

SOLO VS. CO: CAN SOLO-FOUNDED VENTURES PERFORM AS WELL AS CO-FOUNDED VENTURES?

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ABSTRACT

While much has been written about the resource mobilization process of new ventures, surprisingly the literature does not distinguish between new ventures founded by a single founder and new ventures founded by co-founders. The literature that does exist suggests that solo-founded ventures should experience greater resource constraints than co-founded ventures and so exhibit lower performance. However, empirical research is silent on the conditions under which solo-founded ventures might perform as well or better than co-founded ventures. We address this gap by exploring the question of “under what conditions do solo-founded ventures perform as well as or better than co-founded ventures?” Using qualitative data on 59 entrepreneurial ventures, we find that solo founders can mobilize many of the same resources provided by co-founders, but through different means. More broadly, our findings unpack liabilities of newness and add fresh contributions to the fields of entrepreneurship, strategy and organization theory.

INTRODUCTION

Most new ventures are characterized by severe resource constraints (Stinchcombe, 1965; Freeman et al., 1983; Mens et al., 2011; Ensley et al., 2002). As such, the process of resource mobilization plays a fundamental role in the entrepreneurial process. The key resources that founders must attract include human, social, and financial capital, all of which are essential in overcoming the challenges associated with new ventures. Because of this, much of the entrepreneurship literature focuses on the process of resource mobilization, attempting to explain how a new venture's initial stock of resources has major implications for its chances of survival and long-term evolution (see Clough et al., 2018 for a review).

Yet, while much has been written about how new ventures overcome resource constraints, this literature surprisingly does not distinguish between new ventures founded by a single founder or new ventures founded by co-founders. Rather, the number of founders is overlooked as the literature largely refers to founders as a collective, assuming away differences between single or co-founded firms. Such an omission is problematic because it obscures understanding of which ventures experience greater resource constraints, what form the resource mobilization process takes, or which resources may be particularly problematic for particular founder types.

The literature that does exist suggests that solo-founded ventures should experience greater resource constraints and so exhibit lower performance. The logic is that founding a venture is too much for one person, and thus co-founders are important because they bring in necessary resources (human, social, and financial capital) that help the venture succeed. For example, co-founders help write code, craft strategy, chase leads, pitch investors, and support operations. Moreover, co-founders can share emotional drain, encourage and support, and complement deficiencies in a founding team in a way that may help ventures overcome liabilities of newness faster and better.

Given these benefits, most new ventures have co-founders vs solo founders and most VCs are reluctant to fund a company with only one founder (Wasserman, 2012). The demand for co-founders has even given rise to online "matchmaking" services that pair co-founders by skill, personality and entrepreneurial pursuits. In addition, research shows that larger founding teams generally have better entrepreneurial performance (Eisenhardt & Schoonhoven, 1990; Roberts, 1991; Beckman, Burton, O'Reilly, 2007). Indeed, many argue that the selection of co-founders is the most important decision in starting a new venture and that more "unicorns" – i.e., extremely high performing new ventures such as Google, Apple, Microsoft, Intel, YouTube, Skype, Yahoo, Yelp, Twitter, Facebook - have all been started by co-founders, not solo founders. As a result, entrepreneurship research has focused increasingly (and almost exclusively) on founding *teams* rather than individuals (see Klotz et al., 2014 for a review).

However, the literature is largely silent on whether and when solo-founded ventures would perform as well as or even better than co-founded ventures. For example, some work suggests that co-founder challenges are a central cause for new venture failure. Indeed, some practitioner work suggests that up to 65% of startup failures may be tied to conflicts among the co-founders (Wasserman, 2012). In particular, co-founders often face role dilemmas (e.g., overlapping roles vs division of labor) as well as reward dilemmas (division of equity and control) that could exacerbate rather than mitigate liabilities of newness (Stinchcombe, 1965; Hellman and Wasserman, 2016). Given these conflicts among co-founders, it may be that solo founders could equal or outperform co-founders. As support, organizations such as Mint, Amazon, Tumblr, ServiceNow, FireEye and RetailMeNot are all solo founded ventures worth more on average than companies with co-founders. Further, it may well be that some solo founders could address resource constraints through their prior knowledge and networks and so be less likely to need or want co-founders.

Overall, unpacking the resource mobilization process for different types of founders is both important and underexplored. We address this gap. Specifically, we explore the question of “*Under what conditions do solo-founded ventures perform as well as co-founded ventures?*” Using qualitative evidence from 59 new ventures, we examine characteristics of solo-founded ventures that could help them overcome their particular resource constraints and perform as well as multiple founders. Collectively, our findings contribute to the literature by revealing that solo-founded ventures mobilize resources in unique and unexpected ways. More broadly, our findings have important implications for entrepreneurship, strategy and organization theory.

THEORETICAL BACKGROUND

Entrepreneurial Resource Mobilization

In his seminal paper, Stinchcombe (1965) argued that new ventures have a high likelihood of failure. He explained that new ventures face many unique challenges relative to more well-established and resource-rich incumbents, describing these challenges collectively as the ‘liabilities of newness.’ In short, the liabilities of newness paradigm suggests that new ventures do not possess adequate *resources* to compete effectively against larger, more established organizations. Overall, the validity of the ‘liabilities of newness’ phenomenon has been supported in a number of studies across many types of organizations, showing that if new ventures hope to survive, they must rapidly acquire or develop the resources enjoyed by incumbents in the same industry (Freeman *et al.*, 1983; Mens *et al.*, 2011; Ensley *et al.*, 2002). New ventures that cannot acquire adequate resources quickly enough are highly likely to fail. Because of this, the mobilization of resources has become a central and defining feature of research in entrepreneurship, with a large body of studies devoted to the topic (see Clough *et al.*, 2018 for a review).

Past research has generally categorized resources as *human*, *social*, or *financial* capital, with all three being necessary for venture survival. For example, the well-established literature on human capital has found an overall positive relationship between individuals' education, knowledge, or expertise and venture survival and performance (Bruderl et al., 1992; Cooper et al., 1994). In addition, many studies have found benefits of social capital as connections to potential customers, investors, or hires can make a substantial difference in the survival chances of a new venture (Vissa and Chacar, 2009; Barringer et al., 2005). Obtaining financial capital is central to the startup process and has been studied the most of the three (Clough et al., 2018), with a long history of studies on how entrepreneurs access various sources of financial capital for new ventures (e.g., venture capital, angel funding, government grants, etc.).

In most cases the resources that an entrepreneur seeks to mobilize are controlled by someone else, such as an investor, hire, or *co-founder* (discussed in more detail in the next section). As a result, a key challenge for entrepreneurs is to find a way to get the resource holder's attention and convince them to grant the entrepreneur access to these resources for building their venture (Clough et al., 2018; Villanueva et al., 2012; Pahnke et al., 2015). This is generally difficult, as new ventures generally lack the legitimacy that incumbent firms have already developed through repeated interactions with industry participants (Singh et al., 1986).

