CRystal Clear? A Contingency Perspective on the Use of Metaphorical Communication and Language Concreteness in an Equity Crowdfunding Setting

Dennis Helding Jacobsen
Copenhagen Business School
Department of Strategy and Innovation
dhj.si@cbs.dk

Diego Stea
Copenhagen Business School
Department of Strategy and Innovation
ds.si@cbs.dk

Abstract
Particularly in noisy signaling environments, managerial communication has important consequences for organizations. Yet, these consequences can be very different, and rhetorical signals have been shown to be able to create as well as destroy value for firms. To improve our understanding of the conditions that make rhetoric a value-adding versus value-destroying exercise, we examine the simultaneous application in an equity crowdfunding setting of two key rhetorical instruments: metaphorical communication and language concreteness. Based on a complementary fit logic, we theorize that metaphorical communication boosts resource contributions when paired with language concreteness, but hampers resource contributions when combined with language abstraction. Analysis of full-sample, firm-level data on 197 crowdfunding campaigns supports these ideas. These findings contribute to the strategic communication, signaling, and crowdfunding literatures.
CRYSTAL CLEAR? A CONTINGENCY PERSPECTIVE ON THE USE OF METAPHORICAL COMMUNICATION AND LANGUAGE CONCRETENESS IN AN EQUITY CROWDFUNDING SETTING

ABSTRACT

Particularly in noisy signaling environments, managerial communication has important consequences for organizations. Yet, these consequences can be very different, and rhetorical signals have been shown to be able to create as well as destroy value for firms. To improve our understanding of the conditions that make rhetoric a value-adding versus value-destroying exercise, we examine the simultaneous application in an equity crowdfunding setting of two key rhetorical instruments: metaphorical communication and language concreteness. Based on a complementary fit logic, we theorize that metaphorical communication boosts resource contributions when paired with language concreteness, but hampers resource contributions when combined with language abstraction. Analysis of full-sample, firm-level data on 197 crowdfunding campaigns supports these ideas. These findings contribute to the strategic communication, signaling, and crowdfunding literatures.

Keywords: Rhetoric, crowdfunding, signaling, communication, metaphorical communication, language concreteness.
INTRODUCTION

Obtaining access to external financial resources is a vital task for firms that need to sustain and expand their businesses (Florin, Lubatkin, and Schulze, 2003). In order to attract these resources, firms need to convey relevant information to potential resource contributors (Courtney, Dutta, and Li, 2016). This is a challenging task (Drover, Wood, and Corbett, 2018), and particularly so for firms operating in high-noise signaling environments (Connelly et al., 2010). An important discussion in this regard, focuses on the role of rhetoric as a means for conveying information (Steigenberger and Wilhelm, 2018). While traditionally regarded by signaling theory as equally costly for low- and high-quality senders and thus largely ineffective (Bergh et al., 2014), recent management research highlights that the subtle elements of managerial communication have important and sizeable effects (König et al., 2017b; Pan et al., 2017; Steigenberger and Wilhelm, 2018), especially when deployed under conditions of high information asymmetry, uncertainty, and load (Plummer, Allison, and Connelly, 2016).

In particular, a growing stream of research points to the fact that rhetorical signals may not only create, but also destroy value for firms. The unfolding of these effects, however, is often puzzling (König et al., 2017b; Pan et al., 2017; Steigenberger and Wilhelm, 2018), which is also mirrored in the broader and intensifying debate on the paradoxical role of rhetoric for firms’ communication with their stakeholders (Lamin and Zaheer, 2011). An imperfect understanding of the conditions that make rhetoric a value-adding versus value-destroying exercise is highly problematic as this uncertainty undermines communicators (entrepreneurs, managers, CEOs) in their continuous, and fundamentally important efforts for effectively conveying information to their relevant audiences.

In an attempt to improve our understanding of the conditions that make rhetoric a value-adding versus value-destroying exercise, we leverage insights from the strategic communication and signaling literatures, and combine a complementary fit logic (Ostroff, 2012), in a signal portfolio perspective (Drover et al., 2018) and extend it to the context of rhetorical signals by examining the
simultaneous application of two particularly important rhetorical instruments: metaphorical communication (e.g. König et al., 2017b) and language concreteness (e.g. Pan et al., 2017). We theorize that, opposite to language abstraction, language concreteness is consistent with metaphorical communication in that it compensates for the reduction, simplification and interpretation of information which is typical of metaphorical communication, while at the same time leveraging the inherent strengths of metaphorical communication—that is, its ability to direct the receiver’s attention, and resonate with the receiver both on rational and emotional levels. Taken together, communications that combine metaphorical figures and language concreteness signals should enhance communication efficacy, increase the sender’s credibility, and facilitate the receiver’s processing of the signal. Consistent with these ideas, we propose that whether metaphorical communication constitutes a beneficial or detrimental signal depends on the extent to which the potentially harmful side-effects of metaphorical communication are mitigated (amplified) by the use of higher (lower) levels of language concreteness.

By departing from the traditional focus of classical signaling theory on isolated substantive signals (Bergh et al., 2014; Connelly et al., 2010; Drover et al., 2018; Steigenberger and Wilhelm, 2018), and proposing the idea that rhetorical signals may have profoundly different effects depending on whether they are combined into internally consistent or inconsistent packages, we make three main contributions to the extant literature. First, we contribute to the strategic communication debate on the paradoxical role of rhetoric (König et al., 2017b; Lamin and Zaheer, 2011; Pan et al., 2017; Steigenberger and Wilhelm, 2018; Zavyalova et al., 2012) by developing and testing theory that extends a contingency approach to the use of combinations of rhetorical signals in order to shed new light on the effects of those signals, particularly when used in high-noise environments. Second, we contribute to signaling theory, and particularly to the discussion on negative signaling effects (Anglin et al., 2018; Drover et al., 2018; Fischer and Reuber, 2017; Perkins and Hendry, 2005) by extending the application of a signal portfolio approach
(Steigenberger and Wilhelm, 2018) to the context of rhetorical signal consistency so as to explain why suboptimal signal combinations may have detrimental effects. Third, we contribute to crowdfunding research (Belleflamme, Lambert, and Schwienbacher, 2014; Mollick, 2014; Mollick and Nanda, 2016) by providing new knowledge on how rhetoric can be used in order to reduce information asymmetry and attract vitally important financial resources in an equity crowdfunding setting.

THEORY DEVELOPMENT

Firms have finite financial resources (Jawahar and Mclaughlin, 2001) and therefore often need to turn to external financial resource contributors to obtain the injections of funds they require to sustain and expand their businesses (Florin et al., 2003). Yet, investors tend to have abundant investment opportunities at hand, and only pick the most promising and least uncertain ones (Huang and Pearce, 2015). Those firms that are unable to attract the vitally important external financial resources may fail to adapt to changing environments, to undertake ambitious strategies, or to simply meet the demands of rapid growth (Plummer et al., 2016).

