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Attributes of Angel and Crowdfunded Investments as Determinants of VC Screening Decisions

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This research explores whether relationships between young firms and certain early-stage seed funders portray certification effects that influence venture capitalist (VC) screening decisions. Specifically, we analyze how varying attributes of angel and crowdfunded investments certify venture quality in the minds of VCs as they make due diligence screening decisions. Results from two experiments utilizing 104 VCs making 1,036 screening decisions demonstrate that the heterogeneous nature of the attributes of angels and the crowd can produce highly influential certification effects.

Introduction

Venture capital (VC) investors seek high payoff opportunities and thus frequently turn to young, high-potential entrepreneurial firms as a way to generate acceptable returns. Investing in young companies, however, is inherently speculative because product or service offerings are often still evolving, internal processes are being refined, and expertise gaps have yet to be filled. Add to this that some ventures pursue unproven technologies or speculative markets and it becomes clear why effectively predicting the eventual success of young companies is innately difficult (Manigart et al., 2002). This difficulty is especially salient in the screening stage of VC venture evaluations, where VCs must quickly and efficiently discern which ventures are worthy of moving to due diligence where considerable resources are expended as each investment prospect is properly vetted (Chan & Park, 2015; Kirsch, Goldfarb, & Gera, 2009). Here, VCs frequently

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turn to more visible and quickly accessible information thought to correlate with venture potential and quality (Chan & Park).

This is notable because under conditions of high uncertainty and causal ambiguity, like the VC environment, individuals often rely on the actions of third parties to make inferences about the target. Specifically, third parties often act as certifications of the focal firm, with the characteristics of the affiliate serving as an indicator of hard-to-quantify attributes like quality (King, Lenox, & Terlaak, 2005; Polidoro, 2013). In the IPO context, for instance, studies have shown that certain third parties (e.g., underwriters and investment bankers) serve as certifications that communicate that a venture is of higher quality, thereby influencing outsider opinions and decisions (Brau & Fawcett, 2006; Helou & Park, 2001). If such effects are important considerations during the IPO stage, we assert that variations in third party certifications will be equally if not more influential in VC investing given that these investments occur prior to IPO when venture track records are less proven and uncertainty is greater. Hence, we reason that in the process of forming opinions about the venture during the screening stage, VCs may look to which actors or organizations have previously certified the venture via engaging in exchange relationships with the firm.

While there may be a number of exchange relationships in play, we explore the possibility that relationships with certain variations of "seed investors" can exert influential certification effects on VC screening decisions. Entrepreneurial firms regularly secure seed funding from outside investors to build their firms (Sohl, 2014), but what has yet to be considered is that sources of seed funding and their specific characteristics may communicate meaningful certifications to later-stage resource partners. We address this gap by conceptualizing seed fund relationships as certifications that flow from reputational and collective attributes of angel investors and crowdfunding investments. Angels and crowdfunding platforms are two ubiquitous sources of seed funding (Collewaert, 2012; Colombo, Franzoni, & Rossi-Lamastra, 2015; Mollick, 2014; Sohl, 2007, 2014), but possess heterogeneous attributes that may have a mixed influence on later stage investment. Accordingly, simply analyzing the presence or absence of seed funding may not fully reveal the underlying effect(s); instead, we focus on ventures funded by angels and the crowd, investigating how variation in reputational and collective attributes of these early investors underpin certifications that lead to differential screening outcomes.

To probe this line of thinking empirically, we conducted complementary conjoint analysis experiments with practicing VCs in the United States serving as participants. VC participants made over 1,000 screening decisions, and by decomposing these decisions we are able to discern how ventures funded by angels or the crowd influence screening decisions. Specifically, we examined how variation in the reputation of an angel investor, by way of individual experience and reputational spillover from angel group membership, influence VC screening decisions. For the crowd, we examined how reputation of the crowdfunding platform and the collective crowdfunder investor volume certify the venture in a way that influences screening decisions. Together, examining ventures funded by angels and the crowd, and the certifications that flow from underlying reputational and collective attributes, reveal that seed funder certification effects manifest in multiple ways that are distinct to the source.

Our findings advance discussions in entrepreneurship by introducing an integrative framework that conceptualizes the attributes of seed funders as a mechanism by which an entrepreneurial venture "can signal its expected value by who has invested in the firm" (Bruton, Chahine, & Filatotchev, 2009, p. 913). We also contribute to the early screening stages of VC investment decisions—an aspect that is regularly overlooked at the expense of the final investment decision. We believe that the insights derived are particularly important for practicing entrepreneurs given that choosing a seed funder is an early strategic decision that we find is associated with important downstream consequences in later

securing VC funding. In that way, our findings are expected to be of value to VCs who wish to better to understand their own screening decisions and to early-stage entrepreneurs who eventually hope to secure VC funding.

Conceptual Background

Sources of Seed Funding

Start-up ventures tend to have one thing in common: a scarcity of resources. As such, young ventures often seek outside equity funding to see their business through the highly uncertain days of early development. This type of investment is typically called "seed funding" because such early investments are meant to support the business until it can generate sustainable cash flows or traction until it is ready for larger follow-on investments by later stage investors. Two of the most ubiquitous sources of seed funding are angel investors and crowdfunding. Angel investors loom large in this arena because the model has been around for decades and is well established as a critical source of early capital within the entrepreneurial ecosystem (Sohl, 2014; Verrill & Hudson, 2013). Angels are high-net-worth individuals, often as the result of their own entrepreneurial success, who provide funding in exchange for equity of young ventures individually or through an angel group. Over 70,000 angel investments were made in 2013, injecting $24.8b into entrepreneurial ventures (Sohl). It is also worth noting that the angel market has evolved from a series of fragmented individuals to a more organized system where there are now over 400 documented angel member organizations (Verrill & Hudson).

More recently, crowdfunding has emerged as a prevalent seed funding source (Allison, Davis, Short, & Webb, 2015; Colombo, et al., 2015; Mollick, 2014). In this approach, groups of funders come together to provide capital by pooling many small infusions (Belleflamme, Lambert, & Schwienbacher, 2014; Colombo, et al.). Since its inception, crowdfunding has evolved into a global, multi-billion-dollar funding model that holds great potential for entrepreneurs and their early-stage actions (Burtch, Ghose, & Wattal, 2015; Massolution, 2015). In 2012, 470,000 projects were funded via crowdfunding in Europe,[1] while globally over $16 billion was invested by "the crowd" in 2014. There is every indication that the growth in crowdfunded investing will continue as the World Bank projects crowdfunding will near $100 billion by 2025 (World Bank, 2013). This suggests that crowdfunding will continue to be a prominent source of seed funding for early-stage ventures.

