Sole Survivors:
Solo Ventures versus Founding Teams*

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A widespread scholarly and popular consensus suggests that new ventures perform better when launched by teams, rather than individuals. This view has become so pervasive that many of the foremost investors rarely, if ever, fund startups founded by a solo entrepreneur. Despite this belief in the superiority of teams in the startup process, little empirical evidence has been used to examine this key question. In this paper, we examine the implications of founding alone versus as a group by using a unique dataset of crowdfunded companies that together generated approximately $358 million in total revenue. We show that companies started by solo founders survive longer than those started by teams. Further, organizations started by solo founders generate more revenue than organizations started by founder pairs, and do not perform significantly different than larger teams. This suggests that the taken-for-granted assumption among scholars that entrepreneurship is best performed by teams should be reevaluated, with implications for theories of team performance and entrepreneurial strategy.

Sole Survivors: Solo Ventures versus Founding Teams

Introduction

Of all the decisions made as new organizations are born, perhaps none is as consequential as who should be on the initial founding team. Prior research has found that the choice of founding team imprints the new organization in ways that persist over the rest of the organizational lifespan and impacts organizational strategy, survival, and development (Stinchcombe, 1965; Eisenhardt & Schoonhoven, 1990; Sørensen & Stuart, 2000; Baron, Hannan, & Burton, 2001; Shane & Stuart, 2002; Burton & Beckman, 2007; Beckman & Burton, 2008; Fern, Cardinal, & O'Neil, 2012; Agarwal, Braguinksy, & Ohyama, 2017). And, among founding team choices facing potential entrepreneurs, the most elemental is whether there should even be a founding team in the first place. In this paper, we examine the implications of founding alone versus as a group, a topic that has been the subject of considerable scholarly and popular presumption, but little empirical research.

We address this gap in the literature by using a unique dataset of crowdfunded companies where we can observe both initial founding team members and multi-year performance. We show that companies started by a solo founder generally outperform teams across a variety of important outcomes. By offering these empirical tests of solo founders versus teams, we add to both the growing literature on team trade-offs, and also question a taken-for-granted assumption among scholars and investors alike—that is, that entrepreneurship is best accomplished by co-founders.

Founders and Founding Teams

Though the view of entrepreneurs as individual geniuses of special merit was once common (e.g., Cooper, 1973; Aldrich & Zimmer, 1986; Kamm, Shuman, Seeger, & Nurick,

1990), over time the scholarly and popular literature has become increasingly—indeed almost exclusively—focused on founding teams (c.f., Reich, 1987). This change has been driven by three main factors. First, teams provide a fertile ground for the study of the *social* processes that influence new ventures, a topic of general and widespread interest both in entrepreneurship and social sciences more generally (Brüderyl & Preisendörfer, 1998; Renzulli, Aldrich, & Moody, 2000; Audia & Rider, 2005). The study of founding teams is therefore often of more theoretical interest than the study of individual founders. Indeed, in several important studies of founding team structures (e.g., Ruef, 2002; Ruef, Aldrich, & Carter, 2003; Eesley, Hsu, & Roberts, 2014), solo ventures serve mostly as controls when included, allowing scholars to examine key factors about team formation, strategy, and performance.

Second, there are strong theoretical reasons for expecting teams to outperform solo founders, reducing the perceived value of researching the counterfactual. Starting a business requires a portfolio of skills and resources that few individuals possess (Klotz, Hmieleski, Bradley, & Busenitz, 2014; but see Lazear, 2005; Levine, Bernard, & Nagel, 2017). By extension, several individuals can usually marshal a greater amount and assortment of tangible (e.g., financial, physical) and intangible (e.g., networks) resources required to start a business than can an individual (Roberts, 1991; Lechler, 2001: 263-4; Greenberg, forthcoming). From this perspective the value of several founders is additive or even synergistic, suggesting that solo founders should generally perform worse.

Finally, early work on solo founders versus teams suggested that lone founders underperformed teams, and there have been surprisingly few efforts to revisit these results. For example, Eisenhardt and Schoenhaven (1990) argued that larger founding team size led to more success for semiconductor startups. However, this analysis used comparisons between large

teams and small teams, and did not directly address results for solo founders. Other work has been used to make the same assertion, though actual analyses comparing the two outcomes are uncommon (Roberts, 1991; Lechler, 2001: 263-4). It is therefore unsurprising that the scholarly literature on startups increasingly entails the study of *founders*, plural (Wezel, Cattani, & Pennings, 2006; Wasserman, 2012; Ruef, 2014).