An important perspective in this regard is signaling theory (Spence, 1973; 2002) that explains how firms can reduce the potentially harmful information asymmetry and obtain access to the financial resources they need (Bergh et al., 2014). In situations where the underlying quality of a potential investment cannot be directly observed, investors rely on signals to channel information that is thought to correlate with quality (Bergh et al., 2014). Along these lines, a central discussion focuses on the key role for signaling purposes of rhetoric (Pan et al., 2017). While on the one hand classical signaling theory traditionally regards rhetorical signals as equally costly for low-quality and high-quality senders and thus largely ineffective (Bergh et al., 2014), the management and communication literature has long been advocating the relevance of rhetoric as a means to convey information (Suddaby and Greenwood, 2005). To this end, a growing stream of research points to the fact that rhetorical signals are impactful tools which carry important and sizeable effects. These
effects, however, are potentially problematic as they have been shown to be highly volatile (Pan et al., 2017) and even unexpected (Steigenberger and Wilhelm, 2018). In that sense, and particularly so when simultaneously deployed, rhetorical signals may create as well as destroy value for firms. Yet, we have a very incomplete understanding of when and why that applies (Steigenberger and Wilhelm, 2018).

While traditionally concerned with how (positive) isolated signals influence the signal receiver’s decision-making (Connelly et al., 2010), important extensions of signaling theory highlight that, particularly in noisy signaling environments, multiple signals are combined into packages and simultaneously deployed (Drover et al., 2018). When this occurs, signal receivers engage in the holistic processing of signal portfolios where bundles of signals are not processed in isolation, but rather have joint effects on the signal receivers (e.g. Anglin et al., 2018). In what follows we address this problem by extending a signal portfolio logic to the application of rhetorical signals, focusing on two particularly important elements of rhetoric: metaphorical communication (Cornelissen, Holt, and Zundel, 2011; König et al., 2017b; 2017a; Sopory and Dillard, 2002) and language concreteness (Hansen and Wänke, 2010; Pan et al., 2017; Toma and D’Angelo, 2014).

**METAPHORICAL COMMUNICATION**

Widely used in broadly diverse communication settings, metaphorical communication is one of the most important techniques included in the canon of rhetoric (Corbett and Connors, 1999; König et al., 2017b). In line with its importance for practice, metaphorical communication has also attracted considerable research attention, including in the management and strategic communication fields (Cornelissen, 2012; Cornelissen and Werner, 2014; König et al., 2017b; Ruiz de Mendoza Ibáñez and Pérez Hernández, 2011; Weick, 1998). Yet, little is known about its applications in high-noise signaling environments, and particularly when used in combination with other rhetorical signals.

Metaphorical communication involves the transfer of some properties from a relatively familiar and concrete domain (referred to as the source domain or vehicle) to another new and relatively
unknown domain (referred to as the target domain or tenor) (Gentner, 1983; Lakoff and Johnson, 1980; Ortony, 1975; Vosniadou and Ortony, 1989). For instance, in the metaphor “an organization is a machine” (Heracleous and Jacobs, 2008; Morgan, 1986) a transfer of information occurs from the better known source domain “machine” to the less known target domain “organization”. In this sense, the metaphor creates a link between the source and target domains, where the source domain is framed through the social construction of the target domain (Landau and Keefer, 2014). Thus, the metaphor is not merely a communication device but rather a cognitive tool that can be used to understand an abstract or complex target in terms of a dissimilar, familiar source (Lakoff and Johnson, 1980). Based on the intuition that they all compare something unfamiliar with something familiar (Corbett and Connors, 1999; Ortony, 1975; Pondy, 1983; Sopory and Dillard, 2002), the broader concept of metaphorical communication is conventionally extended to include metaphors (implicit comparisons between two dissimilar objects of the form “A is B” such as “our marriage is a rollercoaster ride” (McGlone, 2007)), similes (explicit comparisons of one element with another of the form “A is like B” such as “the sea is like a big aquarium” (Aisenman, 1999)), analogies (transfers of a causal pattern from a familiar domain to a less familiar one such as “a sword is to a warrior as a pen is to a writer” (Corbett and Connors, 1999)), and metonymies (expressions in which one entity is replaced with another entity that it is associated with such as “the kettle is boiling”, where kettle substitutes for the liquid contained in the kettle (Kövecses and Radden, 1998)).

Prior research has emphasized three distinct advantages that can derive from metaphorical communication, in that its use can help simplify complex messages, guide the receivers’ attention, and positively affect their attitudes towards the message (Landau and Keefer, 2014). First, as metaphorical communication describes something unfamiliar by reference to something familiar (Black, 1962), it may facilitate the receiver’s awareness, understanding, and retention of the message (Glucksberg, McGlone, and Manfredi, 1997; Ortony, 1975). In other words, since
metaphorical expressions “convey relationships to concepts already understood” the elements of metaphorical communication “facilitate the construction of meaning by the person or group experiencing them” (Gioia, 1986). Second, metaphorical communication allows the communicator to deliberately direct the receiver’s attention (Cornelissen and Werner, 2014) to certain aspects (of the source domain) while potentially downplaying others (of the target domain) (Lakoff and Johnson, 1980). Third, by referring to sensory experiences and invoking familiarity, metaphorical communication bridges logical and emotional means of persuasion (Mio, 1997), and may induce an overall positive attitude towards the message, as well as its sender (Read et al., 1990; Zashin and Chapman, 1974).

Yet, cognitive linguists have also pointed out that metaphorical communication can have significant shortcomings, mostly related to the fact that metaphorical communication implies an a priori reduction, simplification, and interpretation of information (Merkl-Davies and Koller, 2012; Ramsay, 2004; Steen, 2011). First, metaphorical communication compares two domains of knowledge that never fully correspond (Black, 1962; Ruiz de Mendoza Ibáñez and Pérez Hernández, 2011; Steen, 2011), and where normally the more familiar source domain has a reduced information load than the unfamiliar target domain. The reduction of information inherent in metaphorical communication can carry along conflicting interpretations that eventually obscure the meaning originally intended by the communicator (Ramsay, 2004). Second, metaphorical communication rarely provides detail and precision, and never comprehensively and consistently represents the target domain (Black, 1962; Mio, 1997; Shenkar, Luo, and Yeheskel, 2008a). By collapsing complicated issues into simplified packets of information, metaphors may “serve as a substitute for an unobserved reality, increasing the threat of oversimplification” (Shenkar et al., 2008a). Third, when the characteristics of a source domain are transferred to a target domain, the transfer relies on the receiver’s selection and interpretation of information, potentially creating uncertainty of meaning (Ramsay, 2004). For example, in the metaphor “our marriage is a
rollercoaster ride” (McGlone, 2007), some properties of the source domain “rollercoaster ride” are assigned to the target domain “marriage” to create the figure of speech. In this example, the communicator’s intended property of her marriage may have been the excitement and unforeseeable nature of a rollercoaster ride. In contrast, the receiver of the metaphor may instead attribute other properties to a rollercoaster ride, such as fear or unreliability, and transfer these to the marriage of the communicator and her partner.

The inherent tensions related to the effectiveness of metaphorical communication as a rhetorical signal should be even more severe when the signal is applied in high-noise environments, where uncertainty and information asymmetry is high, and signals must be processed amid other signals (Connelly et al., 2010). Under those conditions, and together with the well-established advantages that are associated to it, the use of metaphorical communication may also carry potentially negative consequences. In particular, the reduction, simplification, and interpretation of information that is inherent in metaphorical communication may have negative repercussions on the signal, which can come across as incomplete, ambiguous, and potentially complex to understand (Ramsay, 2004); on the signal sender, who may be perceived as either incompetent, or not trustworthy (König et al., 2017b); as well as on the receiver, who may experience cognitive stress, and uncertainty about her own reading of the signal (Black, 1962; Hamington, 2008; Shenkar, Luo, and Yeheskel, 2008b).