Co-founders as a Source of Human, Social, and Financial Capital

Mobilizing resources is especially difficult at the earliest stages of a new venture, as the entrepreneur may have a rough version of an idea for a business but not enough proof of concept to attract investors. Thus, entrepreneurs must find alternative ways of mobilizing resources. One of the most common ways in which entrepreneurs do so early on is by teaming up with co-founders (Wasserman, 2012). Individual founders often do not have the ability to do the "enormous job of

starting a new firm” by themselves (Eisenhardt and Schoonhoven, 1990:510), as a single individual often does not have enough time, expertise, connections, or funding to do everything that is required.

Consistent with these arguments, several studies have found that on average, larger founding teams are expected to perform better than smaller founding teams (Eisenhardt and Schoonhoven, 1990; Ruef et al., 2003; Agarwal et al., 2016). The logic is that on average, more founders equals more resources (human, social, and financial). For example, co-founders can bring needed skills or experience to a new venture (i.e., human capital), more connections to potential customers or investors (i.e., social capital), and more funding for the early stages of the business until the venture can find investors (i.e., financial capital). This does not come for free – founders are generally required to allocate portions of the company’s equity and decision-making rights to these co-founders as an incentive to join the early-stage and high-risk business. Many founders are willing to make this tradeoff to gain access to the much-needed capital that co-founders provide during the early stages of a new venture.

However - although past research agrees that co-founders help overcome key resource constraints, it does not address the conditions (if any) under which solo founders may be able to mobilize these same resources but through different means. In the analysis that follows, we explore whether there are conditions under which solo-founded ventures may be able to perform as well as co-founded ventures.

METHODS

We use fuzzy-set qualitative comparative analysis (fsQCA; Ragin, 2000; 2008) to examine our question of interest. In contrast to linear regression, which assume linearity, additive effects, single paths, and competing explanations among independent variables, fsQCA reveals synergistic

relationships among variables that combine in complex ways to explain an outcome (Fiss, 2007). It also allows for the modeling of equifinality – the principle that multiple alternative solutions can lead to a given outcome. This is particularly appropriate in our study, as founders may be able to overcome their resource constraints in a variety of ways, implying there is not one sole path to success. Finally, because fsQCA is a logical, not statistical method, it is particularly useful for moderately sized samples. Our sample meets the criteria generally used for fsQCA studies (Rihoux and Ragin, 2008), namely (1) variance in outcomes (high-performing vs. low-performing ventures), (2) variance and commonalities across venture characteristics, and (3) an intermediate-N design that allows the researchers to have an in-depth familiarity with the individual cases.

A qualitative approach such as this has distinct advantages, especially considering the many empirical challenges that would be involved with testing differences between the performance of solo-founded and co-founded ventures using linear regression. First and foremost, there is a serious empirical challenge resulting from selection bias, as entrepreneurs who solo-found are inherently different from other entrepreneurs who found in teams. For example, one of our solo founders articulated that *“being a successful solo founder takes a certain personality... you have to have a certain profile.”* Similarly, another solo founder said *“I would say that my personality... I tend to just want to do things my own way.”* Several of the other solo founders in our sample corroborated this point, indicating that solo founders possess certain traits that co-founders do not, meaning the two are often not directly comparable. Second, our qualitative data allows us to gain a deeper understanding of the mechanisms underlying the liabilities and challenges that each venture faced in the early stages of the company, the founders’ key mentors or supporters and how exactly they provided assistance, and the manner in which founders and companies were able to survive financially.

In the sections that follow, we first describe our sample and data, followed by an explanation of our coding of the cases' membership in the outcome and each of the theoretically relevant attributes. We then briefly explain our analytic approach.

Sample and Data

The central unit of analysis in our study is a new venture. Our sample consists of 33 solo-founded ventures and 26 co-founded ventures, for a total of 59 new ventures. Each observation consists of at least one interview with the founder(s) of each new venture, supplemented by insights from various other sources such as survey data and archival documents as discussed in more detail below. Although the number of cases is not large enough to readily permit standard quantitative analysis, it does allow for a systematic investigation of the relationships that emerge from our interviews and other data.

In order to construct a sample, we worked with three start-up facilities (one incubator, one coworking space, and one entrepreneurial support foundation¹) based in the same metropolitan area in the southeastern United States. These facilities are distinct and separate organizations, yet they are all part of the same entrepreneurial ecosystem, and the managers of each facility know each other well and often coordinate activities and initiatives. These facilities are also all focused on helping the same population of ventures, namely high-growth technology startups located in the same metropolitan area in the southeastern United States. This eliminated pure inventors, freelancers, or independent contractors who focus only on the development of ideas or services to sell. Given the similarities between these three facilities and the companies within them, these

¹ The entrepreneurial support foundation is a non-profit organization that awards non-dilutive grants to early-stage entrepreneurs.

founders were likely to experience similar liabilities of newness and resource constraints². With these criteria, we worked with the directors of each facility to identify both solo-founded and co-founded companies affiliated with their organizations.

Next, we collected data from several sources, including: (1) qualitative data from semi-structured interviews with founders, (2) survey and application data from each of the three facilities, (3) archival data from company websites, press releases, and social media, and (4) emails, phone calls, and follow-up interviews to fill gaps in accounts as needed. The semi-structured interviews with founders represent our primary data source (90 interviews in total). These interviews generally lasted 30-60 minutes, with an average of 45 minutes. We followed an interview guide, which we modified throughout data collection to address emerging themes.

Each interview consisted of three main parts: (1) background information on the venture and founder, (2) company history, and (3) direct questions related to being a solo founder or co-founder. For the company history, we asked open-ended questions that focused on the early days of the company. For example, we asked: How did you come up with the idea? Who have the key figures been? What have been the main milestones and low points? What people or organizations have been especially crucial in your company's development? Why did you decide to [solo-found or co-found]? From this initial narrative, we probed for further information related to the events and people who played the biggest roles. These follow up questions were aimed at gathering more details about the liabilities and challenges that each founder faced, and how specifically they overcame those challenges. We focused especially on any other individuals (i.e., employees, customers, investors, supporters) who had played a key role in developing the business, and also

² For example, the founders we interviewed consistently told us that this particular metropolitan area lacked access to angel and venture capital funding. We were also consistently told that this area was deficient in the technical talent needed to build technology companies.

on how the company was funded. Together, these questions enabled firm-level chronologies with rich accounts of the events that took place. We relied on “courtroom” procedure (Eisenhardt, 1989) where we asked informants to walk us through a timeline of specific actions, events, and facts to limit potential subject bias (Huber, 1985; Miller et al., 1997).

For solo founders, we then asked additional questions specifically related to the solo-founder status of the entrepreneur. For example, we probed as to why they started the company solo and whether they had ever tried finding co-founders, what they viewed as the main advantages and disadvantages of being a solo founder, times they wished they had co-founders, and whether anyone had told them they needed co-founders. For co-founders, we asked questions such as whether they had considered going solo, what types of conflicts or challenges they had with their co-founders, how they allocated roles, titles, and equity, and whether they wish they had remained solo. Our use of both nondirective and directive questions at different points during the interview helps to ensure a higher level of accuracy and truthfulness of responses by reducing the effects of priming (where informants feel as though they need to answer a question in a certain way). We also added extra interviews and sent follow-up emails to fill gaps in the chronology and improve completeness.

