Feature Voting and the Success of Crowdfunded Projects

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Crowdfunding is an increasingly prominent phenomenon in today's world. One of the selling points of crowdfunding is the ability of funders to give project input, often in the form of voting on features for a project they support. Whether or not this type of feature voting significantly affects the success of projects is an open question. This study examines that question using a large sample of projects from the prominent crowdfunding site Kickstarter. The results suggest that, although common, project feature voting does not significantly predict crowdfunded projects' success.

Keywords: Crowdfunding, Kickstarter, entrepreneurship, product features, project success.

INTRODUCTION

The phenomenon of crowdfunding has become increasingly important in the certain entrepreneurial domains in recent years (Giudici, 2016). These can vary widely, but they include video games, software platforms (Planells, 2017), and even more general venture capital (Vismara, 2016). The idea of crowdfunding is, in a broad sense, the idea of crowdsourcing applied to fundraising. That is to say, in crowdfunding, an entrepreneur with an idea for a new product or service, rather than turning to traditional investment venues, instead turns to those with a vested interest in his or her success to obtain the necessary funding (Bretschneider & Leimeister, 2017). This can take several forms, but there are two predominant models of crowdfunding for entrepreneurial purposes: rewards-based crowdfunding and equity-based crowdfunding. These two models are similar with respect to the core idea that the entrepreneur seeks interested individuals and seeks to collect large-scale funding from a large number of relatively small contributors instead of a small number of relatively large investors (Planells, 2017). In addition, both models are similar insofar as that those who choose to contribute to the crowdfunding campaign generally have a vested personal interest in seeing the crowdfunding campaign succeed, often because of personal desire for the good or service it seeks to create (Bretschneider & Leimeister, 2017).

Where these models differ is in how the investors are compensated for their support, however. Traditional investment laws placed harsh restrictions on who could and couldn't be a registered investor, requiring a significant sum of assets in order to invest for equity (Belleflamme et al., 2015). Therefore, at the time of its inception, crowdfunding couldn't legally offer equity to its many small investors, meaning that *rewards-based crowdfunding* was the dominant model. Under this model, contributors receive specific rewards for their contributions. Examples might include early or special additions of a product, a vote on product features, continual news about the product's development, or other things in this vein (Hsieh et al., 2017). Given this limitation, rewards-based crowdfunding has traditionally been used to

support specific products as opposed to the creation of an entire firm, simply because the limited nature of the rewards that can be offered does not lend itself to creating an entire firm. The most well-known example of a rewards-based crowdfunding platform is probably Kickstarter.

However, changes in investment law over the past several years have given rise to a second model of *equity-based crowdfunding*. Specifically, Title III of the JOBS Act was passed in May of 2016 allowing unaccredited investors—those making under $200,000 a year and with less than a million in net worth—to invest in equity (Shen 2016). With the removal of the harsh limitations on equity investment under certain circumstances, the federal government (in the United States) has specifically enabled crowdfunding as a form of firm-level investment. Thus, under the equity-based model of crowdfunding, the "crowd" collectively pools enough funds to effectively act as a collective source of venture capital (Vismara, 2016). Like in rewards-based crowdfunding, these crowdsourced investors may and often do have a personal stake in seeing a firm succeed, but this is not strictly necessary because their compensation is in terms of equity which does not lose its value if the holder does not have a personal desire for the product or service a firm provides. Accordingly, equity-based crowdfunding may appeal to a wider audience.

But while there are a number of success stories under both models of crowdfunding, crowdfunded ventures—like any entrepreneurial ventures—may fail. Unlike most traditional entrepreneurial ventures, though, the stakeholders in the success or failure of a crowdfunded product or firm are usually normal people without an extensive knowledge of investing. This makes them, in some regards, more vulnerable to making unsound investments, meaning that there is a clear reason to create and disseminate knowledge regarding the factors that contribute to the success and failure of crowdfunded ventures. In addition, better understanding these factors may potentially highlight some indicators of success in this new, emerging entrepreneurial form that can be ported back into other forms of investment and entrepreneurship. Following a call for research by Mollick (2014)., this study specifically focuses on rewards-based crowdfunding and the question of whether or not offering reward tiers that give supporters voting input on product features influences the success rate of crowdfunded projects.

