How does being a Serial Creator affect Probability of Campaign Success on Kickstarter?

By
Minn Htet Khine

Professor Grace Kim, Faculty Advisor
Professor Edward Tower, Faculty Advisor
Professor Kent Kimbrough, Seminar Advisor

Duke University

Durham, North Carolina

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Minn Htet Khine graduated from Duke University with a Bachelor of Science in Economics. Following graduation, he will begin working at PMM Partners as an Analyst. He can be reached at minnhkhine@gmail.com.

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Abstract

This paper seeks to address the issue of how being a serial creator impacts campaign success on Kickstarter. My hypothesis is that being a serial creator – someone who has created 2 or more projects on Kickstarter – has a positive effect on probability of campaign success but there are diminishing marginal returns to this effect. A regression analysis over a sample of over 187 thousand Kickstarter projects from its inception in 2008 until December 2014 yields the following findings, which supports my hypothesis.

My research found that being a serial creator does have a positive effect on campaign success (ranging from 0.00609 to 0.0077 percentage points) but there is diminishing marginal returns to being a serial creator (ranging from -0.000228 to -0.00024 percentage points). If we evaluate these results for serial creator at the mean, becoming a serial creator with the additional project increases campaign success probability from 39.36% to within a range of 39.969% to 40.13% and this positive effect diminishes by a diminishing factor that ranges from 0.000228 to 0.00024 percentage points with each additional project. This means that the marginal product equals zero after 26.71 projects to 32.08 projects.

Furthermore, number of updates, number of reward levels, having a video, number of backers, FB Shares, FB Friends, and Number of Projects Backed all have positive effects on campaign success. On the other hand, comments, funding goal, and duration have negative effects on campaign success. The effect of the Fed Fund Rate on campaign success is inconclusive.

In terms of how project characteristics and creator characteristics affect first time creators and serial creators differently, I found that Updates, Video, FBShares, FBFriends, and Goal matter less as number of projects created increases, in other words, for serial creators who've gathered more project experience. On the other hand, Rewards, Backers, ProjectsBacked, Comments, and Duration matter more as number of projects created increases.

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How does being a Serial Creator affect Campaign Success on Kickstarter?

I. Introduction

Entrepreneurship is recognized to play a vital role in the growth of the economy and job creation not just in the U.S. but globally (Bureau of Labor Statistics 2014). One of the major barriers for entrepreneurship to flourish is financing for startups. The traditional startup financing mechanisms include bank loans as debt financing or equity financing from family & friend, angel investors, and venture capitalists for seed and early-stage investing. In recent years, the development of the Internet has lead to a new and increasingly important source of funds referred to as crowdfunding. Building on the definition set forth by Schweinbacher and Larralde (2010), Mollick (2014), defines crowdfunding as "the efforts by entrepreneurial individuals and groups – cultural, social, and for-profit- to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries."

With the emergence of crowdfunding, there is now an alternative option for entrepreneurs. Not only is crowdfunding a source of financing, it also has added benefits of establishing a customer base, market research, customer feedback, and low cost of entry into the market (Mollick and Puppuswamy 2014). Some of the notable crowdfunded projects include Pebble, which raised $10.2M and Oculus, which raised $2.4M and then got acquired by Facebook for $2 billion in July 2014.

Under this broad definition of crowdfunding, several different business models have been generated. There are four types of platforms with regards to what supporters get for their contribution, and there are three models of what happens when campaign project goal is not met.

The four types of crowdfunding platforms are ***rewards-based***, where supporters receive some kind of reward in return for their contribution, ***donations***, where contributors do not expect to receive a tangible benefit, ***lending/credit***, where lenders expect the future repayment of a principal with or without interest, and ***equity*** crowdfunding, where small investors who are accredited or not provide funding to startups in exchange for equity in the startup (Startup Valley 2014).

Equity crowdfunding, is a new emerging field, especially after President Obama signed the Jumpstart Our Business Startups (JOBS) Act in 2012, which legalizes equity crowdfunding by early 2013 (Ahlers et al 2014). President Obama sees equity crowdfunding as a "potential game-changer" for small and private businesses trying to raise money.

The three systems of what happens when a campaign doesn't reach its project goal are "***All or Nothing***" (Threshold Pledge System), "***Keep it All***" (All-or-More or Non-Threshold Pledge System), or "***Optional***", where a platform that lets the campaign owner decide whichever system (Massolution 2013).

The focus of this paper is going to be on serial creators in rewards-crowdfunding, examining the most prominent platform, Kickstarter, which uses the All-or-Nothing system.

1.2 Crowdfunding Industry

The rise of crowdfunding can be seen in the rapid growth of the industry. Since its inception in 2009, crowdfunding has grown to become an industry raising $2.7 billion in 2012 across the world with 308 crowdfunding platforms. Furthermore, it has become a $5.1 billion industry in 2013 (Massolution 2013). This can be compared to the $48.5 billion raised globally by Venture Capital firms in 2013 (EY 2014). Despite the low number now, the crowdfunding industry is growing rapidly and the IFC expects the global crowdfunding market to reach between $90-96 billion by 2025 (IFC 2013). On the other hand, the Venture Capital industry has been stagnant, even declining during the Great Recession. A report from Massolution (2013) show a breakdown of how big the four different types of crowdfunding is. We can see that rewards-crowdfunding has grown from $15.7 million in 2010 to $383.3 million in 2012 and is expected to grow to $1,344.2 million in 2013.

1.3 Crowdfunding and traditional financing options

Angel investors and venture capitalists are viewed as "gatekeepers of the creative world [because] they have been very selective and many of the businesses

are left out in their stringent selection process of investing" (Manchanda et al 2014). Crowdfunding is able to provide an additional avenue for entrepreneurs seeking capital to turn their ideas into reality. More specifically, crowdfunding plays an important role by filling two gaps: 1) Initial seed money to start a business when funds from family & friends is unavailable or insufficient and the amounts required are too small for angels to get involved and 2) early stage funding above the level of business angels but the capital required is too small for VCs (Tomczak and Brem 2013).

It is vital to note that crowdfunding is important in providing more opportunities for entrepreneurs, however it will not replace the role that angel investors and venture capitalists play. Angel investors and venture capitalists add value not only through financing but also providing mentorship, managerial know-how, and providing access to networks and resources. A study by Kerr, Lerner and Scholar (2010) highlighted that ventures backed by angel investors had higher survival rates over an initial 4-year period than ventures not backed by angel investors. As such, people like Manchanda and Muralidharam, have predicted that crowdfunding and traditional financing vehicles will go hand in hand complimenting each other in the future (Manchanda et al 2014). Not only in the sense that VCs are investing in these crowdfunding platforms like Indiegogo, but also because crowdfunding platforms can now be a resource to screen quality projects and bring up talented entrepreneurs and brilliant ideas to the VCs' attention.

1.4 Kickstarter

Kickstarter is the premier crowdfunding site, with $1.38 billion of total dollars pledged to Kickstarter projects since its inception in April 28, 2009. Kickstarter has successfully funded 72,975 projects, has a total number of 7,307,013 backers, out of which 2,188,134 are repeat backers (Kickstarter Stat 2014). Kickstarter has had 40 projects raise over a million dollars and the average success rate on Kickstarter is 44% (Lau 2013).

