

# Crowdfunding Platforms: An Industrial Organization Approach

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## **Introduction**

In 2012, the creator of the Pebble Smartwatch, Eric Migicovsky, was able to initially raise only \$375,000 from angel investors for his idea. When other sources of funding dried up, Migicovsky's company, Pebble Technology, launched a crowdfunding campaign on the website Kickstarter with a fundraising target goal of \$100,000. Thirty-seven days later, Migicovsky had raised \$10.2 million from 68,000 backers on Kickstarter, making the Pebble watch one of the largest crowdfunded projects ever funded (Kuppuswamy and Bayus 2015).

The likelihood of survival for new ventures or businesses is often conditional on their ability to raise funding in the early stages of their progression (Belleflamme 2010). However, this early funding is typically difficult to attain as the traditional routes of acquiring such funding are through banks, angel investors, or venture capitalists — none of which are particularly easy to secure. For instance, 98 percent of business plans are rejected by venture capitals (Belleflamme et al. 2010). Thus, early-stage funding often proves to be a barrier to commercialization that many entrepreneurs face. The emergence of crowdfunding — a form of venture financing where entrepreneurs appeal to the public for fundraising help — therefore seeks to lower these barriers that innovators face in trying to produce their ideas.

In this paper, I will first explain what crowdfunding is and how it relates to industrial economics. I will then discuss relevant literature conducted on the topic of crowdfunding and crowdfunding platforms. Lastly, I will conduct an empirical analysis using crowdfunding data that was available to me to determine how the type of crowdfunding platform in particular can influence the amount raised by a crowdfunding project and its likelihood of success.

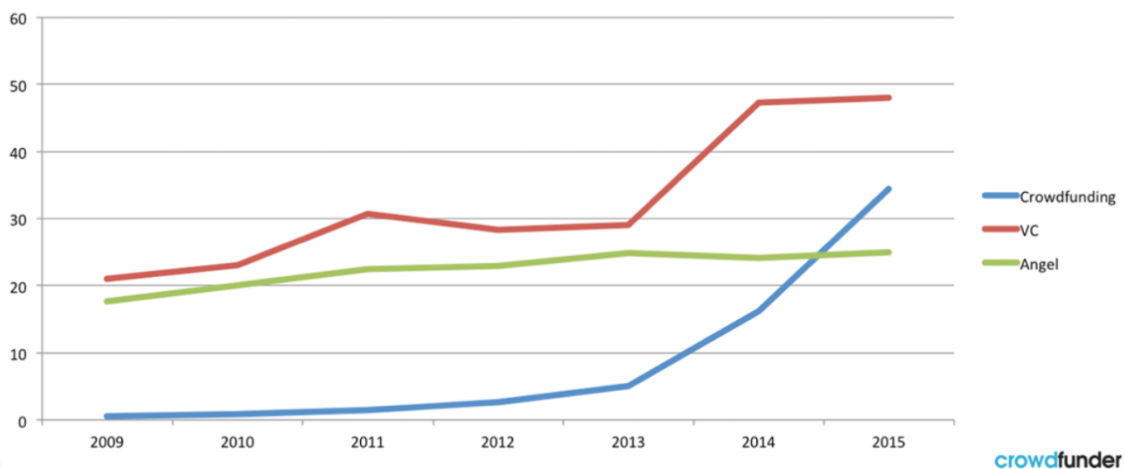
## Background

The Oxford Dictionary defines crowdfunding as, “the practice of funding a project or venture by raising many small amounts of money from a large number of people, typically via the Internet” (2016). The definition captures the essence of crowdfunding as it notes that crowdfunding is composed of small donations from a large group of people as opposed to a large sum of money which is given by a bank, venture capital firm, or angel investor (Belleflamme et al. 2014). For instance, the average individual crowdfunding donation is only around \$88 (“About Crowdfunding”).

Crowdfunding is a rapidly expanding means of fundraising as evidenced by figure 1. Even though crowdfunding expanded rapidly from 2009 to 2013, it continued its exponential growth through 2015. As of 2015, crowdfunding had exceeded angel investing in terms of billions of dollars funded, and it is expected to surpass venture capital at some point within 2016. Some have boldly estimated that crowdfunding would hit \$1 trillion dollars in funding by the year 2024 (Groves and Binder 2015). Even corporations such as General Electric, for whom crowdfunding was not designed, have started financing their subsidiaries through crowdfunding

**Figure 1**

**Annual Funding (Billions): VC vs. Crowdfunding vs. Angel**



in order to raise capital without trading away equity or taking on debt (Cowly 2016). Therefore, learning about crowdfunding is essential to understanding how fundraising is evolving in the modern market. Furthermore, with over 700 crowdfunding platforms internationally and 150 crowdfunding platforms in the United States (Drake 2015), learning about the effects of crowdfunding from an industrial organization approach can better delineate what sort of market crowdfunding operates on, and who benefits from such an approach.