Seed Funding as Certification

Consideration of angels and the crowd as sources of seed funding are of interest in our study because these capital sources have emerged as the two most widely adopted sources of external funding involved very early in the game. In other words, they engage in exchange relationships with the venture that are likely to have ongoing implications long after the initial capital is injected. Specifically, as the venture grows and matures, the scale and purpose of financing evolves to the extent that investment is needed from investors who specialize in later stages. The problem later-stage investors face is that there is substantial uncertainty associated with these ventures, where those outside the focal

1. http://www.ey.com/Publication/vwLUAssets/Global_venture_capital_insights_and_trends_2014/$FILE/EY_Global_VC_insights_and_trends_report_2014.pdf

organization lack unequivocal data indicating the underlying quality and potential of the prospective venture (Kirsch et al., 2009; Zacharakis & Meyer, 1998). Prior research has shown that under conditions such as these, people often rely on certifications by other actors—defined here as social cues that flow from actions taken by a third party that implicitly or explicitly favorably attests to the value of or approves of an organization and its activities in the mind of the perceiver. Specifically, when evaluators must discern the quality of an organization and information is scarce or ambiguous, they frequently look to the actions of others as a certification of the organization (Polidoro; Puri, 1996; Stuart, Hoang, & Hybels, 1999). In that way, certifications can be particularly influential because they convey messages about difficult-to-observe organizational attributes that can allow evaluators to differentiate between higher and lower quality entities (King et al., 2005; Polidoro; Sine, David, & Mitsuhashi, 2007). Put differently, firms can exude information about complex characteristics to external stakeholders by engaging in cooperative actions with third parties that certify the venture along dimensions such as investment return potential.

Ample research has documented the certification effect and in turn, identified a number of situations where certification has proven influential. Attaining private equity financing, for example, engenders a certification effect as garnering support from these highly experienced investors leads others to have confidence in the firm (Janney & Folta, 2006). Likewise, approval from regulatory agencies (Sine et al., 2007) and affiliations with investment banks (Beatty & Ritter, 1986) act as certifications that mitigate uncertainty for follow-on stakeholders. Further, media outlets can act as intermediaries in propagating certifications as they make cooperative actions with exchange partners known to others (Rindova, Williamson, Petkova, & Sever, 2005). It is important to note that because certifications are social cues, the value of a certification largely rests on the characteristics underpinning those acting as the certifier (Rindova et al.). In the aforementioned private equity example, affiliation with a lesser known private equity firm engenders minimal certification effects compared to affiliation with a global brand such as Bain Capital Partners. In that way, cooperative exchange relationships create an environment where the certifier lends its reputation to the entity being certified (Rao, 1994).

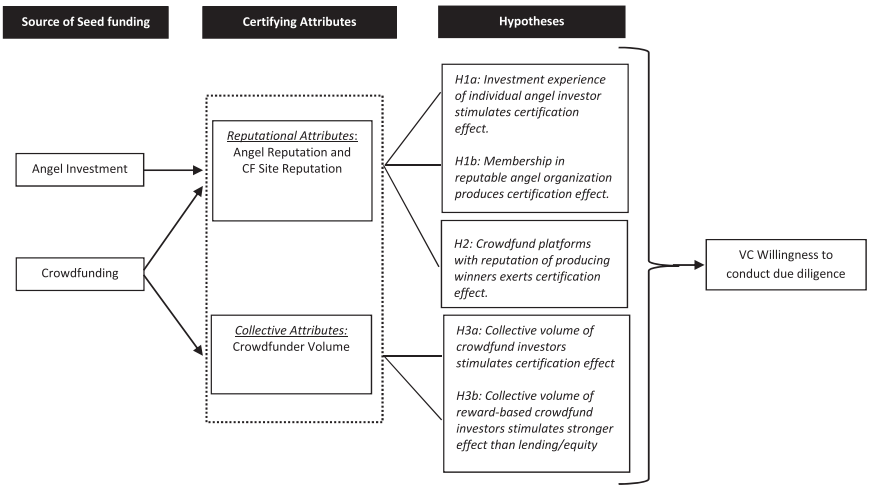
Applied to the context of our study, these insights suggest that seed funders represent salient exchange relationships that can act as meaningful certifications. We reason that these certifications bestow important advantages on young ventures as potential downstream resource partners, such as VCs, evaluate firm potential and discern the likelihood of entering into an exchange relationship of their own. In that way, the certification framework suggests that young ventures can in part communicate their value by the identity of their investors (Bruton et al., 2009). Hence, we advance discussions in entrepreneurship by introducing an integrative framework that conceptualizes early investments of seed funders and the corresponding attributes of those investors. Here, such investors certify the venture and thereby reduce uncertainty faced by later-stage investors as they assess the venture's prospects. In what follows, we build on this foundational logic by advancing the idea that these certification effects flow from attributes of the seed-funder that take the form of *reputational* or *collective* attributes—each of which can produce a path to certification in ways that are unique to the source.

Hypothesis Development

A key assumption that underpins our model and hypotheses is that the quality and promise of a young venture is hard to predict with fidelity (Zacharakis & Meyer, 1998). While there are many reasons for this, prior research has established that one salient factor

Figure 1

Model of Seed Funding Certifications and VC Screening Decisions



is the presence of asymmetric information: As information asymmetries increase, opportunities become less attractive unless other indicators such as certifications or affiliations can be used to mitigate the asymmetry (cf., Stuart et al., 1999). While still accounting for the role of information asymmetries, we move beyond to focus primarily on certifications and the conceptualization that variations in specific attributes of seed investor(s) certify the venture (or not), and these affirmations shape the decisions of later-stage VC investors. We explore this by integrating angels and the crowd as two prominent, yet heterogeneous, sources of early-stage capital whose reputational and collective attributes certify the venture to later investors. This approach accounts for the distinctiveness between and within angel and crowdfunding investments as reflected in Figure 1.

Reputational Attributes as Seed Fund Certification

A traditional aspect of certification logic is that the attributes of the affiliates (i.e., the certifier) determine the resultant impact of a certification (Booth & Smith, 1986; Chemmanur and Fulghieri, 1994; King et al., 2005). This is because when a relationship is formed, the affiliate's attributes send signals to others about the focal organization (King et al.). Principal among these is the certifier's reputational attributes, where the reputation of the certifying entity can send a salient message about the focal firm. In that way, reputation is a core component of certification. Applying these insights to the seed funding context, we advance that angels and crowdfunding platforms, respectively, have reputational attributes and it is variations in those attributes that influence VC screening decisions.