Further, we triangulated interview data with archival data from company websites, media reports, press releases, social media, and internal documents. This improves reliability of data collection by providing an additional check against the accuracy of responses received in the interviews. Finally, we relied on survey and application data from the coworking space, incubator, and entrepreneurial support foundation used in our study. Each of these organizations performs an annual survey of their ventures to collect information on revenue, funding, job creation, and involvement with the entrepreneurial community in the region. Two of the organizations (the

incubator and support foundation) also required entrepreneurs to submit detailed applications to their organizations. These applications collected information on the stage of the venture, key milestones, traction with customers, and other detailed information. We relied on these various data sources to supplement our interviews and provide a further check on the accuracy of our data.

fsQCA Analysis

The first step in performing an fsQCA analysis is to calibrate set membership. The goal of calibration is to separate cases into meaningful groupings, which requires a substantive knowledge of the cases in the sample (Ragin, 2008). To do so, the researcher must select an outcome and then several explanatory conditions that explain variance in that outcome. Once the outcome and explanatory conditions are selected, the researcher assigns values between 0 (indicating absence of the condition) and 1 (indicating the presence of the condition) to each case for each condition. We provide more details on the calibration of the outcome and explanatory conditions below.

Outcome

We considered various outcomes for the analysis. For example, we considered separating the solo founders into categories based on the amount of funding they had received, which has been used frequently as a dependent variable in prior entrepreneurship studies (Hallen, 2008; Hoenig and Henkel, 2015; Hsu, 2007). However, many of the more “successful” ventures in our sample (i.e., those with higher financial performance) were bootstrapped and had received no external funding. Because of this, separating the ventures into successful and unsuccessful categories based on funding did not seem appropriate for our sample. Instead, we relied on financial performance – specifically amount of annual revenue. Revenue is a useful measure as it represents a relatively “clean” and meaningful measure of venture performance as it signals that the firm was successful in meeting market demand with its offerings (Dencker and Gruber, 2015).

Although all ventures had been operating for at least two years, some had enjoyed more success than others. Some ventures had been struggling to develop their product or find customers, and thus either had no revenue after two years or very little revenue. To calibrate set membership, we followed Ragin (2000) by using a five-point scale of (0.00), (0.25), (0.50), (0.75), and (1.00), with higher values representing higher performance and lower values representing lower performance. Specifically, we code the outcome as (1.00) if the venture was earning at least \$1 million in annual revenue, (0.75) if between \$500,000 and \$1 million, (0.50)³ if between \$100,000 and \$500,000, (0.25) if between \$10,000 and \$100,000, and (0.00) if less than \$10,000.

Explanatory Conditions

After calibrating the cases based on the outcome, the next step in fsQCA is to determine which factors lead to higher levels of the outcome and which lead to lower levels of the outcome. These factors are referred to as “explanatory conditions,” or conditions that explain variance in the outcome (similar to independent variables in statistical analysis). To select the appropriate explanatory conditions for our sample, we analyzed each case carefully to gain an understanding of what conditions were associated with higher levels of annual revenue and which were associated with lower levels. As is common in qualitative research, a crucial aspect of our analysis was iteration. The process involved consistent iteration between theory, data, and extant research until a strong match appeared between the data and our emerging conditions. This iteration allowed us to delve deeper into emerging themes within our interviews and re-examine whether our framework fit with the new data we were collecting.

Given, our research question focuses on how solo founders can achieve high performance, we focused on the strategies that the more successful solo founders used that the less successful

³ We input values of 0.501 in the fsQCA software program (Ragin, Drass, and Davey, 2006). This is necessary because cases with condition values of 0.50 are automatically dropped during the analysis.

ones did not use. This excluded strategies such as forming a board of directors or relying on mentors, as both the successful and unsuccessful solo founders in our sample employed these strategies. After comparing the successful solo founders with the unsuccessful ones, we then compared the successful solo founders with the successful co-founders to assess whether these were conditions common to all successful ventures regardless of founding type or whether they were strategies unique to successful solo founders. We focused explicitly on the themes recurrent among our interviews with solo founders that were absent among our interviews with co-founders.

This inductive analysis resulted in five key explanatory conditions that inform our question of interest. In the sub-sections that follow, we describe each of these emergent conditions that appear to help solo founders overcome their unique challenges.

Co-founders. First, given that our sample includes both solo-founded and co-founded ventures and our research question is meant to compare the two, our first explanatory condition is whether the venture was founded by a solo founder or multiple co-founders. We code this condition as (1) if the venture was co-founded, and (0) if it was solo-founded.

Employees. Some of the founders chose to hire employees from the outset of their venture. These founders were able to secure funding at or near the beginning of their venture which then allowed them to hire people on to the venture. We code this condition as (1) if the founder hired employees from the beginning of the venture, and (0) otherwise.

Alliances. Forming alliances is a strategy that entrepreneurial firms sometimes use to mobilize resources (Moghaddam et al., 2016). Interestingly, many of the successful solo founders in our sample opted to form alliances with other organizations rather than partner with co-founders. We coded this condition as (1) if our data revealed that the venture had an alliance partner, and (0) otherwise.

Benefactors. The concept of a benefactor is something that emerged from our interview evidence. By benefactor, we refer to an outside party who relaxes some significant resource constraint for an entrepreneur with no expectation of compensation or reciprocation. Benefactors are distinct from investors – while investors provide resources to a new venture with an expectation of a return on investment, benefactors provide resources simply as a favor to the entrepreneur. We provide more details and examples when we discuss our results. We coded this condition as (1) if our qualitative data revealed that the venture had a benefactor, and (0) otherwise.

Product expertise. In analyzing our interview with founders, it became clear there was a distinction between those who had the expertise to develop their product in-house and those who were forced to hire outside parties to develop the product. This proved to be an important distinguishing factor (as we explain in our results), and thus we include it as one of our conditions. We coded this variable as (1) if the founder(s) developed the initial product in-house, and (0) if the founders outsourced the work to outside parties.

In Table 1 we display the calibration of all 59 cases across the outcome and the explanatory conditions.

 Insert Table 1 about here

fsQCA Specifications

After assigning each case values for the outcome and explanatory conditions as detailed above, the second step of a fsQCA analysis is to create a “truth table” that lists all logically possible combinations of the explanatory conditions. Given our study involves 5 conditions, there are 2^5 possible combinations of conditions. To streamline the analysis and focus only on the relevant combinations, we delete all combinations that are not associated with any of the cases in our

sample. We also set a frequency threshold of one, consistent with past guidance on using fsQCA to build theory from a moderately-sized sample (Ragin, 2006). The third step is to identify a consistency threshold, which measures the degree to which a combination of causal conditions is reliably associated with the outcome of interest. We followed recent fsQCA research and set the consistency threshold as 0.75, the standard threshold for individual consistency scores (Ragin, 2008; Misangyi and Acharya, 2014). The final step is to apply the truth table algorithm (Ragin, 2008) which simplifies the causal combinations and leads to a more parsimonious set of results. Following extant literature (Gilbert and Campbell, 2015; Misangyi and Acharya, 2014; Crilly et al., 2012), we report both the intermediate and parsimonious solutions.

