Paper to be presented at: DRUID17
NYU Stern School of Business, New York, June 12-14, 2017

Do Disruptive Visions Pay Off? The Impact of Disruptive Framing of Entrepreneurial Visions on Venture Funding

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Abstract
We investigate whether framing an entrepreneurial vision in a disruptive way helps or hampers subsequent investment acquisition. Disruptive framing of entrepreneurial visions refers to the promotion of an interruption or displacement of an existing technology, service, or business model. We contrast this with achievement framing, which communicates previous and current achievements. Drawing from real options theory, we hypothesize that disruptive framing increases the likelihood of getting funded, but attracts fewer amounts. These effects are exacerbated by achievement framing. A novel dataset of Israeli start-ups shows that a standard deviation increase in disruptive vision communication increases the odds of getting funded by 14 percent, but reduces amounts of funds received by 36 percent. In addition, achievement framing complements disruptive framing in the odds of receiving funding, but substitutes it in the amount of funds received. These findings offer new insights on how entrepreneurs frame their innovations in the disruption process.

Jelcodes:M13,M13
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Abstract

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Keywords: disruption; entrepreneur; venture funding; vision communication; disruptive framing; achievement framing.
‘Do Disruptive Visions Pay Off?’

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Disruption features the downfall of a leading firm or technology in the market in favor of another, often drastically displacing well established market order and customer demand (Sood & Tellis, 2011). Popularized by Christensen’s theory of disruptive innovations (Christensen, 1997), disruption has become a hot topic in entrepreneurial circles—from citing lists of successful disruptors (e.g., Howard, 2013), encouraging ventures to develop disruptive business models (e.g., Berry, 2012), appointing ‘Chief Disruption Officers’ (Carr, 2013), to naming an entire entrepreneur trade show (e.g., TechCrunch Disrupt). Not surprisingly, entrepreneurs with innovative ventures often try to frame their products, technologies or firms as ‘disruptive’ by incorporating images of disruption in their vision statements (Rachleff, 2013). For disruption to occur, entrepreneurial vision is crucial in persuading customers to try new products, encouraging suppliers and incumbents to collaborate, and, above all, attracting more investors (Ansari et al., 2016). Visions communicate future images of a team, organization or industry to the various stakeholders (Elenkov et al., 2005; Van Knippenberg & Stam, 2014; Westley & Mintzberg, 1989). With disruptive framing we refer to the thematic content of a vision, which involves communicating the disruptive potential of the venture and its products or services.

Despite the prevalence of disruptive framing, prior research tends to overlook the role of future oriented entrepreneurial communications (Garud et al., 2014). Instead, the focus of prior research has been mainly on investigating entrepreneurs’ communications and stories about ‘who we are’ and ‘what we do’ instead of ‘who we will become’, and ‘what we will achieve’ (Lounsbury & Glynn, 2001; Martens et al., 2007; Navis & Glynn, 2011). For example, prior research has found that the communication of high-status affiliations (Burton et al., 2002),
industry leadership (Martens et al., 2007), entrepreneurial track record, or the venture’s resource base (Lounsbury & Glynn, 2001) fosters investors sense making (Navis & Glynn, 2011) and, hence, the venture’s ability to acquire financial investments (Huang & Pearce, 2015). We refer to the prominence of current competencies, resources and achievements in the communications of ventures as achievement framing. Achievement framing is, by its very nature, backward looking with its focus on the entrepreneurs’ and/or venture’s past accomplishments. In contrast, disruptive framing is forward looking and captures entrepreneurial visions (i.e., the communication of a future image of a collective) in a truer sense by presenting the venture’s activities in light of market, technology and customer needs, and what that collective might become (cf. Van Knippenberg & Stam, 2014; Wry et al., 2011). The lack of research on future oriented communications in general and disruptive visions in particular raises a number of key questions: Does disruptive framing of entrepreneurial visions help startups in obtaining investments? And, does achievement framing complement or substitute the use of disruptive framing? Answering these questions will offer scholars and practitioners a better understanding of how entrepreneurs communicate their innovations and how investors respond to different forms of entrepreneurial vision framing.

We develop a contingency model of disruptive and achievement framing and their effectiveness in attracting a first round of funding. We draw from real options theory (for a recent review, see Trigeorgis & Reuer, 2017), which posits that investors make decisions sequentially and start with small initial investments to attain the right but not the obligation to make larger investments in the future (Klingebiel & Adner, 2014). We hypothesize that disruptive framing increases the likelihood of a venture receiving funding in its first funding round, but hampers the amount of funds it receives. The game changing appeal of disruptive
framing instills investors with the perception that they risk the obsolescence of market competencies and investment portfolios if they do not invest in the venture. Additionally, disruptive framing may lead to perceptions of extraordinary return and a fear of missing out on a great investment opportunity. Yet, disruptive framing signals a riskier investment. Therefore, investors are likely to invest a small amount to take the option for further investment later. Furthermore, we hypothesize that both the amount and the likelihood of receiving funds increases if disruptive framing is complemented with achievement framing, because achievement framing builds the investor’s trust in the entrepreneur’s ability to pursue the venture’s vision.

We test these hypotheses using a unique dataset of Israeli startups—a cradle of entrepreneurship with more high-tech startups per capita than any other country and a strong venture investment scene (Avnimelech & Teubal, 2006; Senor & Singer, 2009). We collected the data from the StartupNation Central (SNC) database—a government funded organization that aims to exhaustively collect and accurately store data on all Israeli startups (http://www.startupnationcentral.org/). The data is uniquely qualified to test our hypothesis as it holds a wide range of venture information, including venture’s activities, products, age, funding, management team members and investors. We measured the content of venture’s vision communication through the vision statements taken from their websites. We find that the odds of receiving funding is 14 percent higher for ventures with disruptive framing, which increases by an additional 16 percent when complemented with achievement framing. We also find that conditional on a venture obtaining funding, ventures with disruptive framing acquire 36 percent less funds and the amount of funds further decreases by an additional 25 percent when complemented with achievement framing.
We offer several contributions to research on disruptive innovations, and entrepreneurial visions. First, we introduce disruptive framing as a form of thematic vision content. We enrich the research on disruptive innovations from focusing on the process of disruption as improvements in performance attributes (e.g., Christensen, 1997) to a deeper understanding of the role specific actions of an entrepreneur (e.g., the framing of vision communication) play in acquiring resources critical in the disruption process. Second, we advance a growing stream of research that has pointed out that entrepreneurs use narratives to foster categorization and establish the venture’s identity (e.g., Ansari et al., 2016; Martens et al., 2007; Navis & Glynn, 2011; van Werven et al., 2015; Zott & Huy, 2007); yet, it has largely ignored vision communication (Garud et al., 2014). Investigating the interplay between disruptive and achievement framing enriches our understanding of the different approaches through which entrepreneurs communicate to their stakeholders. Third, we challenge prior research on vision communication that espouses only a positive effect of strong vision communication (e.g., Baum et al., 1998; 2004; Elenkov et al., 2005; Westley & Mintzberg, 1989). Our study is the first to show that disruptive framing of vision communications can hurt entrepreneurs in attracting large investments, and that it may conflict with achievement framing. Thus, we provide practical recommendations for entrepreneurs about how to shape their entrepreneurial vision.