The view that teams are superior to individuals has become so pervasive that it has become gospel among experts in the entrepreneurial ecosystem as well. Famed venture capitalists list "solo founders" as the number one mistake that "kills startups" (Graham, 2006, see also Wilson, 2007, for a separate warning about founding alone). Further, top accelerators, such as TechStars, warn solo founders that they are unlikely to be accepted to their programs.[1] The bias is so strong against solo founders that a robust network of founder "dating sites," like CoFounder Labs, have grown up to match founders with each other based on the premise that it is better to be partnered with a stranger than to launch a company alone.

Curiously, however, no recent studies have robustly examined whether this bias is actually true, and the literature suggests there might be reason to doubt the superiority of teams. If knowledge and resources were the exclusive determinant of startup success then teams should always outperform individuals (see generally Wuchty, Jones, & Uzzi, 2007; Jones, 2009). But such a view ignores the social dimension of startups. Founders spend considerable (often intense) time working together under conditions of risk, ambiguity, or uncertainty. Disagreement, stress, and conflict are inevitabilities during the startup journey, and questions arise about how to address both opportunities and challenges (see generally Stinchcombe, 1965; Aldrich & Yang, 2012). When such disputes result in significant distractions from organizational development

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[1] See https://www.techstars.com/faq/: "While we don't screen applications just because they have a single founder, it does make things more difficult. We look for great, balanced teams who have a full range of skills. We strongly advise you to seek co-founders who balance your skillset."

(e.g., Agarwal, Braguinksy, & Ohyama, 2017), it becomes far from clear that a team is preferable to a solo founder. Therefore, the question of whether solo founders underperform versus teams remains open. For the remainder of this paper, we examine the question of how solo founders perform relative to teams.

METHOD

Data on founding teams and longitudinal data on nascent firm performance is notoriously difficult to collect (see Roberts & Eesley, 2011). In many cases, team data are gathered based public records, which creates a left censoring problem as operational status implies a degree of success in itself (Denrell, 2003; Beckman, 2006: 754; Yang & Aldrich, 2012). We address this problem by using data from a unique survey of formal companies that raised money via Kickstarter projects, allowing us to observe the founding conditions and performance of firms.

Data

A stratified sample of 65,326 Kickstarter project creators was surveyed via email.[2] Of those projects, 10,493 completed part of the survey (16%) and 7,788 (12%) completed the entire survey. These response rates are comparable with other web-based surveys in non-traditional industries within the management literature (Kriauciunas, Parmigiani, & Rivera-Santos, 2011). Additionally, many of the email accounts were set up for completed projects and were no longer actively used, artificially lowering response rates. To provide a more accurate accounting of actual responses, open rates on emails were tracked (Nickerson, 2007), with an open rate of 47.8%. Open rate tracking works well for web-based email addresses (Gmail, Yahoo, Hotmail), but may not work in all cases, and could result in an underestimate of read emails. Nonetheless,

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[2] The sample universe consisted of all projects from 2009 to May, 2015 that raised at least $1,000 on Kickstarter. It also included half of all projects that raised between $250 and $1000, and 25% of projects raising under $250. Our sample is thus limited to projects that successfully raised funding via Kickstarter.

using open rates suggest that overall response rates were between 16% and 33.5% of delivered email. Response rates varied by amount pledged with larger projects responding at a higher rate. After controlling for this factor, there was no significant difference between respondents and non-respondents in number of experienced backers, number of novice backers, number of other projects backed by the creator on Kickstarter, or in serial foundings by the creator.

Important for our purposes, our sample is focused on the subset of Kickstarter projects that represent meaningful founding attempts. Our study includes only those founders who went through the process of forming a formal organization (an incorporated company, partnership, or nonprofit). This is a critical step in the founding process that indicates a serious attempt at starting up a new venture (Carter, Gartner, & Reynolds, 1996). The businesses in our sample collectively raised $151 million in crowdfunding, and generated approximately $358 million in total revenue, including both crowdfunding and additional sales. Our data is therefore appropriate for examining general questions around startup success.

Measures

We use several measures to examine the success of startups. First, we examine continuation of business operations at the time of the survey (which covered those projects launched between six years and six months before the survey). Respondents were asked to choose among seven types of businesses statuses[3] that covered possible business outcomes for both for-profit and not-for-profit businesses (see Table 1 below for summary statistics), allowing

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[3] The options were: "Still in operation as an ongoing for-profit business," "Still in operation as an ongoing not-for-profit, artistic, or other type of endeavor," "Still in operation, but acquired by/merged with another organization," "Not operating as a result of being acquired by/merged with another organization," "Not operating, temporarily stopped operations," "Not operating, permanently stopped operations," and "Not operating for another reason." Based on preliminary χ^2 tests, the acquisition options were combined (resulting in an analytically small cell size), as were the last three, which indicate non-operation (dissolution or suspension).

us to measure survival, a common measure of new venture success or failure (see, e.g., Carroll & Delacroix, 1982; Freeman, Carroll, & Hannan, 1983). We also used reported non-crowdfunding revenue based on a 12-point categorical scale ranging from none to over $10 million, using this as a direct measure of company success. We further treat for-profit and not-for-profit companies separately.