### *Structure*

The crowdfunding system can be broken down into three parts: the initiator or creator, the backers, and the platform which combines the two (Agarwal et al. 2013). The initiator or creator, henceforth just creator, is the entrepreneur or group that is looking to fundraise money. The backers are the individuals who are willing to donate money for something in return that is provided by the creator. In the crowdfunding system, the backers are the ones who are solely responsible for providing money for a particular idea or product. The platform is the website which connects the creators and the backers. In a typical economic model, the creators can be thought of as the sellers of a good, the backers are the buyers of the good, and the platform as the marketplace through which this interaction happens between the buyers and the sellers. However, the difference is that in the case of crowdfunding the creator is trying to raise money to commercialize or further develop a project instead of just selling a completed good and therefore the line is blurred between consumer and investor. (Agrawal et al. 2013).

The creators establish a “campaign” on the crowdfunding platform through which they pitch an idea or product and choose a monetary goal which they wish to reach. The backers can then choose whether or not they wish to support the campaign and pledge money towards the

creator. Typically, a campaign does not last indefinitely as it has a certain time limit within which it is active and backers are allowed to donate to it (Mollick 2014). Additionally, most platforms charge the creator a fee that is typically 5 percent. The fee is used as profit by these platforms, and is sometimes not implemented or reduced if the creator doesn't meet their goal.

### *Types of Crowdfunding*

There are four primary categories of crowdfunding: rewards-based, equity, debt-based, and donation-based (Boada et al. 2013). The term crowdfunding is used most synonymously with rewards-based crowdfunding, although the other three types of crowdfunding are still relevant in providing crowd-based funding for innovators. Although I will briefly discuss the the four categories of crowdfunding, the primarily focus of the paper will be towards rewards-based crowdfunding.

Equity crowdfunding involves the collective efforts of backers to finance a venture where the creator provides equity for the venue or company in return of money. While equity crowdfunding was initially not allowed, the 2012 Jumpstart Our Business Startups (JOBS) act permitted the act of equity crowdfunding which is regulated by the Securities and Exchange Commission (SEC). Since then, equity crowdfunding has begun to emerge through already established platforms that want to try a new method of crowdfunding, and new companies looking to make their name as an equity crowdfunding platform (Agrawal et. al 2013).

Debt-based crowdfunding is more commonly known as Peer-to-Peer (P2P) lending and occurs when money is lent to individuals or companies through an online platform that matches the prospective borrowers with lenders. Lending Club is the largest P2P lender and Prosper is the

second largest P2P lender. Almost \$19 billion in loans have been provided by Lending Club and \$6 billion in loans has been provided by Prosper (Lending Club; Prosper).

Donation-based crowdfunding consists of the collective efforts of the crowd to to fundraise for charitable causes or for personal causes. For instance, donation-based crowdfunding may be used to raise tuition fees or pay medical bills. GoFundMe is an example of such a donation-based company where backers give money without asking for anything in return. GoFundMe is one of the largest crowdfunding websites with over \$2 billion raised worldwide (GoFundMe).

Rewards-based crowdfunding, which this paper will focus on, occurs when creators offer small “rewards” or certain incentives in return for backing a goal and therefore don’t take on debt or give out equity. The creator may give out token items such as shirts, the product they fundraising for at a discount or for free, or a personalized thank you letter (Kuppuswamy and Bayus 2015). Migicovsky, for instance, gave out the Pebble to those who donated a certain amount of money, essentially pre-selling the product.

Kickstarter is one of most well-known rewards-based crowdfunding platforms. Their almost 11 million backers have pledged more than \$2.3 billion to successfully fund over 105,000 projects. Kickstarter promotes themselves as supporting “creative” projects and categorizes the projects into 13 categories and 36 categories (Kickstarter). Indiegogo is another popular crowdfunding platform which has raised around \$800 million across all its projects (Indiegogo).