The closest competitor to Kickstarter is Indiegogo but due to Indiegogo's policy of not sharing statistics of campaigns on its platform, it is hard to make a good

comparison between the two platforms. A study by two freelance researchers, Jonathan Lau and Edward Junpgrung, in 2013 provides a glimpse comparison of the two platforms. Lau and Junpgrung found that Kickstarter has over 110,000 campaigns while Indiegogo only has 44,000 campaigns. It is important to note that Indiegogo de-lists failed campaigns that raised less than $500 while Kickstarter does not. In terms of dollars raised, Lau and Junpgrung found that Kickstarter has successfully raised $612M, which is around 6 times more than Indiegogo, which raised $99M (Lau and Junpgrung 2013). Even though the data regarding Indiegogo might be questionable, this study highlights that Kickstarter is a leader in this rewards crowdfunding space.

Kickstarter uses an All-or-Nothing (AoN) model. It also has a screening process and is selective about allowing what types of projects are allowed on its platform. For example, Kickstarter requires projects to have a creative element and it does not allow campaigns for charitable causes. However, it is important to note that since 3rd June 2014, Kickstarter relaxed and simplified its rules.

Kickstarter has an eligibility requirement for campaign owners to be US residents, which makes Kickstarter a mainly US platform, with 94% of the campaign owners being US residents (Maron and Sade 2013).

Campaigns on Kickstarter are classified into the following 15 categories: art, comics, crafts, dance, design, fashion, film & video, food, games, journalism, music, photography, publishing, technology, and theater.

In terms of payment structures, Kickstarter charges a 5% fee for successful campaigns plus 3-5% 3rd Party Fees for payment processing. In terms of project duration, Kickstarter only allows campaign creators to have 30-60 days to receive funding.

1.5 Existing Literature

Due to the recent development of crowdfunding, there is limited literature. However, crowdfunding is becoming a hot topic of research for those studying entrepreneurship and financing startups. Hence, there is now a growing amount of studies.

Schweinbacher and Larralde (2010) were the first to look into crowdfunding and they offered the building blocks of the definition as well as the classifications of the different types of crowdfunding.

Many have addressed the question of what makes rewards crowdfunding campaigns successful. People have taken a look at prior track record, 3rd party endorsements, preparedness, gender, geography (Mollick 2013; 2014), language in project description (Marom and Sade 2013), network effect of being an active backer (Zvilichovsky, et al. 2013; Colombo, et al. 2013; Younkin and Kashkooli 2013), updates (Xu, et al. 2014), prior contribution amount (Burtch, et al 2013b), and "All or Nothing" vs "Keep it all" (Cumming, et al. 2014).

1.6 My Contribution

My contribution to crowdfunding research is to address the campaign success question from the theme of "serial creator". A serial creator is a campaign creator who has created two or more campaigns on Kickstarter. That is, I am looking at the effect of experience and signaling of being a serial creator on campaign success. None of the previous research has explored crowdfunding campaign success from the "serial creator" perspective. Mollick has looked into prior track record in his exploratory paper (2013) and showed that it contributes positively to campaign success on Kickstarter, however the study doesn't take a closer look at the serial creator group versus the first-time creator group. Furthermore, Mollick defined prior track record as anything the creator has done previously, whereas I define it more strictly as having created a Kickstarter campaign before or not. Through this study, I address the following questions: do serial creators have higher probability of campaign success than first-time creators? If so, what is driving this effect? Is there a diminishing marginal return of being a serial creator? Is the experience leading to serial creators designing their campaigns differently than first-time creators? Or is it a case where given very similar campaign designs and characteristics, those with the good prior track record are more likely to succeed?

The rest of the paper is organized as follow. In Section II, I review existing literature addressing campaign success of rewards-crowdfunding campaigns. Followed by Section III, where I lay out the theoretical framework of serial creators and campaign success. In Section IV, I discuss the data and the regression variables for my analysis. In Section V, the empirical specification and methodology for the study is laid out. Section VI discusses the results and findings of the study. Finally, Section VII will conclude with a discussion on the key findings, talk about the limitations, and provide thoughts on further research.

II. Literature Review

Campaign success has been explored through the lens of prior track record, 3rd party endorsements, preparedness, gender, and geography by Ethan Mollick from Wharton. Mollick has two papers, an early exploratory study and a follow up paper comparing selection of entrepreneurs in crowdfunding and venture capital.

In the exploratory study (2013), he looked at 48,526 campaigns that represent $237 million of pledges and have a 48.1% success rate. The dependent variable is a binary variable that is 1 if the campaign was successfully funded and 0 if not. The key variables he used were project goal, funding level, backers, pledge/backer, Facebook friends of founders, category, updates, comments, and duration. Mollick then looked into how the project quality effect campaign success, by using "preparedness" as a signal of quality to investors. He determined preparedness by whether founders had a video or not, whether projects provided updates within 3 days of launch, and spelling errors of campaign page.

In *Swept Away by the Crowd* (2013) Mollick looked at 2,101 US technology projects on Kickstarter to study the dynamics of success and failure of crowdfunded ventures. Mollick looked to test the following hypotheses: higher prior track record, 3rd party endorsements, and preparedness will lead to higher probability of campaign success. Crowdfunding is more gender neutral and less geographically concentrated than venture capital. Using a logit regression, he finds that project-

funding success is related to preparedness, social networks, gender, prior track record, and updates (Mollick 2013). He finds that crowdfunding responds to the same sets of signals of quality as venture capitalists but relax the biases of gender and geography compared to venture capitalists. I will be using a logit regression as well, where I will be controlling for these project characteristics (project goal, category, etc) and creator's characteristics (number of Facebook friends, number of projects backed by creator, gender) that contribute to campaign success since I want to just look at the role of being a serial creator. However, unlike Mollick's or any other paper, I will also be controlling for macroeconomic environment factors through variables such as GDP growth rate, unemployment rate, consumer confidence survey data, and real interest rate.

How language in project description affect campaign success is another aspect explored by researchers, Marom and Sade. They measured success in three ways, 1) whether they reached the funding goal or not, 2) percentage pledged, which is calculated by dividing the sum pledged by the total goal, and 3) number of investors who funded the project. This is unlike most other studies that measure campaign success only as whether the campaign reached funding goal or not. Marom and Sade also grouped all projects into 3 categories: Artistic projects, Gaming projects, and Technological projects. The independent variable is a rating system of the entrepreneur's pitch. Three methods were used to quantify the pitch, a text mining data method to count how many times the name of the entrepreneur is mentioned in the whole "About section". The second method looked at number of self-mentions in first 100 words and the third method looked at number of self-mentions in the title. Marom and Sade then included a human coding test for robustness where they asked human raters to evaluate entrepreneur pitches that were part of the sample on 3 scale questions. Then they ran a regression on all 3 measures of successes to test the effects of category, funding goal, number of mentions, video, and reputation. They found that project funding success is related to the language in the project descriptions. Similar to Maron and Sade, I will be using two dependent variables to measure campaign success: whether the campaign

reached its campaign funding goal and the percent funded, which is the total amount raised over funding goal.

Campaign success has also been explored through the lens of network effect of being an active backer by Zvilichovsky, et al, Colombo, et al, Younkin and Kashkooli (2013). All of them found that contributions are positively correlated to the creator's internal social capital accumulated from supporting other projects in the community. This network effect is part of the campaign owner's characteristics that I will be controlling for in my analysis, through the variable "number of projects backed by creator".