Our primary predictors are a function of the number of founders in a venture. To determine the number of founders in the survey, we asked first whether individuals worked alone or in groups. As indicated in Table 1, 28% of the sample was solo founders, 31% were two-person teams and the remaining 41% were teams of three or more. We create dummy variables reflecting each founding team condition.

A variety of controls were used. First, we created a scale to measure directly the degree to which the founding team reported experience (on a three-point scale ranging from "none" to "some" to "a lot") in key facets of founding including organizing (determining organizational roles and responsibilities), working with third parties, manufacturing and production, budgeting and managing finances, market and promotion, innovation and product development, and delivery and fulfillment of rewards. Combining and averaging these scores resulted in a unified entrepreneurship skills scale with a Chronbach's alpha of approximately 0.84.

To account for time devoted to the project, we calculate a proportion that indicates what fraction of team, j's members is engaged in the project full-time $\left(\frac{\#founders\ working\ FT\ on\ startup}{\#\ founders}\right)j$. To control for gender effects (Greenberg and Mollick, 2017), we create a control for the proportion of founders on a team, j, who are women $\left(\frac{\#\ fem.\ founders}{Team\ size}\right)j$.

We also control for the amount raised (funding) for each project and the desired raise (pledged) for the project, logging both to reduce skew. To account for the quality of the pitch itself, and serve as a proxy for the founding team's (or founder's) latent ability, we also include a dummy variable indicating the number of updates provided and whether the pitch included a video (e.g., Mollick, 2014; Greenberg & Mollick, 2017). We also include industry category fixed-effects to account for differential success probabilities associated with industry structure, as well as a dummy variable indicating that the respective project focuses primarily in the arts (e.g., photography, dance, film, music, and theater). Finally, we control for a variety of factors associated with the founding of the project, including whether it was started by a new or existing organization, the goals and objectives of the founders (e.g., to create a new business), the year the organization was founded (and its square), project category, and whether the categories were art-focused (see Mollick, 2016).

We note that in preliminary unconditional OLS analyses treating ln(goal) or ln(pledged) as the outcome, we find that solo founders have lower funding goals than larger teams, but do not differ significantly from two person teams (p=0.13). However, solo founders actually raise more funding that two person teams (F-test=7.69, p=0.006), and *no less* than larger teams (T-ratio = -0.76).

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Insert Table 1 about here
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Statistical Methods

We employ maximum likelihood binary logistic regression[4] to model firm dissolution or success. A general representation of the model is:

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[4] We opt for dichotomous outcome measures because of the difficulty of offering a principled test of the assumption of the independence of irrelevant alternatives ("IIA") with multinomial logistic regression models ("MLR") (Cheng

$$Pr\{Y = 1|team, \pmb{X}\} = G[\beta_0 + \sum_{p=1}^{P} \beta_1(Solo\ founder) + \beta_2(Dyad\ of\ founders) + \beta_3(\pmb{X}) + \Theta_l + \mathcal{E}_i\ ]$$

where *Y* is a binary variable denoting that the firm is ongoing (for-profit or non-profit) or not

operating since successfully executing a Kickstarter funding campaign. *Solo founder* is a dummy

variable denoting one founder; *Dyad of founders* is a dummy variable denoting exactly two

founders (the baseline represents three or more founders, the modal category). *X* includes the

controls listed above. The same basic model is used to predict revenue, which we estimate using

OLS.

Results

Insert Table 2 about here

In Table 2 above we present results from several models predicting whether the project

achieved viability given its objectives, or dissolved. These results are also graphed in Figure 1.

Models 1, 2, and 3 treat an ongoing, for-profit business as the outcome. Models 4, 5, and 6 treat

an ongoing, non-profit or artistic endeavor as the outcome measure.[5] Finally, models 7, 8, 9

model firm dissolution or suspension see, e.g., Carroll & Delacroix, 1982; Freeman, Carroll, &

& Long, 2007). Using an MLR provides substantively similar conclusions (omitted here to conserve space, but available upon request).