### *Platforms*

The key difference between rewards-based crowdfunding sites such as Kickstarter and Indiegogo is the way the platforms are set up in terms of how the creator receives the money. The two types of platforms are “All-or-Nothing” (AON) platforms and “Keep-it-All” (KIA) platforms.

Kickstarter uses the AON platform in which entrepreneurs are only able to keep the money they fundraise if they attain the goal they set within the time period they set it in; otherwise, the money will be returned back to the backers (Kickstarter). Indiegogo on the other hand uses the KIA platform in which the creators get to keep all the money they raise regardless of if they met their goal or not (Indiegogo). Kickstarter and Indiegogo represent just a few of the many crowdfunding platforms that utilize either AON or KIA in their method of paying out to customers.

While the KIA platform may seem inherently better because the creator gets to keep all their money regardless of if they make their goal or not, research has shown that the AON platform might actually yield more success for a variety of reasons (Cumming 2015). The first reason involves the distribution of risk. The risk of a KIA campaign is distributed on the crowd because the backers don't get their money back for underfunded projects that might not have enough capital to be successful. In an AON platform, however, the risk is transferred to the creator of the campaign because if their campaign fails they get no money to fund their venture. The crowd bears virtually no risk in an AON platform as they get their money back in the case of a failed endeavor. Therefore, consistent with the risk-return tradeoff commonly seen in economics and finance, creators in AON platforms bear more risk than their KIA peers and hence have higher returns as well (Cumming 2015).

Furthermore, AON may be more successful than KIA due to certain unique economic aspects of crowdfunding. Consumers are investors in a crowdfunding product, but not necessarily profit-maximizing ones (Belleflamme et al. 2010). Some backers are motivated to donate for philanthropic reasons and others pledge money to feel like they are part of the community, to have early access to new products, or to improve social relationships. (Agrawal et al. 2013).

Therefore, people may donate towards a campaign on AON for altruistic reasons, in that they want

the campaign to reach its goal and succeed, or for the positive network externalities that come from supporting an innovative idea. Backers on KIA platforms might not have this same incentive to donate as the backer will get their money, regardless of whether they meet their goal or not.

It has been discovered that crowdfunding campaigns receive the most backing in the initial and final stages of their funding (Kuppuswamy and Bayus 2015). Initially, a creator's family and friends donate to the project to help it get on its feet and to solve the chicken and the egg problem commonly associated in network industries (Mollick 2014). Towards the end stages, a type of herding behavior similar to information cascades occurs where individuals see a project in its end stages and have a desire to contribute to something that others have already contributed to. AON platforms foster this desire to reach a goal more so than KIA platforms where a backer might be indifferent about donating to a project close to its goal as attaining the goal doesn't mean as much as it does in an AON platform.

Furthermore, those who partake in an AON platform may be more internally motivated because they have more on the line than KIA platform users who are still getting money regardless. In fact, it was found that AON projects contain more detailed information on their webpages (Cumming 2015). Therefore, an intrinsic drive to attain the AON goal may motivate AON creators to put more effort and work harder whether it is through offering more quality rewards or spending more time establishing the social networks necessary to succeed in crowdfunding.

It is my goal of the paper to explore this difference between AON and KIA platform users. I use regression analysis to discover and explore the differences between platforms and then later I use a decomposition technique to see what may cause the differences.



## Data

The data I will use for my analysis is collected by an organization called CrowdBerkeley, which is a research initiative dedicated to discovering the impacts of crowdfunding on innovation, entrepreneurship, and social impact. CrowdBerkeley is sponsored by UC Berkeley's Fung Institute and the Kauffman Foundation. The Fung Institute is a part of UC Berkeley's department of Engineering and seeks to connect engineering disciplines with data pertaining to the social sciences. The Kauffman Foundation aspires to help people attain economic independence through educational and entrepreneurial success. Together, they compiled a publicly-accessible database which contains information about six crowdfunding platforms: Kickstarter, Indiegogo, FundRazr, RocketHub, Kiva, and Lending Club, and their campaigns on a microdata level. I will use the available data about Kickstarter, Indiegogo, FundRazr, and RocketHub as these four companies represent crowdfunding platforms that partake in rewards-based crowdfunding while Lending Club is a Peer-to-Peer lending (debt crowdfunding) site and Kiva is donations-based crowdfunding platform.

The database is still under work and therefore some crowdfunding platforms have more data than others. The dataset on Kickstarter, for instance, is the most comprehensive as it was built first and is also updated daily. While the other three datasets were built similarly, they are not yet equipped with the feature that allows for daily updates. Therefore, I will utilize data from 2013 to 2014 in order to control for time because the Kickstarter dataset features more recent updates than the other datasets.

