crowdfunding platform, Indiegogo. Another interviewee received an offer of seed money to begin manufacturing a product directly after his project failed (P3). This creator claimed that he had heard of others who had received offers directly after their campaign had ended, but we could not locate any such individuals in our interviews. Another project creator turned to selling his product on eBay after an unsuccessful campaign. However, other individuals appear to abandon the projects, as was the case with three of our participants - (P1, P2, P5). In all, a variety of outcomes for even a small set of projects seems to indicate that many failed projects live on in some capacity by switching to another channel of funding or support.
RQ2: What do creators of failed projects learn and change? Much of what our respondents reported learning reflected the skills necessary to run an effective crowdfunding campaign: communication design and marketing [19]. One creator of a niche card game project described what he learned about social media marketing:

You can’t just expect someone to find your game and then do your marketing for you that’s just not how it works. Yeah sure, you can catch a rocket every once in a while, go viral. But you can’t count on that. - (P9)

Another project creator described learning about how to communicate the ideas in his project beyond his personal social circle to a mass audience:

I learned that you really need to have a product that isn’t just appealing to friends and family who like you and want to support you. You’ve got to have something that’s going to have mass appeal to do really well. - (P8)

Mirroring what we find in the quantitative results, creators described changing various parts of the campaign content, like the pitch text and the rewards. Several project creators described lowering the goal size of their project to better meet the expectations of the backers, and to increase their odds of success. One project creator described how he decided to lower the goal from $8,000 to $1,700:

I actually asked our fans for feedback and ... I think I got two emails [with] feedback. And the first one said $7,000 is a lot of money, like you guys, why do you need $7,000?  

RQ3: What are motivators or deterrents to relaunching failed projects? 

Detractors: Several of the participants indicated that running a crowdfunding campaign involves the use of social capital. The running of a campaign involves asking friends for money, and the social consequence of this kind of interaction may detract people from running campaigns more than once. One participant stated:

I really don’t know if I would turn to crowdsourcing for funding again. Just because I also feel like you can only ask people for so much and it is a great tool, but I mean, if you were getting all your projects funded by crowdfunding, it just seems, I can’t really say it’s good or bad or the other. To me, just personally, it seems kind of weird. - (P7)

Another participant described the emotional toll asking her social network for funds for her book project took on her self-confidence:

Oh my god, I lost confidence in myself and .... I was really disappointed. It became too personal for me... - (P8)

The same participant continued about her lack of faith for the project to succeed even after her sustained effort:

I’ve been deterred now, yeah. I think I’ve given it a good 60 days, and really marketed, a lot of my friends know about it, I’ve sent out, you know lots of emails, theres a national story ... with it and it still didn’t catch on so, yeah it deters me ... I don’t think its going to be crowdfunded. It wont be, it will not. - (P8)

Other individuals indicated that they felt that crowdfunding was a waste of their time and money. Running a campaign can involve hundreds of hours of work, as well as large sums of money upfront without guaranteed returns. These creators saw the financial gain as the only positive outcome from crowdfunding. As one participant said:

I wanted to do it, and I still think it’s a really good idea, and I still think it could work out somehow, but when it was obviously not going to get funded ... you’re kind of like, oh, I did spend a lot of time on that when I could have been working for real money, so I probably wouldn’t do this again. (P6)

Motivators: Most individuals however, described crowdfunding as a positive experience in some regard, whether they indicated to us that they would be willing to run another campaign or not. In line with what the entrepreneurship literature says about failed ventures [11], project creators indicated to us they the felt more experienced and better prepared to crowdfund again:

I’ve got also more experience and I think I’ll do better with it. - (P11)

Additionally, running a first campaign on Kickstarter allowed individuals to connect with an audience of potential supporters faster than just posting on social media. These supporters often gave feedback on projects and encouraged individuals to re-factor and relaunch. As Kickstarter allows individuals to bulk email supporters of projects, participants used this feature to advertise a relaunch or a new project launch with ease. Kickstarter makes it simple in this case to relaunch a project with a small tweak like a decrease in the goal size. One participant described his experience with easy re-factoring and relaunching:

If you already have run a campaign and it failed, don’t be afraid to do it again. It isn’t very much work compared to how much work you spent setting it up the first time right, cause you already know what you’re gonna do. You already have the materials you put together, and the stuff you wrote about it and all of that. - (P4)

The same individual went on to describe how the initial round of backers assisted him with relaunching. After failing the first time, this creator sought feedback from his first backers and used the social capital gained through the first campaign to build an even larger base of supporters the second time:

I also ... you know, made some tweaks and things about the rewards, part of that was in response to feedback I had from, from people interested in the campaign the first time. So I listened to that feedback, I thought about what might be reasonable to change or tweak, and I tweaked those things ... Obviously the first thing you do is notify your backers from your original campaign, and so you get this instant leg up right? Cause probably
everyone who just went for it the first time will go for it the second time, and then you can run a full campaign on top of that. - (P4)

Participants described using the time between projects to create interest within their community, using that time to improve their marketing efforts:

I wanted to have enough time for where people knew something had actually changed... I mean, by going dark for two weeks, people literally wrote me like “Hey are you guys still around, what happened, what’s going on?” and it gave me an opportunity to be like hey we’re just taking a break right we got our butts kicked on Kickstarter, and we’ll be back eventually. Well we’ll be back in two weeks. - (P10)

In all, individuals largely described the experience of failing online to be positive. While the fear of failure can cause individuals to protect themselves from potential risk [14], individuals used failed experiences to move forward, whether it was with a new iteration of a project, a move to a different funding source or to move on to another project. One stated:

I don’t want to be cheesy but it made me stronger. It made me stronger in that I found different ways to connect with my audience, I found different ways to, dare I say manipulate the audience, to get the response that I needed... So, hopefully people are learning. People that fail learn and reevaluate, I know I did. So for me, failure is net positive. - (P10)

DISCUSSION

Others have studied the phenomenon of crowdfunding from the perspective of financial disruption and online communities, however we believe this is the first scholarly pursuit to study the experience of failing within online crowdfunding. As we have shown above, failure is a large part of the experience of online crowdfunding, but relaunching is not a very common experience. Relaunched projects represent just under 2% of projects on Kickstarter. We do find, however, that individuals who do relaunch are more prepared to do the type of creative and entrepreneurial work that crowdfunding requires. These individuals change aspects of their projects to better match the expectations of the crowd of supporters, and better target new supporters through improved marketing efforts. This is very much in line with studies from organizational behavior and entrepreneurship studies, which claim that individuals who fail are more prepared for future success [11]. This claim is further backed by the finding that 43% of relaunched projects on Kickstarter eventually succeed.

Project creators learn quite a lot through the process of failing. Individuals reported learning about the importance of marketing and communication in building a successful campaign. Creators refactored their project by asking their social connections for feedback, and by looking at other, successful, crowdfunding campaigns. In addition, project creators used the period between failure and relaunch to refactor some of the project materials, with most projects reducing the goal size and the number of rewards. In turn, most relaunched projects raised more funds than their failed counterparts.

While most respondents claimed that failure on Kickstarter was a net positive experience, there remained several factors which prevented users from relaunching. Some respondents reported that they had lost social capital by contacting their friends repeatedly during the first campaign, which supports theories that people spend social capital by asking their online social network for favors [29]. While other crowdfunding platforms reported a lowering of their self esteem brought on by failure, similar to the concept of psychological safety [14]. The encouraging power of a crowd of supporters helped creators with relaunching, providing feedback and an established crowd of supporters from which creators could grow their support base.

Design Implications

Designing an online system where failure is broadcast to a public crowd can prove to be a difficult task. Even though individuals who fail in public are more prepared for eventual success, there are social consequences for failing in an online environment. Designing environments for failure can then be difficult and must be done carefully. Building on the findings above, we see these results as highly generalizable to other crowdfunding platforms and project based online work platforms such as IDEO.org and Quirky. In this section we give some suggestions for the design of platforms which encourage learning through the experience of failure.

One major area of improvement for crowdfunding websites is social support. In line with ideas of psychological safety [14], social support for failed creatives can lessen the impact on a creator’s self esteem and self-efficacy beliefs, which can in turn affect their ability to succeed [27]. Enabling avenues for social support between creators then should be a priority for creative platforms where iterative failure is an accepted and understandable part of the creative process. On crowdfunding platforms, each crowdfunding project is a micro-community for the exchange of ideas and feedback [18, 19], however, there exists no meta-community for project creators to share tips and solicit feedback on existing projects. External micro-communities for social support exist, but these are not readily available to a novice joining the crowdfunding community. The existence of such a meta-platform would assist creatives of varying levels of expertise in learning from the failings of others and giving support to others in the community as well.

In addition to support from peers, platforms should provide support and encouragement to individuals throughout the process of success and failure. Since the self-efficacy beliefs of individuals can lead to greater rates of success [27], platforms for creative work should monitor the self-efficacy beliefs of creatives throughout the process of running a project, perhaps through the use of polls or short mood questionnaires. Doing so, and maintaining high self-efficacy, could create greater rates of success for project creators.