[5] It is possible that some ongoing ventures may not be earning any revenue. We investigated this possibility two ways, and taking it into account had no material bearing on results. First, we present models below that treat average and maximum revenue as the outcome measures. Two, as a robustness check, we conditioned the organizational viability models by various cutoffs of average revenue to ensure that the ongoing, for-profit businesses were actually earning an income. The results of those models are consistent with those presented above. For example, in a model conditional on non-zero average income, the coefficient for a solo founder is 1.07 (Z-ratio = 4.8). The corresponding estimate for a two-person team is 0.076 (ns). If we condition on average income exceeding the average of the bottom quarter of all ventures, the estimate is 1.14 (Z-ratio = 4.62). We repeated this exercise treating 2015 income as the outcome with similar results (e.g., $b=1.02$, Z-ratio=7.57). Hence, if anything, the results we present here are conservative (results omitted to conserve space, but available upon request).

Hanna, 1983).[6] The first model for each outcome provides baseline results; the second models

include the full array of controls outlined above; the third model includes the founder(s)

experience scale.

Insert Figure 1 about here

Model 1 shows that ignoring other factors, ventures founded by one founder are 2.3 times

($e^{b(0.839)}$, SE=0.086; Z-ratio = 9.82) more likely to own an ongoing, for-profit venture that one

founded by three or more founders (the omitted baseline). This is also true when solo founders

are compared to ventures founded by two founders (Wald-χ^2 =73.2, p = 0.0000). Model 2

introduces the full array of controls to account for a host of differences that may be correlated

with the nature of the founder(s) and the status of the firm. Results are consistent with those

presented in the unconditional model. The coefficient for solo founders is one again large

statistically and substantively ($e^{b(0.973)}$, SE=0.115; Z-ratio = 8.43; Wald-χ^2 test v. two founder =

52.91, p= 0.0000). Model 3 includes the scale capturing founders' experience. Consistent with

prior research, the experience coefficient strongly predicts organizational viability (b=0.156,

SE=0.046). However, inclusion of this control does not alter the team compositional effects, as

the solo coefficient implies an odds ratio of 2.63 ($e^{b(0.966)}$, SE=0.116; Z-ratio = 8.34; (Wald-χ^2

test v. two founder = 50.04, p= 0.0000).[7]

Models 4, 5, and 6 repeat this exercise with an outcome measure that denotes an ongoing,

non-profit or artistic endeavor. Reading across models, there is robust evidence that solo

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[6] As noted above, qualitatively similar results are obtained if we model these outcomes using a multinomial logit model (results available upon request).

[7] We obtain similar results if we use coarsened exact matching treating solo founders as the "treatment" for the purposes of balancing (results available upon request).

founders are less likely than larger teams to engage in such ventures, or teams of two. In model 4 the solo coefficient is ($e^{b(-0.581)}$, Z-ratio = - 6.29; Wald-χ^2 v. two-person team= 22.36, p = .0000). In model 5, which includes controls, the estimate is consistent with that from the unconditional model, and implies a 42% reduction in the odds v. three or more founders (($e^{b(-0.552)}$-1)*100, Z-ratio = -4.90), a difference that is also statistically significantly different than two founders (Wald-χ^2 =23.22, p = 0.0000). In model 6, which includes the experience scale (b=-0.076, SE=0.044), the solo founder coefficient is consistent with that derived in other models ($e^{b(-0.546)}$, Z-ratio = -4.84; Wald-χ^2 v. two-person team= 22.04, p = .0000).

Models 7, 8, and 9 treat non-operation (dissolution or suspension) as the outcome. In the unconditional model (model 7), the estimate implies that the odds of a solo founders dissolving or suspending the business are 55% less than a three person team (($e^{b(-0.804)}$-1)*100, Z-ratio = -6.01; Wald-χ^2 v. two-person team= 40.05, p = .0000). The controls introduced models 8 and 9 produce expected results. The more capital obtained via the crowdfunding campaign the lower the odds of non-operation (e.g., model 8: ($e^{b(-0.475)}$, z-ratio = -3.57)). The objectives of the founders, too, significantly predict whether the firm dissolved or not. Further, we see that across all models, solo founders are considerably less likely to dissolve their businesses than teams of three or more (e.g., model 8: Odds-ratio=0.456 ($e^{b(-0.787)}$, Z-ratio = -5.06), or teams of two (Wald-χ^2 =17.31, p=0.0000). Similar results for solo founders are derived in model 9 ($e^{b(-0.782)}$, Z-ratio = -5.02; Wald-χ^2 v. two-person team= 16.34, p = .0000), which controls for experience (b=-0.116, SE=0.056). Taken together, the results presented in this table provide consistently strong support for the proposition that solo founders are considerably less likely than teams of two or teams of three or more to dissolve or suspend their businesses, but are also less likely to found non-profits.