All four datasets display the amount of money that was set as the goal, and the amount of money that was actually raised. Kickstarter and Indiegogo also feature additional variables about the start and end date of the projects and the amount of backers they have. FundRazr and

Rockethub, unfortunately, do not have these variables yet and therefore limited the study to the monetary goal and amount raised.

**Table 1**  
**Platform Comparison**

	Demographic Traits			
	Kickstarter	Indiegogo	FundRazr	Rockethub
Observations	46,909	21,437	28,738	593
Successful Projects (% Total)	43.28%	4.33%	37.61%	7.76%
Goals				
mean	\$11,180	\$14,619	\$2,289	\$27,290
median	\$5,500	\$8,000	\$1,000	\$9,500
Money Raised				
mean	\$4,047	\$2,154	\$719	\$192
median	\$1,414	\$1,480	\$410	0
Goals for Successful Campaigns				
mean	\$6,668	\$1,827	\$772	\$493
median	\$4,000	\$1,200	\$400	0
Platform Type	AON	KIA	KIA	KIA
Platform Fee	5%	5%	5%	4%
Fee if unsuccessful	No	No	No	Yes

Note: The mean represents a 5% trim to cut extremley large outliers. Most Goals on Rockethub were listed as 0

Table 1 displays the descriptive statistics comparing the four different types of crowdfunding platforms that I will use for my empirical analysis. I have included statistics involving the monetary goals set by the project, the amount of money fundraised through the project, and also the goals that were set by successful campaigns. Although the goal only matters regarding payouts for AON platforms, I designated a successful campaign as one in which the amount raised through the platform was either greater than, or equal to, the initial goal set. This variable allows me to then compare across platform types even though in terms of compensation an individual will get the money regardless in KIA platforms but not in AON platforms. Furthermore, I included information on whether or not the platforms charge a fee, and if a fee is still charged for projects that do not reach their goal. The results were that Kickstarter, Indiegogo, and FundRazr all asked

for the same fee of 5 percent only if the goal is reached whereas RocketHub actually charged an 8 percent fee instead of a four percent fee for projects that didn't reach their predetermined goal. This displays that the amount charged is independent of the platform type as Kickstarter and Indiegogo share the same fee while Indiegogo and RocketHub don't.

Regarding campaign success, the statistics in Table 1 display that even though Kickstart has more observations (campaigns) than the other three platforms, it also has a higher percentage (43.3) of successfully funded projects than the KIA platforms. Surprisingly, however, there is a high variance within the KIA platforms regarding how many of them are completely funded. FundRazr features a successful funding rate of almost 38 percent while Indiegogo and RocketHub are significantly lower at 4.3 percent and 7.8 percent, respectively. While such disparity could exist within AON models as well, Kickstarter was the only AON platform supported by the CrowdBerkeley database, and hence is a proxy for all AON platforms.

The statistics about the goals of the project display that there is a large right skew in the amount that people set as their crowdfunding goal. In fact, the skew resulted in so many outliers that I took a 5 percent trimmed mean in order to get a better understanding of the statistics without the extreme outliers. For example, the largest goal in the database for Kickstarter was \$21 million, which is larger than the most ever received for a Kickstarter campaign, and the largest goal for Indiegogo was \$1.8 billion, more than Indiegogo has raised in its entire history. Even accounting for the 5% trimmed mean, the mean was still larger than the median across the board implying that there are many projects that ask for a couple thousand dollars and a few projects that ask for an unreasonable amount.

A trend in the data is that projects which have successful campaigns have smaller goals than the average project. This is true for all four platforms as the projects that are successful set smaller

goals. This is intuitive as projects that are smaller require less backers and less money per backer to reach their goals than projects with a much larger goal. It also seems as if most people set goals that are too high considering the median and the mean for the goals of successful projects are lower than the median and mean for the goals of the average project.

Inter-platform comparison shows that not only is there a higher share of successful projects in Kickstarter when compared to KIA platforms, but also successful platforms within Kickstarter raise much more money than successful projects in the other KIA platforms. This can be seen from the fact that successful projects raise on average over \$6,700 dollars through Kickstarter, which is significantly more than the other platforms.