RESULTS

In Table 2 we display the configurations of conditions associated with high performance of new ventures, as well as those associated with low performance. Each column represents a distinct configurational path to the specified outcome. The analysis suggests four configurations of conditions predicting high performance, and two configurations that predict low performance (summarized in Table 2). Using examples from our interviews, we explain below how each of these configurations can lead to high performance⁴.

 Insert Table 2 about here

Explaining High Performance

⁴ Unlike statistical analysis, fsQCA is not symmetric, meaning that the researcher must not only analyze the configurations that lead to the presence of the outcome (i.e., high performance) but also the configurations that lead to the absence of the outcome (i.e., low performance), as they may be different. In our case, however, the configurations that led to low performance were approximately a mirror image of those configurations that led to high performance. As such, we do not separately discuss the configurations associated with low performance.

Pathway to Success #1: Co-founders. The first pathway to success confirms what we already know from the literature: Co-founders can help new ventures achieve high performance. This is consistent with prior studies (discussed earlier) that show co-founders often bring valuable human, social, and financial capital to new ventures, and thus benefit performance.

We found much evidence of this in our data. Many of the co-founders we interviewed did not believe it was wise or even possible to be successful as a solo founder and did not understand why anyone would ever try, saying “*I don’t understand anybody who’s a single founder...you need to have the right kind of people there.*” For example, one founder was building an internet company and described how his co-founders brought necessary *human capital* to the venture. Although this founder had significant design expertise, he did not have the technology or sales experience required to build a successful internet venture. As a result, he searched out two co-founders (one with a computer science degree from Stanford and another with significant sales and marketing expertise), which “*rounded out the skillsets and would allow us to build anything, sell anything...*” ultimately leading to a well-received product and a high-performing venture.

Another founder was developing a new social media platform that required a great deal of investment to properly develop. He had very few personal funds and had no experience or relationships with angel investors or venture capitalists. Instead, he partnered with a co-founder who had the necessary *social capital*. This co-founder had worked in the venture capital industry for many years and had also previously founded multiple successful ventures. As a result, he had several strong ties to venture capital firms, allowing the venture to receive the investment needed to move forward. Another founder was developing a new bitcoin and machine learning venture, and decided to join with another co-founder who had a large amount of personal *financial capital* that helped them get their business off the ground. Overall, these founders described the human,

social, and financial capital of their co-founders as being essential components of their ventures' success, and many felt that it would not have been possible for them to succeed without their fellow partners.

However, configuration 1 also suggests that merely having co-founders is not enough. "Product expertise" is also a core condition in this configuration, implying that only new ventures who have co-founders with product expertise are those who experienced high performance. This is also consistent with past literature that shows co-founders are most useful when they have complementary skillsets and provide the venture with a full range of skills needed to manage the organization (Beckman et al., 2007; Foo et al., 2006). One co-founded venture in our sample illustrated this point clearly. The venture had been founded by three co-founders who were attempting to build a new type of software. The issue, however, was that none of them knew anything about creating software. As one of the co-founders said "*[None] of us have ever been in the technology realm. None of us have any technical experience whatsoever. We're growth and marketing people.*" They had cobbled together a version of the product by using outside contractors, and their plan was to find investment and hire technical talent moving forward. However, investors had been understandably hesitant to invest in a startup company in which the founders knew little to nothing about how to create their product. These founders struggled to find a foothold in their industry, and ultimately experienced sub-par performance. As this example illustrates, if co-founders all possess the same skillsets and none of them are able to actually create the product, then they likely experience many of the same challenges as a solo-founded venture.

As a whole, this first configuration is consistent with past literature which argues that co-founders bring necessary resources to a new venture (Wasserman, 2017; Beckman et al., 2007;

Eisenhardt and Schoonhoven, 1990). In contrast, the next three configurations represent three distinct paths founders can take to achieve high performance even *without* co-founders.

Pathway to Success #2: Employees. As mentioned earlier, some of the founders in our sample chose to hire employees from the beginning. Configuration 2 suggests that these founders experienced the same level of performance as those who had co-founders (i.e., configuration 1).

For example, one solo founder had previously founded a company in the area of machine learning. This company experienced a great deal of success and was ultimately acquired, with the founder receiving a large payout from the sale. When he founded his second venture (the venture in our sample), he saw no reason to bring on co-founders. Instead, he chose to use his accumulated wealth from the prior venture to hire highly-skilled employees right from the beginning. The first person he hired was an accomplished and well-connected programmer, who the founder described as “*a brilliant engineer, he's really, really good... People wanted him now, he had opportunities.*” In addition he hired several other employees to round out the team and fill the gaps in terms of skillsets and connections to customers. Thus, using his accumulated wealth from his prior venture, this founder hired the human and social capital he needed to achieve high performance.

Another solo founder was an academic who was researching new technology to help pharmaceutical companies during the drug discovery process. He applied for and received a large Small Business Innovation Research (SBIR) grant, giving him the necessary funds to quit his academic position, found a company, and immediately hire employees. Using this grant money, he hired a lead scientist, a skilled cell culture technician, and a “chief business officer” who all brought the necessary skillsets (i.e., human capital) that the founder did not have. These employees ultimately helped the founder develop a high-performing venture.

In another example, a solo founder had previously owned a small software development

agency with about 12 to 16 employees. While developing software for clients, the founder had an idea for a software product of his own and decided to found a new venture (the venture in our sample). He explained that at any given time, there was about 25 percent of his employees from his development agency who were “on the bench” and not assigned any projects. While these employees were idle, the founder asked them to work on building the product for his new venture. This continued until the product was built and started selling, at which point the founder shut down the development agency and transferred all employees to his new venture.

Based on our interviews with these founders, it appears that these employees provided many of the same resources (i.e., human, social, and financial capital) as co-founders. For these founders, financial capital was not an issue - they had adequate funding (whether from personal wealth, family or friends, or grants) from the start of their venture and did not need co-founders to inject more cash into the business. With this financial capital, these solo founders were able to hire the human and social capital that they needed to be successful. They hired employees with skillsets or connections that complemented their own and were thus able to offload much of the work to them and focus more on building the business. These early employees were key to these founders’ success. As one founder put it *“They weren't co-founders, but obviously have shaped the company from the very beginning and all the way through.”*

Importantly, however, not all solo founders who hired employees succeeded. As configuration 2 suggests, merely having employees is not enough; “product expertise” is also a core condition in this configuration, implying that solo founders with employees must also have product expertise in order to achieve high performance. This is illustrated well by one case in our sample. This solo founder had no technical experience, but was attempting to build an online platform. At the outset of his venture he was able to obtain a large amount of capital from his

family and friends who believed in the idea, allowing him to hire employees from the beginning. He hired an individual to develop the platform, but was ultimately terribly disappointed. The founder did not understand the technology enough to supervise the employee, leaving the employee with little direction. The employee ultimately left out of frustration, and as the solo founder described, he “*left us a little bit high and dry on the continued development of the platform...we elected to basically start all over.*” The founder scrapped everything the employee did and chose instead to hire contractors to build the next version of the product. Thus, our data suggest that solo founders must not only be able to hire employees, but also must be able to supervise them appropriately if they hope to succeed.