Insert Table 3 about here

Although the results presented above strongly suggest that solo founders outperform teams of various sizes (two-person teams, larger teams), our binary outcomes leave open the possibility that although solo founders are more likely to have ongoing businesses, contingent on remaining a viable concern, teams perform better financially than solo founders. In Table 3 we present results from several models to investigate this possibility. In particular, we run OLS regressions predicting the average yearly and maximum revenue the firm earned in our study window. The outcome measure is based on a 12-point categorical scale varying from no revenue to over $10 million.

In models 10, 11, and 12 we use average income as the outcome measure. The first model is an unconditional model, and reveals that solo founders do no worse with respect to average income than teams of three or more ($b= 0.107$, T-ratio $= 1.51$), which is the modal category, and better than teams of two (F-test $= 7.6$, $p =0.006$). Model 11 includes a range of controls, which are in the expected directions. For example, better funded projects earn more income ($b=0.282$, SE=0.039), as do those in which a greater proportion of founders that work on the venture full-time. In this second model there is marginal evidence that solo founders earn more average revenue than larger teams ($b= 0.126$, T-ratio $= 1.78$), but significant evidence that they earn more than two person teams (F-test $= 8.76$, $p = 0.003$). Model 12 includes a control for functional experience, which strongly predicts average income, as prior research would suggest ($b= 0.112$, T-ratio $= 3.81$). With this scale included, the results largely mirror those in model 10 with the solo founders performing no worse with respect to average revenue than larger teams, and better than two founders (F-test $= 6.22$, $p =0.013$). Models 13 – 15 repeat this exercise treating the maximum income earned as the outcome measure. The results are similar as those concerning

average income, with solo founders performing no worse than larger teams, and better than two-person teams at $p = 0.007$ in the unconditional model; $p = 0.0007$ in model 14, and $p = 0.003$ in model 15.

DISCUSSION

This research began with a straightforward question with both theoretical and managerial significance: What are the performance implications of starting a new venture alone versus as part of a founding team? There is a great deal of scholarly, managerial, and investment consensus on this matter, but limited empirical data. We begin to remedy this imbalance in this study. Using a variety of outcome measures and rich controls, we find that ventures started by solo entrepreneurs generally outperform teams of co-founders, particularly two-person teams. One explanation for this finding is that solo founders who succeed in crowdfunding have an array of skills that, while perhaps not as great as a top team, are sufficient in breadth for entrepreneurial success (Lazear, 2005). This may include managerial skills outsourcing and delegating work to employees. These solo founders are also not subject to the same frictions and drags that occur when one (inevitably) disagrees with a co-founder.

While the data employed here have several notable virtues, they also entail limitations that should be addressed in future research. Notably, this research is descriptive in nature owing to the fact that founders have agency in choosing with whom to found a business (Greenberg, forthcoming). Indeed, this is a key characteristic of founding teams, and a factor that distinguishes them from teams within extant organization. Entrepreneurial team formation—or the choice to found alone—is at its heart a story about decision making and the forces that lead to selection, including agency and structure (Ruef, Aldrich, & Carter, 2003). This also suggests that there are inevitable differences between founding teams and solo founders, as the latter are

making a choice to found alone, just as the former are selecting their cofounders. This is likely

to be a problem for any study of founding teams "in the wild," where choices by individuals

about who to associate with will inevitably have a complex history.

Despite this issue, our findings suggest that a well understood "fact" – that founding

teams outperform solo ventures – may not be true in all cases. This has significant implications

for practice, as investors and managers had been working under a potentially incorrect

assumption. It also suggests that scholarship examining when individuals outperform teams, and

vice versa, could be a fruitful avenue for future research, as it would help focus on the downside,

as well as upsides, of teams in strategic decision-making.

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Table 1. Summary Statistics and Data Sources

