

Crowdfunding to Cannes:

Evaluating the Wisdom of Crowdfunding Crowds in the Movie Market

by

Hannah P. Stephan

Abstract

Crowdfunding has emerged over the last few years as a means for small business owners to raise money on the Internet by tapping the easily accessible crowd of potential funders. Campaigns have been very successful, in some cases raising millions of dollars. These extremely successful campaigns raise an important question: does crowdfunding support bringing high quality products to the market, and does it help them remain successful once they do reach the market? Research on crowdfunding has increased greatly in the past couple of years, but this is a gap that has not yet been filled. This research seeks to assess whether crowds on these platforms are making wise funding decisions by analyzing the funding of movies on crowdfunding platforms in terms of whether or not they won any awards. This measure of market performance will give us an indication of whether certain aspects of a crowdfunding campaign have an impact on an offering once it reaches the market.

Key words: crowdfunding, entrepreneurship, wisdom of crowds, films

Submitted under the faculty supervision of Professor De Liu, in partial fulfillment of the requirements for the Bachelor of Science in Business, *summa cum laude*, Carlson School of Management, University of Minnesota, Spring 2016.

1. Introduction

Crowdfunding is a recent phenomenon that is quickly changing the nature of entrepreneurship. It is defined as the process of raising money from a group of people for a business or project, a process which often occurs online. There are three major forms of crowdfunding: charity-based, equity-based, and rewards-based. Charity-based crowdfunding is relatively intuitive; a person will donate funds for no reward or stake in the company or end result. Equity-based crowdfunding provides contributors with a stake in the business, so the return on their investment is dependent on how the product or firm performs in the market. Rewards-based crowdfunding, which is the focus of this research, allows contributors to receive small rewards related to a campaign for donating to them (Burch et al., 2013).

The process for rewards-based crowdfunding is relatively straightforward; a campaign founder creates a profile either on an independent website, or on a platform such as Kickstarter or IndieGoGo. On the profile, they include details about the project. There is also a timeline for raising the money that they plan to raise and details about the types of rewards that funders will receive for a specific pledge level. For example, for a crowdfunding campaign creating a journal, a backer contributing \$10 may receive that journal after it is created. Potential funders, also called backers, can see all of these details, and decide whether or not to invest. In the majority of cases, if campaign founders receive either the amount of their goal or an amount in excess of it, they get all of the money. However, if they are short of their goal, they receive nothing.

Before crowdfunding, small businesses could only rely on venture capitalists, angel investors, or bank loans, where they could not expect more than their requested amount of

capital. With crowdfunding, however, founders can exceed their goals and end up with a surplus of capital; then, they never need to pay any of the funds back or pay interest on them; there is some accountability to provide promised rewards in rewards-based crowdfunding, but it is certainly lower stakes than any loan would be. Knowing how to best leverage this relatively new phenomenon will be increasingly important for these individuals. Naturally, campaign founders and researchers alike are curious about what a person can do to increase the chances of having a successful campaign. The volatility of entrepreneurship is a very real concern for many crowdfunding campaign founders, and any control they can have or information they can gain regarding the crowdfunding process will be beneficial to their campaign, and ultimately their business. For this reason, there has been a growing amount of research related to crowdfunding.

Due to the increasing number of crowdfunding campaigns and the large number of viral success stories, research on the subject has developed rapidly over the past few years as researchers attempt to determine the key factors that determine campaign success. While this body of research has considered a broad scope of factors thus far, such as the effects of campaign duration, amount of money sought (the goal), and product category on campaign success, there are many open questions that are yet to be explored. Most notably, how do these various aspects of the fundraising process associate with project performance once a campaign is finished? A study by Burtch et al. (2013) examines market performance as it relates to journalism crowdfunding in a donation-based crowdfunding context, i.e., a context in which backers do not receive any rewards or products in exchange for their donations. That study finds that a variety of campaign characteristics, such as number of backers and project viewership, have an impact on the market performance of the final

product (a published article), measured in terms of the readership the article receives. These findings are intriguing, and open the door to similar research in the context of a rewards-based crowdfunding platform. My research focuses on this gap. I examine market response to an offering that was crowdfunded, and based on certain criteria and characteristics of the campaign, I explore whether the scenarios in which the crowd makes wise decisions, versus those cases where it does not, based on market performance of the project's output. Based on this general question, my specific research question is:

How do specific elements of a crowdfunding campaign correlate with the success of that campaign in the market?