Angel Experience. The first reputational attribute we consider is angel experience. Not all angels are considered equal as prior research indicates that perceptions of angel quality

vary because some angels are far more experienced investors than others (cf. Sohl, 2014). The amount and frequency of investments an angel investor makes varies considerably from one investor to the next, ranging from one or two investments to a much higher number classifying an investor as a "serial angel" (Van Osnabrugge, 1998). The experience an investor garners by investing in a number of deals over time is invaluable. It has been noted that angels advance along a learning curve (Sørheim, 2003), and thus "the intensity of an individual's interest in venture investing appears to be dependent in part on the investor's familiarity with the techniques of successful venture investing . . . . Learning the tricks of the trade takes time and time is scarce" (Wetzel, 1987, p. 311). This suggests that key knowledge is garnered as the result of frequently navigating the seed funding investment process. As this experience grows, one develops a reputation as a "seasoned" investor, increasing his or her prominence and visibility to those inside and outside the investment community (e.g., Lee, Bach, & Baik, 2011).

Viewed in light of the certification effect discussed above, the reputation that flows from extensive investment experience is influential because the experience attribute may serve as a certification of the venture—particularly in light of a venture's financial viability. Experienced angels, among other things, understand what a good management team, business model and financials look like, and thus an experienced angel investor is presumed to have a high level of competence. Therefore, securing early-stage investment from such a knowledgeable evaluator certifies the financial viability and potential of the venture in a meaningful way. Prior research has documented that certifications along these lines help the firm establish its own positive reputation (Weigelt & Camerer, 1988) that mitigate the uncertainty faced by subsequent stakeholders assessing a firm's prospects (Beatty & Ritter, 1986). By extension, we reason that because VCs are a common source of post seed funding investment, these investors will consider the reputational certifications derived from the experience of the angel investor, given their ability to identify and associate with high-potential opportunities.

Specifically, the certification that a firm receives by garnering early resources from a highly experienced angel increases the confidence that VCs have in the firm's prospects as they complete initial due diligence screenings. In that way, certification by an experienced angel adds legitimacy to the venture and increases the odds that positive inferences will be drawn by VCs, differentiating the focal venture from other competing ventures that lack such a certification. In sum, we reason that prior investment by a highly reputable angel certifies to later-stage VCs that the venture's future performance and value is anticipated to be positive; this certification, based on the angel's reputation for investment success, in turn increases the likelihood that the venture will advance from screening to formal due diligence given the inferences that can be drawn about that venture's underlying financial viability. All of this logic suggests the following hypothesis:

> **H1a**: Investment by an angel who possesses high levels of investing experience increases the probability of the venture's selection by VCs for formal due diligence.

Angel Group Membership. The second reputational attribute we consider is angel group membership. Angels are increasingly becoming members of angel groups or networks such as the Band of Angels in Silicon Valley or the Baylor Angel Network in Texas (Mitteness, Sudek, & Cardon, 2012). There are numerous angel organizations throughout the world (cf. Collewaert, Manigart, & Aernoudt, 2010), which require membership via application and approval. Angel organizations typically meet on a regularly scheduled

basis to consider investment proposals and to hear live investment pitches from entrepreneurs. These organizations provide mechanisms for angels to access high-quality seed stage investment proposals and also provide an opportunity for pooling knowledge and capital with fellow members. Admission into angel groups can be selective (Sohl), which at a minimum, investors must first meet the SEC's requirements (in the United States) to become an accredited angel investor. Beyond this qualification, angel group managers often screen new members—characterized as "intensive investor recruitment" on the part of angel organizations (Sohl), which and is important because who the members are impacts the organization's ability to develop a reputation for investment success. Shane and Cable (2002), for example, document the importance of angel organization reputation and note that groups like the Band of Angels have received considerable publicity for backing a number of successful high-tech ventures in Silicon Valley.

Because of the rigor of attaining quality members and past group-level success, the reputations of angel groups "spill over" onto their group members in the same way the reputation of an organization can spill over onto affiliated entities (either positively or negatively) (Agarwal, Ganco, & Ziedonis, 2009; Dollinger, Golden, & Saxton, 1997). Concretely, membership in a successful angel organization is likely to cast its members in a positive light, further adding to the reputation of the individual angel investor. When a member of a high-profile angel organization, such as Silicon Valley's Band of Angels, has invested in an early-stage venture, the angel's group reputation can spill over onto that angel in a way that makes the individual angel's investment a more meaningful certification of the venture. In that way, the presence of an investor affiliated with a reputable angel group becomes a social cue that VCs use to assist in their own investment decision as a way to mitigate the uncertainty associated with projecting the venture's future performance. This suggests the following:

> **H1b**: Investment by an angel who is a member of a reputable angel organization increases the probability of the venture's selection by VCs for formal due diligence.

Crowdfunding Organization Reputation. Moving from the angels to the crowd as the source of seed funding leads us to a third reputational attribute. Here, we reason that crowdfunding platforms, like angels and angel groups, develop reputations that can stimulate certification effects. Crowdfunding sites (i.e., organizations) have exploded as a fixture on the seed financing landscape (Colombo et al., 2015), but amidst this growth, success across sites has not been commensurate. In that vein, a recent *Forbes* article noted that, "Hundreds of [crowdfunding] sites may be popping up, but not all of them have real communities and funding successes under their belt" (Barnett, 2013). The implication is that crowdfunding sites vary dramatically with respect to their ability to attract both capital providers and to provide high quality investment opportunities, so the net effect is that the reputations crowdfunding sites develop can vary dramatically.

Because of the nascent state of crowdfunding, there is no known formula for how crowdfund site reputations form. Having said that, however, we advance that site reputation may form via push or pull dynamics. On one hand, platforms can "push" higher quality deals through proactive measures, such as screening for high potential deals. Consider sites such as Innovestor, where screening initiatives are designed to identify higher potential investment opportunities: "Innovestor works heavily on the screening of the companies that come onto their platform, getting each company approved by their board of

directors and screening the concept by experts in cleantech, mobile, and other sectors."[2] Alternatively, platforms can develop reputation by "pulling" higher quality deals, where companies are drawn toward, or self-select into using the site because the entrepreneurs perceive that is where success occurs. Sites such as Kickstarter fit this profile and have become attractive largely by funding many campaigns and a multitude of high-profile winners.[3]

As certain crowdfunding sites develop reputations as a good source for deals, this creates a situation where the raising of funds via such a site may bestow a certification effect on young ventures. Specifically, when capital is raised through crowdfunding platforms that have backed winners in the past, such sites, then, can serve as a unique certification. Hence, in the minds of a VC, prospective ventures that have been seed funded on such platforms may carry greater weight, given that they have a reputation for producing higher quality ventures. Holding all else constant, being funded through sites known to a VC for consistently producing ventures that go on to realize profitability will evoke a stronger certification effect among VCs than if the venture is funded by a less reputable site. Stated formally:

> **H2**: Investment through a crowdfunding organization that has developed a reputation for producing high potential ventures increases the probability of the venture's selection by VCs for formal due diligence.