Taken together, this leaves us with an uncertain understanding of whether signal senders that operate under high-noise conditions—such as early stage financing—should benefit from using metaphorical communication.

The arguments and trade-offs developed so far are “isolationist” in the sense that, very much in line with the assumptions of classical signaling theory (Connelly et al., 2010), they focus solely on the workings of an isolated (rhetorical) signal. While not yet extended to portfolios of rhetorical signals, however, the idea that particularly in high-noise conditions signals are delivered in
packages where they may interplay with one another is gaining ground in recent management research (Anglin et al., 2018; Courtney et al., 2016; Steigenberger and Wilhelm, 2018).

Interestingly, a long-established line of research in the communications literature offers evidence that another important and widely used rhetorical signal, language concreteness (Pan et al., 2017), may compensate for several of the limitations inherent in metaphorical communication, suggesting that the extent to which ventures seeking early stage financing may benefit from the use of metaphorical communication may depend on whether and how they combine it with signals of concreteness in their language. Before we can explicitly integrate these intuitions into a unified theoretical argument, a discussion of existing literature on language concreteness is in order.

**LANGUAGE CONCRETENESS**

Language concreteness — conventionally regarded as the polar opposite of language abstraction (Pan et al., 2017) — represents the extent to which a message contains context specific and detailed information (Doest, Semin, and Sherman, 2002; Miller et al., 2007). Language concreteness has been shown to facilitate listeners’ comprehension and recall and, in turn, message persuasiveness, particularly when applied under conditions of high information asymmetry and environmental uncertainty (Larrimore et al., 2011; Toma and D’Angelo, 2014).

Extant research highlights a number of reasons why concrete language may boost the persuasiveness of communication. First, concreteness enhances message familiarity and ease of understanding (Doest et al., 2002; Schwanenflugel, Harnishfeger, and Stowe, 1988; Seifert, 1997). Concrete language is characterized by the use high frequency words and clear explanations, which cause the receivers to experience a sense of familiarity in processing the message (Miller et al., 2007; Toma and D’Angelo, 2014). Further, the contextualized and detailed representations of objects inherent in concrete language facilitate message processing and comprehension (McClelland and Rumelhart, 1985). Second, language concreteness leads to improved information accessibility (Doest et al., 2002; Forgas, 2007; Paivio, Yuille, and Madigan, 1968; Toma and
D’Angelo, 2014). The detailed and context-specific nature of the information conveyed in concrete communications makes that information readily available and easily retrievable (Wood, 1982), and, in turn, more interesting and memorable (Sadoski, 2001). Third, communicators that use concrete language tend to be perceived as more competent and trustworthy than those using abstract language (Eagly and Chaiken, 1993; Larrimore et al., 2011; Toma and D’Angelo, 2014). In particular, the clarity, understandability, and abundance of context-specific details typical of concrete messages positively affects how communicators are perceived by their audiences because individuals providing details and showing proficient understanding of the subject tend to be regarded as knowledgeable and, in turn, trustworthy (Larrimore et al., 2011; Miller et al., 2007; Toma and Hancock, 2012). Fourth, by providing information that is relatively unambiguous, easy to access, understand, and process, concrete language has a reduced cognitive load for the message receiver, who will feel less stress processing the information and making decisions (Elsbach, 2004), mitigating the rise of additional uncertainty (van Dijk and Zeelenberg, 2003). Lastly, by reducing uncertainties related to message interpretation and enhancing feelings of competence and trust about the message sender, concrete language increases message receivers’ confidence in their own comprehension and evaluation of the message (Larrimore et al., 2011; Pan et al., 2017).

ALIGNMENT AND MISALIGNMENT BETWEEN METAPHORICAL COMMUNICATION AND LANGUAGE CONCREteness

The basic arguments presented so far are built on the increasingly established premise that rhetorical signals can be important drivers of financial resource acquisition in high-noise environments (Anglin et al., 2018; Steigenberger and Wilhelm, 2018). While distinct advantages have traditionally been associated with it, the reduction, simplification, and interpretation of information that is inherent in metaphorical communication has also been shown to be potentially detrimental to communication effectiveness, raising concerns on whether signal senders that operate under high-noise conditions should actually benefit from using metaphorical communication.
Prior research has proposed that whether metaphorical communication will have a predominantly positive or negative effect depends on how signal receivers make sense of it, where, depending on their interpretive schemes, some audiences should be more likely than other to resonate with the workings of metaphorical communication (König et al., 2017b). In the present section, we depart from this explanation and, building on a “complementary fit” logic (Cable and Edwards, 2004; Ostroff, 2012), we propose that whether metaphorical communication and, by extension, rhetorical signals lead to positive or negative outcomes depends on whether they are combined into internally consistent packages. Following this logic, we posit that signals of metaphorical communication are beneficial when complemented by signals of language concreteness, and detrimental when combined with signals of language abstraction.

Our complementarity argument unfolds on the three related, and yet distinct dimensions of communication efficacy, sender’s credibility, and receiver’s processing of the signals. First, we expect the combination of metaphorical communication with language concreteness (abstractness) to improve (worsen) communication efficacy, resulting in higher (lower) financial resource acquisition when applied in firms’ communication to potential investors. Metaphorical communication increases communication efficacy by describing something unfamiliar and potentially complex by reference to something familiar and relatively more straightforward (Black, 1962). This is beneficial as long as the reduction and simplification of information, which is implied by the use of metaphorical communication, does not negatively affect communication quality by triggering feelings of incompleteness, and potential ambiguity (Shenkar et al., 2008a). Language concreteness, however, leads to improved information accessibility and enhances message familiarity and ease of understanding (Doest et al., 2002). High concreteness should therefore increase the likelihood that the potentially limited, and simplified information contained in messages high in metaphorical communication comes across as familiar, sufficient, and easily retrievable. In sum, language concreteness leverages the strengths of metaphorical communication.
by compensating one of its key weaknesses: the potential lack of detail and completeness. The opposite should be true for those messages that combine metaphorical communication with language abstraction, where the combination of abstraction with the lack of precision and detail typical of metaphorical communication should increase the probability that the overall message comes across as ambiguous and incomplete.

Second, we expect the combination of metaphorical communication with language concreteness (abstractness) to benefit (harm) the communicator’s credibility, resulting in higher (lower) financial resource acquisition when applied in firms’ communication to potential investors. Metaphorical communication triggers positive attitudes towards the communicator by invoking familiarity as well as bridging logical and emotional means of persuasion (Mio, 1997). This is beneficial, as long as the simplification and reduction of information implied in the process is not interpreted as a signal of oversimplification, and in turn incompetence or, worse, lack of trustworthiness on the side of the communicator (Lakoff and Johnson, 1980; Shenkar et al., 2008a). However, the understandability and presence of context-specific details characteristic of concrete messages makes communicators that use concrete language more likely to be regarded as knowledgeable and, in turn, trustworthy (Larrimore et al., 2011; Miller et al., 2007; Toma and Hancock, 2012). By triggering feelings of competence and trustworthiness, language concreteness increases the probability that the more familiar and simplified information contained in messages high in metaphorical communication does not negatively reflect on the communicator’s credibility. The opposite should apply to messages that combine metaphorical communication with language abstraction, where the limited clarity, understandability, and lack of context-specific details typical of abstract messages should increase the probability that the simplicity and familiarity of metaphorical communication is regarded as a signal of incompetence and non-trustworthiness from the side of the sender.
Finally, we expect the combination of metaphorical communication with language concreteness (abstractness) to facilitate (hamper) the receiver’s cognitive processing, resulting in higher (lower) financial resource acquisition when applied in firms’ communication to potential investors.