Intra-platform comparison on the other hand displays that FundRazr may have a higher percentage of successful goals than other KIA platforms because the average goal on FundRazr is so much lower than the average goal set on Indiegogo and Rockethub. However, this is also apparent in the fact that the money raised on average and money raised for successful campaigns in FundRazr is also a lot smaller than in the other two KIA platforms.

A limitation of the data was that 70 percent of Rockethub projects had zero funding. Furthermore, 78 percent of successful projects had goals that were 0. I was not able to discern whether the goal was zero because the creator didn't set a goal, or if the goal was 0 because the dataset was incorrect or unfinished. Similarly, I was unable to tell if 70 percent of the campaigns had no funding in actuality, or because the dataset was incorrect. Since Rockethub had far fewer observations than the other three datasets as well, I assumed that the Rockethub dataset wasn't completed at the same level as the other three. Therefore, due the incomplete state of the Rockethub data, I left it out of my regression results but decided to keep it within the descriptive statistics for added transparency and comparison with the data that was available.

## Methodology

For my empirical analysis, I ran a series of multivariate regressions to determine the effects of the platform on the amount raised and on the success of the campaign. I then use a threefold Blinder-Oaxaca Decomposition technique to determine how much of the variation in platforms is due to observable characteristics, and how much is due to unobservable characteristics, which include the effects of the platform itself.

### *Regressions*

I use both logit regressions and OLS regressions to test the effects of platform type on crowdfunding. The logit regression represents the probability of a project being successful given the type of platform and other controls. The OLS regression estimates the effects that platform type has upon the amount that is funded through the crowdfunding campaign. Equation (1) represents the logit regression while (2) represents the OLS regression.

$$\ln\left(\frac{Y_i}{1-Y_i}\right) = \alpha_i + X_i B + \varepsilon_i \quad (1)$$

$$E(Y_i \mid X_i) = \alpha_i + X_i B + \varepsilon_i \quad (2)$$

In both equations,  $Y_i$  is the dependent variable,  $X_i$  is the vector of explanatory variables,  $B$  is the vector of parameters, and  $\varepsilon_i$  is the error term, and  $\alpha_i$  is the constant. Table 2 displays all the explanatory variables that will be included in the regressions. I created bins for the amount set as a goal where the campaign goal is considered a “small goal” if it is smaller than or equal to the median goal amount for the platform it is on while it is considered a “large goal” if it is larger than

the median goal amount for the platform it is on. The rationale behind making the bins was so that I would be able to test whether or not the size of the monetary goal, in relation to the median goal amount for that platform, would have a discernable effect upon the success rate of the project.

**Table 2**  
**Variable Names and Descriptions**

Name	Description
<b>Dependent Variables</b>	
Logit:	
Project Success	1 if the amount raised is greater than or equal to the project goal, 0 otherwise
OLS:	
Amount Funded	The amount of money that was raised through crowdfunding
<b>Independent Variables</b>	
AON	1 if platform is all-or-nothing, 0 otherwise
KIA	1 if the platform is keep-it-all, 0 otherwise
goal	The amount of money that was set as the goal for a project
FundRazr	1 if platform is FundRazr, 0 otherwise
Indiegogo	1 if the platform is indiegogo, 0 otherwise
Kickstarter	1 if the platform is Kickstarter, 0 otherwise.
Small Goal	1 if the goal for the campaign is less than or equal to the median goal size of its platform, 0 otherwise
Large goal	1 if the goal for the campaign is larger than the median goal size of its platform 0 otherwise

Notes: Rockethub is omitted due to inconsistencies in the dataset.

### *Blinder-Oaxaca Decomposition*

The Blinder-Oaxaca, or simply Oaxaca, regression decomposition is a technique that was originally used to study labor market discrimination (Blinder 1973; Oaxaca 1973). However, its applications have been used in other studies as well to describe the reasons between different outcomes for two groups. For instance, it has been used to examine the assimilation of school enrollment rates, health insurance coverage, and the prevalence of smoking (Hlavec 2015).