THEORETICAL FRAMEWORK

Entrepreneurial vision communication

Visions are stories and images of the future of a collective (e.g., technology, customers, and/or market) (Berson et al., 2001; House & Shamir, 1993; Van Knippenberg & Stam, 2014). By focusing on the future of a collective, entrepreneurs influence what people think is desirable and possible for that collective and for themselves (i.e. the stakeholders) (Stam et al., 2014; Wry
et al., 2011). Hence, entrepreneurial visions motivate stakeholders to act towards supporting the pursuit of the vision (Baum et al., 1998; Stam et al., 2014) and help the entrepreneur to transform the social-competitive environment it is embedded in (Ansari et al., 2016). Moreover, entrepreneurial visions inform investors of the potential consequences of investing in the venture.

Thus, vision communication is crucial for early stage ventures, who need to convince investors to provide them with highly needed financial capital. The venture’s vision shapes investors’ perception of risk and return of investing in the venture. The content of a vision is stressed through framing—the thematic content through which the vision describes the desired collective future (Conger, 1991; Van Knippenberg & Stam, 2014). Framing is of particular interest to the investigation of investor sense making because entrepreneurs use framing to shape the interpretation and understanding of others, who in turn use those frames to make sense of the new venture and its activities in relation to the larger social-competitive environment (Cornelissen & Werner, 2014; Navis & Glynn, 2011). In the following subsection, we discuss achievement framing—the dominant focus so far in entrepreneurship research—and then introduce disruptive framing.

**Achievement Framing**

Entrepreneurship literature has so far focused on the achievement framing with which entrepreneurs establish an identity, that explicates who they are and what they do (Navis & Glynn, 2011). This frame signals the venture’s ability to deliver on its potential through the communication of acquired competencies and resources. Entrepreneurs may employ achievement framing to promote their achievements in at least three ways (Lounsbury & Glynn, 2001; Martens et al., 2007; Zott & Huy, 2007). One, they may emphasize their entrepreneurial
track record and past performance (e.g., entrepreneurs’ tenure, experience, or successful exits).

Two, they may highlight their market success as a venture (e.g., being an industry leader or first mover, or having a certain amount traction with customers). Three, they may stress their resource base (e.g., network, affiliations, technologies, patents, prototypes, people, and ways of organizing) (Burton et al., 2002; Florin et al., 2003). Through achievement framing, the venture is presented as adhering to larger entrepreneurial and market prototypes, and simultaneously, as introducing variation of those prototypes to set themselves apart from others (i.e., optimal distinctiveness, Glynn & Navis, 2013). Thus, achievement framing presents the venture as “desirable, proper, or appropriate within some socially constructed system of norms, beliefs, and definitions” (Suchman, 1995: 574), and helps ventures in acquiring financial capital (Zimmerman & Zeitz, 2002). Achievement framing guides the sense making of potential investors towards the ‘now’, in terms of what is most familiar to investors, and towards interpreting the qualities of the entrepreneur and the venture in relation to their proposed activities.

While investor sense making is undeniably driven by the communication of achievement frames, it is also driven by an investor’s understanding of the future consequences of the venture’s proposed activities and market level outcomes (e.g., Baum et al., 1998; 2004; Garud et al., 2014; van Werven et al., 2015). Achievement framing does not cover ‘who the entrepreneur will become’, and ‘what s/he will achieve’; and thus it overlooks the visionary part of an entrepreneur’s communications. Consequently, prior research on entrepreneurial framing forgoes the general tendency of entrepreneurs to communicate future states of existence of a collective, which may diverge from the status quo.
Entrepreneurs and their ventures are associated with and derive legitimacy from their newness, novelty and promoted change (Navis & Glynn, 2011). Hence, innovation is a central defining element for entrepreneurs (Ireland et al., 2003; Lumpkin & Dess, 1996). In today’s entrepreneurial context, the focus on innovation has resulted in the increasing expectation that entrepreneurs will reshape the marketplace, technological landscape and society at large. Disruptive framing, on which we elaborate in the following subsection, is a popular way of framing a vision that adheres to such expectations (Christensen et al., 2015; Lepore, 2014) and may have far-reaching consequences for stakeholders’ responses (Ansari et al., 2016).

Investigating disruptive framing allows us to create a more complete and contemporary picture of how the content of entrepreneurial visions influences investment acquisition.

**Disruptive Framing**

Practitioners have readily taken up the term disruption in their business lexicon in order to describe all various kinds of drastic market developments (Christensen et al., 2015; Cosper, 2015; Lepore, 2014). Consider the failures of once renowned incumbents Kodak and Polaroid in the camera industry, getting overthrown by the advent of digital cameras (Lucas & Goh, 2009; Tripsas & Gavetti, 2000), or Nokia, which faced a demand disruption of feature phones in favor of smartphones (Vuori & Huy, 2016). Such infamous examples influence people’s perceptions of technological development and innovations (Gilbert & Bower, 2002). Tales of disruptions show us that they endanger the survival of incumbent players, making those players alert towards disruptive visions (Grove, 1999). Yet, these tales also display disruptions as an opportunity for large gains, on a new playing ground, with different players. Hence, the term is especially popular in the realm of entrepreneurs, who are called upon to disrupt entire industries with their innovations.
We define disruptive framing as communication of an innovation with new performance dimensions, and the promotion of drastic change of the social-competitive environment, away from the status quo. The first aspect of disruptive framing revolves around innovation. Specifically, the disruption process is initiated through the venture’s introduction of an innovation with significantly new or different performance dimensions as compared to incumbent technologies or business models (Sood and Tellis 2011). Disruptive framing highlights new functionalities for the customers, and contains ideas, plans or other evidence of achieving the conventional market objectives in a completely different manner (e.g., virtual reality technology in education allows full student immersion and prevents distraction, and achieves conveying information in a different way than classroom whiteboards or projector’s).