Building on the theme of learning from others, Kickstarter and other crowdfunding platforms should not hide failed projects. Several of our respondents reported looking at other crowdfunding projects to understand what makes for a successful project. However, looking at failed projects to determine what makes an unsuccessful project is just as important.
Showing failed examples helps others even though it can be individually painful. Conceivably users could be incentivized to show their failed examples if it was positioned as working for a common good. Kickstarter purposefully hides these pages by adding a noindex tag to the HTML so they are not indexed by search engines. Third-party sites like The Kickstarter Machine have emerged [3], but many individuals are unaware of such tools. Kickstarter, and other creative platforms, could use failed projects to educate others on common pitfalls that failed projects fall into, but currently do not. An online crowdfunding platform which encourages failing as part of the design process, should allow individuals to view and search through previous failed attempts, so that new members to the community may learn through the experiences of others.

Crowdfunding platforms should highlight the successes of projects that have refactored and relaunched, by showing users how to properly relaunch. A search for material relating to “How to Relaunch” proved unsuccessful. Kickstarter does provide a “school” for new project creators, but does not provide resources to those who have failed. Educating users to the pros and cons of relaunching could prove beneficial Kickstarter as well, as more successful projects would lead to greater profits.

Crowdfunders learn skills through failure. Showing these crowdfunders their progress could be used to motivate them to try again. When a project fails and doesn’t relaunch, these learned skills could potentially go to waste. Crowdfunding platforms which encourage relaunch from failure, should highlight the positive aspects of failing, such as the skills learned and the experience gained, rather than focusing on financial gain as the only outcome. Even if the failed crowdfunders don’t realize that they are more prepared to succeed, encouragement from platform end could get them to realize this, try again, and eventually succeed.

In all, we do not suggest the design of interactions which encourage people to always fail, rather we encourage platforms to help individuals learn from their own failings and the failings of others. In doing so, we hope to improve the output and quality of material on crowdfunding platforms and online platforms for creative work in general.

Limitations
There are several limitations to the study we have presented here. First we do not have quantitative data on what happens to projects outside the Kickstarter context. This includes projects which may have shifted from one crowdfunding platform to another platform, and engagement on social media platforms like Twitter. So, for example, if a project moves to RocketHub or IndieGoGo, we have not captured that data quantitatively. A small amount of this data, however, has been captured in the qualitative data.

In addition, we do not have data on relaunches which may have occurred outside of our dataset. For example, we may have failed projects in our dataset which have relaunched since we collected our data. A full sample of all projects launched on Kickstarter would alleviate this, but we do not have access to such a dataset.

Future Work
In the future we would like to expand on the quantitative analyses presented in this paper. Using the same quantitative techniques as presented above on data from other crowdfunding platforms, such as IndieGoGo, and RocketHub would allow us to discuss crowdfunding more generally and discuss differences in experiences with each platform. We are currently working to acquire datasets from these platforms.

We realize that individuals who have run more than one campaign may not have failed the first time, but that these users might have learned entrepreneurial and creative skills each time they ran a campaign. Running similar type analyses on individuals who have launched more than one campaign, and have not failed, could provide further insights into how project creators learn through the crowdfunding process. We intend to work on this analysis in the near future.

In addition, we recognize that social media marketing plays a large role in the success of, and the the work involved with running a crowdfunding campaign [21, 19]. We would like to extend the analyses presented in this paper to include quantitative measures on social media engagement, as well as social media marketing efforts. With such metrics, we could make more concrete statements about what relaunching project creators change, and what they have learned through the crowdfunding process. We are currently working on acquiring quantifiable measures for these metrics as well.

CONCLUSION
We presented a mixed-methods study of failure and relaunch of crowdfunding projects on Kickstarter.com. Through a series of 11 interviews and a dataset of over 16,000 projects we discussed the reactions to and consequences of failure in online crowdfunding. Major findings include that relaunched projects succeed 43% of the time and that individuals find failing on Kickstarter to be a largely positive experience.

We examined failure on Kickstarter as an exploratory study into public online failure, in general. We recommend that designers of creative platforms highlight the positive aspects of public failure (gained experience, an avenue to gather feedback, and new social network connections), while downplaying the negative aspects of public failure (decreases in social capital, and self-efficacy). We do not encourage designs that help people to always fail, rather we are encouraging platforms to help individuals learn from failure, so that these individuals can move forward and eventually succeed.

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