MATERIAL AND METHODS

Method and Design

This study draws upon a quantitative, historical approach to research. The quantitative method is most appropriate to this study for two reasons. Firstly, quantitative inquiry is well-suited to looking at the relationships between two or more variables (Newman & Benz, 1998). This study's primary purpose is to determine what relationship, if any, exists between the variable of voter input on product features and the variable of success in terms of a rewards-based crowdfunding campaign. Therefore, it is quite clearly a study that addresses a problem that is best framed as the relationship between variables. In such cases, a quantitative approach allows for statistical power and the ability to determine the nature of this relationship in empirical terms (Newman & Benz, 1998), as opposed to only examining whether or not stakeholders might perceive such a relationship to exist. Secondly, quantitative inquiry is ideal when studying variables that can be quantified (Newman & Benz, 1998). This is the case with the variables under study here; Mollick, (2014) demonstrated previously that the success of Kickstarter projects can be quantified for use in research, while whether or not their reward tiers included product voting is also an easily measured idea. Normally, quantitative research requires well developed and validated instrumentation, but in this case, there is not even a need for such measures because the variables can be natively understood to be quantitative variables rather than the quantification of qualitative ideas. This also means that qualitative inquiry would be a poor fit because the ideas under study are intrinsically more quantified than qualified. While ideas of success might vary between stakeholders, it is difficult to argue against so natural a definition of success as whether or not a project was able to deliver what it promised.

Out of the quantitative designs, a correlational and historical approach is the most appropriate because of practicality. While drawing on a correlational design instead of an experimental one does eliminate the

researcher's ability to draw expressly causal conclusions (Johnson, 2001), it also allows the usage of data collected in a more naturalistic setting. And while it might conceivably be possible to create hundreds of crowdfunding projects for experimental purposes, it would be eminently impractical compared to using the existing data. Thus, a correlational design is preferred, and this is the reason that a historical design is the most applicable. The historical data from websites such as Kickstarter provides a very large data set from which the data may be easily drawn from; such circumstances make a historical design preferable to a cross-sectional one (Johnson, 2001). In addition, though, the need of this study to look at whether or not a project ultimately succeeded means that historical data are ideal, while contemporary data might be unable to fulfill the research purpose. Thus, a historical correlational approach is adopted.

Variables

There are two primary variables of note for this study, but a number of additional variables will also be considered, primarily in the role of covariates.

Project Success

Project success is defined in the natural ways (Mollick, 2014). That is to say, there are two interrelated notions of success, which might be relevant. A crowdfunding project will be considered to have *succeeded in terms of meeting its goal* if the project successfully reaches the proposed funding goal. On the other hand, the project will be said to have *successfully fulfilled its obligations to supporters* if it both achieves its goal and also delivers on the promised product and supporter rewards. Prior research using Kickstarter suggests that about 48% of projects succeed by the first definition and only about 3.6% of these fail to deliver on their obligations. Given that almost miniscule percentage, failing to deliver on obligations is clearly a very rare outcome and therefore this study adopts *success in terms of meeting the project goal* as the functional definition of project success. This variable could be measured as a binary, but there is additional value in determining how much a project succeeded or failed by, as additional funding beyond the goal does create additional value. While achieving only a fraction of the goal results in the entrepreneur receiving none of the money (Mollick, 2014), and thus one could argue that all failed campaigns fail equally, there is still value in determining how close a campaign came to success in the context of this study. That is to say, while a project that failed at 1% of its goal and one that failed at 99% of its goal are functionally identical in terms of value created, the latter project came considerably closer to success and, since the purpose of this study entails the understanding of how voting rewards influence success, it is relevant whether a project failed completely or only barely failed. Therefore, success will be a ratio variable, measured in terms of what percentage the total funds raised represent relative to the project funding goal.

Product Feature Voting

Project feature voting is defined as whether or not a given crowdfunding project involved a reward tier that gave its supporters a say in project features. Mollick (2014) suggested this as a potential predictor of project success that should be investigated. While feature voting could also be quantified as a binary variable, it may be instead more useful to define this as an indicator variable that includes several categories. For example, it is reasonable to imagine that the effects of voting at different levels of support might be different. Therefore, project feature voting will be defined as an ordinal indicator variable with value 0 if the project did not offer a feature voting tier, 1 if the project included feature voting as a high value reward (+$50 contribution). 2 if the project included feature voting as a mid-value reward (contribution between $50 and $10), or 3 if the project included feature voting as a basic reward (<$10 contribution). Project feature voting serves as the main independent variable.