The effects of project updates, content and usage patterns, on campaign outcomes on Kickstarter has been researched by Xu et al (2014). Their analysis showed that certain uses of updates had stronger associations with the success of a campaign than the project's description (Xu et al 2014). "Updates" is one of the variables under project characteristics that I will be controlling for in my analysis.

On another note, researches have also looked into how behavior of others affect likelihood of campaign success. Burtch, Ghose, and Wattal in their *Empirical Examination of the Antecedents and Consequences of Contribution Patterns in Crowd-Funded Markets* highlight the important role of online social influence in collective evaluation and crowdfunding by looking at 100 pitches for new journalism stories and how timing and exposure affected them (Burtch et al 2013). They provide evidence that users do consider the behavior of others. They also found that contributions tend to anchor around the prior contribution amounts of others. The anchoring effects depend on the anonymity of prior contributions. I will not be including how others' behavior influence campaign success in my analysis because I do not have the data to do so. However, it is something important to keep in mind, and it will be interesting to see if people tend to provide higher contributions to serial creators over first timers and if this effect is true, then it might be the case that serial creators will likely receive more funding since the anchor set by others is higher.

The effect on campaign success by being featured on the platform home page is studied by Qui (2013). He found that pledges are positively related to being

featured on the platform home page when he looked into various informative advertising channels in crowdfunding. He ran a regression looking at how Kickstarter homepage feature, twitter mentions, number of project updates, and media mentions affect daily pledge uptake for a project on a given day. I do not have the data of whether campaigns were featured on the platform home page so I will not be able to control for this effect. However, it will be important to keep this effect in mine when analyzing the data in my research.

Campaign success has also been explored through the lenses of crowdfunding models: All or Nothing vs Keep it all. Cumming et al (2014) used campaigns on Indiegogo, which gives the campaign owner an option to choose between the two types of model since December 2011. They ran regressions looking at how the All Or Nothing and Keep it All models affect success of campaign by controlling for project characteristics (i.e. duration, team size, reward's levels , etc.) and soft information (i.e. updates, comments, etc.). They find that overall All-or-Nothing model campaigns involved much larger capital goals and were much more likely to be successful at achieving their funding goal (Cumming et al 2014). This is an interesting finding, however, since I am only looking at Kickstarter campaigns, I will not need to take this into consideration. All campaigns on Kickstarter use the All or Nothing model.

People have also looked into other topics other than campaign success in crowdfunding. Kuppuswamy and Bayus (2013) looked into how backer support on Kickstarter changes depending on project success and timing. Others have looked into how entrepreneurs decide between rewards-based and profit-sharing (Bellaflamme et al 2012), how geography plays a role in crowdfunding (Agrawal et al 2011), and what happens to successfully funded campaigns (Mollick and Kuppuswamy 2014).

III. Theoretical Framework

In this exploratory study of comparing serial creators to first-time creators it is important to look at what aspects of being a serial creator might provide an

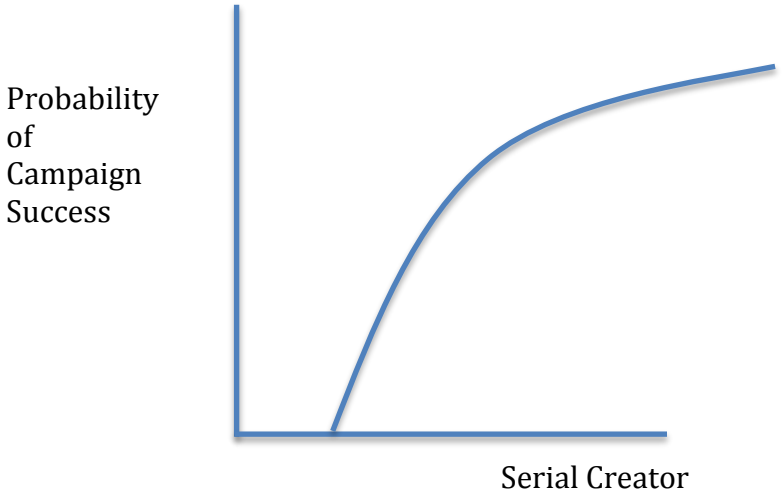
advantage. Serial entrepreneurs are theoretically more likely to be successful at securing funding for two reasons; signaling quality and learning from past experiences.

First, crowdfunders like venture capitalists only have limited information and unreliable data to deal with to determine whether to fund a venture or not (Mollick 2013). Due to the nature of startup financing, there is an information asymmetry problem, where campaign owners (founders) know more about the quality of their products and themselves than the crowdfunders. Given this environment of limited information about the product or about the entrepreneur, having previous projects and previous startup experience functions as a signal for quality and ability of the entrepreneur. Researchers have found that VCs look at evidence of past success as a strong signal of future outcomes (Beckman et al., 2007; Franke & Gruber, 2008; Sorensen et al., 2002). Drawing upon Mollick's findings that amateur investors (crowdfunders) use the same criteria to judge a quality of a project as VCs, crowdfunders will positively view serial creators with positive past experience. Thus, serial creators have the advantage of using prior track record to address the asymmetric information problem.

Second, serial creators are able to learn from their past mistakes. In terms of entrepreneurship, there is the belief that learning by doing is the best form of learning. Part of this concept is the idea of serial creators having the ability to put into practice the Lean Startup model. Entrepreneurs are encouraged to build prototypes quickly and test it in the market. They can then take the user feedback and experience to make necessary amendments and pivots to make the final product more likely to succeed. This model of quick prototyping and gaining valuable market insight on products is cited as one of the main benefits of crowdfunding platforms beyond just securing funding (Mollick and Puppuswamy 2014).

Due to the reasons stated above, I expect to see that being a serial creator will increase the likelihood of campaign success, however I also believe there will be diminishing marginal returns to being a serial creator. I expect diminishing marginal returns because serial creators will learn more and take away more from their 2nd,

3rd, 4th project. But there will come a point where after a certain number of projects, say the 6th, 7th or 8th project, there is not so much the Serial Creator gains from the previous projects. Hence I expect to see a curve similar to the one below.



IV. Data and Summary Statistics

Kickstarter keeps all finished projects, successful and unsuccessful, on their website. Most of Kickstarter campaigns, 94%, are US-based projects because Kickstarter requires a US residency to be eligible to initiate a campaign on its platform. However, there is no residence requirement for investors.

I got my dataset from Kickspy, who has a service agreement with Kickstarter to share data for educational use. The dataset includes 192,825 Kickstarter projects. These include projects from the very start of Kickstarter until mid-December 2014. The variables included in the dataset can be seen in Appendix 1 (Kickspy Data). It is important to note that Kick Spy closed down on March 31 2015.

The regression variables I used in my analysis can be seen in the *Table 1* below. As the table shows, almost all the variables I need are in the Kickspy dataset. The only set of variables not included in the Kickspy dataset relate to macroeconomic environment variables. I got the Federal Funds Rate (monthly) as proxy for real interest rate from Federal Reserve Economic Data (FRED). I use the Federal Funds Rate as a proxy for the real interest rate in the economy.