Metaphorical communication facilitates information processing by describing something unfamiliar by reference to something familiar (Black, 1962), as well as by steering the receiver’s attention (Cornelissen and Werner, 2014) to certain aspects of the source domain (Lakoff and Johnson, 1980). When the characteristics of a source domain are transferred to a target domain, however, the transfer relies on the receiver’s selection and interpretation of information, potentially creating uncertainty of meaning and cognitive stress (Ramsay, 2004). Language concreteness, however, reduces cognitive stress by providing information that is relatively unambiguous, easy to access, understand, and process (Elsbach, 2004; van Dijk and Zeelenberg, 2003). Furthermore, language concreteness has been shown to increase message receivers’ confidence in their own comprehension and evaluation of the message (Larrimore et al., 2011; Pan et al., 2017). By increasing the confidence in their own interpretation of the communication, as well as by providing relatively unambiguous and detailed information, language concreteness should therefore decrease the probability that message receivers find it difficult to find the link between source and target domains, as well as decrease the probability that message receivers experience uncertainty about their own selection and interpretation of those links, therefore reducing overall cognitive stress. The opposite should be true for those messages that combine metaphorical communication with language abstraction, where the relative ambiguity, and lack of detail and understandability typical of abstract messages should increase the probability that message receivers find it hard to select, understand and interpret the information contained in metaphorical communication. Taken together, these arguments lead to the following hypothesis:
Hypothesis. Ceteris paribus, the higher the level of metaphorical communication, the more language concreteness (abstraction) in a firm’s communication with potential investors enhances (decreases) that firm’s external financial resource acquisitions.

METHODS

Data Collection and Research Site

In order to test our hypothesis, we selected a prototypical high-noise setting—crowdfunding (McKenny et al., 2017; Steigenberger and Wilhelm, 2018). In particular, we selected an equity crowdfunding setting, that is a setting where the new ventures treat funders as investors selling them small ownership stakes in the venture (Ahlers et al., 2015). Equity crowdfunding has been recognized as a particularly noisy signaling environment, where information asymmetry, uncertainty and load are especially high (McKenny et al., 2017). We drew the empirical data to test our theory from the population of online equity crowdfunding projects in the U.S. that classified as “Regulation Crowdfunding” from the equity crowdfunding platform StartEngine, which represents an ideal context for testing our theory, offering important advantages over other crowdfunding platforms. Our sample includes all 197 crowdfunding projects that were completed on StartEngine between May 2016 (the point in time when Regulation Crowdfunding took effect) and February 2019. We collected the data by manually scraping information from each project.

Dependent Variable: Resource Contributions

Resource contributions captures the extent to which a venture is able to obtain the desired amount of funding, and does so by measuring the amount of money a project receives as a percentage of the amount targeted (Steigenberger and Wilhelm, 2018). Besides being consistent with prior research (e.g. Mollick, 2014), this operationalization is particularly fitting in an equity-based setting, where funding success needs to be calibrated relative to how much equity the venture wants to sell.
Independent Variable: Metaphorical Communication

The independent variable in our study is *metaphorical communication*, which reflects the weight of metaphorical communication used in terms of the overall length of a project’s communication. In constructing this measure, we followed the approach used by König et al. (2017b), as specified below.

*Project campaigns as discursive driver.* The crowdfunding campaigns in StartEngine are where exchange of information between ventures and potential investors takes place before the investors make their investment decisions. Based on that, we regard those campaigns as the discursive vehicle of the study, and in turn the ideal setting for measuring the extent to which ventures use metaphorical communication with potential investors. In total, the campaigns in the sample represent approximately 1,300 pages of text, out of which about 200 pages are transcriptions of campaign videos (which were included in about 93 percent of the campaigns in our sample).

*Coding.* To identify and measure ventures’ use of metaphorical communication, we developed a reliable, context-sensitive and non-computerized content analytical instrument (Krippendorf, 2004; Ryan and Bernard, 2000) through an iterative process involving three phases. In the first phase, we developed a set of preliminary coding instructions. These included concise definitions of the underlying elements of metaphorical communication including metaphors, analogies, similes and metonymies, as these all instantiate cognitive processes similar in nature to those induced by metaphors (Sopory and Dillard, 2002). As part of the initial coding instructions, anchoring examples and basic coding criteria were developed. Table 1 provides examples of the metaphorical expressions used by some of the ventures in our sample in their project descriptions.

---

Insert Table 1 about here

---

In the second phase, we revised the initial and preliminary coding instructions by pre-testing them and optimizing them accordingly. Specifically, two coders first hand-coded two randomly
selected StartEngine campaigns, and then compared the codings. The two campaigns total about 25 pages of text, corresponding to approximately 2 percent of our sample, which is in line with previous research using this approach (König et al., 2017b). When inconsistencies were identified, these were discussed until agreement was reached (Krippendorf, 2004). The initial coding instructions were then revised, and three adjustments were made. First, we constructed more illustrative examples and included them in the initial coding guidelines to ensure that any coder would be able to fully grasp the fundamental concepts. Second, we decided to only code discourse that originally derived from the company. We did so as we identified during the initial coding test that quotes from external sources were at times used in the campaign descriptions, thereby not classifying properly as company discourse. Third, as many project descriptions had several standardized sections, such as a generic risk warning, we decided to exclude such sections from the coding. In addition to this, we also chose to not code a few specific sections, as they were considered non-contentual (König et al., 2017b). These included examples of media coverage text, company timelines, “meet our team” sections, along with any updates made by the ventures.

In the third phase, two coders applied the coding guidelines to the project discourse including all 1,300 pages of text. In case of doubts as to whether a sentence structure should be regarded as metaphorical, the sentence structure was initially coded as to be re-evaluated later. This process yielded a total of 2,269 instances of metaphorical communication in the project descriptions, of which 1,965 (87 percent) came from the project descriptions and the remaining 304 (13 percent) came from video transcripts. During this initial coding of the 197 projects, an inter-rater agreement test was performed to gauge the robustness of the coding. It yielded satisfactory results (Cohen’s Kappa = 0.703). After the initial coding of the 197 projects, each of the 2,269 instances of metaphorical communication were re-evaluated. Following common practice (Burbules, Schraw, and Trathen, 1989; König et al., 2017b), we considered metaphors as “dead” if they were classified as idioms in the Merriam-Webster or Cambridge dictionaries. During this re-evaluation process,
174 instances of the initial 2,269 were classified as idioms and thus excluded as “dead” metaphors, and 996 instances were assessed as not being instances of metaphorical communication after further re-evaluation. As such, a total of 1,099 instances of metaphorical communication were used in operationalizing the independent variable of the study.