Pathway to Success #3: Alliances. Configuration 3 suggests that solo founders who form alliances can also perform as well as co-founders. Several solo founders in our sample fall in this configuration. For example, one solo founder started a new EdTech venture developing a specific type of software targeted at schools. Although this founder had a great deal of technological expertise and was able to develop the product himself, he had no connections to school districts and had little experience in sales. Rather than find a co-founder with these skills and connections, he partnered with another venture that sold to school districts. Under their agreement, this other venture took responsibility for all sales and sold a portfolio of products that included the solo founder’s software. Without this arrangement the founder explained that he would have lacked both the sales expertise (i.e., human capital) and connections to schools (i.e., social capital) to succeed. When asked why he had not brought on co-founders, he said “*there's other ways that you can tackle it... With the [alliance] I have, people are going out and selling...they're carrying out that function...it's just not as a partner in my business.*” Through this alliance, the solo founder gained access to necessary resources while still retaining full control of the equity and voting rights

of his venture.

In another example, a solo founder happened to be good friends with a well-known YouTube celebrity. This celebrity offered to market the founder's products on their website and social media channels in exchange for a portion of the revenue. The solo founder described how *"they announced it on their show...[and when] I woke up at seven in the morning, everything was sold out."* The solo founder ended up co-branding their product with the celebrity, leading to a huge initial demand for the product, and bringing in enough cash flow that allowed the founder to grow her venture without additional funding or partners. The celebrity also became more excited about the product after observing the initial enthusiasm of his viewers, and as a result, asked his COO and 100-person team to help the founder with improving and marketing the product (thereby providing the human, social, and financial capital the founder needed to move forward). Thus, although this founder had no co-founders, this alliance provided them with all the necessary resources to grow and develop the business.

Another solo founder was developing new sewer technology and attracted the interest of a local utilities company. This company allowed the founder to use their sites for testing and also offered to fund the initial product development (financial capital) without taking any equity stake. They also introduced the founder to several potential customers and investors (social capital). In addition, the founder mentioned that one individual employee at this utility was particularly interested in the product and offered his technical expertise (human capital), explaining *"I had a champion within [the utility]... he was very aggressive in wanting to find solutions for problems...[he] and I kind of latched on to each other...[he] was an innovative thinker, and he enjoyed our discussions. And they were technical discussions...So, I got an understanding of the technical problems."* The solo founder further explained how essential this was for his business,

as without this alliance with this utility and with this individual in particular, he would never have had the resources or the expertise to develop this product that ultimately proved successful.

Overall, these alliances helped solo founders achieve high performance by offering many of the same resources provided by complementary co-founders (in terms of human, social, and financial capital), while still allowing the founder to retain full control and equity in their business.

Pathway to Success #4: Benefactors. Our final pathway to high performance (configuration 4) is perhaps the most unique. This configuration implies that founders with a benefactor can also achieve high performance. As discussed earlier, the concept of a benefactor is something that emerged from our interview evidence, and which we define as an outside party who relaxes some resource constraint for an entrepreneur with no expectation of compensation or reciprocation.

Benefactors took many forms in our sample. For example, one solo founder required a large amount of capital equipment to start his new venture. This founder did not have adequate resources to purchase the required equipment, but he did have a good friend who owned a small business with the necessary equipment. This friend graciously allowed the solo founder to use the equipment free of charge, thus eliminating the solo founder's need to obtain financial capital. However, not only did this friend allow the founder to use his equipment, but he also allowed the founder to borrow his employees from time to time, thus providing the necessary human capital to perform tasks that the solo founder either didn't have the time or expertise to perform. This persisted until the solo founder was bringing in enough revenue to hire his own employees and purchase his own equipment.

In a similar example, another solo founder started a venture developing a new brewing technology. She had little experience and few resources, but there were members of the local

brewing community who took her under their wing and helped her in significant ways. They taught her how brewing technology worked and guided her in setting up her own manufacturing facility (human capital); as the solo founder explained: *“I learned from them on the equipment that I might need...and I would come back to them with like, ‘Oh, I tried this. And that filter you gave me is not fine enough. What other filter do you have? Oh, that's not gonna work for this reason. What about this?’ And so we would troubleshoot together the early, early days, and I learned so much from that process.”* Early on they also allowed her to use their equipment and facilities for experimentation, thus removing the need early on for the founder to find financial capital to develop the product. They also gave her introductions to potential vendors (social capital) and helped her understand *“which contractors to hire, which ones not to hire, etc.”* Once again, these people received no equity and were never paid for their assistance, they simply took a liking to this entrepreneur and decided to help.

Another solo founder had been a nanny for the kids of a local and influential multi-millionaire when she was a teenager. She developed a good relationship with this person, and after graduating from college she started her own venture and went to this person for advice. Not only did he give her a significant amount of advice on how to develop and market her product (human capital), he also gave her free office space (alleviating the need for financial capital) and connected her to her first large corporate customers as well as her first investors (social capital), and served as a reference for future customers and investors. This founder described how her friend would consistently ask *“What do you need? I'm gonna give you office space...And how else can I help you? Do you need people on your board? What do you need?”* He helped build the company, and even picked out the name for the company. Again, he did this without taking any equity stake or receiving any payment; he simply wanted to help this young founder. As she put it, *“He's always*

been my biggest cheerleader...[and] I'm thankful for that."

Overall, these benefactors relaxed several resource constraints that the solo founders experienced, thus helping the solo founder to achieve high performance. Again, however, these benefactors expected no reciprocation or compensation for their services, meaning the entrepreneur was able to retain full control and remain the solo founder.

Co-Creators as Substitutes for Co-Founders

Taken as a whole, our findings suggest four pathways to achieve high performance: (1) co-founders, (2) employees, (3) alliances, and (4) benefactors. The first confirms past studies which show that co-founders bring necessary resources to a new venture. As described above, many of the co-founders we spoke with expressed how their fellow partners brought necessary skills and experience to a new venture (i.e., human capital), as well as connections to potential customers or investors (i.e., social capital), and funding for the early stages of the business (i.e., financial capital). This is consistent with past studies showing that ventures with more founders typically have more resources, at least on average (Wasserman, 2012).

Interestingly, however, our results imply that founders can mobilize these same resources (human, social, and financial capital), but in different ways. Some founders had adequate financial capital from other sources (personal or family wealth, grants, etc.) and were thus able to hire the human and social capital they needed by hiring *employees*. Others founders opted to fill their gaps in human, social, and financial capital by forming alliances with other organizations, allowing them to benefit from their partners' expertise or connections while still remaining the sole founder of their company. Yet other founders had *benefactors*, who came in a variety of forms but all provided the founders with some combination of human, social, and financial capital they needed to succeed, all without any expectation of reciprocation or compensation.