Variable	Mean	SD	Source
Ongoing for-profit business venture (binary)	0.52	0.50	Founder survey
Ongoing non-profit/artistic venture (binary)	0.32	0.47	Founder survey
Not operating (binary)	0.15	0.36	Founder survey
Founder experience scale	0.14	1.0	Founder survey
Average revenue (categorical)	1.1	1.28	Founder survey
Maximum revenue (categorical)	2.73	2.23	Founder survey
Solo founder (binary)	0.28	0.45	Founder survey
Two founders (binary)	0.31	0.46	Founder survey
Three or more founders (binary)	0.41	0.39	Founder survey
# of founders	2.54	1.47	Founder survey
Proportion female founders on team	0.26	0.33	Founder survey
Proportion founders working full-time on project	0.26	0.36	Founder survey
Video in pitch (binary)	0.94	0.24	Crowdfunding platform
# updates during campaign	6.52	6.81	Crowdfunding platform
Objective of project (binary)*:*			
• New business	0.26	0.44	Founder survey
• New product from existing team	0.27	0.44	Founder survey
• One-time project that became a business	0.08	0.27	Founder survey
Year founded	2.93	1.32	Crowdfunding platform
Year founded^2	10.33	8.85	Crowdfunding platform
ln($ Goal of crowdfunding campaign)	8.90	1.26	Crowdfunding platform
ln($ Pledged in crowdfunding campaign)	9.29	1.38	Crowdfunding platform
Art-oriented product/service category (binary)	0.45	0.50	Crowdfunding platform

Table 2. Logistic Regression Coefficients Predicting Ongoing Concern or Not-operating

VARIABLES	(1) Coef/(SE)	(2) Coef/(SE)	(3) Coef/(SE)	(4) Coef/(SE)	(5) Coef/(SE)	(6) Coef/(SE)	(7) Coef/(SE)	(8) Coef/(SE)	(9) Coef/(SE)
Solo founder	0.839	0.973	0.966	-0.581	-0.552	-0.546	-0.804	-0.787	-0.782
	(0.086)	(0.115)	(0.116)	(0.093)	(0.113)	(0.113)	(0.134)	(0.155)	(0.156)
Two-person team	0.067	0.032	0.05	-0.117	0.059	0.051	0.072	-0.089	-0.102
	(0.08)	(0.102)	(0.102)	(0.084)	(0.100)	(0.100)	(0.105)	(0.119)	(0.120)
Experience scale			0.156			-0.076			-0.116
			(0.046)			(0.044)			(0.056)
Proportion female founders		-0.577	-0.569		0.508	0.503		0.203	0.199
		(0.135)	(0.135)		(0.130)	(0.130)		(0.177)	(0.177)
Proportion founders working full-time on project		0.409	0.406		-0.503	-0.502		0.137	0.139
		(0.134)	(0.134)		(0.134)	(0.134)		(0.155)	(0.155)
Video		0.071	0.086		0.202	0.193		-0.235	-0.243
		(0.187)	(0.186)		(0.175)	(0.175)		(0.202)	(0.202)
# updates during campaign		0.024	0.023		-0.018	-0.017		-0.019	-0.018
		(0.008)	(0.008)		(0.008)	(0.008)		(0.011)	(0.011)
Objective of project:									
New business		0.893	0.919		-0.368	-0.377		-0.890	-0.907
		(0.126)	(0.127)		(0.137)	(0.138)		(0.166)	(0.168)
New product from existing Team		0.908	0.844		0.012	0.042		-1.540	-1.494
		(0.108)	(0.110)		(0.104)	(0.105)		(0.160)	(0.162)
One-time project that became a bus /non-profit		0.672	0.700		0.021	0.01		-1.229	-1.247
		(0.164)	(0.164)		(0.159)	(0.159)		(0.230)	(0.231)
Year of founding		-0.191	-0.186		-0.194	-0.197		0.891	0.889
		(0.137)	(0.137)		(0.137)	(0.137)		(0.196)	(0.196)
Year of founding^2		0.008	0.008		0.010	0.011		-0.074	-0.074
		(0.021)	(0.021)		(0.02)	(0.02)		(0.027)	(0.027)
ln($ goal)		-0.234	-0.248		0.478	0.484		-0.007	0.0001
		(0.107)	(0.108)		(0.127)	(0.127)		(0.127)	(0.127)
ln($ pledged)		0.682	0.681		-0.627	-0.625		-0.475	-0.472
		(0.112)	(0.112)		(0.127)	(0.126)		(0.133)	(0.133)
Art-based industry category		-0.341	-0.338		0.223	0.227		-0.028	-0.019
		(0.275)	(0.274)		(0.208)	(0.209)		(0.261)	(0.260)
INDUSTRY FEs	NO	YES	YES	NO	YES	YES	NO	YES	YES
	-0.169	-5.578	-5.527	-0.573	2.007	1.965	-1.577	1.671	1.603
Constant	(0.053)	(0.477)	(0.477)	(0.0549)	(0.437)	(0.437)	(0.07)	(0.556)	(0.557)
MODEL FIT/DIAGNOSTICS									
N	3,526	3,526	3,526	3,526	3,526	3,526	3,526	3,499	3,499
Wald-χ^2(df)	108.6(2)	853.14(27)	849.29(28)	40.8(2)	598.02(27)	598.83(28)	44.88(2)	399.09(26)	398.08(27)
Log likelihood	-2384.68	-1737.39	-1731.42	-2184.29	-1778.19	-1776.72	-1464.87	-1216.7	-1214.49
Pseudo R^2	0.02	0.29	0.29	0.01	0.19	0.19	0.02	0.18	0.18

Source: Kickstarter founder survey.