Covariates

In order to test the robustness of any relationships determined between the primary variables, a number of project covariates will also be included as secondary variables. These include the *total dollar value of support raised by the project,* a continuous variable, the *project category,* an indicator variable,

the *geographic region in which a project took place (US, Canada, Mainland Europe, or Great Britain)*, an indicator continuous variable, the *total number of supporters*, a continuous variable, the *number of project team members*, a continuous variable, and the *average pledge per supporter*, a continuous variable. These will be used in a multiple regression analysis to determine to what extent the effect remains when accounting for other factors' contribution to predicting success.

Research Questions and Hypotheses

This study is guided by a single primary research question:

RQ1: *What relationship, if any, exists between project feature voting and the success of rewards-based crowdfunding projects on Kickstarter?*

$H1_0$: *No relationship exists between project feature voting and the success of rewards-based crowdfunding projects on Kickstarter.*

$H1_A$: *A significant relationship exists between project feature voting and the success of rewards-based crowdfunding projects on Kickstarter.*

In addition, one secondary research question tests the robustness of the results of RQ1:

RQ2: *Does the relationship in RQ1, if any, remain valid after the inclusion of covariate factors?*

$H2_0$: *Any relationship found in RQ1 disappears when covariates are accounted for.*

$H2_A$: *The relationship remains significant when covariates are included.*

Data Collection

Population and Sample

The overall study population was all projects funded on Kickstarter between 2012 and the end of 2017. This included both successful and unsuccessfully funded projects. According to prior research, the success rate of Kickstarter projects is about 48% (Mollick, 2014). No further constraints were placed on inclusion; although prior researchers sought to further narrow the projects they included, upon review, none of the reasons for this seemed especially applicable to this study. Due to having more limited resources, though, the researcher chose to sample 200 [] projects randomly from the total population. According to G*Power analysis, to achieve 80% statistical power for a medium effect size and $p = 0.05$ for the analyses in section 2.5, a minimum sample of 118 was needed. The specific power that the sample allowed for each analysis is detailed in the results section.

Measurement

All data for this study was gathered from the historical records maintained by Kickstarter. Thus, all data collection will be historical rather than involving newly developed (or previously validated) research instrumentation. All data for each of the relevant variables and covariates described in section 2.2 could be collected directly from a finished project's Kickstarter page with the possible exception of project team members, which was still present in the project's Kickstarter description in most cases. These data are all official and therefore measured to the greatest possible degree of accuracy considering the subject matter. Prior studies have also successfully used similar methods to study related phenomena (e.g. Mollick, 2014).

Data Analyses

Descriptive Statistics

To examine overall trends in the data, descriptive statistics were used to analyze the trends in study variables across various differentials, including across divisions in the covariate factors. This does not contribute to the overall purpose in a statistically significant fashion. However, these data are interesting in a more general sense and may provide intuition to help guide future inquiry.

Hypothesis Testing

The hypotheses for the two research questions were tested using regression models. At a glance, the first hypothesis seems like a simple linear regression. However, because the independent variable is not a ratio scales variable, it should actually be estimated using three dummy variables for each of the levels of support that include input voting (Grotenhuis & Thijs, 2015). Thus, the hypothesis test actually takes the form of a multiple linear regression:

$$(1)\ y = a + b_1x_1 + b_2x_2 + b_3x_3 \quad (1)$$

where x_i is the dummy variable (i = 1 for high tier reward, etc.). Testing the hypothesis then correlates to any of the values b_i being significantly different from zero as well as the overall R-squared being significantly different from zero.

Since the covariates are all interval-scaled variables, they can be regressed as normal by adding them to this model (Grotenhuis & Thijs, 2015). Thus, hypothesis two is tested by whether or not the b_i values for the voting tier dummy variables remain significant in the full model, and whether the R-squared changes between the model including those dummy variables as opposed to one with only covariate factors. As an additional, extra benefit, any non-zero coefficients for covariates in the combined model further evince the importance of these covariate predictors in predicting the success of rewards-based crowdfunding.