Collective Attributes of Seed Fund Certification

While aspects of the certifying party's reputation likely play an influential role in the resultant certification in various ways through angels and crowdfunding platforms, the emerging domain of crowdfunding opens the door to another set of attributes that certify a venture in a slightly different way—what we refer to as collective attributes. Here, certification effects are a function of the collective funding that ventures receive during the seed funding stage. While multiple angels can and do invest in a venture, the total number involved is typically small as compared to crowdfunding where the commonly used threshold approach necessitates a large volume of investors (hundreds or even thousands). In that way, variations in the collective become a salient source of information that influences VCs decisions as they screen prospective ventures that have been seed funded by the crowd.

Crowdfund Investor Volume. The collective attribute under consideration is the sheer volume of crowdfund investors. When an entrepreneur turns to the crowd for seed funding, there often exists wide dispersion when it comes to volume. Crowdfunded ventures, though, vary considerably in the level of interest and subsequent support by investors. Compare the graveyard of ventures receiving no, or minimal, investment support against those realizing high levels of backing; each likely communicate different messages to outsiders evaluating the venture's offering. Specifically, we reason that variations in support by "everyday" investors is indicative of the appeal the venture and its offering hold.

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2. http://arcticstartup.com/2014/08/20/another-crowdfunding-platform-in-finland-innovestor-takes-a-new-approach
3. http://observer.com/2014/08/projects-on-kickstarter-four-times-more-likely-to-get-vc-funding-than-indiegogo-campaigns/

Hence, a high volume of backers indicates that there is an appreciation of the concept that may translate into market demand. This suggests that as the volume of backers increases there is a certification effect bestowed on the venture. In contrast to angels whose investment is presumed to certify the underlying financial potential, crowdfunding represents a unique context whereby certification effects likely hinge on the collective volume of crowdfunders backing a venture, where the certification pertains more to the venture's offering.

In this way, the collective actions of many that ensue as a result of a high volume of investors may well produce meaningful certifications, where the collective endorsement of many individuals may serve to reduce uncertainty surrounding the venture's offering with respect to the market. This is largely because a group of individuals, each equipped with their own unique backgrounds and lenses through which to evaluate investments have created collective consensus around the opportunity. Variations in support, then, likely send different certification signals to potential later-stage resources partners, such as VCs, where larger groups of crowdfunding investors produce a different effect than those certified by a smaller group.

> **H3a**: Investment by a high volume of crowdfunders increases the probability of the venture's selection for formal VC due diligence.

Crowdfunding Investor Volume and Platform Type. Considering the certifications that flow from variations in the volume of crowdfunders can be further extended by taking into account the type of crowdfunding platform utilized. Specifically, reward, lending, and equity are three prevalent platforms types (e.g., Belleflamme et al., 2014; Colombo et al., 2015), and each model offers the crowdfunder a different approach and incentive for participation. The reward platform type offers crowdfunders the final product in exchange for their capital, and these are typically considered pre-sales of the product or service. The lending model involves crowdfunders who expect to have their principal repaid with varying degrees of interest. Finally, the equity model gives an ownership stake to those investing (Cholakova & Clarysse, 2015). Here, as VCs are confronted with ventures receiving high versus low volume of collective seed capital through these different channels, the type of funders certifying that venture (through investment) likely dictate the magnitude of that certification's influence. Specifically, because crowdfunding is typically open to the public, this means that crowdfunders are likely less sophisticated (i.e., those who do not invest professionally). Hence, the certification of a sizeable group of crowdfunders is likely to carry more or less weight contingent on the platform type that is utilized.

Taking things further, we argue that in the reward model, a high volume of crowdfunders is more meaningful because it certifies and legitimizes the concept by demonstrating early interest by a group of potential customers (i.e., high volume demonstrates a meaningful certification given that the offering has been evaluated and is clearly appreciated by a sizeable group of future customers who will receive the end product in exchange for their investment). Alternatively, from the VC's vantage point, a meaningful certification by a lending or equity investor would mean that the certifiers should be equipped with the requisite background or characteristics that indicate their assessment and investment decisions are accurate. Given the lack of investor sophistication inherent in the crowd, such investments convey less certification in the eyes of later-stage investors. As opposed to experienced angels who are theoretically equipped to assess the viability of an opportunity, for example, the actions of those operating on an equity platform are likely viewed as less-equipped to assess the venture's financial prospects and viability. Thus, the

certification effects that flow from the collective attribute of a large volume of investors is discounted in equity and lending platforms given that such certifications are not coming from professional investors who are adept at identifying successful ventures. While we argue that crowdfunding volume matters across the board, we suggest the positive influence of this attribute becomes more pronounced when the platform type is reward, versus lending or equity. Thus:

> **H3b**: Investment by a high volume of crowdfunders increases the probability of the venture's selection for formal VC due diligence, but the relationship is contingent upon platform type where the effect is stronger in the reward model, versus lending or equity.

Methodology

To test our hypotheses, we conducted two complementary conjoint analysis decision-making experiments with *Experiment 1* investigating the influence of angel attributes and *Experiment 2* investigating the effects of crowdfunding attributes. Conjoint analysis is a technique well established in a wide range of disciplines—with increasing application in entrepreneurship (McKelvie, Haynie, & Gustavsson, 2011; Murnieks, Haynie, Wiltbank, & Harting, 2011; Wood & Williams, 2014; Zacharakis & Meyer, 1998). By breaking decisions down into their component parts, conjoint analysis allows researchers to understand the underlying structure of decisions, thereby providing insights that post hoc surveys and other methods cannot offer (Shepherd & Zacharakis, 1997). As Lohrke, Holloway, and Woolley (2010, p. 19) put it, "Most importantly, [conjoint analysis] is specifically designed to assess respondents' 'theory in use' by capturing respondents' preferences as they make decisions. In contrast, studies using compositional research designs have often used retrospective accounts to study critical decision-making issues." This is accomplished by asking respondents to make a number of choices based on the presentation of theory-driven profiles containing unique combinations of the levels of specified variables. There is ample evidence that responses derived from this approach correlate strongly with decisions made in the "real world" (Louviere, 1998) and hence is an appropriate way to tap into the VCs' screening decisions outlined in our model.

Research Design and Procedures

Although we conducted two experiments, the research design and procedures were identical—minus the independent variables. Participants accessed the conjoint experiment online via a web link and began the process with a set of instructions and background information. Specifically, information was provided that informed each investor that he or she would be asked to indicate willingness to conduct formal due diligence on a number of opportunities, given the characteristics associated with each investment. Respondents were told that each opportunity was to be evaluated separately, independently from all others. Participants were then introduced to a fictitious company labeled "Innovative Cloud Enterprises"—a next-generation hosting and data storage company. The company description was modeled after a real-world company that has recently been considered for VC funding. In the scenario description, we controlled for a set of factors that previous research has indicated to be influential, such as referral, characteristics of the management team, deal strategy, and equity stake

(Franke, Gruber, Harhoff, & Henkel, 2008; Fried & Hisrich, 1994; Matusik, George, & Heeley, 2008; Petty & Gruber, 2011).