According to Hlavec, “the Blinder-Oaxaca decomposition is a statistical method that decomposes differences in mean outcomes across two groups into a part that is due to group differences in the levels of explanatory variables and a part that is due to differential magnitudes of regression coefficients” (2015). In other words, it divides the measured difference between two groups into one part named “endowments”, which can be explained by the independent variables, a second part named “coefficients” that is the difference in coefficients holding the explanatory variables constant, and a third term called “interaction” which accounts for cross-group differences in endowments and coefficients. Equation 2 details the formula behind the Blinder-Oaxaca decomposition.

$$\Delta \bar{Y} = \underbrace{(\bar{\mathbf{X}}_A - \bar{\mathbf{X}}_B)' \hat{\boldsymbol{\beta}}_B}_{\text{endowments}} + \underbrace{\bar{\mathbf{X}}_B' (\hat{\boldsymbol{\beta}}_A - \hat{\boldsymbol{\beta}}_B)}_{\text{coefficients}} + \underbrace{(\bar{\mathbf{X}}_A - \bar{\mathbf{X}}_B)' (\hat{\boldsymbol{\beta}}_A - \hat{\boldsymbol{\beta}}_B)}_{\text{interaction}} \quad (2)$$

I will apply the Blinder-Oaxaca decomposition by using the two different platforms, AON and KIA, as the two different groups which the decomposition analyzes. The endowments term will explain how much of the difference in platforms is due to explanatory variables, such as goal size, while the coefficients term will explain how much of the difference is due to unexplained characteristics. I will therefore use the decomposition to tell which parts are explained by the variables in my study, and which parts are unexplained. In theory, the unexplained (coefficients) portion would represent the effects of the platform in determining the differences in success rate. For instance, the extra effort that the creator of an AON campaign puts in to succeed and the psychological desire of backers to help AON projects succeed would both be captured by the unexplained portion of the difference. Since there is omitted variable bias, however, I cannot assume that the unexplained portion can be entirely attributed to the differential effects of the

platform. Instead, the unexplained portion is likely a combination of platform effects as well as effects from other omitted variables such as social media presence or support from friends and family, both of which drive successful crowdfunding campaigns.

## **Empirical Results**

Table 3 displays the results of the logit regressions (in terms of odds ratios) where the success of the campaign is the dependent variable. Regression (1) is a simple logit regression where the type of platform is the regressor. The results show that the AON scheme is roughly 2.5 times more likely than KIA to result in a successful project. Upon adding the goal size in regression (2) as a control, the results show that the AON platform is now 2.8 times as likely as the KIA platform to result in a successful project. The size of the goal proves to be extremely vital as well. A goal that is less than the median goal size in the corresponding platform is more than 4 times as likely as a goal larger than the median goal size to achieve success in the campaign. The effect of the goal is therefore even larger than the effect of the platform in determining the likelihood of a campaign becoming successful.

Regression (3) brings in comparisons by specific crowdfunding company instead of overall platform type. (Since Kickstarter is the only AON platform, the variables AON and Kickstarter are the exact same and I substituted them depending on the context of the regression.) The results show that the probability having a successful project is 27 percent higher for Kickstarter than for FundRazr. These results are even more pronounced for Indiegogo, in which a campaign is around 99% less likely to be funded when compared to FundRazr even though they are both the same platform. Adding in the goal size in regression (4) further widens the disparity between Kickstarter



**Table 3**  
**Crowdfunding Platform Regressions – Logit**

	Dep variable: Campaign Success				
	(1)	(2)	(3)	(4)	(5)
AON (ref:KIA)	2.524 <sup>***</sup> (0.014)	2.816 <sup>***</sup> (0.015)			
Small Goal		4.049 <sup>***</sup> (0.015)		4.469 <sup>***</sup> (0.016)	20.446 <sup>***</sup> (0.035)
Kickstarter (ref: FundRazr)			1.279 <sup>***</sup> (0.015)	1.338 <sup>***</sup> (0.016)	5.509 <sup>***</sup> (0.033)
Indiegogo			0.075 <sup>**</sup> (0.036)	0.063 <sup>*</sup> (0.036)	0.043 (0.159)
Kickstarter*Small Goal					0.108 <sup>***</sup> (0.040)
Indiegogo*Small Goal					1.078 <sup>***</sup> (0.164)
Constant	0.305 <sup>***</sup> (0.011)	0.131 <sup>***</sup> (0.015)	0.603 <sup>***</sup> (0.012)	0.261 <sup>***</sup> (0.016)	0.093 <sup>***</sup> (0.030)
Observations	96,809	96,809	96,809	96,809	96,809
Log Likelihood	-59,230.300	-54,663.040	-54,788.330	-49,879.710	-47,954.500
Akaike Inf. Crit.	118,464.600	109,332.100	109,582.700	99,767.430	95,921.000

*Notes:*

Terms in Odds  
Ratios.

<sup>\*\*\*</sup>Significant at the 1 percent level.