Note: Objective of project was a one-off project omitted baseline, as is a team of three or more founders.
  Disparity in sample size for models 8 and 9 due to collinear industry categories. Robust SEs.
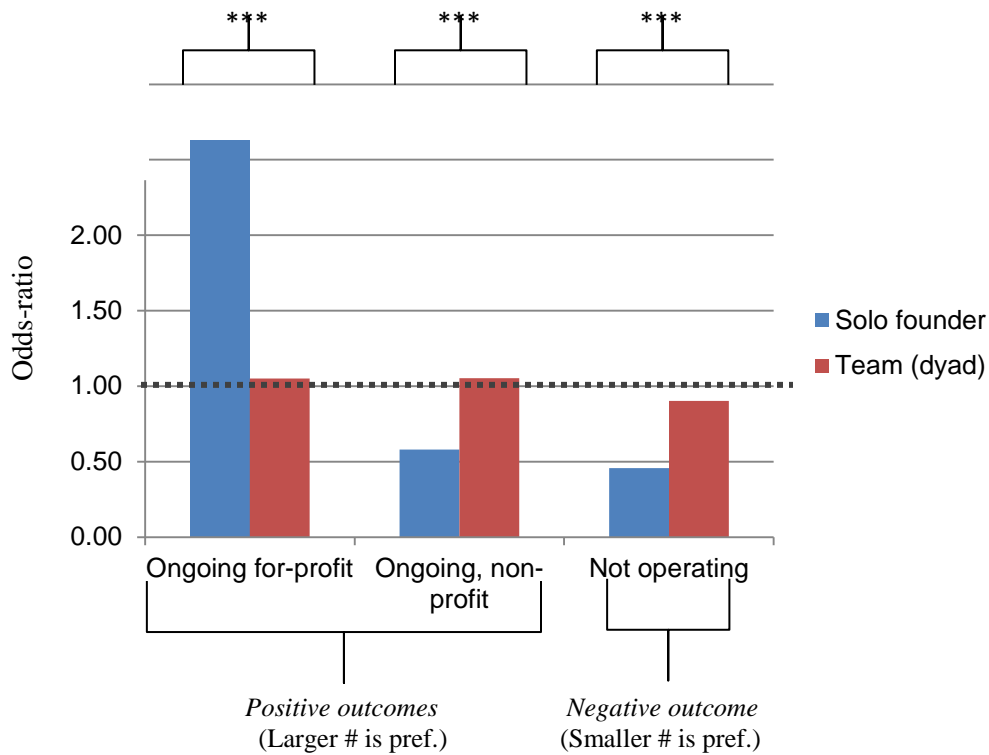
Table 3. OLS Regression Coefficients Predicting Average and Maximum Yearly Revenue

| VARIABLES | *Average Revenue* | | | *Max Revenue* | | |
| | (10) | (11) | (12) | (13) | (14) | (15) |
	Coef/(SE)	Coef/(SE)	Coef/(SE)	Coef/(SE)	Coef/(SE)	Coef/(SE)
Solo founder	0.107	0.126	0.113	0.160	0.152	0.139
	(0.071)	(0.071)	(0.073)	(0.123)	(0.117)	(0.120)
Two-person team	-0.084	-0.083	-0.071	-0.179	-0.256	-0.240
	(0.066)	(0.06)	(0.062)	(0.120)	(0.102)	(0.105)
Experience scale			0.112			0.128
			(0.029)			(0.051)
Proportion female founders		-0.099	-0.093		-0.448	-0.434
		(0.088)	(0.092)		(0.138)	(0.143)
Proportion founders working full-time on project		0.138	0.108		0.425	0.375
		(0.081)	(0.083)		(0.139)	(0.141)
Video		-0.047	-0.033		0.029	0.078
		(0.112)	(0.121)		(0.165)	(0.176)
# updates during campaign		-0.001	-0.004		-0.015	-0.02
		(0.007)	(0.007)		(0.009)	(0.009)
Objective of project:						
New business		0.008	-0.01		0.562	0.548
		(0.086)	(0.09)		(0.133)	(0.137)
New product from existing team		0.570	0.473		0.722	0.609
		(0.088)	(0.092)		(0.122)	(0.127)
One-time project that became a bus./non-profit		-0.037	-0.051		0.358	0.333
		(0.083)	(0.085)		(0.161)	(0.164)
Year of founding		0.497	0.513		0.561	0.603
		(0.084)	(0.089)		(0.136)	(0.143)
Year of founding^2		-0.036	-0.0363		-0.049	-0.053
		(0.013)	(0.013)		(0.02)	(0.021)
ln($ goal)		-0.062	-0.082		-0.160	-0.198
		(0.0391)	(0.051)		(0.07)	(0.092)
ln($ pledged)		0.282	0.303		0.700	0.753
		(0.039)	(0.053)		(0.072)	(0.093)
Art-based industry category		0.096	0.134		0.184	0.255
		(0.200)	(0.210)		(0.297)	(0.309)
INDUSTRY FEs	NO	YES	YES	NO	YES	YES
Constant	1.126	-2.302	-2.389	2.957	-3.791	-4.118
	(0.048)	(0.294)	(0.317)	(0.083)	(0.442)	(0.469)
MODEL FIT/DIAGNOSTICS						
N	2,234	2,207	2,115	2,234	2,207	2,115
F(df)	3.8(2)	13.9(27)	12.92(28)	3.68(2)	27.48(27)	25.93(28)
RMSE	1.33	1.21	1.22	2.36	2.01	2.02
R^2	0.003	0.199	0.205	0.003	0.288	0.291