I explore this question by limiting my analyses to crowdfunding campaigns that offer the benefit of a publicly available measure of post-project performance: movies. Unlike other projects and ventures, which frequently involve the creation of private businesses, movies are typically submitted for consideration at major film festivals, where they may win awards. Thus, to evaluate the market success of these campaigns, I collect data on film festival awards and link them to crowdfunding campaigns that were conducted on a popular crowdfunding platform. In particular, I consider awards received at the Sundance Film Festival, the Cannes Film Festival, South by Southwest, or the Toronto Film Festival. The specific elements of successfully funded campaigns that I examine are i) length of campaign in days, ii) number of backers a campaign had, and iii) the percentage of their goal that was reached. By exploring this question, I hope to contribute to the rapidly growing field of crowdfunding research.

An examination of the existing literature on crowdfunding is presented next, in the literature review section. Subsequently, I formulate my hypotheses, data collection and

analytical approach in the methodology section. Finally, I present the results of my regression analyses, interpret my findings, and offer a discussion of the implications for crowdfunding and entrepreneurs.

2. Literature Review

In this section, I explore campaign founder best practices and project characteristics that potentially impact market performance. I look at the notion of the wisdom of crowds and status characteristic theory, as they relate to crowdfunding, and I review literature that looks at market performance of crowdfunding campaign project output. From this literature, I both collect support for my hypotheses and identify the key metrics to examine in my model.

2.1 Wisdom of Crowds Holds in Crowdfunding Markets

An important topic in the crowdfunding field is wisdom of crowds, and whether or not the crowds on these platforms are making wise decisions; meaning, they are making the same decisions that experts would make. Ultimately, my research provides insight into this area by comparing characteristics of a campaign to its subsequent performance with a market measurement where expert agreement can be analyzed. Several studies examine this theory in a crowdfunding context.

The “wisdom of crowds” theory was popularized in 2004 with a book of the same name by James Surowiecki, and since that time it has become a widely explored phenomenon. This book defines this theory as the ability of a group to collectively make better decisions than an individual would make (Surowiecki, 2004). The theory that crowds are wise and on average make good decisions holds in certain markets, but several

studies show that this theory will not necessarily hold in a crowdfunding market. The key differentiator here is social influence; it has been shown that even mild social influence can drastically undermine the wisdom of crowds effect. This social influence, which can take the form of social media or other means, prevents an objective measure of quality; wisdom of crowds typically only holds in an objective circumstance. The moment that groups begin to second-guess themselves, they become less accurate (Lorenz et al., 2011). In addition, Chen et al. (2015) show that crowds and expert do not agree in a lot of cases; crowds tend to focus on entry timing, past performance, and social engagement. Experts, on the other hand, focus on quality and therefore the decisions of experts weigh more heavily in the future of the product or offering. While not directly quantified in my study, this idea generally reduces our ability to trust crowdfunding backers to make wise decisions; however, there is also research on the other side of this topic.

Though it has been shown that social influence can undermine the wisdom of crowds, there is also research that shows significant agreement between crowdfunding backers and experts in a similar context to that of my research. A study that examined theater performances compared projects funded in full on a prominent crowdfunding platform to a separate expert evaluation of these same projects and found that, most of the time, experts agreed with the decisions the crowd was making (Mollick, 2014). Though the impacts of social media on the wisdom of crowds are interesting to consider, this research has more relevance to my research question. Expert opinions determine the market success of films in the context of my study, and therefore the claim that crowds on average agree with experts is more relevant. Mollick's research begins to answer the question of whether or not crowds are making smart choices in a crowdfunding context, but it does not link any

particular aspects of a campaign to its subsequent market performance, as this research does.

2.2 Status Characteristic Theory Explains Film and Campaign Success

Researchers agree that inherent quality of a project can be a large factor in success of a project, though this is a more subjective measure (Burtch et al., 2013; Bianchi, 2012; Washington and Zajac, 2005). Burtch et al. (2013) found that longer campaign duration leads to greater awareness and exposure, and thus more buzz surrounding the campaign. In this study, there was a significant association between awareness and attention that a pitch receives, both of which will ultimately impact consumption of that offering. Familiarity and status cues are thus additional important aspects that could help a campaign be successful in both the funding process and post-funding market performance. People see popularity as an indicator of quality, which is helpful to a campaign that is seeking to appeal to an awards committee. On this subject, researchers have begun to define this ambiguous but differentiating characteristic by applying the status characteristic theory (SCT).