**Ventures’ use of metaphorical communication.** In order to operationalize our independent variable reflecting the weight of metaphorical communication in terms of the overall length of the communication, we applied König et al.’s (2017b) coding scheme\(^1\), which comprised a set of coding rules aimed at helping to identify only the minimum amount of words belonging to a coherent sentence structure that were needed to make sense of a given metaphorical expression. The scheme included rules such as not to code adjectives when they were not part of the metaphor, or, in instances where a metaphor was included in an interjected main clause, to code the interjected main clause rather than the entire sentence. We applied the coding scheme to each of the final 1,099 instances of metaphorical communication, obtaining a total of 16,076 words used as part of metaphorical communication in the sample. Then we divided the total number of words classified as part of a venture’s metaphorical communication in its campaign by the total number of words in that campaign, and multiplied it by 100 for easier interpretation.

**Moderator Variable: Language Concreteness**

*Language concreteness* captures the extent to which a venture’s linguistic style contains context specific and detailed information (Doest *et al.*, 2002; Miller *et al.*, 2007). In particular, concrete language has been discussed in previous linguistics and psychology research as being characterized by the use of verbs, numbers, and past focused words, whereas abstract (that is, non-concrete) language is characterized by the use of adjectives, nonspecific quantifiers, and future-focused words (Elliott, Rennekamp, and White, 2014; Semin and Fiedler, 1988; Snejfella and Kuperman, 2015).

---

\(^1\) We thank the authors for sharing their coding rules.
In the linguistics literature, verbs are regarded as more concrete than adjectives as verbs capture behaviors and actions that are normally verifiable. On the other hand, adjectives are generalized descriptions of characteristics that tend to apply across different contexts, and in that sense are less context specific, and therefore more abstract (non-concrete) (Semin and Fiedler, 1988; Semin et al., 2005). Similarly, precise quantifiers such as digits have been identified as important indicators of language concreteness (Elliott et al., 2014) in that they are more concrete and specific than nonspecific quantifiers such as “several” or “few” (Jerez-Fernandez, Angulo, and Oppenheimer, 2014; Zhang and Schwarz, 2012). Lastly, past-focused language is normally recognized as concrete, because of its association with events that have occurred. On the other hand, future-focused language implies conjecture, is more speculative, and cannot be factually examined by audiences (D’Argembeau and Van der Linden, 2004; Snefjella and Kuperman, 2015).

Based on these insights, we operationalize the measure of language concreteness through content analysis of the ventures’ campaigns using LIWC 2015 (Linguistic Inquiry and Word Count) software (Pennebaker, Booth, and Austin, 2007). LIWC is a text analysis software with built-in dictionaries that counts words and assigns them to hypothesized categories, and has been shown to be internally reliable as well as externally valid (Pennebaker et al., 2007). Computerized text analysis is widely used in organization and strategy research (Crilly, Hansen, and Zollo, 2016; Gamache et al., 2015; Love, Lim, and Bednar, 2017). In particular, our operationalization of language concreteness followed Pan et al. (2017) in that, based on the idea that audiences develop a general view of language concreteness by observing combinations of linguistic elements, we developed an aggregate formative measure including the six LIWC word categories of verbs, adjectives, numbers, nonspecific quantifiers, past-focused words, and future-focused words. Specifically, we normalized each lexical category score, summed the normalized scores of concreteness (verbs, numbers and past-focused words) and subtracted the normalized scores of abstractness (adjectives, nonspecific quantifiers, and future-focused words). This process resulted in
a continuous measure of concreteness-abstractness that follows a normal distribution, with a mean of -0.25 and a standard deviation of 0.42.

Control Variables

To eliminate alternative explanations and demonstrate the unique relationship developed in our hypothesis, our models included several control variables which theory and previous empirical evidence suggest could relate to our focal variable (Bernerth and Aguinis, 2015).

Campaign-specific controls. We controlled for a set of aspects of campaign discourse that we suspect might relate to resource contributions. First, we controlled for language complexity (König et al., 2017b; Li, 2008) based on the idea that crowdfunding investors faced with high information asymmetry, load, and uncertainty might be inclined to prefer easy-to-understand communication. As in prior research, we operationalized language complexity with the Gunning Fog Index (Li, 2008). Second, positive and negative communication has been shown to affect investors’ evaluations and reactions (Levin, Schneider, and Gaeth, 1998), particularly in settings related to financial disclosures (Davis, Piger, and Sedor, 2012; Feldman et al., 2010) and crowdfunding (Kim, Buffart, and Croidieu, 2016; Pan et al., 2017; Parhankangas and Renko, 2017). To capture this effect, we used the LIWC dictionaries for positive and negative emotions ("posemo” and “negemo” in LIWC 2015, respectively) and operationalized the variable positive language as the degree of positive to negative language used in a venture’s equity crowdfunding campaign (Pfarrer, Pollock, and Rindova, 2010). Third, investors may have a preference for profitable and low risk investments (Allison et al., 2014). Based on this, we controlled for the use of profitability language and risk aversive language, which following previous research (Jancenelle, Javalgi, and Cavusgil, 2018) we measured using the “reward focus” and “risk/prevention focus” categories of the LIWC dictionaries. Finally, we controlled for the length of the campaign as this has been considered a signal of the entrepreneurs’ effort (Larrimore et al., 2011; Parhankangas and Renko, 2017), which is an important influencer of investors’ investment decisions (Chen, Yao, and Kotha, 2009; Hall and
Hofer, 1993; Sudek, 2006). Campaign length was measured by counting the total number of words used in the campaign and subtracting from it the number of words included in the non-contentual parts of the campaign (König et al., 2017b).

**Platform-specific controls.** We included two controls that we suspected could impact the amount of financial contributions a venture obtains that are specific to the focal platform StartEngine. First, StartEngine allows the ventures to decide if they would accept investments from U.S. investors only, or from both U.S and international investors. The ventures that accept international investments might have a broader reach, and in turn a higher probability of obtaining investments. To account for this effect, we controlled for geographical reach operationalized as a dummy variable capturing whether a venture accepts international investments (coded 1) or not (coded 0). Second, a standard campaign section on StartEngine invites the entrepreneurs to include examples of press coverage of their ventures. Press coverage is an important signal in that the press is more likely to cover high-quality than low-quality firms (Milbourn, 2003; Mollick, 2014) and may thus be associated with resource acquisitions (Steigenberger and Wilhelm, 2018). To control for this effect, we included the variable press coverage, coded as a dummy that captures whether a venture included examples of press coverage (coded 1) or not (coded 0).