The second aspect of disruptive framing involves drastic change. Disruptive frames highlight deficiencies in the current market and promise an alternative. Disruption at the market level is an extreme outcome, because it results in the uprooting of current market linkages. Indeed, in the eyes of many practitioners, the hallmark of disruption is the call for a new competitive or social order—changing the game as it is—wherein entrepreneurs are the central agent. For example, popular business articles often describe disruption as “[…] a seismic event. It can be destructive or it can be constructive. […] It’s the thing that causes revolutions of thought.” (Cosper, 2015). That is, disruptive framing implies drastic change in the competitive environment, and thus (implicitly) contrasts or compares the venture’s new way of doing business with the status quo.

Disruptive framing of vision communication differs considerably from disruptive innovations. Disruptive innovation theory defines disruptive innovations as innovations with initially inferior performance attributes, with the potential to dethrone the incumbent
technologies, services and/or business models (Christensen, 1997; Christensen & Raynor, 2003). Whereas this definition characterizes innovations, a disruptive framing refers to what entrepreneurs communicate. Furthermore, estimating whether a venture’s innovation can be defined as disruptive or will eventually lead to disruption is hard to determine ex-ante (Danneels, 2004). This is because not all disruptive innovations disrupt and not all disruptions are caused by disruptive innovations (Christensen et al., 2015; King & Baatartogtokh, 2015; Sood & Tellis, 2011). Specifically, as the products or services of early stage ventures are still in development and unknown to wider audiences, the image of what the venture’s does and aims for is derived from how entrepreneurs frame their innovations. To that extent, the disruptive potential of any venture and its innovation is in the eyes of the beholder and malleable through vision communication. For disruptions to occur, various stakeholders in the ecosystem should be persuaded, which can be achieved through entrepreneurs’ framing of their innovations (Ansari et al., 2016). Accordingly, we develop our hypotheses in the next section about the effect of disruptive framing on investment acquisition, and its interplay with achievement framing.

**HYPOTHESIS DEVELOPMENT**

**Disruptive Framing and Investment Acquisition**

We turn to real options theory to explain how disruptive framing affects investor sense making. Real option theory is often used to explain investment decisions under uncertainty (Trigeorgis & Reuer, 2017); and thus is equipped to help us understand how early stage venture capital investors make their investments. In the context of early stage equity investments, a real option can be understood as the investor taking the right, but not the obligation, to an option of further investment. The central premise underlying real options theory is an investor’s ability or freedom to act (e.g., exercise, defer, expand or abandon) at any point in time on the options s/he
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holds. This means that an investor can limit his or her risk exposure by making investment decisions sequentially, where s/he starts with relatively small investments and later reallocates funds according to the venture’s performance and market developments (Klingebiel & Adner, 2014).

Both the choice to buy an option, and the choice to act on an option depend on the level of uncertainty and risk surrounding the development of related markets and technologies over time. We argue that the game changing appeal of disruptive framing introduces uncertainty for investors about the development of current markets and technologies, creating perceptions of extreme opportunity on the one hand, and considerable threat on the other. This uncertainty motivates investors to use real options logic in their investment decisions in the venture.

First, the more disruptive framing a vision contains, the more investors are provided with the perception of an extreme opportunity. A successful disruption creates an industry shake-out with the venture holding the dominant design (Argyres et al., 2015); and thereby yields extraordinary returns for the venture. Huang and Pearce (2015) have recently pointed out that most early stage investors are not interested in conventionally profitable investments. Instead, they seek out those entrepreneurs that may provide them with extraordinary returns. Consequently, investors that are willing to take high risk positions, such as early stage investors, may be triggered by the implicit promise of such returns.

Second, social-psychological considerations also play an important role in investor sense making. For example, investors may act on the prospect of feeling pride when making a uniquely good investment decision. Yet, the opposite of pride, the regret of a missed opportunity, may be an even stronger driver of the decision to invest. Recent research suggests that an investor’s willingness to provide capital to a new venture is often driven by the aversion of an anticipated
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regret or envy (Hooshangi & Loewenstein, in press). We argue that disruptive framing instills investors with a fear that they will be missing the next big change in the marketplace. Hence, investors may act on an anticipated regret or apprehension that the focal venture achieves disruption and that other investors will be part of the ensuing change in the marketplace and subsequent extraordinary returns, whereas they themselves are not.

Third, disruptive framing also presents investors with considerable threat of failure. The image of disruption implies that current market linkages will not uphold in the future. Therefore, investors may fear that their current investment portfolios and capabilities are at risk if the venture becomes successful. Specifically, the image of disruption implies the potential loss of valuable competencies regarding current market structures and dynamics (Henderson, 2006), as well as the obsolescence of an investor’s current investments, which may reside with the venture’s rival firms or technologies. Thus, risk of obsolescence is a strong driver for investors to select an option that increases its flexibility to exercise different strategic alternatives at a later stage (e.g., Chandy et al., 2003). For example, if the market develops in favor of the venture, the investor may deescalate its commitment to current firms and markets it’s invested in, and switch its commitment to the entrepreneurial venture and related technologies and markets. Hence, disruptive framing creates investor’ impetus to hedge anticipated obsolescence of their market competencies and investment portfolios.

Therefore, we argue that ventures who use more disruptive framing in their visions are more likely to attract funding because they motivate investors to take an option position in the venture.

**Hypothesis 1**: The more a venture uses disruptive framing, the more likely that it will acquire a financial investment.
Disruption is a distant and hard-to-achieve outcome, and ventures promoting disruption often purport to aim at untapped markets, with unfamiliar methods, activities and technologies, and promote uncertain and unknown outcomes. Thus, ventures communicating more disruptive framing are perceived to be uncertain and risky bets for investors.