Although these employees, alliance partners, and benefactors were not officially co-founders, they still helped *co-create* the ventures (see Table 3). For example, one solo founder who had benefactors but no co-founders said *“They feel like my founders because they built the company with me... And that's I think where I've gotten away with not having a co-founder... So I have a lot of people... that have made this happen, it's not just me.”* In fact, many of the solo founders we interviewed were uncomfortable with the “solo founder” label, arguing that *“even though I'm the one steering the ship, it certainly wasn't me alone and I don't ever want to appear that it was me alone,”* or *“certainly know that I didn't build it by myself, that's for darn sure.”* Overall, the founders stressed how these “co-creators” (i.e., employees, alliance partners, and benefactors) all played significant roles in building their ventures, and that without them, the founder would likely have either had to find a co-founder or would not have succeeded at all.

 Insert Table 3 about here

In short, our data suggest that successful solo founders are not actually solo. They may not have had a traditional co-founder with equity and voting rights, but they still had others surrounding and helping them co-create the business. This implies that although co-founders are not necessarily required, as solo founders can find substitutes that provide many or all of the same benefits as cofounders. Thus, although these two venture types (solo-founded and co-founded) appear very different, the result is often the same. Solo founders bring in the same resources, just through different vehicles.

In fact, in some ways, co-creators (employees, alliances, and benefactors) may be even *better* than co-founders. Although solo founders experience many challenges as a result of being solo, they also experience several benefits. The solo founders we interviewed spoke in detail about

these benefits (summarized in Table 4). For example, solo founders are able to avoid the destructive conflict that co-founders often bring to a new venture (Wasserman, 2012). As one solo founder put it: *“having more people is great...but people are people. And people, sometimes, are in better moods than others.”* Disagreements among co-founders often escalate to a point where the new venture is paralyzed and unable to move forward (Wasserman, 2012), meaning co-founders can sometimes cause more problems than they resolve. Though there is certainly still the potential for conflict with co-creators (employees, alliances, benefactors), the likelihood is nowhere near as severe. This is because a cofounding relationship is very unique, and is often described as more of a marriage than anything else. For example, one co-founder we interviewed said *“It's crazy to say, but a tight partnership like this, or a co-founding team of two, is almost like a marriage. It's very intense, and it's very, very close.”* This is because co-founders share a great level of emotional and financial attachment to the firm and spend countless hours working together and making many important, long-term, and high-risk decisions, often under great levels of stress and uncertainty. As a result, the likelihood of conflict is high. However, by using co-creators, solo founders do not enter into a similar marriage-type relationship, and are thus able to benefit from many of the same resources as co-founders but *without* the conflict.

Insert Table 4 about here

Another reason that co-creators may be preferred over co-founders is because the founder is not required to share equity or control. Past research suggests that founders often desire to retain as much control over their firm as possible (Hendricks, Howell, and Bingham, 2018; Wasserman, 2017; Hamilton, 2000). This is because the amount of time and effort that founders put into creating the business makes their personal identity more strongly linked to their company's success

(Arthurs and Busenitz, 2003; Gimeno et al., 1997; Smith and Miner, 1983). When there are multiple founders in a new venture, they must split equity and decision rights among themselves. Thus, although co-founders can often help create a bigger “pie,” at the end of the day each co-founder only gets a slice of that pie. However, with employees, alliances, and benefactors, there is no obligation to grant equity or voting power of the venture, meaning the founder is able to retain more of it. As one founder said, “*you don't have to negotiate the future of the company with anybody... or have power struggles or disagreements about who does what in the company.*”. Thus, for founders who wish to retain equity and control, co-creators may actually be preferable to co-founders.

Overall, in terms of *venture* performance, solo-founded ventures may perform just as well as co-founded ventures when they have access to co-creators. However, in terms of *founder* performance (i.e., the benefits accrued by the individual founder), these co-creators may even be preferable to co-founders. This is because co-creators provide many or all of the same benefits as co-founders (i.e., capital), but without many of the negatives (i.e., conflict and control).

DISCUSSION

New ventures generally face severe resource constraints. If new ventures hope to survive, they must rapidly mobilize resources (human, social, and financial capital) in order to compete effectively. This is generally difficult at the beginning of a new venture, as the entrepreneur may have a rough version of an idea but not enough proof of concept to attract investors and thus must find alternative ways of mobilizing resources. One of the most common ways in which entrepreneurs do so early on is by teaming up with co-founders (Wasserman, 2012). The logic is that founding a venture is too much for one person, and thus co-founders are a necessary source of

human, social, and financial capital early on. Past studies have found evidence of this, showing that on average, larger founding teams perform better than smaller founding teams (Eisenhardt and Schoonhoven, 1990). However - although past research agrees that co-founders help overcome key resource constraints to achieve high performance, it does not address the conditions (if any) under which solo founders may be able to perform as well as co-founders. This study helps to fill this gap in past literature which has not distinguished between new ventures founded by a single founder and new ventures founded by multiple co-founders.

Specifically, we find evidence that some founders mobilize resources through *co-creators* rather than co-founders. These co-creators come in several forms. For example, some founders in our sample had access to sufficient financial capital at the outset of their venture, and were thus able to hire *employees* to fill the gaps in their human and social capital. Other founders formed *alliances* with other organizations, thus filling their gaps in human, social, and financial capital through formal partnerships. Yet other founders had *benefactors*, who came in a variety of forms but all provided the founders with some combination of human, social, and financial capital they needed to succeed, all without any expectation of reciprocation or compensation. These co-creators built the business alongside the founders, just without a traditional co-founding relationship.

At a broad level, our study contributes to entrepreneurship by shedding new light on the resource mobilization process. We show that co-founders, though beneficial, are not required for venture development. Instead, our study is the first to imply that there may be potential *substitutes* for co-founders. This stands in contrast to much of the existing entrepreneurship literature which assumes either implicitly or explicitly that multiple co-founders are required for new ventures to succeed, causing most studies to focus on entrepreneurial teams rather than individual founders. Our study, however, implies that co-founders are not always required, as solo founders can find

substitutes that provide many or all of the same benefits as co-founders. Thus, although these two venture types (solo-founded and co-founded) are very different in terms of resource mobilization, the result is often the same. Solo founders bring in the same resources, just through different vehicles.

Our findings also imply that in some cases, these co-creators may even be preferable to co-founders. This is because co-creators provide many or all of the same benefits as co-founders (i.e., capital), but without many of the negatives (i.e., conflict and loss of control). Thus, although co-founders bring necessary resources and thus increase the overall value of the venture, each co-founder only gets a slice of that value. In contrast, solo founders who have co-creators can achieve the same value for their venture, but are not required to share it with anyone. Future work should continue to tease out this distinction between venture and founder performance to further our understanding of this tradeoff between value creation and value appropriation in founding teams.

Our study also contributes by introducing the concept of benefactors into the entrepreneurship literature. Though past studies have examined related concepts such as mentors (Ozgen and Baron, 2007), past literature has not addressed the role of outside parties who relax some resource constraint for entrepreneurs with no expectation of compensation (i.e., “benefactors”). In practice, however, these benefactors likely play an important role in the process of resource mobilization, especially early on in the life of a venture. Future work should more fully explore this phenomenon and how it impacts venture performance.