Table 1: Regression Variables

Regression Variables				
Variable	**Stata Var Name**	**Type**	**Expected Outcome**	**Source**
Dependent Variable				
Campaign Success	success	Binary variable		Kickspy dataset
Independent Variable				
Serial Creator (Continuous)	serialcreatorContinuous	Continuous variable	Positive	Kickspy dataset
Controls				
Project Characteristics				
Number of Updates	updates	Continuous variable	Positive	Kickspy dataset
Number of Comments	comments	Continuous variable	Positive	Kickspy dataset
Number of Reward Levels	rewards	Continuous variable	Positive	Kickspy dataset
Funding Goal	goal	Continuous variable	Negative	Kickspy dataset
Total Number of Backers	backers	Continuous variable	Positive	Kickspy dataset
Duration in Days	duration	Continuous variable	Negative	Kickspy dataset
Video Present or Not	video	Binary variable	Positive	Kickspy dataset
Creator Characteristics				
FB Connected	FBConnected	Binary variable	Positive	Kickspy dataset
FB Friends	FBFriends	Continuous variable	Positive	Kickspy dataset
FB Shares	FBShares	Continuous variable	Positive	Kickspy dataset
Number of Projects Backed	projectsbacked	Continuous variable	Positive	Kickspy dataset
Macroeconomic Environment				
Federal Funds Rate	ffr	Continuous variable	Negative	FRED Data

Table 1 above also shows the expected outcome of each variable on campaign success. The aim of this thesis is to explore if there is a positive expected outcome for the "serial creator" variable, and if so, if it is significant and if there is diminishing marginal returns. I use serialcreatorContinuous variable to measure serial creators, which marks 1 for first time creators, 2 for second projects of serial creators, 3 for third projects of serial creators and so forth. The continuous variable allows me to test whether there is diminishing marginal returns or not.

I expect the "funding goal" and "duration" to have negative outcome because it is negatively correlated to the dependent variable and also because past literature has shown these effects. The idea is that as the funding goal gets higher, it is harder to reach the goal. As for duration, shorter time frames could be a signal of confidence that the project will succeed.

"Rewards", "Video", "Total # of backers", "Updates", "Comments" and "# of Facebook Friends" all have positive expected outcomes since the presence and the higher frequency of these are likely to contribute to higher likelihood of campaign success. As previous literature on network effects have found, I also expect "Number

of Projects backed by Creator" to have a positive expected outcome. By being an active member in the community and supporting others, the creator will get reciprocated support and have a bigger network to count on for funding.

As for macroeconomic variables, I am using the Federal Funds rate as a proxy for the real interest rate in the economy. When the Federal Funds rate is low, I expect the interest rates to be low in the economy, and hence I expect more investments in crowdfunding. Thus, the expected outcome is negative. If the interest for savings is high, then capital might not flow into the crowdfunding industry since investors search for higher returns. However, if the interest rates are low, investors might be more willing to enter the crowdfunding industry.

Data Cleaning

The original dataset has 192,825 observations of projects from 2009 still 2014 (with first start date on 21st April 2009 and the last start date on 14th December 2014. However, out of these 192,825 projects, 5,678 of these projects are live. I discarded these live project observations from my sample, leaving me with 187,147 observations. I decided to keep the rest of the observations so that I am not introducing any sample bias.

I added the Federal Funds rate to the dataset by matching the monthly rate to the time period of the campaign. When a campaign spans over several months, I took the average FFR over those months. For example, if a campaign started in April 2009 and ended in June 2009, the assigned FFR is the average of the FFR in April, May, and June 2009.

There are outliers in the data, such as really high projects created observations and extreme minimum and maximum values for funding goal. However, I chose to leave them in the sample and let the regression model put less weight on these outliers.

As for the Serial Creator variable, the first project of a serial creator is not considered a "serial creator" project. So I recoded 17,692 observations that are the first project of a serial creator as first time projects.

Within this sample, there are 33,665 serial creators (17.99%) and 153,482 first time creators (82.01%).

Table 2 below shows the mean statistics for the dependent variable if we break them down into serial creators and first time creators. The campaign success rate is higher for serial creators compared to first time creators.

Table 2: Mean Statistics for Dependent Variables

	All	Serial Creators	First Time Creators
success	0.4043 (0.4908)	0.4529 (0.4978)	0.3936 (0.4885)

The following graph shows the frequency of how many number of projects were created by people in the sample. As we can see in Table 3 below, many of the observations are concentrated around 1, 2, and 3, with a long right tail. The median of "serialcreatorContinuous" variable is 1, mean is 1.5131, with standard deviation of 2.9499, maximum value of 111 and minimum value of 1.

Table 3: Tabulate of serialcreatorsContinuous (only includes till value = 13)

SerialCreator Continous	Frequency	Percent	Cumulative
1	153,482	82.01	82.01
2	21,151	11.3	93.31
3	5,533	2.96	96.27
4	2,258	1.21	97.48
5	1,167	0.62	98.1
6	686	0.37	98.47
7	468	0.25	98.72
8	333	0.18	98.9
9	254	0.14	99.04
10	196	0.1	99.14
11	150	0.08	99.22
12	119	0.06	99.28
13	107	0.06	99.34

The following table (Table 4) show the Category variable. The top 3 most frequent categories are "Film & Video", "Music", and "Publishing". The least likely are "Journalism", "Crafts", and "Dance".

Table 4: Projects by Category

Category	Frequency	Percent
Art	14,829	7.92%
Comics	5,140	2.75%
Crafts	2,696	1.44%
Dance	2,396	1.28%
Design	11,022	5.89%
Fashion	8,666	4.63%
Film & Video	40,788	21.79%
Food	10,533	5.63%
Games	13,390	7.15%
Journalism	1,450	0.77%
Music	33,631	17.97%
Photography	6,010	3.21%
Publishing	20,705	11.06%
Technology	9,072	4.85%
Theater	6,819	3.64%
Total	187,147	100%

Appendix 1 shows the summary statistics of all the variables. It is important to note that if I am using the FBFriends or FBShares variables in my model, I will have fewer observations, 110,060 and 184,491 respectively. FBFriends is depending on whether the creator has his or her Facebook connected to the campaign, hence it is derived from the number of FBConnected in the sample.

Appendix 2 has the correlation matrix of the variables I used for my analysis. Note that "Funding Goal", and "Duration" are negatively correlated with "Campaign Success", which is consistent with my expected outcomes that I've highlighted in Table 1 earlier. However, the Fed Fund Rate has a weak positive correlation, which is contrary to what I expected. For Percent Funded, FBFriends, along with funding goal, duration, and Federal Funds Rate, is also negatively correlated. "Updates" is the most correlated with "campaign success". Percent Funded has low correlation with all the other variables.

Looking at the correlation matrix, there doesn't seem to be any multicollinearity issues. The biggest concern is between FBShares and number of backers, which has a correlation of 0.5775.

V. Empirical Specification

Model 1: OLS Regression Model without any control variables

$Campaign\ Success = \beta_0+\beta_1(serialcreatorContinuous)+ \beta_2(serialcreatorContinuous)^2+\mu$

I use an OLS regression model with campaign success as the dependent variable. I'm using a continuous variable for serial creator, which is captured by the variable "serialcreatorContinuous". I also have a variable that is the squared value of the "serialcreatorContinuous" variable. The two coefficients that are of most interest are β_1 and β_2. β_1 show whether being a serial creator has a positive impact on campaign success. β_2 show if there is diminishing rate of return to being a serial creator.