Source: Kickstarter founder survey.

Note: Objective of project was a one-off project omitted baseline, as is a team of three or more founders. Disparity in sample sizes due to collinear industry categories. Robust SEs.

Figure 1. Solo Founders versus Team Performance

APPENDIX

Table A1. Pair-wise Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Ongoing for-profit business	1.00																	
2 Ongoing Non-profit/artistic	-0.71	1.00																
3 Not operating	-0.44	-0.29	1.00															
4 Avg. rev	0.18	-0.09	-0.16	1.00														
5 Max rev.	0.31	-0.21	-0.19	0.76	1.00													
6 Solo founder	0.18	-0.11	-0.11	0.05	0.06	1.00												
7 Two founders	-0.06	0.02	0.06	-0.05	-0.04	-0.42	1.00											
8 Prop female founders	0.02	-0.05	0.03	0.01	0.06	-0.45	0.31	1.00										
9 Prop founders working FT	-0.13	0.12	0.03	-0.04	-0.10	0.16	-0.15	-0.11	1.00									
10 Experience scale	0.10	-0.03	-0.10	0.15	0.11	0.05	-0.08	-0.02	0.01	1.00								
11 Video	0.07	-0.02	-0.06	0.01	0.05	-0.01	-0.01	0.10	-0.02	-0.01	1.00							
12 # updates	0.24	-0.16	-0.12	0.06	0.10	0.03	-0.06	0.07	-0.08	0.10	0.07	1.00						
13 Goal: new bus.	0.28	-0.22	-0.10	0.03	0.24	0.07	-0.01	0.01	-0.07	-0.11	0.02	0.07	1.00					
14 Goal: new product, existing team	0.11	0.01	-0.16	0.19	0.09	0.07	-0.08	-0.05	0.02	0.26	-0.02	0.06	-0.36	1.00				
15 Goal: One-time project that became a bus.	0.02	0.00	-0.05	-0.03	0.01	0.00	0.00	0.02	-0.02	-0.07	0.03	0.01	-0.17	-0.18	1.00			
16 Year	-0.21	0.05	0.21	0.17	0.00	-0.02	0.02	0.01	0.03	-0.06	-0.04	-0.08	-0.16	-0.05	0.03	1.00		
17 Year^2	-0.21	0.05	0.20	0.15	-0.02	-0.01	0.02	0.00	0.04	-0.06	-0.06	-0.08	-0.15	-0.05	0.03	0.97	1.00	
18 Ln(Goal)	0.31	-0.17	-0.20	0.14	0.28	-0.01	-0.05	0.18	-0.06	0.11	0.20	0.34	0.21	-0.03	-0.01	-0.13	1.00	
19 Ln(Pledge)	0.39	-0.25	-0.23	0.19	0.37	0.01	-0.06	0.18	-0.13	0.11	0.19	0.43	0.25	0.01	0.02	-0.18	0.89	1.00
20 Art-oriented category	-0.37	0.31	0.11	-0.09	-0.25	-0.10	0.00	0.04	0.07	-0.01	0.03	-0.20	-0.40	-0.03	-0.04	0.26	-0.12	-0.24

Source: Kickstarter founder survey. Industry categories omitted for presentation purposes.