THEORY

Rewards-based Crowdfunding

As discussed in section 1.0, crowdfunding as a phenomenon is a relatively new type of entrepreneurship. Crowdfunding is the application of crowdsourcing ideas to gaining funding for entrepreneurial ideas, drawing financial support from the public at large instead of a few select investors. Crowdfunding comes in two distinct overall models, based on what compensation supporters get from their support if the project succeeds. This study focuses on the rewards-based model of crowdfunding. However, there are further subtypes within this general category. For example, some platforms use the keep-it-all model, where the project receives all the funding it is offered by supporters, whether or not it meets its goal. More common, however, is the all-or-nothing model. Under this model, the project only receives any funding if its goal is met (Cumming et al., 2014). Kickstarter, the crowdfunding platform used in this study, adopts the all-or-nothing model, which research suggests is more suitable to the discrete, non-scalable type of project that rewards-based crowdfunding is usually used for (Cumming et al., 2014). It is especially suitable for larger projects, as in these projects receiving only partial funding likely would not be enough to create the product and therefore it would be a bad investment for supporters. This is why projects that are not fully funded are considered to have failed even if they nearly succeed—but, as per previous research, it also creates motivation for potential supporters to contribute if the goal is nearly reached (Mollick, 2014). Thus, in reality, very few projects that achieve a sizeable portion of their goals still fail. However, the difference in applicability of the all-or-nothing model to large- and small-scale projects (Cumming et al., 2014).) Is in support of the covariate factors of total money raised and average pledge per supporter as being potentially indicative of success.

That said, there is a way for these projects to set multiple goals, encapsulated by the idea of *stretch goals*, wherein the entrepreneur offers an additional product or additional product features if the project

exceeds the minimum goal by certain amounts (Haug & Haslum, 2016). The existence of these stretch goals is potentially relevant to the results of this study, since it is conceivable that projects might only offer product feature voting is stretch goals are achieved. However, including this would complicate the initial analysis in this study; therefore, the potential relationship between stretch goals and product feature voting is instead a concept that may be examined in its own right by future research. Additionally, the importance of these goals in the overall analysis is expected to be minimal as most Kickstarter projects do not exceed the project goal by 10% or more (Mollick, 2014).

Crowdfunding Patterns

Based on the characteristics described, it should be little surprise that research suggests that crowdfunding tends to follow a U-shaped pattern of activity (Kuppuswamy & Bayus, 2015). That is to say, those with the strongest vested interest in a project make their contributions immediately, in the first week of a given campaign. Interest tapers off during the middle of a campaign; then, as the end approaches, potential participants are incentivized to support it if success seems feasible, thereby creating a surge in support (Kuppuswamy & Bayus, 2015). This pattern suggests the potential importance of campaign length in terms of determining funding effects, supporting its choice as a covariate. A long campaign might potentially peter out quickly after the initial drop-off in support, for example, while an excessively short campaign might fail to capitalize on the renewed surge of interest toward the end, if the end is not sufficiently later than the start.

While there is an obvious connection between number of supporters and project success (since each supporter represents a campaign contribution), there are other reasons to consider this an important covariate. Specifically, social networking plays an important role in the success of crowdfunding campaigns (Vismara, 2016). This is because word-of-mouth advertising through supporters' social media networks is one of the best ways of advertising for crowdfunding, given that it costs little for the entrepreneur and the project's supporters have a vested interest in the project, incentivizing them to recruit additional supporters. Thus, the total number of supporters for a given crowdfunding project not only directly increases the amount of funding for the project, it also creates a significant increase in potential social network exposure. This is valuable and *targeted* advertising, as it is spread through interested parties who may have contacts of other potentially interested parties through common interests (Belleflamme et al., 2015).

Feature Voting

Insofar as why project feature voting is the primary variable of interest for this study, the reason is twofold. Firstly, prior research by Mollick (2014) called for an investigation into the relevance of this variable in a more general study of the predictors of crowdfunding success on Kickstarter, suggesting academic interest. Moreover, though, this is a practical question. Project feature voting represents what could be a key draw of crowdfunding. Under traditional investment models, investors usually have some significant control over the outcome of their investments (Giudici, 2016). However, traditional investing is also dominated by a few powerful shareholders in most cases, and their influence is therefore disproportionate and leaves the entrepreneur's hands tied insofar as being able to provide features that he or she feels the customer desires if shareholders do not agree (Giudici, 2016).