The purpose of this simple model is to understand the effects of the variable of interest on campaign success before controlling for any other variables and effects. I am aware that there will most likely be omitted variable bias in this model. For my hypothesis to be validated, I expect β_1 to be positive and statistically significant and to be negative and statistically significant β_2.

Model 2 and 3: OLS Regression with control variables

$Campaign\ Success = \beta_0+\beta_1(serialcreatorContinuous)+ \beta_2 serialcreatorContinuous)^2+\beta_3(Project\ Characteristics)+\beta_4(Creator's\ Characteristics)+\beta_5(MacroEnv)+\mu$

In Model 2 I control for project characteristics (i.e. number of rewards, funding goal, duration), creator characteristics (i.e. number of projects backed, FBFs) and macroeconomic variable (i.e. Fed Fund Rate). Model 3 is a variation of Model 2, leaving out Projects Backed because it has the highest correlation with the Serial Creator variable.

Model 4: Regression Model with Interactions

$Campaign\ Success = \beta_0+\beta_1(serial\ creatorCont)+ \beta_2(MacroEnv)+\beta_3(Project\ Characteristics)+\beta_4(Creator's\ Charac)+ \beta_5(serial\ creatorCont)*(MacroEnv)+\beta_6(serial\ creatorCont)*(Project\ Charac)+\beta_7(serial\ creatorCont)*(Creator's\ Charac)+\ldots+\mu$

In Model 4, I have a regression model with the serial creator variable interacting with the project characteristics and creator characteristics variables. This captures if the project characteristics or creator characteristics variables affect campaign success differently for first-time creators and serial creators at different levels of projects created.

Limitations

Due to limitations in the data, I was not able to look at post-campaign financing outcomes such as whether the rewards were delivered or not and if they were on time or not. This is why I use campaign success rather than economic or project success as my dependent variable. In addition, I was not able to look into previous experiences of these creators that go beyond Kickstarter project experiences.

VI. Results and Discussion

Table 5: Regression Results

VARIABLES	Model 1	Model 2a	Model 2b	Model 3a	Model 3b
SerialCreatorContinuous	0.0039***	0.00659***	0.00609***	0.00758***	0.0077***
	(0.00076)	(0.0015)	(0.0015)	(0.00119)	(0.0012)
SerialCreatorContinuous^2	-0.00004***	-0.00024***	-0.000228***	-0.00023***	-0.00023***
	(0.0000125)	(0.000057)	(0.000057)	(0.00003)	(0.00003)
Updates		0.02477***	0.0249***	0.0261***	0.0260***
		(0.00028)	(0.000216)	(0.0002)	(0.0002)
Rewards		0.00059**	0.00045	0.0024***	0.0024***
		(0.00028)	(0.00028)	(0.00025)	(0.00025)
Comments		-0.000039***	-0.000039***	-0.00004***	-0.00004***
		(2.87e-06)	(2.87e-06)	(2.81e-06)	(2.81e-06)
Goal		-1.57e-08***	-1.58e-08***	-1.08e-08***	-1.07e-08***
		(2.38e-09)	(2.38e-09)	(1.78e-09)	(1.78e-09)
DurationinDays		-0.00568***	-0.0056***	-0.0054***	-0.0054***
		(0.0001)	(0.0001)	(0.0001)	(0.0001)
Video		0.0948***	0.0943***	0.119***	0.1188***
		(0.0039)	(0.0039)	(0.00336)	(0.0034)
Backers		0.000048***	0.000047***	0.00005***	0.00005***
		(3.42e-06)	(3.42e-06)	(3.30e-06)	(3.30e-06)
FB Shares		3.01e-06***	2.93e-06***	3.06e-06***	3.09e-06***
		(8.36e-07)	(8.36e-07)	(8.12e-07)	(8.12e-07)
FBFriends		0.00006***	0.00006***	0.00006***	0.00006***
		(1.63e-06)	(1.63e-06)	(1.50e-06)	(1.51e-06)
Projects Backed		0.000688***	0.000685***		
		(0.00007)	(0.00007)		
Fed Fund Rate			-0.2962***		0.1001**
			(0.0447)		(0.0424)
Constant	0.3989***	0.3892***	0.4226***	0.3156***	0.3053***
	(0.0015)	(0.0062)	(0.0079)	(0.0052)	(0.0068)
Observations	187147	91132	91132	108525	108525
Adj. R^2	0.0001	0.2091	0.2095	0.2248	0.2248
	SE in parentheses				
	*** p<0.01, ** p<0.05, * p<0.1				

Model 1	OLS Regression (DV: Campaign Success, IV: serialcreatorContinuous)
Model 2a	Regression (DV: Campaign Success, IV: serialcreatorContinuous, Controls without FFR)
Model 2b	Regression (DV: Campaign Success, IV: serialcreatorContinuous, Controls with FFR)
Model 3a	Regression (DV: Campaign Success, IV: serialcreatorContinuous, Controls without Projects Backed & FFR)
Model 3b	Regression (DV: Campaign Success, IV: serialcreatorContinuous, Controls without Projects Backed)

Model 1) Regression (DV: Campaign Success, IV: serialcreatorContinuous)

$$Campaign\ Success = \beta_0+\beta_1(serialcreatorContinuous)+ \beta_2(serialcreatorContinuous)^2+\mu$$

Discussion:

The signs of the coefficients are as expected, positive for serialcreatorContinuous and negative for serialcreatorContinuous squared, which shows that there is diminishing returns from having created more projects. These results are statistically significant but in terms of magnitude and economic significance, it appears to be low. For each extra project created experience, the likelihood of campaign success goes up by 0.0039 percentage points. This result supports my hypothesis that being a serial creator does add to increasing the likelihood of campaign success and that there are diminishing returns from being a serial creator since there is only so much you can learn after a certain number of project creation experience that a creator has gained.

The R-squared value is very low at 0.0001. But this is expected because I am only looking at one aspect that contributes to campaign success.

The average campaign success rate of a first time creator is 39.36%. So if we evaluate these results at the mean, by becoming a serial creator in creating another campaign, the expected campaign success rate of the next project is 39.75%. However, with each additional campaign, the percentage point increase decreases by 0.00004 percentage points: diminishing returns. This means the marginal product equals 0 after 97.5 projects. As we can see in Table 3 earlier, the percentage of the sample that has created more than 97 projects is very low (only 14 observations out of a sample of 187147).

Model 2) Regression: (DV: Campaign Success, IV: serialcreatorContinuous, Controls)

$$Campaign\ Success = \beta_0+\beta_1(serialcreatorContinuous)+ \beta_2(serialcreatorContinuous)^2+\beta_3(Project\ Characteristics)+\beta_4(Creator's\ Characteristics)+\beta_5(MacroEnv)+\mu$$

[Type here]

Discussion:

Next, I ran a regression that includes all the control variables. Model 2a is without the macroeconomic variable, Fed Fund Rate, and Model 2b is the regression with the Fed Fund Rate. Firstly, the R-squared is higher at 0.2091 with the control variables, which is expected. However, it still appears to be pretty low.

In both Model2a and Model2b, the results are similar to what I have found in Model 1. There is a stronger positive coefficient for being a serial creator and there is a stronger diminishing marginal return. Both of these effects are statistically significant and they support my hypothesis.

In terms of Model2a and Model2b, all the coefficient signs are consistent and the magnitudes of the coefficients are very similar. One unexpected result is the coefficient for *Comments,* which I expected to be positive but it is negative in my regression results. A potential explanation for this is that people only comment when a project is bad or fall below expectations.