Finally, our study has practical implications for entrepreneurs deciding to co-found or solo-found. Much of this decision will depend on the resources that are available to the founder at time of founding. If founders do not have adequate financial capital to hire employees and also do not have adequate social capital to find alliance partners or benefactors, then they may be forced to

find co-founders to mobilize resources early on. However, if founders do have access to these co-creators, then the decision depends on the preferences of the individual founder. For example, some work that even if a founder does have adequate resources to go solo, he or she may still choose to bring on co-founders for social/psychological support (Wasserman, 2012). In this sense, co-creators (employees, alliances, and benefactors) are not a perfect substitute for co-founders. Founding a new venture is full of ups and downs, and co-founders are able to support each other in a unique way, as they all share together in the emotional high points and low points of the venture. But employees relationships, for example, are different. One founder explained how she wished she had a co-founder, saying *“I have team members now, but they are employees, and... I want to share that with [them], but there are lines that you can't cross with employee/employer relationships and I need to keep those lines.”* Some founders may wish to bring on co-founders due to these social/psychological preferences. Other founders, however, may have no such preferences and may instead prefer to maintain as much control and equity in the firm as possible. These founders should mobilize resources through co-creators rather than co-founders to the extent possible.

CONCLUSION

While much of the extant literature focuses on entrepreneurial teams and argues that co-founders are beneficial or even required for new venture performance, little is known regarding whether and when solo founding is also a viable founding type. In this paper, we discuss how co-founders, though beneficial, are not always required for a new venture to succeed. Specifically, solo founders are able to derive many of same benefits provided by co-founders but through different means. These co-creators (employees, alliances, and benefactors) may be even preferred over co-founders, as the founder is able to retain more equity and control and avoid the destructive

conflict often associated with co-founders. Overall, these results help to fill the gap in past literature on new venture performance which has not distinguished between new ventures founded by a single founder and new ventures founded by multiple co-founders.

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Figure 1: How Solo Founders Overcome Those Challenges

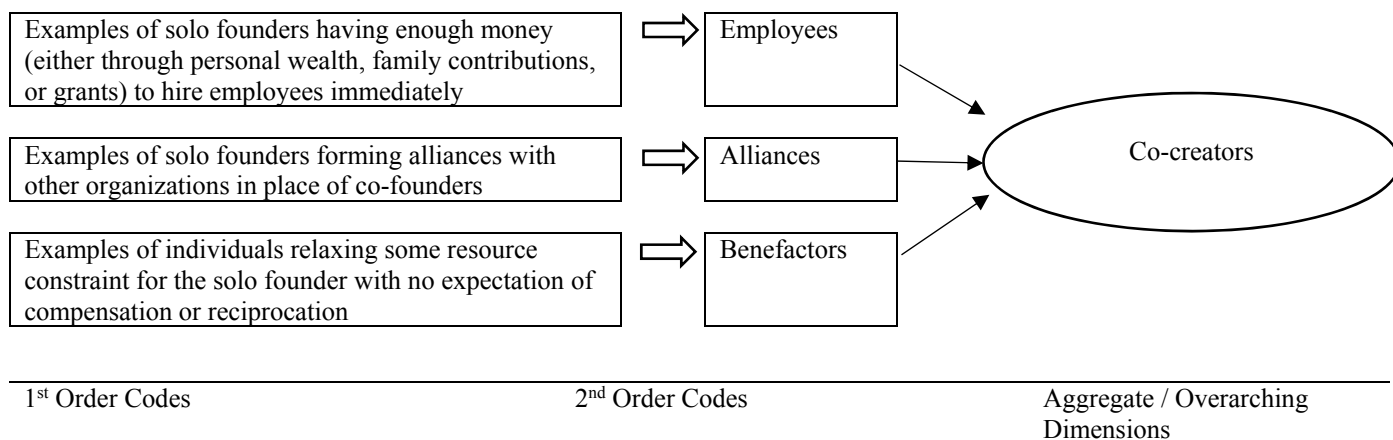


Table 1: Calibration Table for Fuzzy Set Qualitative Analysis

Venture	Explanatory conditions					Outcome Revenue ^b
	Co-founders ^a	Employees ^a	Alliance ^a	Benefactor ^a	Product Expertise ^a	
1	0	1	0	0	1	1
2	0	1	0	0	1	1
3	0	0	0	1	1	1
4	0	0	0	1	1	1
5	0	1	1	0	1	1
6	0	1	0	0	1	1
7	0	0	0	1	1	1
8	0	1	1	0	1	1
9	0	1	0	0	1	1
10	0	1	0	0	1	0.75
11	0	0	0	1	1	0.75
12	0	0	1	0	1	0.75
13	0	0	1	0	1	0.75
14	0	1	0	0	1	0.50
15	0	0	0	0	0	0.25
16	0	0	0	0	1	0.25
17	0	0	0	0	1	0.25
18	0	0	0	0	1	0.25
19	0	0	0	0	1	0
20	0	0	0	0	0	0
21	0	0	0	0	0	0
22	0	1	0	0	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	0	0	0	0	1	0
26	0	0	0	0	0	0
27	0	0	0	0	1	0
28	0	0	0	0	1	0
29	0	0	0	0	0	0
30	0	0	0	0	0	0
31	0	0	0	0	0	0
32	0	0	0	0	1	0
33	1	0	0	0	0	0
34	1	1	0	0	1	1
35	1	0	0	0	1	1
36	1	0	0	0	0	1
37	1	0	0	0	1	1
38	1	1	0	0	1	1
39	1	0	0	0	1	1
40	1	0	0	0	1	1
41	1	0	0	0	1	0.75
42	1	0	0	0	1	0.75
43	1	0	0	0	1	0.75
44	1	0	0	0	1	0.50
45	1	0	0	0	1	0.50
46	1	0	1	0	1	0.50
47	1	0	0	0	1	0.50
48	1	0	0	0	1	0.50
49	1	0	0	0	1	0.50
50	1	1	0	0	1	0.50
51	1	0	0	0	1	0.50
52	1	0	0	0	1	0.50
53	1	0	0	0	0	0
54	1	0	0	0	0	0
55	1	0	0	0	0	0
56	1	0	0	0	0	0
57	1	0	0	0	0	0
58	1	1	0	0	1	0
59	1	0	0	0	0	0

- a. “1” represents the presence of the condition, and “0” represents the absence of the condition.
- b. 1 = revenue above \$1 million; 0.75 = revenue between \$500,000 and \$1 million; 0.50 = revenue between \$100,000 and \$500,000; 0.25 = revenue between \$10,000 and \$100,000; 0 = revenue below \$10,000.