In crowdfunding, however, the consumer and the investor are one and the same. This means that crowdfunding the development of products has the potential to offer entrepreneurs a unique opportunity to design products that are shaped exclusively by consumers' wants and needs. Product feature voting represents one way of practically expressing this; by allowing supporters to vote on desired features, the entrepreneur empowers the consumers in designing the project that he or she desires. If this should prove to be a significant predictor of success, it has far-reaching implications. Obviously, it supports the crowdfunding model, but it may also mean that corporate investors should consider giving the entrepreneurs they choose to invest in greater freedom to design products based on the desires of the public rather than based on the desires and opinions of the investors.

DATA ANALYSIS AND RESULTS

This study explored the following two research questions and tested the associated hypotheses:

RQ1: *What relationship, if any, exists between project feature voting and the success of rewards-based crowdfunding projects on Kickstarter?*

$H1_0$: *No relationship exists between project feature voting and the success of rewards-based crowdfunding projects on Kickstarter.*

$H1_A$: *A significant relationship exists between project feature voting and the success of rewards-based crowdfunding projects on Kickstarter.*

In addition, one secondary research question tests the robustness of the results of RQ1:

RQ2: *Does the relationship in RQ1, if any, remain valid after the inclusion of covariate factors?*

$H2_0$: *Any relationship found in RQ1 disappears when covariates are accounted for.*

$H2_A$: *The relationship remains significant when covariates are included.*

A series of regression analyses were conducted to address this research questions. In this chapter, preliminary analyses are first addressed, and then the main study research questions are addressed with an over view of the statistical tests utilized and the results from these analyses. A summary of findings is provided at the end of this chapter.

Preliminary Analyses

Preliminary analyses were conducted to better understand the quantitative data that were utilized in this study. First we review the dependent variable; that is, whether or not a project was successfully funded. Then we review the descriptive statistics for the independent variable; that is, the product voting feature for each project. Finally, we review the descriptive statistics for the covariates and provide a correlation table for all study variables to demonstrate preliminary, bivariate associations between the independent variable, dependent variable, and all included covariates.

Of the crowdfunded projects that were randomly selected for inclusion in this study, 49.3% were successfully funded (n = 99). The mean proportion of funding pledged for all projects included in this study was $9,615.13 (SD = $30,197.34). Of those projects that were successfully funded, 96.0% were overfunded (n = 95); that is, these projects received pledges that totaled more than the amount that the creators had set as their goals. On average, these overfunded projects received pledges that were 347% percent over their stated goals. The other 50.7% of projects included in this study were not successful in reaching their funding goals (n = 102). Of these failed projects, on average they only received pledges that made up 10.5% of their goal.

The independent variable, product feature voting, was an ordinal variable with the following values: 0 if the project did not offer a feature voting tier, 1 if the project included feature voting as a high value reward (+$50 contribution). 2 if the project included feature voting as a mid-value reward (contribution between $50 and $10), or 3 if the project included feature voting as a basic reward (<$10 contribution). As shown in Table 1, the 201 projects included in this study, 37.3% did not offer a feature voting tier (n = 75), 23.9% included a high-value reward voting feature (n = 48), 17.4% included a mid-value reward voting feature (n = 35), and 21.4% included a basic reward voting feature (n = 43). This independent variable was close enough to normally distributed (M = 1.23, SD = 1.17, skewness = 0.37, kurtosis = -1.35). Table 1 shows the mean amount of money pledged for projects that fell into these specific tiers of project feature voting. A one-way analysis of variance (ANOVA) was conducted to determine whether

this mean amount pledged differed significantly by tier. Results indicated that the difference was not statistically significant ($F = 1.16$, $p = .33$).