Real options theory suggests that investors have the right, but not the obligation, to act at any point in time on the options they hold. Thus, when the venture is perceived as highly risky and uncertain, it makes more sense for investors to take a small investment position (Klingebiel & Adner, 2014). Specifically, as actions on the option (e.g., exercising the right to further investment, or abandoning further investment) can be conducted at later stages of market development, when uncertainty decreases, there is no incentive for investors to provide large amounts of funds initially. Hence, because disruptive framing creates the image of the venture as being risky, and its development uncertain, disruptive framing discourages investors to take high volume stakes in the venture. We argue that:

**Hypothesis 2:** The more a venture uses disruptive framing, the smaller amounts of financial investments it will receive.

**Interplay of disruptive and achievement framing**

Vision communications that incorporate both disruptive framing and achievement framing have a higher likelihood of obtaining funds than vision communications that incorporate only one of the two framings for at least two reasons. First, including both achievement and disruptive framing in vision communication fosters the investor’s trust in the continuity and predictability of entrepreneurial behavior in executing proposed future activities and the pursuit of related outcomes (cf. Maxwell & Lévesque, 2014; McKnight et al., 1998). Achievement framing communicates the previous and current successes, capabilities, commitments and
resources of the entrepreneur and the venture. Therefore, it signals that the entrepreneurs are suited to pursue the desired outcomes (Huang & Pearce, 2015), are in possession of the necessary resources (Lounsbury & Glynn, 2001), and have a track record of achieving similarly distant outcomes. As Dirks (2000: 1005) argues, “observations of past outcomes are likely to shape [the] expectations [of the entrepreneur’s or venture’s future behavior], particularly in an uncertain environment”. Fostering the perception of continuity and predictability creates an optimal balance especially when using disruptive framing, as such a strongly future oriented frame creates the perception that the entrepreneur may be more likely to diverge from the presented plan (Garud et al., 2014).

Second, achievement framing fosters the credibility of the entrepreneur in promoting a disruptive vision. Specifically, as disruptive outcomes are cognitively distant and ostensibly hard to achieve, it may be very hard for investors to assess whether the disruptive vision is credible. Hence, investors rely on their perception of the entrepreneur’s and/or venture’s achievements to assess the credibility of the entrepreneur in proposing such distant and unfamiliar outcomes (Gompers et al., 2016). That is, whether they believe the venture is warranted in proposing the constellation of cause and outcome as put forward in the disruptive vision. With investors, the belief that the disruptive vision is credible is prerequisite in strengthening the value of the investment option presented by the new venture.

Conversely, we argue that a lack of achievement framing leads to a negative effect of high disruptive framing on the likelihood and volume of investments acquired. Without achievement framing there is no ground for investors to build trust in the entrepreneur, because they have no observations of past outcomes to shape their expectations of the entrepreneur’s future behavior. Moreover, high disruptive framing in the absence of achievement framing may lead investors to
distrust the entrepreneur, because the only behavior investors observe is the entrepreneur’s promotion of a distant and aggressive vision, without the necessary experiences and achievements to legitimize that behavior. Perceptions of high risk are offset by a non-credible promise of extraordinary returns, and investors might not believe in the idea that the competitive game is changing. Investors are less likely to fear obsolescence of their capabilities and investment portfolios, nor have a fear of missing out on the game changing opportunity. Overall, investors no longer see the venture as a viable option to invest in when the vision communication involves the use of disruptive framing without achievement framing.

Hence, we hypothesize that ventures who communicate with more disruptive framing and with more achievement framing are more likely to obtain funds, and with higher volume, than those venture’s that only communicate disruptively.

**Hypothesis 3a:** Achievement framing moderates the relationship between disruptive framing and the likelihood of acquiring of a financial investment such that disruptive framing increases (decreases) the likelihood of receiving funding, when achievement framing is high (low).

**Hypothesis 3b:** Achievement framing moderates the relationship between disruptive framing and the amount of financial investments acquired such that disruptive framing increases (decreases) the amount of funding, when achievement framing is high (low).

**METHOD**

**Sample**

We test our hypotheses using a database of Israeli startups. Israel is often dubbed ‘Startup Nation’ for its strong entrepreneurial scene, having more high-tech startups per capita than any
other nation on earth (Senor & Singer, 2009) and a strong venture capital investment scene (Avnimelech & Teubal, 2006). Israeli start-ups are young, internationally oriented, knowledge-intensive organizations that sell mainly innovative, proprietary self-developed technologies (Engel & del-Palacio, 2011). We collected data from the StartupNation Central (SNC) database. SNC is a government funded organization that aims to exhaustively collect and accurately store data on all Israeli startups (http://www.startupnationcentral.org/). The data provided by SNC provides detailed information on ventures’ activities, products, locations, founders, management team, funding and investors.

This dataset is uniquely qualified for testing our hypotheses. First, it details all necessary information on venture, entrepreneur, and funding related aspects. Second, for each startup vision statements are available. We randomly selected 1000 startup firms from the full sample of 7946 startup firms and manually coded their vision statements (more on this in the following subsection). We then arranged four meetings with the director in charge of the SNC data. Based on these meetings, we sampled all the startups that received their first funding round after 2012, as these startups were indicated to be most accurately and exhaustively represented in the database. Since the amount of time before ventures get a first funding round may vary, but likely not more than a decade after founding (Gompers, 1995), we only selected ventures that were founded after 2002, yielding 598 startups. After removing missing values on the variables included in our models, the final dataset contains 562 startups. Difference tests comparing the final and excluded data did not reveal any significant differences in terms of our dependent variables: for proportion of ventures receiving funding ($\chi^2=1.01, p=0.31$) and amount of funding ($U=39383, p=0.27$).

**Measures**
Dependent variables

Our hypotheses investigate whether and how much funding a venture has received in relation to its disruptive vision communication. We focus on ventures’ first funding round, because in the very early stages of venture investment the lack of information about a venture makes investors rely on more subjective judgments. These judgments are influenced by the venture’s vision communication and storytelling (Navis & Glynn, 2011). Additionally, investors may look to other investors who have invested in the first round to assess the quality of the venture in later rounds (Gompers et al., 2016; Huang & Pearce, 2015).