Each respondent was then presented with a series of prospective investment opportunity profiles to consider, which were associated with a different configuration of affiliated angel characteristics (experiment 1) or affiliated crowdfund characteristics (experiment 2). In designing the profiles, we used an orthogonal full factorial design that reduces interclass correlations. Experiment 1 was comprised of two levels of angel experience × two levels of angel group membership × two levels of information uncertainty, which resulted in eight profile descriptions. In experiment 2, we used three levels of crowdfunding platform type × two levels of site track record × two levels of crowdfunding investor volume. Respective levels of each of the above variables were dummy coded in our model. In addition to the profiles, participants also received two repeat profiles as reliability checks. Profile presentation was randomized so as to reduce the probability of order effects (Hair, Black, Babin, Anderson, & Tatham, 2006). Each profile was presented individually, and participants were unable to refer back to previous profiles. The full language used in the company description and profiles is provided in the Appendix. All experimental materials were pilot tested with management doctoral students and several active VCs to ensure face validity, clarity of variable descriptions, and the participants' ability to complete the experiment in a reasonable length of time.

Samples

Experiment 1 considers angel characteristics, and we solicited active VCs to participate in the experiment. An initial email was sent to 340 practicing VCs who are members of a VC association. The association is one of the oldest nonprofit VC associations in the United States and includes representatives from over 100 venture firms. From this group, 53 VCs (16%) agreed to participate, resulting in a sample size that exceeds the recommended minimum for a conjoint study (e.g., Shepherd & Zacharakis, 1997) and is in the same proximity as other published conjoint studies (e.g., Franke et al., 2008; Murnieks, et al., 2011; Zacharakis & Meyer, 1998). Participants' years of VC experience ranged from 6 years to 24 years with an average of 15 years. The average age of investors was 52, while 92% of the respondents were male, and 8% were female. The majority invest in information technology (56%) or healthcare/biotech (22%), with 4% in electronics and 2% in energy. Finally, 16% indicated they focus primarily in "diverse" industries, which included: clean tech, web-based software, no focus, various, business services, financial institutions, and networking. In terms of education, the VCs indicated that they held high school (2%), bachelor's (25%), master's (57%), or professional (16%) degrees.

Experiment 2 investigates characteristics of the crowd, and emails (with two follow-ups) were sent to 170 practicing VCs who were either personal contacts or members of the authors' alumni database. Fifty-one VCs (30% response rate) agreed to participate, and this sample exceeds the recommended number of participants for conjoint analysis (e.g., Shepherd & Zacharakis, 1997). This sample of respondents' years of VC experience ranged from 5 years to 23 years with an average of 14 years. The age of investors ranged from 25 to 71 with an average of 48, while 88% of the respondents were male, and 12% were female. The majority invest in information technology (41%) and healthcare/biotech (20%); 2% of the VCs focused on electronics and 6% on the energy sector, while 31% indicated they focus on "diverse" industries. In terms of education, the group of investors is highly educated and held bachelor's (16%), master's (69%), or professional (10%) degrees.

To ensure that nonresponse bias was not influencing our results, we deployed established techniques for testing nonresponse bias (Dooley & Lindner, 2003; Whitehead, Groothuis, and Blomquist, 1993). Ideally, we would compare characteristics of our sample against a representative sample of the population of U.S. VCs, but unfortunately we are not aware of figures that pertain to the population. Under these conditions, comparisons are made with the closest available proxy data (cf., Kirsch et al., 2009) and we found that the characteristics of our samples parallel those of other published VC studies, as well as other available data on the VC community. For age of VCs, our respondents averaged 52 and 48 years old, respectively, and these averages compared favorably with 47 years old in Zacharakis and Shepherd (2001), as well as with Rogers (2009) who found the average VC to be 46. In accordance with the male-dominated VC population (Rogers; Taylor, 2011), our samples were heavily male: 92% and 88%, respectively. This disproportion also compares with Zacharakis and Shepherd (94% male) and Murnieks et al. (2011) (80% male). Our respondents averaged 15 and 14 years of VC experience, respectively, and these averages compared favorably with Zacharakis and Shepherd, who drew on a sample of experienced VCs possessing 11 years of experience. Our sample of VCs was also highly educated (Rogers), where, like Murnieks et al, 70% or more of investors in both samples had at least a master's degree. Finally, we conducted an analysis of variance between late and early responders on the hypothesized parameter of willingness to conduct due diligence, and this test revealed no significant difference ($p > .10$).

Variables

The dependent variable in both experiments was the willingness to conduct formal due diligence and was measured using a three-item scale: (1) What is the probability you would conduct formal due diligence on this venture? (1-Low Probability to 7-High Probability), (2) How favorably do you view this opportunity? (1-Unfavorable to 7-Highly Favorable), and (3) Would conducting formal due diligence be worth your time and effort? (1-Unlikely to 7-Highly Likely) (Experiment 1 $\alpha = .89$) (Experiment 2 $\alpha = .93$).

Independent variables in Experiment 1 were *manipulated* and consisted of two levels of experience—group membership and information uncertainty. *Angel investor experience* was described by outlining the investing experience of the affiliated angel. One level reflected an angel with extensive angel investing experience, while another level presented an investor who was not equipped with high levels of investing experience. The second independent variable was *angel group membership*, and one condition indicated the presence of an investor who was a member of a recognized angel investing group, while the second level reflected that the investment opportunity did not have an angel investor who was a member of a recognized angel group. Finally, the third independent variable was *investment information uncertainty*. This variable also had two levels intended to vary the level of perceived information asymmetry regarding the venture. The certain condition presented an investment opportunity associated with clear information regarding the organization's future prospects. The uncertain condition presented an investment opportunity lacking clear information about the venture's future prospects. We constructed profiles by varying the levels of each of these attributes until all possible combinations had been exhausted.

Independent variables in Experiment 2 were also manipulated and involved three independent variables. The first variable was *crowdfunding investor volume*, comprised of two levels: Minimal (5 investors) or Extensive (200 investors). To set these figures, we drew from a database of 45,815 crowdfunding investments and chose volumes at the 10th

percentile for minimal and at the 95th percentile for extensive. The second independent variable was *site track record*. One condition indicated the venture received funding through a platform equipped with a reputation for producing ventures that go on to realize consistent profitability, while the second level reflected a platform that did not have such a reputation. Finally, the third independent variable was *Crowdfunding Platform Type*—three levels that described different but ubiquitous types of crowdfunding models: equity, reward, or lending.