TABLE 1
DESCRIPTIVE STATISTICS FOR THE PROJECT VOTING FEATURE VARIABLE

	n (%)	Mean Amount of Money Pledged (USD)
No Voting Tier (0)	75 (37.3%)	$8,958.20
High Value Reward (1)	48 (23.9%)	$6,099.60
Mid-Value Reward (2)	35 (17.4%)	$17,935.00
Basic Reward (3)	43 (21.4%)	$7,913.16

Covariates were included in this study, including the *total dollar value of support raised by the project,* a continuous variable; the *project category,* an indicator variable; the *country in which the project took place*, an indicator variable; the *total number of supporters*, a continuous variable; and the *average pledge per supporter*, a continuous variable. Measure of central tendency were calculated for the covariates that were operationalized as continuous variables; these descriptive statistics are shown in Table 2.

TABLE 2
MEASURES OF CENTRAL TENDENCY FOR CONTINUOUS COVARIATES

Covariate	Range	M	SD	Median	Skewness	Kurtosis
Total $ Raised	$0.00-$377,471	$9,615.13	$30,197	$1,152.00	9.50	111.32
# of Supporters	0-7.119	141.80	550.57	21.00	10.64	130.88
Average pledge	$1.00-806.74	$83.26	$119.59	$49.19	3.64	15.63

For the categorical covariate, *project category*, 19 projects were categorized as art, 29 were categorized as comics, 16 were categorized as crafts, 8 were categorized as fashion, 9 were categorized as film & video, 21 were categorized as food, 18 were categorized as games, 18 were categorized as photography, 16 were categorized as publishing, 29 were categorized as technology, and 18 were categorized as theater.

For the categorical covariate, *country*, 4 projects were based in Australia, 7 were based in Canada, 8 were based in mainland Europe (Germany, Italy, France), 15 were based in Great Britain, and 167 were based in the U.S.

Bivariate Pearson's correlation coefficients were calculated for all possible pairs of continuous study variables (see Table 3). The results of these preliminary correlation analysis indicated that the amount pledged in USD was significantly, positively correlated with the average amount of money pledged per supporter. In addition, the number of supporters was significantly, positively correlated with the amount of money pledged. These significantly correlations suggest that projects that were backed by more money tended to have more supporters and supporters pledged higher amounts of money across the board.

TABLE 3
CORRELATIONS BETWEEN CONTINUOUS STUDY VARIABLES

	Project Goal ($)	Amount Pledged ($)	Average ($) Pledged per Supporter
Project Goal ($)			
Amount Pledged ($)	-0.02		
Average ($) Pledged per Supporter	-0.05	0.17*	
Number of Supporters	-0.02	0.92***	-0.04

Next, chi-square analyses were conducted to examine the association between the categorical variables included in this study: project success, project category, and country. The results of the first chi-square test, which examined whether the success rate of projects differed by category, indicated that there was as significant difference in success rates for different categories of projects ($\chi^2 = 18.65$, $p = .045$). The success rate by category is shown in Table 4 and indicates that the significant difference is primarily driven by projects within the Fashion and Film & Video categories.

TABLE 4
PROJECT SUCCESS BY CATEGORY

	Percent Successfully Funded
Art	42.1%
Comics	48.3%
Crafts	50.0%
Fashion	25.0%
Film & Video	77.8%
Food	57.1%
Games	50.0%
Photography	44.4%
Publishing	50.0%
Technology	44.8%
Theater	55.6%

There was also a significant difference in the association between project category and country ($\chi^2 = 75.48$, $p = .001$). As shown in Table 5, art, food, and photography projects were popular across most countries, while the majority of other projects were centralized around Great Britain and the U.S. There was not a significant difference in project success rates by country ($\chi^2 = 1.75$, $p = .781$).

TABLE 5
NUMBER OF PROJECTS IN EACH CATEGORY BY COUNTRY

	Australia	Canada	Mainland Europe	Great Britain	USA
Art	2	4	0	2	11
Comics	0	0	0	3	26
Crafts	1	0	0	1	14
Fashion	0	0	0	1	7
Film & Video	0	0	0	0	9
Food	1	1	2	1	16
Games	0	0	1	0	17
Photography	0	2	4	4	8
Publishing	0	0	0	0	16
Technology	0	0	1	1	27
Theater	0	0	0	2	16

Then, a series of independent samples t-tests was conducted to examine the association between the categorical independent variable (project success) and the continuous variables included in this study. This analysis is appropriate for use when one variable is a two-group categorical variable; in this case, project success was coded as either 0 (the project was not successfully funded for the pledged amount) or 1 (the project was successfully funded). Thus the analysis will compare the means between projects following into these two groups on each of the continuous study variables. The results of these analyses are presented in Table 6 and indicate that, not surprisingly, projects that were successfully funded were backed by more money pledged from supporters ($t = 4.27$, $p < .001$), had higher amounts pledged per supporter ($t = 3.05$, $p < .01$), and had more supporters ($t = 3.50$, $p < .01$) than projects that failed in their crowdfunding attempt.