We coded ventures that had a funding round as received funding. The amount of financial investments is measured as the amount of funding in dollars a venture received in its first funding round. This variable is not normally distributed: Skewness was 3.44 and kurtosis was 15.19, indicating asymmetry of the distribution of the variable in the positive direction and thickness of the right tail of the distribution (Greene, 2012). The Shapiro-Wilk test confirmed the assumption that the variable was drawn from a non-normal distribution (W = .60, p < .001). Consequently, we employed the natural log of this variable in estimating our models.

Independent variables

Measuring vision content is a challenging task. We followed the common practice of coding venture vision statements (e.g., Baum et al., 1998; Baum & Locke, 2004; Berson et al., 2001), which were displayed in the Startup Nation database for investors to see. Because the SNC platform is used by investors to search for and select promising start-ups, these statements are important in entrepreneurs’ communication with investors.
We employed four coders who were not otherwise involved in this research to code disruptive and achievement framing. We divided vision statements in two sets, and each set was assessed independently by two coders. The coders were asked to conduct their coding alone and refrain from discussion with their coding partner, aside from the formal meetings to align the coding process. After the coding ended we organized an additional meeting to allow the coders to explain and resolve their disagreements.

We operationalized disruptive framing using three measures. Accordingly, the coders assessed each vision statement on whether it (i) “promotes drastic change” (1 if yes, 0 otherwise), (ii) “includes ideas, plans or other evidence of achieving the conventional market objective in a completely different manner” (1 if yes, 0 otherwise), and (iii) “promotes the venture’s innovation or activities as enabling a completely new function” (1 if yes, 0 otherwise). Both sets of coders presented sufficient agreement (mean Rwg = .86) and reliability in their assessment of disruptive framing (mean ICC2 = .63). The coders resolved discrepancies through discussion. Consequently, we summed individual scores across items to calculate disruptive framing.

Similarly, we operationalized achievement framing using four measures: the coders rated each vision statement on whether it (i) “features evidence of past performance/experience of the venture and its entrepreneurs” (1 if yes, 0 otherwise), (ii) “contains claims of past and existing strong partnership/networks/affiliations” (1 if yes, 0 otherwise), (iii) “features claims of being the biggest/first/best...in the industry” (1 if yes, 0 otherwise), and (iv) “contains claims of the venture having the latest technology/capability/ability to deliver” (1 if yes, 0 otherwise). Both sets of coders agreed sufficiently on the values of achievement framing (mean Rwg = .84). The reliability between the coders was high (mean ICC2 = .78). The coders resolved discrepancies
through discussion. We summed individual scores across items to calculate achievement framing.

**Control variables**

We included four sets of control variables in our models related to the characteristics of the venture, its founders, product and market, and the funding round.

The first set of controls on the characteristics of the venture include venture size, age, social media exposure and use of imagery in the vision statements. Larger firms have more resource endowments and may be more attractive to investors as they signal initial success, growth and are more self-sufficient and stable (Davila et al., 2003; Shane & Stuart, 2002). Additionally, larger ventures may have larger funding needs than smaller ventures, because they have more assets and employees to sustain in expanding their operations. Therefore, we control for the size of the venture. The variable Size measures the number of employees in the year of application for investment, which was measured as an interval variable, with intervals 1-10, 11-50 and 51-200. Additionally, venture capitalists and angel investors often focus on early stage investments and thus may favor younger ventures. Therefore, we control for venture age by subtracting the current year from year of founding.

We controlled for a venture’s social media exposure, because social media may increase the visibility of the venture. Specifically, social media exposure may enhance investors’ awareness of the venture, its activities and its vision, easing the way for the provision of funding. Moreover, the SNC website displays direct links to the social media platforms (i.e., Facebook, LinkedIn, Google Plus, and Twitter). We proxy social media exposure by measuring the number of social media platforms for which the venture had a link in the SNC database.
Visionary communications are often associated with Imagery (Emrich et al., 2001). Imagery brings vision to life, and visions high in imagery induce more vivid images of what is communicated (Carton et al., 2014). We control for imagery to show the effect of disruptive framing above and beyond imagery. We used Toronto Wordpool that rates words on their imagery on a 1 to 7 scale (Friendly et al., 1982). We then averaged the imagery scores of all words in a venture’s vision statement.

The second set of controls include characteristics of the founders. First, we include the Number of Founders, because in most funding rounds investor’s willingness to provide funding and the amount they provide is dependent on the ownership stake the venture offers. If there are multiple founders their ownership has to be divided over more parties, and available equity and future returns shrink. Second, we controlled for whether any of the founders is a serial entrepreneur. Serial entrepreneurs may have built up experience and networks that grants them credibility and access to valuable resources (Cassar, 2014). We coded Serial Entrepreneur as 1 if a (co-)founder occurred as a (co-)founder of another startup in our database and 0 if not.

The third set of controls include product and market characteristics. Products that are still in research and development phase are riskier investments than those that have already been launched. We control for the stage of development by including a dummy variable, Released, which is 1 if the venture’s products had a commercial release and 0 if not. We also controlled for Geographic scope because the number of target markets can affect sales and growth potential as well as the capital needed to manage the operations in different markets. Venture capitalists tend to favor less geographic diversity in the venture’s target markets (Gupta & Sapienza, 1992). SNC database lists each startups’ geographical target markets. The geographic areas include North-America, South-America, Europe, Asia, Africa, Middle-East and Oceania. We proxy geographic
scope by the number of geographic areas in which the venture is active. The Business Model of startups affects investor’s perception of business viability. For example, ventures that operate in business to consumer markets (b2c) tend to have more dispersed clients and each client accounts for a smaller amount of revenue than firms that operate in business to business markets. Hence, we included b2c as a dummy in our models.

The fourth set of controls include dummies for the stage of funding. The Type of Funding Round of the venture’s first funding round. Our dataset includes ventures that had series A, B or C or Seed funding in their first round. Generally, amount of funding increases with the funding round, and startups usually participate in different rounds if they have different funding needs.