Control variables in Experiment 1 and Experiment 2 were identical and were selected based on prior research demonstrating that individual differences can influence how VCs assess investment opportunities (Franke et al., 2008; Matusik et al., 2008; Murnieks et al., 2011). Hence, we controlled for: (1) gender, (2) industry sector focus, and (3) cycle of investment focus. Experiment 2 included an additional control for VCs' knowledge of crowdfunding, given that it is a newer form of seed funding and may be less well known than angel funding, which has been around for decades.

Empirical Model

Hierarchical linear modeling (HLM) is an analysis technique commonly used for conjoint data (cf., Murnieks et al., 2011; Wood & Williams, 2014) and thus was selected for use in our study. HLM analysis produces parameter estimates, where the associated *T*-values indicate the significance of the attribute or interaction. Thus, the parameter estimates in HLM can be interpreted as unstandardized regression coefficients reflecting the degree of change in the dependent variable as a result of one unit change of the independent variable. Further, HLM generates estimated marginal means for each variable under study, which provides further insight into the nature of each effect. Our report of the HLM results follows prior research using orthogonal conjoint designs (cf. Haynie, Shepherd, & Patzelt, 2012; Murnieks et al.), and we report the full model that includes the results for the main and interaction effects outlined in our hypotheses.

Before proceeding with our HLM analysis, we conducted a check to make sure that our experiments were properly understood and that participants reliably completed the experiment. If participants respond in a reliable fashion, then responses on original versus repeat profiles in each experiment will be significantly correlated (Murnieks et al., 2011). For our sample, the mean test-retest correlation for the dependent variable was .813 ($p < .001$) in experiment 1 and .823 ($p < .001$) in experiment 2, indicating the experiment was undertaken in a reliable manner.

Results

Our unit of analysis is the screening decision, and because VCs evaluated 20 different scenarios, the experiments together produced a total of 1,036 due diligence decisions. Tables 1 and 2 report the results for the HLM analysis of these decisions and reveal a number of significant relationships. First, we note that our model assumed information asymmetry is an important part of the VC investment landscape, as prior research has documented. Based on this assumption, we included this variable in our research design and our results add further support to this body of research as well as confirm the validity of our assumption, as we find a negative and statistically significant relationship between information asymmetry and VCs' willingness to conduct formal due diligence,

Table 1

Results for Willingness to Conduct Due Diligence (Angel Certification)

	Full Model	
	Coefficients	*t*
Controls		
Gender	−0.31	−0.550
Industry focus	0.01	0.100
Stage focus	0.10	0.377
Main effects		
Angel investor experience	0.67	5.403**
Angel group membership	0.24	2.142*
Investment information asymmetry	−1.40	−10.080**
Interactions		
Angel investor experience × Information asymmetry	0.04	0.384
Angel group membership × Information asymmetry	0.05	0.525
Angel investor experience × Angel group membership	0.20	2.177*

N = 424 at decision level, N = 53 at individual level.
*$p < .05$
**$p < .001$.

(coefficient = −1.40, $p < .001$). Next, we examined the certification effects of angels and how two different reputational attributes influence VC screening decisions. Results indicated that angel investor experience did indeed have a positive and statistically significant effect on VCs' willingness to conduct formal due diligence (coefficient = .67, $p < .001$). This finding supports hypothesis 1a and indicates that seed investment by an experienced angel investor serves as a certification where the experienced angel's affirmation of the venture results in a positive assessment by VC investors. We also explored how an angel benefits from reputational spillover effects from their membership into a reputable group. Here, knowledge of such membership was predicted to yield a meaningful certification when such an angel invests. In that vein, we find a positive and significant relationship between an angel's membership in a reputable angel group and VCs' willingness to conduct formal due diligence (coefficient = .24, $p < .05$), and this result provides support for hypothesis 1b.

While reputational attributes can underpin the certification of angels, we also reason that ventures funded through a crowdfunding platform with a reputation for producing successful ventures can also act in a way that certifies a young venture. Hence, hypothesis 2 asserted that securing a seed investment through such organizations would positively influence VCs' decisions. Statistics in Table 2 reveal a positive and significant relationship between site track record and willingness to conduct due diligence (coefficient = .72, $p < .001$). This finding supports hypothesis 2 and indicates that VCs favor investment opportunities funded through organizations that have an established record of investment success. Taken together, hypotheses 1a, 1b, and 2 indicate that both angels and crowdfunding organizations can meaningfully certify nascent firms, where varying attributes of their reputations play a role in stimulating such effects in ways that are distinct.

Table 2

Results for Willingness to Conduct Due Diligence (Crowd Certification)

	Full Model	
	Coefficients	*t*
Control variables		
Gender	−0.33	−0.253
Industry focus	0.05	0.233
Stage focus	0.20	0.448
Knowledge of crowdfunding	−0.15	−0.725
Main effects		
Crowdfunding investor volume	0.15	1.029
Site track record	0.72	5.002***
Platform type	0.50	3.394**
Interactions		
Site track record × crowdfunding investor volume	0.28	2.230*
Site track record × platform type	0.10	0.763
Crowdfunding investor volume × platform type	0.31	2.342*

N = 612 at decision level, N = 51 at individual level.
*$p < .05$
**$p < .01$
***$p < .001$.

Our final hypotheses focus on certification of the crowd, where the actions of many individuals can act in a way that certifies an entrepreneurial venture—absent knowledge of their individual reputations. Because volume is inherent in crowdfunding, we argued that a high volume of crowdfunders certifies the venture in a way that positive impressions are bestowed on the venture and thus a high volume of crowdfunders backing the venture influences VC decisions. We note that the main effect for crowdfunding volume was nonsignificant (coefficient = .15, $p > .05$)—meaning that the volume of investors across models had no meaningful certification effect. Hypothesis 3a was not supported. However, because of significant differences in motivations, goals, and perceptions associated with the various crowdfund platform types (i.e., reward, equity, lending), we went on to argue that this effect could be further informed by the type of platform utilized. Results revealed a significant interaction between the volume of crowdfunders and the platform structure (coefficient= .31, $p < .05$). Specifically, there is greater movement from the low- to high-volume conditions in the reward model, as well as an overall higher willingness to conduct due diligence on a reward-crowdfunded venture with a high volume of crowdfunders. By comparison, the volume of crowdfunders had almost no influence in the lending and equity models. These findings support the contingent relationship advanced in hypothesis 3b, illustrating the differences of collective attributes of certification and how they hinge on the platform type in crowdfunding (see Table 2).

Discussion and Concluding Remarks

The purpose of this study was to shed light on how the reputational and collective attributes of angel and crowdfunded investments meaningfully certify a young venture,

thereby influencing early-stage VC screening decisions. The results of our study are impactful because they shed light on the relationship between seed funders, which the vast majority of new ventures turn to, and later-stage resource partners. Our findings reveal that seed funders' reputational and collective attributes convey influential certifications, where such effects manifest in ways that are unique to the source. Together, these findings advance our understanding by exploring how unique characteristics across angel and crowdfunding investments shape early-stage VC screening decisions—a stage that is often neglected for the more accessible later-stage investment decisions. Our findings have implications for the literatures on VC decision making, certifications, as well as seed funding—each of which is discussed in turn.