In 1972, Berger outlined some key fundamentals of the SCT. He described that often, it is difficult to differentiate between groups, so people need to use certain signals to assign status to these groups (Berger, 1972). These signals then serve as a reference for assigning power and prestige, which can have important implications on the end result of the task at hand.

Historical legacy, positive associations, and negative associations also have an impact on status of a product or group (Washington and Zajac, 2005). This research implies that a combination of these factors, among other things, can lead to variations in

status. Historical legacy can refer to past social standing of a group or offering, and reputation also plays a role (Washington and Zajac, 2005). While this research is not specifically related to crowdfunding, historical legacy could come into play in a crowdfunding setting if a campaign founder has started crowdfunding campaigns before and received positive feedback. In addition, if a famous actor or director is involved with the campaign or if it is tied to a well-known movie or show, high status could be established through these connections. The authors also note that once something has reached high status, other quality indicators may not be as important to its success.

The evaluation of this SCT literature, while not yet directly tied to crowdfunding, has important implications. Status characteristics are potentially acquired during the crowdfunding process, and may therefore impact market performance after a campaign has finished.

2.3 Project Characteristics Influence Campaign Performance

A crowdfunding campaign's success depends on several elements. The elements that cause a campaign to reach its goal may also be elements that influence whether or not it is successful in the marketplace. We explore this possibility subsequently. First, however, it is important to understand what factors have been shown to relate to campaign success in prior research.

Mollick (2014) looked at several important factors: funding goal, percentage of goal reached, number of backers, average pledge amount per backer, whether the campaign is connected to a Facebook account, number of updates, number of comments, and duration of campaign. Of these factors, all except funding goal and duration were positively correlated with campaign success, and all results were significant. Additionally,

Mollick found that when projects succeeded, they usually did so by a small margin; meaning, percentage of goal reached relative to goal was never exceptionally high.

Other analyses use some of the variables to assess campaign success, among other things. A popular topic of research in crowdfunding is patterns of backer support; while not directly relevant to my research question, these analyses provide context for which variables are important to look at related to crowdfunding. As mentioned above, Burtch et al. (2013) identified funding duration as a key metric in analyzing patterns of backer support. Similarly, Colombo et al. (2015) seek to determine whether the timing of funding plays an important role, and they find that early contributions can be an important success indicator of a campaign.

Marom et. al (2015) look at both premiums above the original goal and number of investors in a project, in order to compare success rates on a gender basis in a rewards-based crowdfunding market. In this study, premiums are compared with original goals set, and the authors find that women experience higher premiums, but also set lower goals. This work explores some of the factors that cause a campaign to experience a premium, such as goal amount number of investors, and average contribution per investor. This research does not connect these premiums with success in the market, which is a gap that my research fills.

2.4 Analysis of Market Performance of Crowdfunded Products

Though the connection between campaign characteristics and market performance has not been examined in depth, several researchers have been interested in how products perform in the market after their campaign is finished, in general. Mollick (2014) found that of the companies he examined that had crowdfunding campaigns, over 90% were still

in business three years after the campaign. He also found that many companies had revenues over \$100,000 and had added more employees since the project; in addition, many firms reported qualitative benefits such as positive buzz and marketing for their project. This research did not examine the reasons for a firm's success in great detail, but Mollick did find that having a solid business plan and financial model in place was a large influencer on whether or not a firm went on to be successful.

In a charity-based crowdfunding market, where backers do not receive any rewards, research has shown some links between aspects of a campaign and its subsequent performance. Burtch et al. (2013) studied a platform where the measure of output performance was readership of an article for which the author had raised funds via a crowdfunding platform. Thus, the study linked certain aspects of a campaign with its level of readership, or performance in the marketplace. Those authors found that length of campaign was positively correlated with market performance. The reason for this was likely that a pitch was available publicly for a longer period of time during its funding process, so the campaign was able to gain the attention of more people. If frequent visitors to the site begin to see a campaign more than once, they will be more likely to click on it as familiarity is increased and uncertainty is reduced (Burtch et al., 2013). This research connects one aspect of a campaign, campaign duration, with its subsequent performance. However, that work was done on a charity-based crowdfunding platform, rather than a rewards-based platform, like the one I consider here, so it is not clear whether that result will generalize to my context.