**Resource acquisitions controls.** We also controlled for a set of variables that have been shown in the crowdfunding literature to be important determinants of resource contributions. First, we controlled for target funding high and target funding low (Ahlers et al., 2015; Mollick, 2014; Zheng et al., 2014) reflecting the upper and lower threshold for which the venture accepts funding (Walthoff-Borm, Schwienbacher, and Vanacker, 2018). We measured these by collecting the information as reported in StartEngine and dividing by 1,000 to aid interpretation. These targets are important as they might encourage or discourage investors to invest considering how far from, or how close to reaching the respective targets a venture is (Kuppuswamy and Bayus, 2018). Second, as each venture can decide on the share price and the minimum amount of shares a potential
investor needs to buy to become an investor in the venture, those with higher minimum investments might derive less funding than those who have lower minimum investments (Ahlers et al., 2015; Hu, Li, and Shi, 2015; Lukkarinen et al., 2016). To capture this effect, we controlled for the minimum investment by multiplying the numbers reported in StartEngine for the share price by the minimum amount of shares an investor can purchase. Third, having a campaign video has been identified in prior crowdfunding research as an important determinant of resource contributions as it signals that the ventures are well prepared and of higher quality (Mollick, 2014; Mollick and Nanda, 2016). We coded this variable as a dummy, where 1 indicates that a campaign includes a video and 0 otherwise. Fourth, we controlled for whether or not a venture included a financial forecast as part of their campaign, as this could be regarded as a sign of preparedness and quality (Mollick, 2014) and thus an important signal for potential investors (Ahlers et al., 2015). We coded this variable as a dummy, where 1 indicates that a venture had a financial forecast and 0 otherwise. Fifth, patents can be used to protect from competition and thus facilitate long term commercial success (Hoenig and Henkel, 2015), and has accordingly been conceived of as tool to positively affect the attraction of financial resources by entrepreneurial ventures seeking external funding (Sudek, 2006). To capture this effect, we followed current practice (Sudek, 2006) and included the dummy variable patent, where 1 indicates that the venture reported in its campaign that it held one or more patents or reported that it had filed any patent applications when the campaign was launched. Sixth, we also controlled for the number of updates the venture made during the campaign, as this might e.g. entail the creation of visibility and excitement around crowdfunding projects (e.g. Kuppuswamy and Bayus, 2017). We coded this variable as the natural logarithm of the number of updates each venture made during the campaign. Seventh, we also controlled for the number of comments potential investors made related to each campaign (e.g. Kromidha and Robson, 2016), which we coded as the natural logarithm of the number of comments each venture made during the campaign. Finally, the valuation of the ventures might play an important role in
determining the amount of investments a venture gets (Mohammadi and Shafi, 2018) in that the investors might find that the venture has a higher worth, and thus they would buy their share at a bargain, whereas if set too high in the eyes of the investors, many would likely refrain from investing. We capture this effect by controlling for the natural logarithm of the valuation determined by the ventures in USD.

**Fixed effects.** Lastly, we included *time* and *industry* fixed effects to account for potential unobserved heterogeneity across projects which may arise based on seasonal effects or varying degree of crowdfunding platform legitimacy over time, or as a result of different industry-specific characteristics (Ahlers et al., 2015; Liu and Shankar, 2015; Pan et al., 2017). The time fixed effects were modeled as five half-year dummy variables indicating the period for which a specific campaign was active. To capture the industry fixed effects, we classified each venture in the sample based on the sector-level of the North American Industry Classification System (NAICS) and included eleven industry dummy variables.

**ANALYSIS AND RESULTS**

To test our proposed hypothesis, we ran an ordinary least squares (OLS) hierarchical multiple regression. We conducted an extensive set of diagnostic tests to ensure that all underlying assumptions of linear multiple regression models were met. We ran 3 nested models: Model 1 regresses resource contributions on all control variables; Model 2 adds the main effects of metaphorical communication and language concreteness; Model 3 adds the interaction term between metaphorical communication and language concreteness. Table 2 presents the descriptive statistics and pairwise correlations for the variables included in our models.

As shown in table 3, Model 1 captures the sixteen control variables’ isolated effects on resource contributions, and explain no less than 48 percent of the total variation in the dependent
variable \((F = 4.62, p = 0.0000, R^2 = 0.4832)\). When the key explanatory variables of metaphorical communication and language concreteness are added in Model 2 the overall fit of the model significantly improves, as indicated by the F-test difference between Model 1 and 2 \((\Delta F = 3.27, p = 0.0406, \Delta R^2 = 0.015)\). By introducing the moderation effect, Model 3 obtains a further improvement in model fit \((\Delta F = 7.85, p = 0.0057, \Delta R^2 = 0.0235)\) and can therefore be used to test the hypothesized effect.

Our hypothesis predicted that ventures’ use of metaphorical communication will have a stronger positive effect when ventures use more concrete language, and a stronger negative effect when ventures use more abstract (that is, non-concrete) language. Model 3 provides evidence supporting our hypothesized effect, in that metaphorical communication and language concreteness have a positive interaction effect \((b = 0.2045, p = 0.0060)\). As hypothesized, ventures achieved more funding as they supplemented the use of metaphorical communication with concrete language, and less funding when they combined the use of metaphorical communication with abstract language. We further illustrated this result by plotting the interaction (Figure 1). The interaction plot highlights a strong positive effect for metaphorical communication when ventures use highly concrete language in their campaign narratives. However, the benefits of metaphorical communication are eroded when the level of language concreteness is low (that is, high language abstraction). Thus, our hypothesis receives support.

We conducted several additional analyses to gauge the robustness of our results, including different established measures of metaphorical language and language concreteness, two different measures of our dependent variable of resource contributions, and finally we also ran the regression

\[
\]
using a Tobit model with censored upper and lower limits of the dependent variable (0-100). The results remained unchanged.

**DISCUSSION**

In order to improve our understanding of the conditions that make rhetoric a value-adding versus value-destroying exercise, we combine a complementary fit logic (Cable and Edwards, 2004; Ostroff, 2012), in a signal portfolio perspective (Steigenberger and Wilhelm, 2018) and extend it to the context of rhetorical signals by examining the simultaneous application of two particularly important rhetorical instruments: metaphorical communication (Cornelissen et al., 2011; König et al., 2017b; 2017a; Sopory and Dillard, 2002) and language concreteness (Hansen and Wänke, 2010; Pan et al., 2017; Toma and D’Angelo, 2014). We theorize that, opposite to language abstraction, language concreteness is consistent with metaphorical communication in that it compensates for the reduction, simplification and interpretation of information which is typical of metaphorical communication, while at the same time leveraging the inherent strengths of metaphorical communication—that is, its ability to direct the receiver’s attention, and resonate with the receiver both on rational and emotional levels. Taken together, communications that combine metaphorical figures and language concreteness signals should enhance communication efficacy, increase the sender’s credibility, and facilitate the receiver’s processing of the signal. Consistent with these ideas, our study shows that metaphorical communication boosts resource contribution in an equity crowdfunding setting when paired with language concreteness, but hampers resource contributions when combined with language abstraction.

**Contributions**

Our research contributes to the growing discussion on the important role of language attributes for communication purposes (Anglin et al., 2018; Steigenberger and Wilhelm, 2018). In particular, we contribute to the debate on the potentially paradoxical role of rhetoric (König et al., 2017b; Lamin and Zaheer, 2011; Zavyalova et al., 2012) by developing and testing theory that, by extending a
contingency approach to the use of combinations of rhetorical signals, sheds new light on the value-creating as well as value-destroying potential of those signals, particularly when used in high-noise environments (Connelly et al., 2010). Thus, our findings add novel explanations to the recent discussion highlighting that it is not only the content (Bolino et al., 2008), but also the attributes of communication that matter. Additionally, extant research on the use of rhetorical signals has predominantly explored how those signals in isolation interplay with costly signals (Anglin et al., 2018; Steigenberger and Wilhelm, 2018) or environmental contingencies (Pan et al., 2017) by driving receivers’ sensemaking of potentially complex information (Drover et al., 2018; König et al., 2017b). We advance this conversation by presenting a fit argument that exclusively focuses on rhetorical signals, and thereby highlighting the fact that those signals per se have profound implications for firms’ strategic communication.