Analysis

Receiving funds is not a random process, which may introduce bias in our coefficient estimates on the amount of funds the ventures obtain. We control for this potential selection bias using the Heckman’s selection model, thus:

(selection equation) \[ z_i = w_i' \gamma + u_i, \quad z_i = 1 \text{ if received funding and 0 otherwise} \quad (1) \]

(outcome equation) \[ y_i = x_i' \beta + \varepsilon_i, \quad \text{observed only if } z_i = 1 \quad (2) \]

where \( y_i \) denotes the amount of funding and observable only for the ventures which received funding, \( z_i = 1 \). \( w_i' \) and \( x_i' \) denote the covariates and the control variables identified in the previous section. \( \gamma \) and \( \beta \) are the coefficients for selection and outcome equations, respectively. \( u_i \) and \( \varepsilon_i \) have a bivariate normal distribution with zero means, variances \( \sigma_u^2 \) and \( \sigma_\varepsilon^2 \), and with correlation \( \rho \). We later conducted a Wald test in Table 3 and 4, which rejected the null
Do Disruptive Visions Pay Off?

hypothesis that \( \rho = 0 \) was rejected at \( p < 0.001 \), justifying the use of Heckman selection model (Wooldridge, 2010).

Prior research suggests an exclusion restriction where there is at least one variable with a non-zero coefficient included in \( w_i' \), but not \( x_i' \) (Certo et al., 2016). We used venture age and social media exposure as exclusionary variables.

To mitigate sample selection bias induced by a non-random selection of observations in receiving investment, we employed Heckman correction with full information maximum likelihood estimator (FIML):

\[
\ln L = \sum_{i=1}^{n} \ln \left[ \frac{\exp(-\frac{1}{2})e_i^2 / \sigma_e^2}{\sigma_e \sqrt{2\pi}} \Phi \left( \frac{\rho e_i / \sigma_e w_i' \gamma}{\sqrt{1 - \rho^2}} \right) \right] + \sum_{i=1}^{n} [1 - \ln \Phi(w_i' \gamma)]
\]  

(3)

FIML estimator offers more efficiency than the commonly used two-step estimator (Greene, 2012), because all parameters are estimated simultaneously by using the likelihood function.

RESULTS

We begin our results by investigating bi-variate correlations. Table 1 presents the means, standard deviations and correlations of the model variables. We observe that the majority of ventures had released their product, were on average 4.8 years old, operated mostly in one geographic area, and most ventures had one founder. Furthermore, only 19 percent of ventures received a financial investment, and those that did so attracted on average $1.5 million (geometric mean). We observe that venture size is positively associated with the likelihood of receiving a financial investment and with the amount of funds. Mature ventures are disadvantaged in receiving an investment; but when they secure an investment, the amount is
larger than what younger ventures receive. Additionally, Table 1 shows that ventures that are active on more social media platforms are more likely to receive an investment. Regarding our main variables of interests, we observe that disruptive framing is positively and significantly correlated with receiving funding, and that achievement framing is positively and significantly correlated with receiving a higher amount of funding. Furthermore, Table 1 shows that achievement framing is utilized by larger and more mature ventures, and has no strong significant association with disruptive framing.

**Hypothesis testing**

Table 2 shows the results of the selection model estimating the likelihood of a venture receiving funding. Model 1 includes only the control variables. As we expected, older ventures in our database were less likely to receive funding (Venture Age: $\beta = -.30$, S.E = .09, $p < .001$), but ventures with more employees (Venture Size: $\beta = .31$, S.E = .07, $p < .001$) and with high social media exposure ($\beta = .23$, S.E = .08, $p < .01$) were more likely to attract funding. These effects remain qualitatively stable over the models that include our independent variables.

We observe that Model 1 shows no significant effect of selection, which indicates that the framing of a venture’s vision is a strong selector variable, affecting the outcome model. In both Models 2 and 3 there was a strong negative and significant effect of selection ($\rho = -.97$, S.E = .02, $p < .001$), indicating that the amount of funding is overestimated without a selection bias correction.

Model 2 includes the main effects of our independent variables. The results confirm Hypothesis 1, stating that disruptive framing positively predicts the likelihood of receiving funds ($\beta = .13$, S.E = .06, $p < .05$). That is, one standard deviation increase in disruptive framing increases the odds of receiving funding by 14 percent.
Model 3 includes the interaction between disruptive and achievement framing, to test Hypothesis 3a. We find support for this hypothesis, indicating that achievement framing moderates disruptive framing ($\beta = .15$, S.E = .06, $p < .05$). Hence, ventures that communicate with both high disruptive and high achievement framing have the highest chances of being selected for funding. Figure 1 plots this interaction. The results reveal that one standard deviation increase in achievement framing leads to a 16 percent increase in odds of receiving funding for a venture communicating with disruptive framing.

Table 3 displays the results of our outcome regression equation, in which we estimated the amount of funding received by ventures in their first funding round. Model 1 only includes the control variables. Intuitively, we observe that ventures with a Series A ($\beta = 2.06$, S.E = .03, $p < .001$), B ($\beta = 2.27$, S.E = .55, $p < .001$) or C ($\beta = 1.7$, S.E = .71, $p < .05$) funding round received significantly more money than firms in the Seed rounds. In addition, in Model 2 and 3 having an additional founder significantly reduces the amount of funding by 42 percent, as less equity stake becomes available to divide among investors (Number of founders: $\beta = -.42$, S.E = .21, $p < .05$, Model 2).

The results in Model 2 support Hypothesis 2, which stated that disruptive framing has a negative effect on the amount of financial investments acquired by a venture ($\beta = -.36$, S.E = .13, $p < .01$). Stated differently, conditional on a venture obtaining funding, one standard deviation increase in disruptive framing reduces the amount of funding by 36 percent. We computed the dollar impact of the negative effect of high disruptive framing by subtracting the predicted values of disruptive framing one standard deviation above from below the mean. This reduction in the amount of funding translates to a venture with high disruptive framing receiving $203K$ less investment than a venture with low disruptive framing.
Model 3 includes the interaction term between disruptive and achievement framing, to test Hypothesis 3b. The results show support for the hypothesis that achievement framing moderates the relationship between disruptive framing and the amount of financial investments ($\beta = -.32$, S.E = .10, p < .01). Yet, the effect is in the opposite direction of what we predicted in Hypothesis 3b. Figure 2 plots this interaction effect. Figure 2 shows a negative effect of disruptive framing on the amount of funding received, especially when the vision statements also include achievement framing. This reduction in the amount of funding translates to a venture with high achievement framing receiving $569K$ less investment when it communicates with high disruptive framing rather than low.