2.5 Summary

This analysis of existing research related to crowdfunding helps to solidify the gap I am filling with my research. No research so far has connected specific aspects of a crowdfunding campaign with its subsequent market performance, though research does show that crowdfunded products are successful in the market. With support and direction from the above research, I will provide more insight into the reasons for that success that begin with the crowdfunding process.

3. Hypothesis Development

I am assessing market performance of crowdfunded products, which is a challenge because “the market” can be very broadly defined and because financial information is not readily available for many of the companies and industries that are prominent on crowdfunding platforms. Because of this, I have conducted this study in the context of a rewards-based crowdfunding platform, and I looked at films and whether or not they won an award in a major film festival. Theoretically, this work could be mirrored in a different market and similar results would be expected; this is simply the most testable market as far as data access and reliability. The following section will detail my methodology, including hypotheses, data collection, and analysis.

The hypotheses that I am testing are supported by the various works in my literature review above. In general, I am hypothesizing that the three main factors of a crowdfunding campaign—number of backers, timeline, and amount of funding—are all indicative of a film’s quality and status. The quality and status of a film are the two main factors that will determine whether or not it will win an award, so it follows that having

high indicators of these factors during the funding process will help determine which films are more likely to win awards. Though I explore many campaign variables in my literature review, I chose to focus only on number of backers, timeline, and amount of funding for several reasons. First, these three variables are consistent across multiple research papers and therefore have more fundamental support than other variables, such as project updates or comments on a campaign profile. In addition, literature surrounding wisdom of crowds and the status characteristic theory applies more strongly to these variables, as outlined below, so some variables that had potential to be analyzed are instead included as a control in my model due to lack of support.

As outlined in my literature review above, a longer campaign is associated with higher perceptions of quality, and is therefore related to a higher incidence of contributions because of this perception. A longer campaign also gives a film the opportunity for more exposure to the market and receive more media mentions, leaving more time for a campaign founder to get the word out (Burtch, 2013). In addition, more attention during a crowdfunding campaign leads to more attention post-funding (Burtch et al., 2013), which could cause a campaign to be more highly viewed in the eyes of festival judges and subsequently lead to more awards. Therefore, my first hypothesis is:

H1: Films with a longer campaign will win festival awards more often than films with a shorter campaign.

I am also hypothesizing that the number of backers a campaign has will positively correlate with whether or not a film won an award. In past studies, number of backers has a small positive correlation with likelihood of goal reached (Mollick, 2014). The factors that influence campaign success may be related to those that influence market success, because

backers care about the quality of a project when they are contributing (Gerber, 2009; Belleflamme et al., 2014). In addition, crowds have been shown to make the same decisions as experts in a large majority of cases (Mollick, 2014). A successful testing of this hypothesis would further this claim; that backers and experts select, on average, similar films. My second hypothesis is:

H2: Films with more backers will win festival awards more often than films with fewer backers.

Percentage of goal funded represents the amount of funding a campaign received relative to its goal. Often, we see campaigns that receive more funding than requested, in which case they get to keep all funding above and beyond their goal. In these situations, campaign founders have more budget flexibility and the opportunity to go beyond their initial plans. Since a major factor for a film to be successful in winning an award is quality, it follows that a film which has more budgetary flexibility would be able to produce a film of higher quality. In addition, if backers are funding a campaign past its initial goal even when that is not necessary for the founder to receive the money, it is possible that they are doing so because they want to put their funding towards a high quality project. Therefore, my third hypothesis is:

H3: Films that reach a higher percentage of their funding goal will win festival awards more often than those with a lower percentage reached.

A successful testing of these hypotheses will give an indication of how certain aspects of a campaign correspond with its subsequent market performance. Below, I will outline the necessary data and appropriate methodology to begin answering these questions.