Our study also provides a rich picture of the workings of rhetoric for signaling purposes in high noise environments, and by doing so advances signaling theory in two distinct ways. Traditional signaling theory considers rhetorical signals largely ineffective as being equally costly for high-quality and low-quality senders (Connelly et al., 2010). Our results corroborate the recent and yet very important idea that, particularly when applied to high-noise environments, signaling theory needs to revisit the fundamental assumption that rhetorical signals are ineffective (Anglin et al., 2018; Steigenberger and Wilhelm, 2018) as it conflicts both with insights from the strategic communication literature (Suddaby and Greenwood, 2005; Vaara and Monin, 2010), and with growing empirical evidence (Anglin et al., 2018; Steigenberger and Wilhelm, 2018) including the one offered in this study. Second, and more importantly, classical signaling theory posits that rhetorical signals, at worst do not affect the receiver (Spence, 2002). A small but growing stream of research is distancing itself from this position and is starting to investigate negative signaling effects (Fischer and Reuber, 2017; Perkins and Hendry, 2005). These studies, however, are predominantly focused on unambiguously negative information, such as bad reputation (Fischer and
Reuber, 2017), as instances of negative signaling. Our contribution to this discussion consists in offering a much more fine-grained picture where, by extending the application of a signal portfolio approach (Steigenberger and Wilhelm, 2018) to the context of packages of rhetorical signals, we show that also suboptimal combinations of signals that per se are not conveying negative information may have detrimental effects.

This research also contributes to the crowdfunding literature (Belleflamme et al., 2014; Mollick, 2014; Mollick and Nanda, 2016). Crowdfunding has been described as a prototypical high-noise environment, where there is high information asymmetry, uncertainty, and load (Plummer et al., 2016; Steigenberger and Wilhelm, 2018). At the same time, equity crowdfunding has been highlighted as a vitally important channel for financial resource acquisition (Ahlers et al., 2015), and in particular one which has the potential to close the important “financing gap” that characterizes the early stages of ventures’ life cycles (Hellmann, 2007; Mollick, 2014) affecting these ventures’ survival and success (Ley and Weaven, 2011; Robb and Robinson, 2014; Van Osnabrugge, 2000). Recent research has only begun to explore how asymmetry in crowdfunding settings can be overcome so as to boost financial resource acquisition (Ahlers et al., 2015; Courtney et al., 2016; Steigenberger and Wilhelm, 2018). Yet, extant research on crowdfunding has predominantly focused on relatively straightforward signals such as entrepreneurs’ human (Davis et al., 2017) and social capital (Colombo, Franzoni, and Rossi-Lamastra, 2014), affiliations to incubators (Plummer et al., 2016), external certification (Ahlers et al., 2015), or profit orientation (Allison et al., 2014). Our study builds and at the same time leverages those insights by offering a sophisticated view on the (lack of) consistency between rhetorical signal as an important, and so far, overlook driver of funding success (failure).

Limitations and Future Research
The contributions of this study should be considered in light of its limitations, which offer a starting point for future research. First, we test our theory using data from the specific high-noise
environment of equity crowdfunding, which may raise concerns about the generalizability of our results to other high-noise settings. While the definitional characteristics of high noise signaling environments—that is, high information asymmetry, uncertainty, and load (Connelly et al., 2010; Plummer et al., 2016)—should characterize also alternative high-noise settings, and in turn make our results generalizable, we can see reasons for testing our model in settings where other conditions change. For example, it could be interesting to explore our results’ sensitivity to conditions where communicators’ time or space is more or less constrained, where it could be possible to imagine that the relative importance of metaphorical communication and language concreteness may change.

In addition, scholars might paint a more complete picture of how different rhetorical signals complement or contrast each other. We chose to focus on metaphorical communication and language concreteness as these had been consistently identified as fundamentally important, extensively used, and increasingly researched rhetorical tools (Cornelissen et al., 2011; König et al., 2017b; 2017a; Pan et al., 2017; Sopory and Dillard, 2002; Steigenberger and Wilhelm, 2018). Yet these are just two of the several potential techniques included in the canon of rhetoric (Corbett and Connors, 1999), and in that sense there could be more combinations of rhetorical signals which may carry beneficial as well as detrimental consequences for firms in their communication with their stakeholders. Future research should further explore the effects of additional rhetorical tools.

In conclusion, and these limitations notwithstanding, we hope that our research offers a starting point for discussing the role of consistency in rhetorical signal packages, and as a first step toward a more granular understanding of the effects of these packages for firms’ communications with their relevant stakeholders.
REFERENCES


Pondy LR. 1983. The role of metaphors and myths in organization and in the facilitation of change. *Organizational symbolism*: 157–166.


FIGURE 1
Interaction plot: Metaphorical communication × Language concreteness

TABLE 1
Examples of Metaphorical Communication Used by Ventures

<table>
<thead>
<tr>
<th>Venture statement</th>
<th>Type</th>
<th>Venture</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Next, we plan to add a gaming component, like Pokemon Go, but for plants.”</td>
<td>Analogy</td>
<td>PlantSnap</td>
</tr>
<tr>
<td>“We are like the Tinder of shopping.”</td>
<td>Analogy</td>
<td>Sharebert</td>
</tr>
<tr>
<td>“Bikinis are notoriously flimsy. You jump into the pool at a party and suddenly your bikini top is now a belt.”</td>
<td>Metaphor</td>
<td>MI OLA</td>
</tr>
<tr>
<td>“Batteries are very much so the heart and brain in an e-bike system, and must be treated as vitally.”</td>
<td>Metaphor</td>
<td>Junto Bicycle Works</td>
</tr>
<tr>
<td>“Save money on a plane ticket, walk into your nearest liquor retailer, and walk out with vacation in a bottle: Quila Maria’s “real” ready-to-drink margarita.”</td>
<td>Metaphor</td>
<td>Quila Maria's Tequila Ria</td>
</tr>
<tr>
<td>“People that actually run frontlines, the Security Professionals, are still just drowning in the sea of events and noisy products that prevent them from really being able to focus on what matters.”</td>
<td>Metaphor</td>
<td>WitFoo</td>
</tr>
<tr>
<td>“Investing in rooftop solar systems is like building cell towers instead of landlines – it’s smart and forward-thinking.”</td>
<td>Simile</td>
<td>Emergent Solar</td>
</tr>
<tr>
<td>“Our goal with this movie is to help you get your Christmas on, hang with the fam, and shake with laughter like a bowl full of jelly.”</td>
<td>Simile</td>
<td>That Christmas Movie</td>
</tr>
<tr>
<td>Variables</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Resource contributions</td>
<td>2.98</td>
<td>1.08</td>
</tr>
<tr>
<td>Funding goal high</td>
<td>525.49</td>
<td>451.56</td>
</tr>
<tr>
<td>Funding goal low</td>
<td>16.54</td>
<td>24.99</td>
</tr>
<tr>
<td>Minimum investment</td>
<td>241.29</td>
<td>161.59</td>
</tr>
<tr>
<td>Financial forecast</td>
<td>0.77</td>
<td>0.42</td>
</tr>
<tr>
<td>Video</td>
<td>0.93</td>
<td>0.2576</td>
</tr>
<tr>
<td>Geographical reach</td>
<td>0.16</td>
<td>0.37</td>
</tr>
<tr>
<td>Media exposure</td>
<td>0.67</td>
<td>0.47</td>
</tr>
<tr>
<td>Length</td>
<td>2448.86</td>
<td>1551.37</td>
</tr>
<tr>
<td>Language complexity</td>
<td>11.77</td>
<td>1.99</td>
</tr>
<tr>
<td>Positive words</td>
<td>10.44</td>
<td>11.68</td>
</tr>
<tr>
<td>Risk aversive language</td>
<td>0.50</td>
<td>0.51</td>
</tr>
<tr>
<td>Profitability language</td>
<td>1.66</td>
<td>0.52</td>
</tr>
<tr>
<td>Valuation</td>
<td>15.75</td>
<td>1.19</td>
</tr>
<tr>
<td>Updates</td>
<td>54.53</td>
<td>126.47</td>
</tr>
<tr>
<td>Comments</td>
<td>12.25</td>
<td>12.32</td>
</tr>
<tr>
<td>Patent</td>
<td>0.32</td>
<td>0.47</td>
</tr>
<tr>
<td>Language concreteness</td>
<td>-0.25</td>
<td>0.42</td>
</tr>
<tr>
<td>Metaphorical Communication</td>
<td>3.49</td>
<td>2.32</td>
</tr>
</tbody>
</table>