<sup>\*\*</sup>Significant at the 5 percent level.

<sup>\*</sup>Significant at the 10 percent level.

and FundRazr and Indiegogo and FundRazr which implies that upon controlling for the goal size of the project, Kickstarter campaigns receive even more of a benefit while Indiegogo campaigns are hurt even more. Furthermore, the impact of goal size upon likelihood of success is larger in (4) than (1) which implies that it makes more of a difference when holding constant the individual platforms instead of the platform types.

Regression (5) displays all the coefficients with their corresponding interaction terms. The variable of Small Goal in regression (5) represents the likelihood of having a successful campaign considering you have a small goal within FundRazr. The results show that you are more than 20 times as likely to have a successful project on FundRazr if the goal is smaller instead of larger than the mean. The results also show that a Kickstarter campaign will be 2.2 times as likely to succeed if the goal smaller than the median and Indiegogo campaigns will be around 22 times as likely to succeed if the goal is smaller than the median. This exemplifies the fact that goal size is a great predictor for whether or not a project will succeed, however, the type of platform also has a huge impact on the magnitude that goal size has upon success. In KIA models, the goal of the campaign matters greatly as it can make a project 20 times as likely to be successfully funded. In the AON platform, however, the size of the goal only makes the project twice as likely to be funded. Therefore, it can be said that higher crowdfunding campaign goals are more likely to be accomplished with AON platforms than KIA ones.

Table 4 then shows the results of the OLS regressions on the dependent variable which measures the amount funded as a function of the explanatory variables. Regression (1) shows that the AON platform is likely to result in more than \$8,000 in funding when compared to KIA. Regression (2) displays the intuitive result that regardless of platform, having a smaller goal will cause the amount funded to decrease as there is less to fund.

**Table 4****Crowdfunding Platform Regressions – OLS**

	Dep variable: funded				
	(1)	(2)	(3)	(4)	(5)
AON (ref:KIA)	8,295.806 <sup>***</sup> (307.722)	8,220.886 <sup>***</sup> (306.475)			
Small goal		-8,649.902 <sup>***</sup> (306.319)		-8,653.465 <sup>***</sup> (306.297)	-1,056.600 <sup>*</sup> (560.668)
Kickstarter (ref: FundRazr)			9,013.794 <sup>***</sup> (358.737)	8,953.963 <sup>***</sup> (357.275)	16,510.550 <sup>***</sup> (508.239)
Indiegogo			1,680.913 <sup>***</sup> (431.770)	1,716.310 <sup>***</sup> (430.005)	2,674.277 <sup>***</sup> (614.822)
Kickstarter* Small Goal					-14,881.460 <sup>***</sup> (712.702)
Indiegogo* Small Goal					-1,919.500 <sup>**</sup> (857.973)
Constant	1,988.931 <sup>***</sup> (213.596)	6,425.614 <sup>***</sup> (264.455)	1,270.942 <sup>***</sup> (282.188)	5,694.333 <sup>***</sup> (321.704)	1,811.045 <sup>***</sup> (400.856)
Observations	96,809	96,809	96,809	96,809	96,809
R <sup>2</sup>	0.007	0.016	0.008	0.016	0.021
Adjusted R <sup>2</sup>	0.007	0.016	0.008	0.016	0.021
F Statistic	726.776 <sup>***</sup> (df = 1; 96807)	765.075 <sup>***</sup> (df = 2; 96806)	371.019 <sup>***</sup> (df = 2; 96806)	515.439 <sup>***</sup> (df = 3; 96805)	417.787 <sup>***</sup> (df = 5; 96803)

*Notes:* <sup>\*\*\*</sup>Significant at the 1 percent level.

<sup>\*\*</sup>Significant at the 5 percent level.

<sup>\*</sup>Significant at the 10 percent level.

Regression (3) displays that Kickstarter and Indiegogo both raise much more money than FundRazr, although the difference is less than \$2,000 between the KIA platforms and more than \$9,000 between FundRazr and Kickstarter proving once again that Kickstarter produces far more money for its creators than the other two rewards-based crowdfunding companies. Regression (4) displays that once controlling for the size of the goal, the difference between platforms decreases, but the difference within the companies of the KIA platform structure increased.