Another concern with the results is that the coefficient for Fed Fund Rate is extremely high compared to the rest of the variables. The coefficient is negative, which is what I expected. A potential explanation for this result is that when the Fed Fund Rate is low the interest rates in the whole economy are low. This means investors are looking for alternative assets to put their money in. When interest rates are low, alternatives such as crowdfunding projects seem more attractive as the opportunity cost is lowered.

Aside from these abnormalities, the rest of the coefficients are behaving as expected and consistent with results from previous literature. This gives me confidence in my regression results.

Updates and rewards both have positive coefficients. The more updates the creator provides, the more engaged the creator is with the crowdfunders, which builds trust that can carry the campaign financing through to the finish line to be successful. Similarly, the results show that crowdfunders respond positively to rewards. The more reward levels there are, the more likely it is for campaign success.

The coefficient for *goal* is negative, which is as expected because reaching a higher funding goal is going to be harder and hence likelihood of campaign success will decrease.

The coefficient for *Duration* is negative as well, which is consisted with existing literature. A possible explanation is that the longer the duration, the less confidence the creator appears to be and thus might lead to negative signaling. Furthermore, another study has shown that most campaign contributions are made early in the campaign or at the end of the campaign (Kuppuswamy and Bayus 2014). Having a longer middle period might make people forget about the project and take away the urgency factor.

Video has a positive coefficient as expected. Having a video builds credibility and signals quality, both of which contribute to higher probability of campaign success. Appealing to more backers also relates to more campaign success as the creator is able to pool from a larger funder base.

Facebook Shares and Facebook Friends also have positive coefficients as predicted. The more Facebook Shares there are, the more social media marketing the project receives. This increased awareness and visibility in the crowd translates to higher probability of crowdfunders engaging with the project and hence a higher probability of campaign success. The more Facebook Friends the creator has the larger the potential crowdfunder base that the creator has direct access to. This means the creator can more easily and effectively market and campaign to receive crowdfunding.

Number of Projects Backed also has a positive coefficient. This is consistent with existing literature that looked into the network effect of how people who've built a good relationship with other creators by backing their projects receive backing from these creators, which lead to higher probability of campaign success.

Looking at the magnitude of each coefficient in Model2b, the Fed Fund Rate appears to have by far the highest value. The next biggest economic significance is having a video, followed by number of updates. The fourth most economically significant is the serial creator variable.

In terms of the serial creator variable, if we evaluate the coefficients at the mean, then by becoming a serial creator in creating another campaign, the expected campaign success rate of the next project goes from 39.36% up to 39.969%. However, with each additional campaign, the percentage point increase decreases by 0.000228 percentage points: diminishing returns. This means the marginal product equals 0 after 26.71 projects. The diminishing marginal effect is stronger in Model 2, compared to the simple Model 1. As we can see in Table 3 earlier, the percentage of the sample that has created more than 26 projects is low (only 494 observations out of a sample of 187147).

Model 3: Model 2 without *Projects Backed*

Discussion:

For Model 3, I ran the same regression as model 2 without *Projects Backed.* I took out *Projects Backed* because it has the highest correlation with the *serialcreatorContinuous* explanatory variable (0.1126). Model 3 has a higher adjusted R-squared at 0.2248.

The Model 3 results are very similar to the Model 2 results. Apart from the Fed Fund Rate variable, every other variable has the same sign and very similar coefficient size, which gives me more confidence in the regression results of both Model 2 and Model 3. This model further supports my hypothesis that there is a positive effect on campaign success by being a serial creator and that there is diminishing returns to this effect. Model 3 generally tells the same story as Model 2 apart from the effect of the Fed Fund Rate.

In Model 3, the sign for the coefficient of Fed Fund Rate changes sign and becomes positive. It has a lower magnitude and is no longer significant at the 0.01 level but still significant at the 0.05 level. A possible explanation for the positive coefficient is that crowdfunding might be viewed as a consumption vehicle rather than an alternative investment tool. If crowdfunding is perceived to be a consumption good, then it makes sense that more capital will go into crowdfunding

platforms, which will then lead to higher probability of campaign success overall, during good economic times. It is consistent with the argument that consumers will spend more during good economic booms and cut down on spending during busts and recessions.

As for evaluating the results for serial creator at the mean, becoming a serial creator with the additional project increases campaign success probability from 39.36% to 40.13% and this positive effect diminishes by 0.00023 percentage points with each additional project. This means that the marginal product equals zero after 33.48 projects. There are a total of 333 out of 187,147 observations that has created more than 33 projects, so it is still a relatively low percentage of the sample that experiences no more marginal product.

In terms of economic significance, being a serial creator is still the fourth most important: having a video or not appears to have the highest impact on campaign success (coefficient of 0.1188). Fed Fund Rate has the second highest with 0.1001. Number of updates has the third highest economic significance on campaign success with a coefficient of 0.026. This is followed by serial creator at fourth with a coefficient of 0.0077.

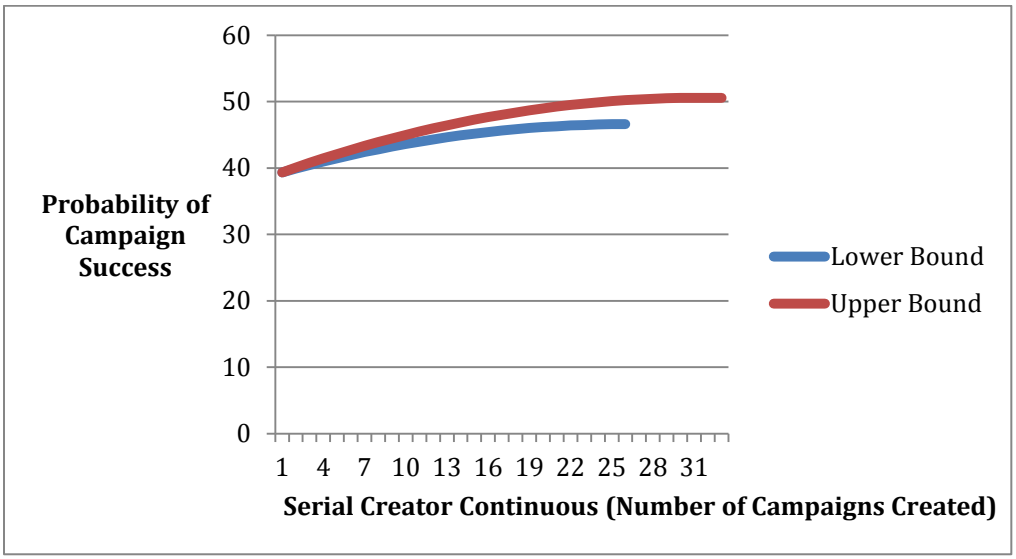
Overall Results Discussion:

Across Models 1 to 3, the results tell the same story regarding what contributes to campaign success. Regarding the explanatory variable of interest, being a serial creator has a positive effect on campaign success but there are diminishing returns to this effect. The coefficient for Model 1 is different from Models 2 and 3 because of omitted variable bias, since Model 1 only includes serialcreatorCont variable and its squared term. Hence, looking at Models 2 and 3, the effect of being a serial creator on campaign success ranges from 0.00609 to 0.0077. As for the squared term to look at diminishing marginal returns, the coefficient for this term has a much smaller range: -0.000228 to -0.00024.