**DISCUSSION**

Entrepreneurs increasingly talk ‘disruption’ and frame their products, technologies and entire ventures as ‘disruptive’ to secure financial capital from investors. We set out to investigate what disruptive framing entails and how it helps or hampers entrepreneurs to secure financial investments. The current study suggests two main findings: (i) we find that disruptive framing increases the likelihood that ventures receive any funding, but reduces the amount of funds they obtain. (ii) Using disruptive framing together with achievement framing increases the likelihood of getting funded further, but reduces the amount of funds received. These findings have important theoretical implications for research on disruptive innovation, impression management and vision communication.

**Theoretical implications**

First, our findings introduce and demonstrate the importance of disruptive framing as a new form of thematic vision content that entrepreneurs use to promote their innovations. This novel vision content enriches disruptive innovation research, which has so far focused on the
gradual process of disruption where underperforming performance attributes become sufficient to satisfy customer needs (Christensen, 1997; Christensen & Raynor, 2003). However, previous research has documented that not all disruptive innovations lead to a disruption (Sood & Tellis, 2011). We argue that one omitted factor is entrepreneurs’ vision communication. Our results show that disruptive visions are more likely to convince investors to get on board—albeit with a smaller amount. This finding responds to recent critiques on disruptive innovation theory for its lack of predictive power, and for its strong focus on technological trajectories (Danneels, 2004; Sood & Tellis, 2011; Tellis, 2006). Accordingly, we join recent contributions on disruptive innovations research regarding how firms manage their ecosystems through framing (e.g., Ansari et al., 2016; Gurses & Ozcan, 2015).

Second, we shed more light on how entrepreneurial firms can frame their innovations to ecosystem members and how this framing shapes the sense making of constituent parties. Thereby, we contribute to the burgeoning research on entrepreneurs’ efforts in managing the impressions of potential stakeholders (e.g., Fisher et al., 2017; Martens et al., 2007; Navis & Glynn, 2011; van Werven et al., 2015; Zott & Huy, 2007). While this literature stresses that entrepreneurial communications are “elaborate fictions of proposed possible future states of existence” (Gartner et al., 1992: 17), it has so far paid scarce attention to the theories about future oriented communications (e.g., visions) and their effects on entrepreneurial outcomes (Garud et al., 2014). With our investigation of entrepreneurial visions, we address this caveat and help scholars understand how future oriented communications, and their contents, shape investor sense making. Specifically, our findings affirm not only the importance of future oriented communications, but also unveil a potential downside of these communications (i.e., attracting lower amounts of funding from investors).
Moreover, by combining achievement and disruptive framing we open new research avenues that can further investigate the link between past and future emphasis in entrepreneurial communications (cf. Bartel & Garud, 2009). For example, our findings show a considerable trade-off in using past and future emphasis simultaneously in entrepreneurial communications. In Hypothesis 3 we predicted that the two types of framing may be complementary, enhancing each other because achievement framing builds investor trust in ventures purporting to be disruptive. While we found that combining disruptive and achievement framing increases the likelihood of receiving funds, we found the opposite for amount of funding. Specifically, our results suggest that in the investor’s decision on how much to invest, disruptive framing crowds out the positive effects of achievement framing. We argue that communicating both types of framing confuses investors’ interpretation of what the venture aims for and what type of funding it requires to achieve that aim. Both types of framing position the venture and its entrepreneurs differently in the competitive space: On the one hand, ventures communicating a disruptive vision aim to create the perception that they will break with the status quo in the competitive environment, uprooting current market linkages. They position themselves on the outside or the fringe of the current competitive space. On the other hand, ventures communicating achievement frames situate themselves as actors of the current market environment, through communication of leading positions, past performances, networks and affiliations with existing players, and leading technologies. The two frames may thus be incompatible in the eyes of investors and leave them confused as to the identity of the venture and hampers their evaluation of the venture’s aims.

Third, our results challenge prior research that has highlighted unilateral positive returns to strong vision communication (Baum et al., 1998; 2004; Van Knippenberg & Stam, 2014). We find that, while disruptive visions are more likely to appeal to investors, they also make the
venture appear more risky. Furthermore, we introduce the interplay between two types of framing. We thereby respond to the calls for research into vision content (for a recent review, see Van Knippenberg & Stam, 2014), and propose a multiplexity of visions that contain multiple frames. Specifically, prior (entrepreneurial) vision research has centered strongly on how visions are communicated and not on what is communicated. For example, scholars have focused on the effectiveness of repetition, rhythm, balance, contrasts, lists, puzzles, alliteration, imagery, analogies and metaphors, classification, generalization and authority (Carton et al., 2014; Conger, 1991; Den Hartog & Verburg, 1998; Hill & Levenhagen, 1995; van Werven et al., 2015). Yet, these investigations forgo the proprietary influence of vision content. Our emphasis on vision content grants a more in-depth understanding of the vision content–vision pursuit relationship (Stam et al., 2014), reminding scholars that framing is an essential part of an entrepreneur’s communications and should be duly investigated (Conger, 1991).

**Managerial implications**

Our study has strong implications for managers. First, managers must be aware of the impact of the type of framing of vision statements on the investors’ perceptions of the venture. The vision statement plays a critical role in communicating the goal and purpose of the organization and must be crafted with great care. Second, managers must make a selection between achievement framing and disruptive framing based on their funding requirements. For example, ventures requiring quick but small amounts of funding may opt for disruptive framing to provide a proof of concept and market validation before applying for larger investments. Our study suggests using disruptive framing with caution, as such frames attract lower amounts of funding. Third, managers must avoid the temptation to include both achievement framing and disruptive framing in the vision statements as it confuses investors and hampers the credibility of
the venture. Finally, our operationalization of disruptive and achievement framing provides entrepreneurs with a template of the key characteristics of the two types of framing and allows them to craft their vision statements to adhere to each type of framing. Thus, in contrast to prior vision communication research, our study specifically allows entrepreneurs to purposefully frame their vision statements based on a pre-defined set of items, granting them greater control over their impression management efforts.