Implications for Scholars

First, our findings add to the literature on VC decision making (cf. Baeyens, Vanacker & Manigart, 2006; Franke et al., 2008; Petty & Gruber, 2011; Zacharakis & Meyer, 1998). Specifically, our consideration of seed funder certification at the initial screening stage contributes to our understanding of criteria that is utilized at different junctures of the evaluation process (initial screening, due diligence, deal structuring, decision to invest, etc.) (Chan & Park, 2015; Petty & Gruber). As such, our exploration of certifying attributes of seed funders adds research to the lesser-studied early screening decision criteria—what Chan and Park view as an overlooked "black box," given that the vast majority of research focuses on the final decision or outcome (or whether or not a venture received VC funding). By focusing earlier in the timeline—the initial screening stage—we further explain how various third-party certifications can play an important role in clearing the screening hurdle—a hurdle that 80% of ventures do not make it over (Petty & Gruber). Much as a referral can be important in clearing the screening hurdle, yet less influential later in the evaluation process (Bruton, Fried & Manigart, 2005; Fried & Hisrich, 1994), a venture's seed funders may well follow a related pattern, becoming salient during the screening decision, yet less influential as more tangible points of evaluation materialize further in the evaluative process (e.g., growth metrics, team execution). Thus, future research is needed to (1) further our understanding of what additional factors become important in screening decisions and (2) how the utilization of various decision points by VCs shift and interact temporally throughout the entirety of the multistage evaluative process.

By further exploring how attributes of seed funding sources can certify early-stage ventures in the eyes of VCs, we take steps toward teasing out differences within and between key sources of funding and resultant certification effects. Distinctively, we articulate how the investment of an angel can certify a venture in ways that are different from that of the crowd. As predicted, the investment of certain angels—those who are individually reputable or those belonging to a reputable group—can certify the financial viability of the venture by way of reputation. VCs from our postexperiment questionnaire speak to this point: "If [the angel investor] was someone like Ron Conway, there would be a higher likelihood to pay attention" or "Who the angel is just carries more gravitas . . . been vetted thoroughly and hopefully been shaped a bit from the initial idea." This differs from crowdfunding where certification appears to focus less on the venture itself and more on the venture's offering, or market acceptance—particularly in the reward-based model. As one VC we interviewed noted, "A large group of investors and importantly end users indicates they already bought into the idea, thus revealing a higher degree of proof of concept," while another VC stated: "If crowdfunding is coming from potential customers it

can be a reasonable signal of demand." These differences between angels and crowdfunding open fertile ground for new research investigating the nuances between seed fund sources, and how those nuances influence a variety of stakeholder behavior. Compared side by side, for example, the extent to which various sources and characteristics of seed funding lead to differential outcomes could be studied. Future research could also could examine how VCs' reliance on specific types of seed funder attributes ultimately enhance or constrain investment decision accuracy.

Next, this study also contributes to the literature on certification effects by focusing on the role of certifications early in a venture's lifecycle. Notably, most literature focuses on certifications within later-stage ventures at or beyond the IPO stage (e.g., Booth & Smith, 1986; Chemmanur & Fulghieri, 1994). If certifications prove influential in the environments more regularly studied, it seems reasonable that such effects become even more prevalent earlier in the venture lifecycle, given the heightened levels of uncertainty. Contributing to the perception that commitments by seed funders can serve as one such early-stage certification, then, raises the question as to what other certifications become influential early in the venture life cycle. Thus, future research is needed to continue examining the role of additional effects beyond those of seed funders, delineating early-stage certifications that become influential in securing key resource and alliance partners.

Another contribution to the extant work on certification emerges when we consider the attributes of the seed funding certifier. A common theme in this literature is that a certification considered influential often comes from prominent actors or organizations (Rao, 1994; Rindova et al., 2005). We see evidence of this in our examination of reputational effects, where VCs prefer ventures backed by reputable angels, who are affiliated with reputable angel groups, as well as crowdfunding organizations equipped with a reputation for producing successful ventures; however, we also consider collective attributes that raise an alternative path to certification beyond that of one's underlying reputation. Specifically, we find that a crowd of presumably less-sophisticated investors (i.e., reward-based crowdfunders) can exert an influential certification effect. This is intriguing because the crowd of investors lacks prominence. In light of the growing prevalence of the crowdfunding model as a source of seed funding, this line of thinking opens the door to possibilities that may challenge the way we presently think about certification, at least as it is currently conceptualized in the certification literature, because our findings suggest that a high volume of nonprofessional investors can exert a certification effect. As the field of crowdfunding continues to proliferate, further investigation of the dynamics of crowd certification is needed as this raises a number of interesting questions that should be explored.

Finally, this study contributes to the body of work on seed funding, which is often neglected at the expense of studying later-stage forms of financing (Bammens & Collewaert, 2014; Wiltbank, Read, Dew, & Sarasvathy, 2009). As VCs continue to migrate to later-stage, higher-dollar investments (Kim & Wagman, 2014; NVCA, 2014), the importance of including and further exploring the influence of various sources of seed capital becomes increasingly critical to the scholarly domain of venture financing. Thus, we add to the literature on seed funding (e.g., Allison et al., 2015; Bammens & Collewaert; Belleflamme et al., 2014; Colombo et al., 2015; Mollick, 2014; Moss, Neubaum, & Meyskens, 2015) by offering early evidence on the role that angels and crowdfunders play as certification agents. As the funding landscape continues to shift, perhaps we are entering an era where ventures regularly raise capital through various sources at subsequent intervals. This suggests that there may well be a host of research opportunities that further consider the linkages and dynamics among the different sources of capital as the domain continues to migrate.

Practical Implications

Our findings have a number of practical implications for VCs and entrepreneurs. For VCs, we extend a well-developed body of research indicating that VC decisions are largely driven by (1) the management team, (2) the market, (3) the offering, and (4) financial potential by introducing a new class of seemingly relevant decision criteria on early certifications. Specifically, as VCs continue to shift to later stages and higher dollar amounts (Kim & Wagman, 2014; NVCA, 2014), they are increasingly investing in companies that have secured prior, earlier-stage funding. This means that VCs should take particular efforts to tune into opportunities funded by increasingly prevalent models, such as angels and the crowd, as their presence continues to open a rich source of accessible deal flow that has been validated in unique ways. That is, the dynamics of the investment landscape (VCs investing at later stages, alongside an increasingly higher volume of seed fund alternatives) is creating a growing stream of visible opportunities from which deals can be sourced. Paying close attention to who has initially invested in or certified a young venture can open the door to new investment prospects that would otherwise go undetected through more traditional channels, such as referrals (Bruton et al., 2005).