TABLE 6
RESULTS OF THE INDEPENDENT SAMPLES T-TESTS TO EXAMINE DIFFERENCES BETWEEN SUCCESSFUL AND FAILED PROJECT

	Successful Projects	Failed Projects
Amount Pledged ($)	$18,469.26	$1,021.41
Average ($) Pledged per Supporter	$106.94	%52.81
Number of Supporters	275.89	11.65

Finally, analyses of variance (ANOVA) were conducted to examine the bivariate associations between project category and country and the continuous variables. This statistical test is similar to the independent samples t-test, but allows for a comparison of three or more groups. In this case, there are 11 different project categories, so ANOVA is appropriate for use. Like the independent samples t-test, the ANOVA compares means on the continuous variables across projects falling into these different categories. The results of these ANOVA indicate that there was not a significant difference in amount of money pledged ($F = 0.92$, $p = .52$), amount pledged per supporter ($F = 1.33$, $p = .22$), or number of supporters by category ($F = 1.22$, $p = .28$). Similarly, there was not a significant difference in amount of money pledged ($F = 0.19$, $p = .95$), amount pledged per supporter ($F = 1.57$, $p = .19$), or number of supporters by category ($F = 0.16$, $p = .96$) by country.

The Role of Product Feature Voting in Crowdfunding Success

After conducting these preliminary study analyses, the data proved to be reliable and valid for use in the main study analyses. To address the primary research question—that is, understanding the association between product feature voting and crowdfunding success, a logistic regression analysis was conducted. This method of analysis is appropriate when the dependent variable is dichotomous (i.e., is categorical with only two groups). It was hypothesized that this relationship would be significant; in particular, that the lower the reward tier offered (i.e., feature voting as a basic reward [<$10 contribution]) would be significantly associated with a higher likelihood of project success. In this analysis, project success was entered as the dichotomous dependent variable and project reward feature was entered as the ordinal independent variable. Results of this analysis indicated that project reward feature was not significantly associated with project success (B = -0.01, Wald statistic = 0.01, p = .94, OR = .99).

Controlling for Project Features

The next set of analyses addressed the secondary research question, which aimed to understand whether the association between project reward feature and project success, which was tested in the prior logistic regression analysis, differed once a series of covariates was included. That is, it may be that once the analysis controls for differences within these different covariates, the relationship shifts. It was hypothesized that these covariates would change the association and indicate that the story is more complex once these other factors are considered.

To test this hypothesis, a series of logistic regression analyses were conducted. The first five analyses examined the role of each covariate, individually, in the association between project reward feature and project success. The results of these five analyses are presented in Table 7. As shown, the results did not differ from the original analysis when each of these covariates was separately entered into the model. That is, even when controlling for factors that we know are significantly related to the outcome variable (project success or failure), a project reward system is not significantly associated with this outcome.

TABLE 7
LOGISTIC REGRESSION ANALYSES CONTROLLING FOR INDIVIDUAL COVARIATES

	B	Wald	*p*	*OR*
Category	0.03	0.07	.79	1.03
Country	-0.02	0.02	.88	0.98
Amount pledged ($)	0.04	0.06	.81	1.04
Amount ($) pledged per supporter	-0.02	0.02	.89	0.98
# of Supporters	0.11	0.47	.49	1.12

Finally, a full logistic regression analysis was conducted in which all five covariates were entered into one model together, allowing these covariates to control for each other and for us to see the overall effect. The results of this final model indicated that even when all covariates were included in the same model, the association between the tiered rewards system and project success or failure was not significant (B = 0.20, Wald statistic = 0.97, p = .32, OR = 1.22).

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