**Directions for Future Research**

Vision statements from ventures’ websites do not capture all entrepreneurs’ communications, especially not the ones directly to investors. Investor evaluation is perhaps also more complex, as the investment process is inherently multistage and involves communications at each stage (Eckhardt et al., 2006; Gompers et al., 2016). Yet, we do show that at the first stage of the investor selection process (when scouting for ventures through a platform) vision matters for selection and also for funding outcomes. This is perhaps also because, to a certain extent, the vision statement may represent what entrepreneurs communicate at a later stage. We recommend that future research investigates the consequences of entrepreneurial vision communication at later stages in the funding process, such as when moving towards IPO. The success of an IPO may be strongly dependent on the future oriented communications of a venture, such as visions (cf. Martens et al., 2007).

Furthermore, visions are not static. Entrepreneurs may revise their visions over time as they experience failures or successes. To illustrate, Elon Musk’s vision evolved from online yellow pages (Zip2) to colonizing Mars (e.g., SpaceX). Rapid achievements may trigger grander visions, and failures could be reality checks. Thus, an organization may decide to reevaluate and adjust its vision statement over time. Recent research has pointed out that ventures presenting
disruptive frames may alter their communications to be more accommodating to competitive pressures (Ansari et al., 2016; Gurses & Ozcan, 2015). Future research may examine the impact of these changes in vision statements over time and how they influence the disruptive potential of a firm. However, such changes are rare in the initial stages of venture undertaking (e.g. the first funding rounds) and we do expect them to affect our results.

Finally, the two types of framing of vision communications are not exhaustive. Firms may frame their vision statements in line with other themes or desired outcomes. We limit ourselves to two popular and common ways of framing entrepreneurial visions in the early stage of venture evolution. These two types of framing address the lack of research into the distinction between past and future oriented (i.e. vision) communications, and its effects on investment acquisition. Future research can expand our knowledge on the different types of framing that are part of an entrepreneurs’ vision communication repertoire, and examine the interplay and evolution of (competing) frames throughout the disruption process.
REFERENCES


Cosper, A. 2015. Disruption is more than the buzzword it's becomeEntrepreneur.


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*p < .05

**p < .01
‘Do Disruptive Visions Pay Off?’

**TABLE 1**
Means, Standard Deviations, and Correlations (contd.).

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* p < .05

** p < .01.
### TABLE 2
Results of Tobit-2 Selection Equation.

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<td>-.15 (.14)</td>
<td>-.04 (.14)</td>
<td>-.06 (.14)</td>
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<td>.23* (.1)</td>
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<td>-.4† (.22)</td>
<td>-.39† (.22)</td>
<td>-.42† (.22)</td>
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<tr>
<td>Released</td>
<td>-.02 (.15)</td>
<td>.05 (.15)</td>
<td>.05 (.15)</td>
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<tr>
<td>Venture size</td>
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<td>.29*** (.06)</td>
<td>.3*** (.06)</td>
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<td>Venture age</td>
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<td>-.22*** (.06)</td>
<td>-.23*** (.07)</td>
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<tr>
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<td>.03 (.07)</td>
<td>.04 (.07)</td>
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<tr>
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<td>-.97*** (.02)</td>
<td>-.97*** (.02)</td>
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<td>Achievement framing</td>
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<td>.06 (.07)</td>
<td>.03 (.07)</td>
</tr>
<tr>
<td>Disruptive framing x Achievement framing</td>
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<td>.11† (.06)</td>
<td>.06 (.06)</td>
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<td>1.83*** (.21)</td>
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<tr>
<td>rho</td>
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<td>-.97*** (.02)</td>
<td>-.97*** (.02)</td>
</tr>
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<td>-353.16 (-.02)</td>
<td>-347.88 (-.02)</td>
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<tr>
<td>Degrees of Freedom</td>
<td>539</td>
<td>535</td>
<td>533</td>
</tr>
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</table>

Standardized coefficients are reported. Standard errors are in parentheses.

† p < .1, * p < .05, ** p < .01, *** p < .001.
Do Disruptive Visions Pay Off?

### TABLE 3

**Results of OLS Outcome Equation, Corrected for Selection Bias.**

<table>
<thead>
<tr>
<th>Dependent Variable – Amount of financial investments (log)</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
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<td>Estimate (Std. Error)</td>
<td>Estimate (Std. Error)</td>
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<td>1.59*** (.23)</td>
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<td>2.62*** (.39)</td>
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<td>C Round</td>
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<td>1.78*** (.47)</td>
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<td>-.01 (.14)</td>
<td>0 (.14)</td>
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<td>.4 (.27)</td>
</tr>
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<td>Number of Founders</td>
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<td>-.47* (.2)</td>
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<td>.62 (.46)</td>
<td>.67 (.44)</td>
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<td>-.55† (.29)</td>
<td>-.55* (.27)</td>
</tr>
<tr>
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<td>-.01 (.13)</td>
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<td>-.24 (.15)</td>
<td>-.25† (.14)</td>
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<td>Disruptive framing</td>
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<td>-.29* (.12)</td>
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<tr>
<td>Achievement framing</td>
<td></td>
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<td>.34** (.13)</td>
</tr>
<tr>
<td>Disruptive framing x Achievement framing</td>
<td></td>
<td></td>
<td>- .32** (.1)</td>
</tr>
<tr>
<td>Sigma</td>
<td>1.06*** (.13)</td>
<td>1.83*** (.21)</td>
<td>1.7*** (.2)</td>
</tr>
<tr>
<td>rho</td>
<td>-.18 (.75)</td>
<td>-.97*** (.02)</td>
<td>-.97*** (.02)</td>
</tr>
<tr>
<td>Log likelihood</td>
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<td>-353.16</td>
<td>-347.88</td>
</tr>
<tr>
<td>Number of observations</td>
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<td>94</td>
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<tr>
<td>Degrees of Freedom</td>
<td>539</td>
<td>535</td>
<td>533</td>
</tr>
</tbody>
</table>

Standardized coefficients are reported. Standard errors are in parentheses.

† p < .1, * p < .05, ** p < .01, *** p < .001.

40
FIGURE 1
Effect of Disruptive Framing on Likelihood of Receiving Funds, moderated by Achievement Framing

FIGURE 2
Effect of Disruptive Framing on Amount of Funding, moderated by Achievement Framing