Table 2: Configurations of conditions leading to solo founder success/failure

Explanatory conditions	Configurations leading to high performance				Configurations leading to low performance	
	1	2	3	4	5	6
Co-founders	●	⊗	⊗		⊗	⊗
Employees	⊗	●			⊗	
Alliance partner	⊗		●		⊗	⊗
Benefactor				●	⊗	⊗
Product expertise	●	●	●	●		⊗
Consistency	0.778	0.906	0.875	0.938	0.944	0.977
Raw coverage	0.257	0.266	0.128	0.138	0.553	0.350
Unique coverage	0.257	0.193	0.055	0.138	0.236	0.033
	Solution consistency: 0.848				Solution consistency: 0.947	
	Solution coverage: 0.716				Solution coverage: 0.585	

NOTES: Black circles ● indicate the presence of a condition, and open ⊗ circles indicate its absence. We follow the approach outlined by Ragin and Fiss (2008) by displaying the intermediate solutions, with larger circles represent “core” conditions, and smaller circles indicating “periphery” or contributing conditions. Blank spaces indicate that the condition is not relevant to that particular configuration (i.e., it may be either present or absent).

Table 2 reports measures of consistency and coverage for each individual configuration. Consistency refers to the degree to which cases in that configuration exhibit the outcome. Raw coverage shows the total percentage of cases that are members of that particular configuration. Given that some cases can be members of multiple configurations, we also show unique coverage which represents the percentage of cases that are exclusively a member of that particular configuration.

The overall solution that explains high performance has a consistency of 0.848, and the solution that explains low performance has an overall consistency of 0.947. These are above the 0.80 consistency threshold that past research deems acceptable (Fiss, 2011). Coverage, which measures the extent to which the solution explain all of the cases exhibiting the outcome, is 0.716 for the high-performance solution and 0.585 for the low-performance solution.

Table 3: Resource Mobilization Strategies

Co-Creator	Explanation	Examples
Co-Founders	Many entrepreneurs search out co-founders to fill the gaps in their own human, social, and financial capital. Past research has shown that this is a common way for founders to mobilize resources	<ul style="list-style-type: none"> • Founder who searched out co-founders with complementary skillsets to fill gaps in human capital • Founder who searched out co-founders with connections to venture capitalists to fill gaps in social capital • Founder who searched out co-founder who could contribute financial capital to the early days of the venture
Employees	Some founders have access to adequate financial capital, and are thus able to hire employees from the outset rather than find co-founders	<ul style="list-style-type: none"> • Solo founder used personal wealth (from sale of prior venture) to hire employees. • Solo founder received a large Small Business Innovation Research (SBIR) grant, allowing him to hire employees • Solo founder received a non-dilutive grant from a local entrepreneurial support organization who focused on providing funding to early-stage entrepreneurs
Alliance partners	Some founders opt to form alliances with other organizations, allowing them to benefit from their partners' expertise or connections while still remaining the sole founder	<ul style="list-style-type: none"> • Solo founder formed an alliance with another venture who sold a portfolio of products that included the solo founder's product • Solo founder formed an alliance with a YouTube celebrity who offered to promote the founder's products for a share of the profits • Solo founder formed an alliance with a local utility company who helped fund and guide early product development
Benefactors	Some founders have access to benefactors, referring to an outside party who relaxes some significant resource constraint for an entrepreneur with no expectation of compensation or reciprocation	<ul style="list-style-type: none"> • Solo founder had a friend who allowed him to use his company's equipment and employees until the founder had earned enough revenue to hire his own employees • Solo founder had friends in the industry who allowed her to use their equipment, as well as helped her develop the product and connect her to vendors • Solo founder was friends with an influential multi-millionaire who helped her develop the company and find customers and investors.

Table 4: The benefits of going solo

Reason	Explanation	Representative quotations
Avoid co-founder conflict	The more founders there are, the more opportunities there are for conflict to arise. Solo founders benefit from avoiding this conflict.	<ul style="list-style-type: none"> • "I've heard such horror stories about having bad co-founders. I am really leery about [it]...It's a long process to find someone and ...I hear horror stories. And I don't want to get caught with something like that." • "I've heard the horror stories. It's just like having a coworker you don't like and y'all have to work on a project...It's that scenario that scares me" • "I read a lot of horror stories about co-founders squabbling over ownership percentages, who had how much stock and who's getting paid what." • "If [I had a co-founder who] had something that they didn't want to focus on that I felt really passionate that I needed to, that would've really kind of thrown me off. That was actually one of my fears, which is why I don't have a co-founder. I just didn't want to have to consider somebody else's emotion too much in my decision-making." • "It's easy to just be overwhelmed with what needs to be done and wanna find anyone that's willing to join. But I've seen over and over again the kind of heartache people have halfway into a startup, or months into a startup when they hire too fast or grab someone too fast." • "I think having more people is great, and there's more energy, but people are people. And people, sometimes, are in better moods than others." • "A lot of problems that startups face are co-founder problems, and in fact the number-one thing I believe that kills... companies is co-founder problems."
Maintain equity/control	Some entrepreneurs are very interested in the non-pecuniary benefits of control. Solo founders enjoy a great deal of control.	<ul style="list-style-type: none"> • "I would say that my personality... I tend to just want to do things my own way. I really just want to have my own business [and be] a solo founder making the decisions..." • "you don't have to negotiate the future of the company with anybody or have fights about what you're trying to do or have power struggles or disagreements about how does what in the company. A lot of saved headache and heartache." • "In terms of control of the company, I prefer to maintain that because I do have a vision of where it wants to grow and take it...In terms of the technology stack control, that's something I intend to maintain control of no matter what." • "As a sole founder you have a lot of leeway to take things in the direction that you see the best fit." • "I don't have to report to anyone. I can just go full out whenever I feel like it. Get up super early in the morning. Just work. I don't know, just the freedom is nice" • "I can create my own stuff. I can come up with my own ideas. I can do my own designs. Yeah. I have control." • "I don't necessarily think that a co-founder is necessary... I think having one individual really streamlines the decision making process...I've been the only member on the board, it makes board decisions a lot easier." • "I also like to get things done quickly. But in product development or anything, as soon as you add more people, it just becomes a lot longer process and kind of back and forth...I have found that when thinking about adding extra people on, it's always like 'it's going to take that much longer'"
Grow or develop personally	Some entrepreneurs like being solo founders not because it helps their business, but because it helps them grow and develop personally. They enjoy learning new things and wearing all hats.	<ul style="list-style-type: none"> • "[Being a solo founder] has been incredibly revelatory for me in terms of growth and development as a person, as a father, as a husband, as a partner. I realized now a lot more things about myself than I ever did, and that's been invaluable and truly that's priceless...I don't think you get that just kinda going through it with a group because the blame instinct is just that, it's an instinct, you won't take as critical a look at yourself." • "It's forcing me to work in areas I have zero exposure to, which I love to learn, it's exciting to kind of put on some of those other hats and learn about teachability and a marketing plan and how to create viral content... It's just something I haven't explored before, it's really cool." • "There are times I wish I had a co-founder, but it's also empowering to know, no, I'm the sole founder...Any girl can do this... And the hope is, is that down the line, there's girls and young women that look at this [as an example]" • "I think that I have a lot of different skills besides the software development and I want to be using them, and I think having my own business allows me to do that." • "The more I've done it over the past couple of years, the more I've gotten confident in, not the ability to always make the right decision or know the solution to a problem, but more confident in the ability that I can find it out, and find out, where now I can learn it. Or find somebody who can teach it to me or advise me on it" • "I learned a lot. Huge amount of stuff in ways that now could mean very good position in comparison to other people"