*Notes. N = 197; all coefficients below -.15 and above .15 are significant at p < 0.05.*
### TABLE 3
Hierarchical Multiple Regression Analysis for Resource Contributions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding Goal High</td>
<td>-0.0015***</td>
<td>-0.0015***</td>
<td>-0.0015***</td>
</tr>
<tr>
<td></td>
<td>(0.0002)</td>
<td>(0.0002)</td>
<td>(0.0002)</td>
</tr>
<tr>
<td>Funding Goal Low</td>
<td>0.0089**</td>
<td>0.0080*</td>
<td>0.0085**</td>
</tr>
<tr>
<td></td>
<td>(0.0031)</td>
<td>(0.0031)</td>
<td>(0.0031)</td>
</tr>
<tr>
<td>Minimum Investment</td>
<td>0.0002</td>
<td>0.0001</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>(0.0004)</td>
<td>(0.0004)</td>
<td>(0.0004)</td>
</tr>
<tr>
<td>Financial Forecast</td>
<td>-0.0769</td>
<td>-0.1042</td>
<td>-0.1240</td>
</tr>
<tr>
<td></td>
<td>(0.1601)</td>
<td>(0.1592)</td>
<td>(0.1561)</td>
</tr>
<tr>
<td>Video</td>
<td>0.2153</td>
<td>0.2472</td>
<td>0.2456</td>
</tr>
<tr>
<td></td>
<td>(0.2665)</td>
<td>(0.2653)</td>
<td>(0.2598)</td>
</tr>
<tr>
<td>Geographical Reach</td>
<td>-0.0899</td>
<td>-0.0721</td>
<td>-0.0458</td>
</tr>
<tr>
<td></td>
<td>(0.1926)</td>
<td>(0.1915)</td>
<td>(0.1877)</td>
</tr>
<tr>
<td>Media Exposure</td>
<td>0.3067*</td>
<td>0.3252*</td>
<td>0.2969*</td>
</tr>
<tr>
<td></td>
<td>(0.1468)</td>
<td>(0.1470)</td>
<td>(0.1444)</td>
</tr>
<tr>
<td>Campaign Length</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td></td>
<td>(0.0000)</td>
<td>(0.0000)</td>
<td>(0.0000)</td>
</tr>
<tr>
<td>Language Complexity</td>
<td>0.0526</td>
<td>0.0558</td>
<td>0.0551</td>
</tr>
<tr>
<td></td>
<td>(0.0390)</td>
<td>(0.0393)</td>
<td>(0.0385)</td>
</tr>
<tr>
<td>Positive Words</td>
<td>-0.0127†</td>
<td>-0.0110</td>
<td>-0.0109</td>
</tr>
<tr>
<td></td>
<td>(0.0068)</td>
<td>(0.0068)</td>
<td>(0.0066)</td>
</tr>
<tr>
<td>Risk Aversive Language</td>
<td>-0.0854</td>
<td>-0.0352</td>
<td>-0.0523</td>
</tr>
<tr>
<td></td>
<td>(0.1617)</td>
<td>(0.1620)</td>
<td>(0.1588)</td>
</tr>
<tr>
<td>Profitability Language</td>
<td>-0.1677</td>
<td>-0.1777</td>
<td>-0.2016</td>
</tr>
<tr>
<td></td>
<td>(0.1382)</td>
<td>(0.1375)</td>
<td>(0.1349)</td>
</tr>
<tr>
<td>Valuation</td>
<td>0.1404*</td>
<td>0.1417*</td>
<td>0.1431*</td>
</tr>
<tr>
<td></td>
<td>(0.0640)</td>
<td>(0.0635)</td>
<td>(0.0622)</td>
</tr>
<tr>
<td>Updates</td>
<td>0.0016**</td>
<td>0.0015**</td>
<td>0.0015*</td>
</tr>
<tr>
<td></td>
<td>(0.0006)</td>
<td>(0.0006)</td>
<td>(0.0006)</td>
</tr>
<tr>
<td>Comments</td>
<td>0.0333***</td>
<td>0.0330***</td>
<td>0.0348***</td>
</tr>
<tr>
<td></td>
<td>(0.0061)</td>
<td>(0.0061)</td>
<td>(0.0060)</td>
</tr>
<tr>
<td>Patent</td>
<td>0.0285</td>
<td>0.0635</td>
<td>0.0998</td>
</tr>
<tr>
<td></td>
<td>(0.1610)</td>
<td>(0.1614)</td>
<td>(0.1586)</td>
</tr>
<tr>
<td>Language concreteness</td>
<td>0.0691</td>
<td>0.1253</td>
<td>0.1253</td>
</tr>
<tr>
<td></td>
<td>(0.1710)</td>
<td>(0.1686)</td>
<td></td>
</tr>
<tr>
<td>Metaphorical communication</td>
<td>0.0653*</td>
<td>0.0729*</td>
<td>0.0296</td>
</tr>
<tr>
<td></td>
<td>(0.0301)</td>
<td>(0.0296)</td>
<td></td>
</tr>
<tr>
<td>Metaphorical communication ×</td>
<td></td>
<td>0.2045**</td>
<td>0.0730</td>
</tr>
<tr>
<td>Language concreteness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Industry effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.7796</td>
<td>0.6751</td>
<td>0.6826</td>
</tr>
<tr>
<td></td>
<td>(1.3095)</td>
<td>(1.3012)</td>
<td>(1.2743)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.4832</td>
<td>0.4982</td>
<td>0.5217</td>
</tr>
<tr>
<td>$R^2$ adjusted</td>
<td>0.3786</td>
<td>0.3891</td>
<td>0.4140</td>
</tr>
<tr>
<td>$F$</td>
<td>4.62***</td>
<td>4.57***</td>
<td>4.85***</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>0.4832</td>
<td>0.0150</td>
<td>0.0235</td>
</tr>
<tr>
<td>$\Delta F$</td>
<td>4.62***</td>
<td>3.27*</td>
<td>7.85**</td>
</tr>
</tbody>
</table>

Notes: $N = 197$ for all models; std. errors are in parentheses; † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$