4. Methodology

4.1 Data Collection

To evaluate market performance of a film, I have collected data on whether or not a film won an award in a major film festival. This dependent variable can provide a post-hoc indication of the wisdom of the crowd's selection, funding decisions. To test my hypotheses, I have collected data from a prominent crowdfunding platform, focusing in particular on campaigns in the film category, and collected data related to campaign length, number of backers, and percentage of funding goal received. I have collected data from the years 2009-2014, which spans the entire history of the crowdfunding platform. I also collected data from the Sundance Film Festival, Cannes Film Festival, South by Southwest Festival, and the Toronto International Film Festival to find a full list of all nominated films and award winners from 2012-2015. Some films were not produced until two or more years after a campaign, which is why the time frame for campaigns is larger than that of festivals. In total, information about 21,015 crowdfunding campaigns for films was collected; 143 of these titles were nominated for awards at one of the four festivals, and 17 films went on to win an award. I will analyze only the films which were nominated for an award, to ensure that all projects in my sample were pursued with the ultimate goal of submission to a film festival, and winning a festival award. It is very unlikely that all 21,015 films were initiated with the goal of submitting to a film festival, so looking at the smaller data set will allow for a more accurate comparison of campaigns. Descriptive statistics of the measures used in this analysis are in Appendix A.

The hypotheses I have presented suggest that fundraising duration, number of backers, and percentage funded, will all be positively correlated with winning a film

festival award. Each of these relationships will be evaluated in the section that follows.

“Award Winner,” the dependent variable, is a dummy variable coded with a value of 1 if the film received an award, and 0 otherwise.

4.2 Data Analysis

My independent variables are campaign length, number of backers, and percentage of goal funded. To evaluate my hypotheses, I use logistic regression. The following equation reflects my model specification:

$$\log \frac{\Pr(\text{Award} = 1)}{1 - \Pr(\text{Award} = 1)} = \beta_0 + \beta_1 \text{length} + \beta_2 \text{backers} + \beta_3 \text{funding} + \beta_4 \text{pledge/backer} + \beta_5 \text{international} + \beta_6 \text{year} + \beta_7 \text{festival} + \varepsilon$$

The variables international, year, and festival variables are control variables and will be discussed further below.

4.3 Standardization of Independent Variables

As an additional measure to aid interpretation of my regression results, I standardized my three independent variables in order to more accurately evaluate their relative influence on the dependent variable. The standardization was performed using the following equation:

$$x_1 = \frac{x_0 - \text{mean}(x)}{\text{stand dev}(x)}$$

The new standardized variables were used in the regression analyses, and therefore the beta coefficients demonstrate the relative influence of each factor on the outcome.

4.4 Control Variables

In my regression, I included several control variables. First, I controlled for the amount of pledge per backer, which was calculated by dividing the total funds raised by the number of backers. This was to control for project size to see if the dollar amount contributed played any role in the subsequent performance of a campaign. I controlled for country of origin, because the location of the festival could hypothetically play a role in film selection and award winning. I also included year of nomination in my regression, to control for any economic or other factors that could have differed year over year. Finally, I controlled for the festival in which a film was nominated, to account for differences in the preference of the judges in each festival. Due to their categorical nature, year of nomination and festival were both coded as factor variables in my regression analysis.

4.5 Assumptions

There are several key assumptions in my research. One major assumption is that awards are a legitimate evaluation of market performance for a film. As stated above, there are many ways to measure market performance, and this is just one. A potential limitation is that it may be difficult to generalize my results because of this choice of dependent variable, since the film market does not necessarily act in the same way as other markets. Accordingly, it may prove difficult to identify a proxy for the receipt of a film-festival award in some other industry, particularly ones that are not creative in nature.

My approach also assumes that the crowdfunding process that precedes film production is inherently related to the performance of a film, and certain factors of a campaign can therefore be related with its subsequent performance. There are certainly

other factors that ultimately impact the performance of a film; production, cast, and media attention, among others, which this analysis cannot account for.

5. Results

5.1 Regression Results

After collecting the data described above, I performed a regression analysis using R. I used a generalized linear model as opposed to the standard linear model; this function improves regression fit for a binomial model, which is appropriate in this case because the dependent variable is a binary outcome. The results are in Table 2 below; which presents regression coefficients and standard error in parentheses, along with the associated p-value for the test statistic. I ran three models; the first contains only the control variables, the second contains the control variables and one independent variable, and the third contains all variables that I am testing. I performed the regression in this way to show the increased significance of the model with all variables and controls. All independent variables have been standardized.