With regard to entrepreneurs, our findings support Stuart et al.'s (1999, p. 347) conception that securing key resource partners can "invoke a cycle of accumulating advantage for young companies . . .," but we take things further by articulating how entrepreneurs who wish eventually to obtain VC funding can strategically tap into the cycle of accumulating advantage. As entrepreneurs try to land in the narrow 20% of ventures who make it through the preliminary screening stage (Petty & Gruber, 2011), our findings suggest that who they recruit for seed funding can play a critical role in influencing their chances. Specifically, entrepreneurs should realize that VCs are influenced by the certification effects that correspond to specific characteristics of the seed funders, which can be reflective of their venture's quality. The net effect is that entrepreneurs who plan to seek VC funding should pay careful attention to their initial source of capital, given that the reputation of the angel and his or her respective group or the success rate of a crowdfunding site and the subsequent support garnered appear to become important at a later juncture. While there are numerous uncertainties accompanying early-stage ventures, entrepreneurs should also recognize that seed funding is multifaceted, where there are reputational and collective attributes that come into play. Thus, contingent on their choice of financing, entrepreneurs should seek distinguishing marks across these areas (not simply securing any angel investment, for example), where entrepreneurs would do well to communicate proactively such characteristics to third-party evaluators.

Limitations

Our research serves as a starting point for understanding the potential certification influence that seed funders exert, yet there are clear limitations which present additional opportunities for future research. Although best practices were closely followed in our conjoint studies, we do recognize our subjection to the broader issue that research design choices imply trade-offs (McGrath, 1982; Scandura & Williams, 2000). While controlled experiments offer precision in variable measurement and control (i.e., high internal validity), a concern is that they can be a poor reflection of what is experienced in the world, in turn raising issues of external validity (Choi & Shepherd, 2004; Lynch, 1982; Petty & Gruber, 2011). Here, conjoint experiments pose possible threats to external validity because individuals make decisions in a controlled, hypothetical reality. Experiments, then, are often criticized for not having the emotional attachment or immediacy of "real life" (McKelvie

et al., 2011) and do not take into account all the possible sources of information used when making decisions. While this is justified criticism, the conjoint method has been used in numerous studies, and there is ample evidence that conjoint analyses generally reflect the decision policies actually used (Zacharakis, McMullen, & Shepherd, 2007). While our approach is inherently associated with trade-offs, researchers could also use a set of different methodological tools that counter the weaknesses of conjoint experiments in further examining the role of seed funding certification. For example, case studies, field experiments, and longitudinal analyses represent viable paths to examine such effects in a different, yet complementary light.

Moreover, our study considered the certification effects that a specific profile of angels or the crowd provides for VC screening investment opportunities; however, the limitations of our method did not allow for the inclusion of an exhaustive set of seed funder characteristics that might influence the certification effect. Expanding on our findings, continuing to explore and disentangle the effects within and across different types of certifications represents a promising area of research. Finally, our study was restricted to angels and the crowd. Although considerably smaller in comparison, accelerators, for instance, are emerging as a growing source of seed funding (Adomdza, 2015). Thus, future research could study the effects of additional seed funding sources, with particular focus on how they measure up against one another in terms of certification effects.

Conclusion

This study advances our understanding of how VC screening decisions are made in light of factors related to venture seed funding. We explore angel investors as traditional sources of seed funding, but distinctively, we also investigate crowdfunding as a new and innovative source of seed funding. Thus, we introduce the idea that various characteristics of seed fund investments can serve as an influential certification to VCs as they make screening decisions. In that way, we provide insights on a frequently overlooked stage of the VC decision making process, considering how such certifications flow from attributes that are unique to the source. Practically, our approach offers important insights for VCs seeking to better understand their own decision processes and for early-stage entrepreneurs who eventually hope to secure relationships with key downstream resource providers such as VCs.

Appendix A: Experiment Language

A trusted member of your network has referred to you Innovative Cloud Enterprises, Inc., an early stage next generation hosting and data storage company falling within your deal strategy.[4] Innovative Cloud Enterprises focuses on the development of innovative data storage and managed hosting solutions. With regard to experience and competence, the management team appears in line with other ventures you have funded. At this time, you are conducting an initial screening of the venture who, for an amount of capital that is thought to be fair, is offering a 35% equity stake. Finally, you should know that Innovative Cloud Enterprises has received an [Experiment 1: angel investment or Experiment 2: crowdfunding investment] but these prior investor(s) will not interfere with your ownership target. In addition to this information please consider the following attributes of Innovative Cloud Enterprises and based on those attributes respond to the questions that follow.

Experiment 1: Angel Conjoint Experiment

Angel Investor Experience:

Limited. This venture has been evaluated and invested in by an angel investor who has very little investment experience as the result of a low volume of prior investments.

Extensive. This venture has been evaluated and invested in by an angel investor who has extensive investment experience as the result of a high volume of prior investments.

Angel Group Membership:

Member. This venture has been evaluated and invested in by an angel investor who is a member of an angel investing group with a reputation for backing successful ventures.

Non member. This venture has been evaluated and invested in by an angel investor who is not a member of an angel investing group.

Information Uncertainty:

Less Certain. The information you have analyzed thus far regarding the future prospects of Innovative Cloud Enterprises seems insufficient to make a reasonable assessment about the venture's future.

More Certain. The information you have analyzed thus far regarding the future prospects of Innovative Cloud Enterprises seems sufficient to make a reasonable assessment about the venture's future.

Experiment 2: Crowdfund Conjoint Experiment

Crowdfund Platform Type:

Reward. This venture has received funding through a reward-based crowdfunding platform, where, in exchange for capital, each crowdfunder is given the venture's final product.

Lending. This venture has received funding through a lending-based crowdfunding platform, where each crowdfunder who provided capital is to be repaid in exchange for their loan.

Equity. This venture has received funding through an equity-based crowdfunding platform, where each crowdfunder holds an equity stake in exchange for their investment.

Crowdfund Site Track Record:

Proven. The crowdfunding site backing this venture has a reputation for funding ventures that go on to realize consistent profitability.

Unproven. The crowdfunding site backing this venture does not have a reputation for funding ventures that go on to realize consistent profitability.

(Continued)

4. Many VCs follow a deal strategy that encompasses aspects such as industry and technology domain. Because deal strategies vary, our logic is based on the assumption the venture fits the VC's deal strategy and we noted in each experiment that VC was to assume the venture under consideration fits their deal strategy. Thus, all of our hypotheses and inferences drawn about angel- and crowdfund-backed ventures implicitly assume the opportunity fits the VC's deal strategy.

Crowdfunders Backing the Venture:
Extensive. There are 200 individuals who have evaluated and committed funds to support this venture.
Minimal. There are 5 individuals who have evaluated and committed funds to support this venture.

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