If we evaluate these results for serial creator at the mean, becoming a serial creator with the additional project increases campaign success probability from

39.36% to within a range of 39.969% to 40.13% and this positive effect diminishes by a diminishing factor that ranges from 0.000228 to 0.00024 percentage points with each additional project. This means that the marginal product equals zero after 26.71 projects to 32.08 projects. These evaluated results can be seen in Figure 1 below. There are a total of 494 out of 187,147 observations that has created more than 33 projects, so it is still a relatively low percentage of the sample (0.26%) that experiences no more marginal product.

Figure 1



Furthermore, number of updates, number of reward levels, having a video, number of backers, FB Shares, FB Friends, and Number of Projects Backed all have positive effects on campaign success. On the other hand, comments, funding goal, and duration have negative effects on campaign success.

The effect of the Fed Fund Rate on campaign success is inconclusive. I believe the reasoning behind this boils down to the question of whether people view investing on as Kickstarter as 1) an investment that is an alternative to putting money in other investment classes and assets or 2) a consumption good.

Model 4: Regression with Interactions

After exploring the question of whether being a serial creator affects campaign success, I now want to switch gears and look into how different project and creator characteristics affect campaign success differently for serial creators versus first time creators. To do so, I ran a regression with interactions:

Campaign Success = β_0+β_1(serial creator)+ β_2(MacroEnv)+β_3(Project Characteristics)+β_4(Creator's Charac)+ β_5(serial creator)(MacroEnv)+β_6(serial creator)*(Project Charac)+β_7(serial creator)*(Creator's Charac)+…+μ*

Table 6: Model 4 Results

VARIABLES	Model 4			
SerialCreatorCont	0.02672***			
	(0.00435)			
SerialCreatorCont^2	-0.0002895***			
	(0.0000599)			
Updates	0.02634***		SerialCreator*Updates	-0.00009***
	(0.0003)			(0.00014)
Rewards	-00088**		SerialCreator*Rewards	0.00089***
	(0.00036)			(0.0001496)
Comments	-0.000037***		SerialCreator*Comments	-7.05e-07
	(4.12e-06)			(1.64e-06)
Goal	-1.94e-08***		SerialCreator*Goal	2.62e-09
	(6.36e-09)			(4.30e-09)
DurationinDays	-0.0054***		SerialCreator*Duration	-0.0012*
	(0.00015)			(0.00006)
Video	0.1025***		SerialCreator*Video	-0.0049**
	(0.005)			(0.0019)
Backers	0.000043***		SerialCreator*Backers	2.94E-06*
	(4.31e-06)			(1.67e-06)
FB Shares	4.78e-06***		SerialCreator*FB Shares	-1.31E-06*
	(1.29e-06)			(6.78e-07)
FBFriends	0.0000623***		SerialCreator*FBFriends	-8.16e-08
	(2.20e-06)			(9.80e-07)
Projects Backed	0.00051***		SerialCreator*Projects Backed	0.000069**
	(0.00014)			(0.000028)
Fed Fund Rate	-0.0738		SerialCreator*Fed Fund Rate	-0.1563***
	(0.0595)			(0.0278)
Constant	0.3922***			
	(0.010)			
Observations	91132			
Adj. R^2	0.2105			
SE in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Table 7: Coefficients for Serial Creator and First Time Creator according to interaction terms

Coefficients for Serial Creator is attained by adding relevant interaction term coefficient to the original coefficient
*(i.e. coefficient for Updates equals the sum of coefficient for updates and coefficient for serialcreatorContinuous*updates: =0.02634 + -0.00009(serialcreatorContinuous))*

	First Time Creator	Serial Creator (2 projects)	Serial Creator (3 projects)	Serial Creator (4 projects)	Significance of Interaction Coefficients
Updates***	0.02625	0.02616	0.02607	0.02598	***
Rewards**	1E-05	0.0009	0.00179	0.00268	***
Comments***	-0.000037705	-0.00003841	-0.000039115	-0.00003982	
Goal***	-1.678E-08	-1.416E-08	-1.154E-08	-8.92E-09	
DurationinDays***	-0.0066	-0.0078	-0.009	-0.0102	*
Video ***	0.0976	0.0927	0.0878	0.0829	**
Backers***	0.00004594	0.00004888	0.00005182	0.00005476	*
FB Shares***	0.00000347	0.00000216	0.00000085	-0.00000046	*
FBFriends***	6.22184E-05	6.21368E-05	6.20552E-05	6.19736E-05	
Projects Backed***	0.000579	0.000648	0.000717	0.000786	**
Fed Fund Rate	-0.2301	-0.3864	-0.5427	-0.699	***

Discussion:

This model highlights the different economic significance of the various project characteristic and creator characteristic variables on campaign success depending on whether it is a serial creator or a first time creator. Table 7 shows the effects evaluated for serialcreatorContinuous values at 1, 2, 3, and 4. The effects when serialcreatorContinuous equals 1 are for First Time Creators and the rest are for Serial Creators.

Before talking about the coefficients, it is important to keep in mind the significance levels of the interaction terms. Interaction terms for comments, goal,

and FBFriends are not siginificant. The interaction terms for Duration, Video, Backers, FBShares, and Projects Backed are significant at a lower level. Furthermore, the Fed Fund Rate is not significant to begin with but the interaction terms are significant.

The results show that Updates, Video, FBShares, FBFriends, and Goal matter less as number of projects created increases, in other words, for serial creators who've gathered more project experience. On the other hand, Rewards, Backers, ProjectsBacked, Comments, and Duration matter more as number of projects created increases.

One possible interpretation of these differences between serial creators and first time creators could be explained by the role of "expectations" from serial creators. Expectations from serial creators are different from expectations from a first time creator.

Additional updates affect campaign success less for a serial creator because a level of trust and quality has already been signaled for a serial creator, so communicating more via updates with the backers does not have as much of an effect on campus success as it does for first time creators. Serial creators are not expected to update as much because of the established level of trust.

Rewards matter more for serial creators because crowdfunders trust and expect serial creators more to deliver rewards and hence they respond more to more reward levels by serial creators.

Comments harm campaign success more for serial creators, possibly because the crowd expects serial creators to produce higher quality projects so they are less forgiving to serial creators who do not meet their standards.

Goal also harms campaign success less for serial creators, possibly because people might expect serial creators to have higher funding goals, and might believe that serial creators can successfully deliver so they might contribute more. Hence being a serial creator reduces the negative impact of having a higher funding goal.

Longer duration in days has more of a negative effect on campaign success for serial creators because it signals more uncertainty. A serial creator is punished

more than a first time creator for signaling uncertainty by having a longer duration for the campaign since serial creators are expected to be more prepared.

Video has a lower effect potentially also because of the trust that has already been established between serial creators and their funders. Hence having a video or not matters a lot more for first time creators who have to build their credibility and signal quality.

The number of backers has a higher impact on campaign success for serial creators because serial creators might attract backers who contribute more to their campaigns compared to first time creators. This could be because of prior contact between the backer and the serial creator or due to a larger social network of serial creators who have used the Kickstarter platform for longer.

FBShares matter less for serial creators and it becomes negative for serial creators with 4 projects or more. This result is perplexing. I cannot think of a good reason why increasing FBShares can harm campaign success for serial creators. The only reason this would be is if the FBShares are put in a negative light and focus on the negative aspects of serial creators. However, I highly doubt this occurs. So there must be something going else here.