Table 1: Award Regression Results Table 2: Regression

Measure	Model 1	Model 2	Model 3
Campaign Length (Days)			0.4566**+ (0.2568)
Number of Backers			-0.0687 (0.3148)
Percentage of Goal Reached		0.2934 (0.2731)	0.2419 (0.2793)
Pledge per Backer (Control)	-0.3446 (0.4150)	-0.3206 (0.4192)	-0.3157 (0.4084)
International (Control)	1.0203 (0.8712)	0.7024 (0.8922)	0.5849 (0.9164)
Year (Control) - Categorical	2013: -1.2751 (0.9098)	2013: -1.1447 (0.9236)	2013: -1.0164 (0.9497)
	2014: -0.6840 (0.7450)	2014: -0.5426 (0.7651)	2014: -0.3233 (0.8101)
	2015: -0.7326 (0.7408)	2015: -0.5853 (0.7641)	2015: -0.2686 (0.8143)
Festival (Control) - Categorical	Sundance: 16.86 (1535.81)	Sundance: 16.70 (1535.11)	Sundance: 16.61 (1543.83)
	SXSW: 16.65 (1543.83)	SXSW: 16.39 (1535.11)	SXSW: 16.27 (1543.83)
	TIFF: 0.2949 (3523.64)	TIFF: 0.2228 (3516.93)	TIFF: -0.3367 (3437.28)

Significance level: $p < 0.01$ '****' 0.01 '***' 0.05 '**' 0.1 '*'

Model 1 $R^2 = 0.0975$, Model 2 $R^2 = 0.1097$, Model 3 $R^2 = 0.1425$

Sample Size = 143

5.2 Hypothesis Evaluation

My first hypothesis was that films with a longer campaign duration will win festival awards more often. The first regression coefficient, $\beta = 0.4551$, represents the relationship between the dependent variable, award winner, and the dependent variable, campaign length (standardized). This result implies that for a campaign length increase of one standard deviation (11.22 days), the log odds of winning an award are increased by

0.4566, which corresponds to a probability increase of around 57.9%. It is also important to note that this result is statistically significant at the $p < 0.1$ level.

My second hypothesis was that films with more backers will win festival awards more often than films with fewer backers, and my third was that campaigns that reached a higher percentage of their funding goal will win festival awards more often than those with a lower percentage reached. The coefficients in each case were $\beta = -0.0687$ and $\beta = 0.2419$, respectively, but neither result was statistically significant. As such, it is difficult to draw any conclusions.

5.3 Significance of Variables Relative to Nominations

In addition to the above regression, I performed a logistic regression on award nominations; the first part of the process, before award wins. I performed this regression because although my hypotheses and my literature review focus on award wins, receiving a nomination is also a very prestigious distinction for a film. This is also something that could be considered a large accomplishment for a campaign founder. Since two of my results above were not significant, I wanted to explore this aspect of the awards process as well. This involved using my entire data set of 21,015 films, and looking at the significance of my three variables in terms of the 143 nominations rather than awards. Similar to my previous analysis, I ran three models; the first contains only the control variables, the second contains the control variables and one independent variable, and the third contains all variables that I am testing. The following equation was applied:

$$\log \frac{\Pr(\textit{Nomination} = 1)}{1 - \Pr(\textit{Nomination} = 1)} =$$

$$\beta_0 + \beta_1 \textit{length} + \beta_2 \textit{backers} + \beta_3 \textit{funding} + \beta_4 \textit{pledge/backer}$$

$$\beta_5 \textit{international} + \beta_6 \textit{year} + \varepsilon$$

Table 2 contains the results of this regression.

Table 2: Nomination Regression Results

Measure	Model 1	Model 2	Model 3
Campaign Length (Days)			-0.1388 (0.0892)
Number of Backers			0.0517*** (0.0185)
Percentage of Goal Reached		-0.0195 (0.2486)	-0.0272 (0.3232)
Pledge per Backer (Control)	-0.0164 (0.1142)	-0.0164 (0.1142)	-0.00611 (0.1060)
International (Control)	0.2142 (0.2242)	0.2144 (0.2242)	0.1860 (0.2244)
Year (Control) – Categorical	2010: 12.30 (417.71)	2010: 12.30 (417.71)	2010: 12.33 (416.12)
	2011: 12.05 (417.71)	2011: 12.05 (417.71)	2011: 12.02 (416.12)
	2012: 12.70 (417.71)	2012: 12.70 (417.71)	2012: 12.62 (416.12)
	2013: 11.77 (417.71)	2013: 11.77 (417.71)	2013: 11.64 (416.12)
	2014: 11.14 (417.71)	2014: 11.14 (417.71)	2014: 11.05 (416.12)
	2015: 11.02 (417.71)	2015: 11.02 (417.71)	2015: 10.95 (416.12)

Significance level: $p < 0.01$ ‘***’ 0.01 ‘**’ 0.05 ‘*’ 0.1 ‘*+’

Model 1 $R^2 = 0.0279$, Model 2 $R^2 = 0.0279$, Model 3 $R^2 = 0.0332$

Sample Size = 21,015

The results of this regression are intriguing. Contrary to the results for award wins, this regression shows that campaign length is not significant at the $p < 0.1$ level, nor is percentage of goal reached, but the relationship between number of backers and probability of receiving an award nomination is both positive and significant; a coefficient of $\beta = 0.0517$ implies a log odds increase of 0.0517, which is an approximately 5.3% increase in nomination probability.