Regression (5) yields interesting results as the effect of having a smaller goal size reduces the amount funded in all three companies but it is significantly less so for FundRazr than the other two. While it reduces the amount funded by \$1,000 for FundRazr, it is significantly smaller than the \$16,000 difference for Kickstarter and the \$3,000-dollar difference for Indiegogo. This could also mean that across the platforms, people are more likely to donate to larger projects on Kickstarter when compared to FundRazr or Indiegogo. Therefore, choosing a smaller goal will result in far less than choosing a larger one as people are more likely to fund larger projects through Kickstarter's platform. The difference isn't as large between small and large goals for FundRazr and Indiegogo which could imply that less backers are willing to fund large campaigns, and thus choosing a larger goal will not result in more money pledged.

### *Blinder-Oaxaca Decomposition*

I performed a threefold Blinder-Oaxaca threefold decomposition which breaks down the difference in the probability of success between AON and KIA platforms into an explained "endowments" term, an unexplained "coefficients" term, and a third "interaction" term which make the prior two terms more robust. The results found that the endowment term and the

interaction term had a -1 percent and 1 percent explanation of the gap while the coefficient term essentially explained 100% of the gap. This means that the portion of the gap that can be explained by platforms — and other omitted explanatory variables — accounts for the entirety of the gap in campaign successes between platforms. While we can't conclude that the platform accounts for 100 percent of the difference, we can still assume that it involves a large portion of the difference and therefore these platform effects contribute to a significantly large portion of explaining why differences exist between platforms.

## **Conclusion**

Using data from CrowdBerkeley, I was able to estimate the relationship between the success of a crowdfunding campaign and the amount funded in relation to the platform used. The results confirmed earlier studies that showed AON platforms are more likely to result in successful projects than KIA platforms. However, a limitation was that the data was unable to account for any self-selection biases regarding who chooses what platform. Individuals who are more confident in their ability to raise money may choose to do AON campaigns while those who are less confident might pursue KIA campaigns and thus take on less risk, albeit less reward. This sort of self-selection would skew the results in favor of a platform disparity because those who are more likely to succeed regardless of the platform choose AON. Further studies involving owner fixed effects may help to sort out the problem of potential differences in owner characteristics.

An interesting discovery from my empirical analysis was that while there were differences between platforms, there were also differences within similar platform types. FundRazr and Indiegogo are both KIA platforms, yet they are highly different in their probability of resulting in a successful project and in the amount of money they raised. While there is certainly a difference in

success rates between AON and KIA platforms, it is also essential to realize that there are differences within platforms themselves as well due to various idiosyncratic reasons. An analysis of why these form differences exist could provide further insight into what makes a successful crowdfunding platform, and could be used by existing crowdfunding companies to improve their system or new crowdfunding companies who wish to bring more competition to the market through an even more efficient platform.

The platform type didn't only have an effect of the success of a project, but it also affected the amount raised depending on the size of the campaign. AON platforms are more suitable for large campaigns than KIA platforms as there is a smaller drop-off rate in success when transitioning between smaller and bigger projects. The rewards-risk tradeoff could have explanatory power in determining why AON platforms better accommodate larger projects. Due to the riskier nature of AON campaigns, they carry more reward and are therefore more likely to raise money for larger goals than KIA campaigns which are less risky and thus have less reward.

An analysis of platforms on amount funded also resulted in AON being more suitable than KIA as AON projects raised \$8,000 more than their KIA counterparts even when controlling for the size of the project. Furthermore, I discovered that AON projects have a much bigger jump in the amount funded between smaller and larger goals than KIA projects. This could be attributed to AON projects being better in quality and seeking more money ex-ante. This could also once again be the result of the risk-rewards tradeoff.

The results of the decomposition showed that the platform effects, and other missing variables, account for 100 percent of the gap between AON and KIA platforms in regards to how successful they are. In order for the results of the decomposition to be more robust, many more variables need to be controlled for in the model so that they are explained and not categorized in

the unexplained category along with the platform effects. Depending on the results of the study with more variables, the platform effects could still be significant in explaining the differences between AON and KIA companies.

In the long run, the platform that facilitates the highest rate of successful campaigns and results in the most funding will attract the best innovators and ventures. As a result, more backers will want to be on that platform either to get a part of the reward or incentive or to be part of the backing of quality projects. Cyclically, the more backers a platform has, the more entrepreneurs and potential creators will want to be a part of that platform. Therefore, having a successful platform is integral not only to the success of crowdfunding companies, but it also helps to result in more successful projects and therefore more individual and social utility. Further research on platforms and how they relate to project success is necessary so that more people and more companies know how to succeed in their goals of attaining crowd based funding.

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