The FBFriends coefficient stayed relatively the same for First Time and Serial Creators but it does have a decreasing trend. It matters less for serial creators. This might be interpreted as serial creators having already build stronger relationships with their existing networks that they are getting the funding they need from their existing networks.

Projects Backed have a stronger effect for serial creators possibly for the same reason as number of backers. Serial creators have already built up a network of other creators that they can leverage from.

The Fed Fund Rate is economically significant but not statistically significant. It impacts serial creators more. This is the opposite of what I would expect. A possible explanation is that first time creators depend more on their family and close friends to reach their funding goal. Since it is their first project, whether family and close friends fund the project is more inelastic to the macroeconomic conditions. However, on the other hand, for serial creators, they depend more on the

network they've built and the crowdfunding community who might be affected and react more to changes in macroeconomic conditions.

It is also important to note that adding the interaction terms has little effect on the serial creator squared's coefficient but it does reduce the serial creator coefficient significantly, when comparing to Model 2 and Model 3.

VII. Conclusion

My research adds to the growing literature exploring campaign success of rewards crowdfunding, by looking at it from the perspective of being a "serial creator". The key finding is that regarding the explanatory variable of interest, being a serial creator has a positive effect on campaign success (ranging from 0.00609 to 0.0077 percentage points) but there is diminishing returns to this effect (ranging from -0.000228 to -0.00024 percentage points). If we evaluate these results for serial creator at the mean, becoming a serial creator with the additional project increases campaign success probability from 39.36% to within a range of 39.969% to 40.13% and this positive effect diminishes by a diminishing factor that ranges from 0.000228 to 0.00024 percentage points with each additional project. This means that the marginal product equals zero after 26.71 projects to 32.08 projects. This supports my hypothesis.

Furthermore, number of updates, number of reward levels, having a video, number of backers, FB Shares, FB Friends, and Number of Projects Backed all have positive effects on campaign success. On the other hand, comments, funding goal, and duration have negative effects on campaign success.

The effect of the Fed Fund Rate on campaign success is inconclusive. I believe the reasoning behind this boils down to the question of whether people view investing on as Kickstarter as 1) an investment that is an alternative to putting money in other investment classes and assets or 2) a consumption good.

In terms of how project characteristics and creator characteristics affect first time creators and serial creators differently, I found that Updates, Video, FBShares, FBFriends, and Goal matter less as number of projects created increases, in other

words, for serial creators who've gathered more project experience. On the other hand, Rewards, Backers, ProjectsBacked, Comments, and Duration matter more as number of projects created increases. One possible interpretation for these results is that there are different expectations for first time creators and for serial creators.

I hope my Model 4, which looks into how the different project and campaign characteristics affect campaign success differently for serial creators and first time creators, provide a basis for future research looking more into other aspects of differences between serial creators and first-time creators.

Furthermore, it will be interesting to see the differences between serial creators and first-time creators across platforms and even across different types of crowdfunding such as donations, lending, and equity crowdfunding. Another interesting question is to dig deeper into the question of how crowdfunding is viewed: whether as an investment vehicle or as a consumption good. Similarly, it will be important to research how the crowdfunding industry interacts with the overall economy.

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Data Sources

Kickstarter Project Data purchased from Kick Spy
http://www.kickspy.com/About

Effective Fed Fund Rate (Monthly) Data from Federal Reserve
http://www.federalreserve.gov/releases/h15/data.htm

Appendix 1 (Kickspy Dataset)

Standard Project Data:
Name
Url
Successful / Failed
Currency
Category
Location
Number of Rewards
Goal
Total Pledged
Total Backers
Start and End Dates
Advanced Project Data:
Description for each Reward
Expected Delivery Date for each Reward
Total Backers for each Reward
Creator Bio
Creator Website
Creator Facebook Connected?
Creator Facebook Friends
Creator number of Projects Created
Creator number of Projects Backed
Does the project have a Video?
Total Videos on the page
Total Images on the page
Total Words in the Description
Total Words in Risks and Challenges
Number of FAQs
Number of Updates
Number of Comments
Standard Funding History:
Amount Raised per day
Backers per day
Advanced Funding History:
Amount raised per Reward per day
Backers per Reward per day
Social Media History:
Facebook LIKES per day
Tweets per day

Appendix 2 (Summary Statistics of Variables)

Variable	Observations	Mean	Std. Dev.	Min	Max
success	187147	0.40429	0.4908	0	1
pcfunded	187144	200.4475	13896.62	0	4153500
projects created	187147	1.5131	2.9499	1	111
serialcreator	187147	0.1799	0.3841	0	1
updates	187144	3.8857	6.9579	0	301
comments	187144	26.8199	828.0732	0	145900
rewards	187144	9.3888	5.6021	1	366
goal	187147	29116.73	734410.8	0	1.00E+08
pledged	187147	7430.577	69376.95	0	1.33E+07
backers	187147	97.7744	775.7191	0	105857
duration	187147	34.7119	13.7811	1	91
FBFriends	110060	764.4896	888.1342	0	7797
FBShares	184491	291.3917	2886.757	0	865434
FBConnected	187147	0.5919	0.4915	0	1
Video	187144	0.7631	0.4252	0	1
projects backed	155981	5.3053	18.6689	0	1276
ffr	187147	0.1112	0.03325	0	0.21

Appendix 3 (Correlation Matrix)

	success	pcfunded	serial~n	serial~t	updates	comments	rewards	goal	backers	duration	video	FBShares	FBFrie~s	proj~ked	ffr
success	1.0000														
pcfunded	0.0121	1.0000													
serialcrea~n	0.0470	0.0081	1.0000												
serialcrea~t	0.0180	0.0066	0.5060	1.0000											
updates	0.4046	0.0134	0.0438	0.0202	1.0000										
comments	0.0327	0.0034	0.0159	0.0148	0.1342	1.0000									
rewards	0.1639	0.0113	0.0085	0.0016	0.3238	0.0528	1.0000								
goal	-0.0238	-0.0005	-0.0009	-0.0028	-0.0048	0.0089	0.0044	1.0000							
backers	0.1429	0.0183	0.0256	0.0209	0.2312	0.4188	0.1367	0.0080	1.0000						
duration	-0.1270	-0.0013	-0.0429	-0.0338	0.0416	0.0045	0.0139	0.0168	0.0018	1.0000					
video	0.1415	0.0036	-0.0496	-0.0428	0.1472	0.0124	0.2132	0.0028	0.0558	-0.0288	1.0000				
FBShares	0.0946	0.0658	-0.0007	-0.0019	0.1238	0.1613	0.1177	0.0052	0.5775	0.0092	0.0435	1.0000			
FBFriends	0.1348	-0.0006	0.0199	0.0066	0.0565	-0.0041	0.1084	-0.0033	0.0296	0.0428	0.0464	0.0573	1.0000		
projectsba~d	0.1304	0.0218	0.1321	0.1126	0.2297	0.0333	0.1107	-0.0027	0.1039	-0.0203	0.0324	0.0354	0.0227	1.0000	
ffr	0.0021	-0.0024	-0.0757	-0.0355	0.0741	0.0018	-0.0463	-0.0085	-0.0135	0.0714	-0.0203	-0.0194	0.0639	-0.0018	1.0000