6. Discussion

For an offering like a film, status is essential to success in the market. My three independent variables, length of campaign, number of backers, and percentage funded, all act as potential indicators and factors that go into the quality and subsequent status of a film. The overall goal of my research was to provide insight into whether these quality factors also predict market performance, to give an indication of the wisdom of crowds in the crowdfunding domain. Crowdfunding is becoming a more common and respected way to begin a business, and it has been extremely successful in many cases. Providing evidence for whether crowds are acting wisely will be essential information for people starting crowdfunding campaigns.

My regression analysis provided interesting insights into my research question and my hypotheses. As stated above, my analysis supported my first hypothesis, which is that campaigns open for more days is more likely to win more film awards. This is supported by the prior literature in crowdfunding (Burtch et al. 2013); if a campaign is open for a longer period of time, it has more exposure to the market, more opportunity for media mentions, and more days to receive its funding. These are all potential factors that could influence quality perceptions of a film, which Status Characteristics Theory suggests should make it more likely to win an award.

My third hypothesis regarding percentage of goal funded also showed a positive relationship, though it was not significant. My underlying assumption with this hypothesis was that backers would be more willing to give a larger sum of money to a campaign that they deemed was of a high quality, and therefore more likely to succeed in the market. Using similar logic to my first hypothesis, this tendency should be related to status

perception, so it is possible that this metric, if significant, could provide another example of crowd wisdom through expert agreement.

Interestingly, my second hypothesis regarding number of backers was not supported by my regression analysis, and in fact showed a very small negative association with awards won. Though the result was not significant, the directionality of the coefficient suggests that the number of backers for a campaign negatively associated with award winning. There are a couple of possible explanations for this; as discussed, there has been research showing that social influence can destroy wisdom of crowds, meaning that if backers are influenced to donate by their personal network of friends or family or if they feel their reputation is at stake, it may influence their funding decision (Lorenz, 2011). In this case, we could be seeing the negative impacts that social influence has in the crowdfunding market; as more backers participate, it may suggest greater levels of social influence were at play, and in turn that decision-making quality declined. Another possible explanation is the concept of herding behavior (Burtch, 2011). Herding behavior describes the tendency of a crowd to flock to one particular place, in this case to one particular crowdfunding campaign, simply because others are also attracted to this offering. Lin et al. (2013) look at herding relative in a peer-to-peer loan auction market, which is similar to a crowdfunding market, and they determine a positive relationship between number of bids and successful funding of a loan. I hypothesized that this same logic would translate to market performance of an offering, but I found the opposite effect.

7. Conclusion

The field of crowdfunding research is growing quickly, as this method for entrepreneurs to receive funding has become extremely popular since its emergence only a few years ago. To assess to what degree this can influence the success of a product or business venture, I connected a campaign's length, number of backers, and percentage of goal funded to its subsequent market performance. Using a "wisdom of crowds" mindset by analyzing crowd decisions and the degree to which they agreed with experts in the film industry, I sought to determine whether or not crowdfunding backers could be considered "wise" as a group.

My regression analysis provided me with mixed results, but I gained several interesting insights surrounding this topic. The strong connection between campaign length and market success is an important factor for people starting a crowdfunding campaign to consider. In a market like the film market, where status and attention play a large part in success, it is important for a campaign founder to do everything in his or her power to increase the status of their offering to give it the best possible chance once it reaches the market. Having a long campaign window could be a step to do this; even if a founder thinks their campaign could be fully funded in a shorter amount of time, it could be to their advantage from a marketing perspective to keep it open longer. At the same time, it is unclear whether or not the number of backers or the percentage of goal reached in a campaign have a relationship with market success. Further studies could hopefully look at these factors under different conditions and analyze their impact.

My study, while it provided interesting insights, has several limitations to consider. The first of these is the ability to extrapolate my data. Since the film market is a very

unique one, and winning an award is a relatively rare event, it could potentially be difficult to extrapolate my results to different markets or even different measures of market success. I controlled for this in a sense by only looking at the pool of films that had been nominated for an award, so they all start on relatively equal footing. In addition, the practice of crowdfunding is still very new, and there are only a few years of data to examine. While the data that exists can provide interesting results, it is possible that there is still not enough information and that, as the industry matures, we will see different results. In addition to this, there are two main limitations with my study that need to be addressed. First, the model does not show causation; only correlation. Though the number of days a campaign is open appears to increase the probability of winning an award, the model does not prove that this is the direct cause of that increase in probability. Second, predictive ability of the model is not shown; meaning, this model could be applied to a data set and attempt to predict which films would win awards. Future research could assess predictive ability of this model or a similar one.

There is a large opportunity for future research on this topic. Since I only examined one market, future research could look at a different market such as technology, art, or consumer products to see if the results differ in a different industry. It would also be interesting to examine a dependent variable that is not binary; winning an award is either a yes or no result, while looking at a variable such as box office numbers for films or sales data for an offering in a different industry could provide a more comprehensive look at the impact of crowdfunding variables on market performance.

Going forward, as the crowdfunding field grows and matures, the impact of this means of funding on business success and performance will become more relevant. It is

fairly early to examine this aspect of crowdfunding, and as businesses that started on a crowdfunding platform grow, entrepreneurs will require a good indication of whether or not this is a reliable and sustainable way to be successful.

Appendix

Appendix A – Descriptive Statistics of Variables

Measure	Mean	Median	Minimum	Maximum	Standard Deviation
Award Won (Yes = 1/No = 0)	0.1133	0	0	1	0.3180
Campaign Length (Days)	32.49	30.00	7	66	11.22
Number of Backers	646.48	138.31	0	46,521	3,896.09
Percentage of Goal Reached	103.6%	106.7%	0.0%	517.0%	68.3%

References

- Bianchi, A. J., Kang, S. M., & Stewart, D. (2012). The organizational selection of status characteristics: Status evaluations in an open source community. *Organization Science*, 23(2), 341-354.
- Burtch, G. (2011). Herding Behavior as a Network Externality. *ICIS 2011 Proceedings*. Paper 28.
- Burtch, G., Ghose, A., & Wattal, S. (2013). Crowdfunding: Tapping into the Wisdom (and Wealth) of Crowds. *The IBIT Report*. Retrieved April 18, 2014.
- Burtch, G., Ghose, A., & Wattal, S. (2013). An empirical examination of the antecedents and consequences of contribution patterns in crowd-funded markets. *Information Systems Research*, 24(3), 499-519.
- Chen, L., Xu, P., & Liu, D. (2014). Experts versus the Crowd: A Comparison of Selection Mechanisms in Crowdsourcing Contests. *Available at SSRN 2542857*.
- Colombo, M. G., Franzoni, C., & Rossi-Lamastra, C. (2015). Internal social capital and the attraction of early contributions in crowdfunding. *Entrepreneurship Theory and Practice*, 39(1), 75-100.
- Lin, M., Prabhala, N. R., & Viswanathan, S. (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.
- Lorenz, J., Rauhut, H., Schweitzer, F., & Helbing, D. (2011). How social influence can undermine the wisdom of crowd effect. *Proceedings of the National Academy of Sciences*, 108(22), 9020-9025.

- Marom, D., Robb, A., & Sade, O. (2015). Gender Dynamics in Crowdfunding (Kickstarter): Evidence on Entrepreneurs, Investors, Deals and Taste-Based Discrimination. *Investors, Deals and Taste-Based Discrimination (December 6, 2015)*.
- Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing, 29*(1), 1–16.
- Mollick, E. R., & Kuppaswamy, V. (2014). After the campaign: Outcomes of crowdfunding. *UNC Kenan-Flagler Research Paper, (2376997)*.
- Mollick, E., & Nanda, R. (2015). Wisdom or madness? Comparing crowds with expert evaluation in funding the arts. *Management Science*.
- Surowiecki, J. (2004), *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business Economies, Societies, and Nations*, New York: Doubleday.
- Washington, M., & Zajac, E. J. (2005). Status evolution and competition: Theory and evidence. *Academy of Management Journal, 48*(2), 282-296.