1042-2587

Entrepreneurs, Effectual Logic, and Over-Trust

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This article complements extant literature on entrepreneurship and trust by proposing a model of over-trust (the tendency to trust more than what is warranted) using entrepreneurial characteristics and effectual logic. We trace how entrepreneurs following effectual processes may tend to over-trust. More formally, we propose that specific personality characteristics of the entrepreneur interact with effectual logic to make the entrepreneur more susceptible to over-trust. The proposed model is value neutral in that we do not imply that over-trust has negative consequences for entrepreneurs. In fact, it may be part of the overall risk that entrepreneurs assume in a new venture creation.

Introduction

> The entrepreneurial function is one in which the intermediary induces the trust of several trustors and combines these resources, ordinarily placing them in the hands of one or more other actors who are expected to realize gains for the original investors (Coleman, 1990, p. 181).

Entrepreneurs need to trust others and serve as trustees in order to form and grow their organizations. Trust among entrepreneurs, their coworkers and between the entrepreneurs and their business partners plays a key role in the early stages of the formation of a new company (Kohtamäki, Kekäle, & Viitala, 2004). Indeed, trust can even serve as a substitute for institutional deficiencies to promote entrepreneurial activity (Welter, Kautonen, Chepurenko, Malieva, & Venesaar, 2004). Trust can substitute for formal institutions and can act as an informal institution, thereby reducing transaction costs (Smallbone & Lyon, 2002).

When entrepreneurs serve as trustors or trustees, they also expose themselves to vulnerability and risk. Vulnerability to the trustor is an explicit condition of trust (Brenkert, 1998). For instance, Nooteboom (2002) states that "you 'really' trust someone when you are willing to forego guarantees on the basis of coercion or self-interest." Foregoing guarantees willingly and accepting vulnerability is an important feature of trust, even when trustors cannot quantify the chance of a possible betrayal (Bachmann, 2001). Welter et al. (2004, p. 11) note that ". . . entrepreneurs . . . implicitly *appear to know or assume* that the

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partner/friend will not behave in a way detrimental to the relationship, even when there are no written or explicit rules set out" (emphasis added by authors).

In this article, we focus on modeling why entrepreneurs may trust more than the situation merits or why they may *over*-trust, that is, trust where trust may not be warranted. We draw on extant literature on the differences between entrepreneurs and nonentrepreneurs, and the decision-making lens of the effectuation theory (Sarasvathy, 2001) to argue that entrepreneurs are more likely to over-trust than nonentrepreneurs are. The effectuation theory provides a useful perspective to investigate trust behavior among entrepreneurs because it combines both the stock elements of entrepreneurial traits and the situational characteristics (inputs to an entrepreneurial decision), as well as the process elements of a decision (constraints and selection criteria). An effectual approach to decision making is distinct from the widely understood rational decision-making models that use a causal approach. According to Sarasvathy (2001):

> Causal processes take a particular effect as given and focus on selecting between means to create the effect. Effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means.

Rational decision-making processes that use the causal approach rely on the logic of prediction as compared to the effectual approach that relies on the logic of control. In other words, effectual reasoning does not necessarily adopt a systematic acquisition and analysis of information within certain bounds; instead, it is based on the assumption that given what one knows, one can control the future, thereby eliminating the need to predict the future. The effectual approach to decision making is especially relevant in entrepreneurial settings where uncertainty is the order of the day, where markets are nonexistent and where opportunities are not merely recognized but created (Sarasvathy, Dew, Velamuri, & Venkataraman, 2003).

We argue that entrepreneurial traits interact with the elements of the effectuation entrepreneurial process to make entrepreneurs more susceptible to over-trust. Entrepreneurs recognize the set of means that they are endowed with and, given their situational characteristics, entrepreneurs use certain selection criteria that principally stem from the affordable loss principle of the effectuation process and assume trust in their partners, as they do not necessarily evaluate the trustworthiness of their relationships using a causal approach. We examine the specific entrepreneurial characteristics and the typical situational characteristics that entrepreneurs face and apply the effectual logic of decision making to establish links to the entrepreneurial propensity to over-trust. Our model is value neutral in the sense that we do not believe that over-trust is an undesirable risk for entrepreneurs to take. Rather, we believe that by modeling antecedents of over-trust through the effectuation lens we shed light on risks that may be hidden and subconsciously assumed or actively ignored by the entrepreneurs. Our overall argument utilizes well-established results from the psychological traits literature in entrepreneurship on the ability of entrepreneurs to engender trust in other individuals combined with placing a bet against opportunism through an effectual logic as the drivers of entrepreneurial activity. The model, therefore, details *how* Coleman's (1990) characterization of the role of entrepreneur as *tertius gaudens*—the arbiter of trust—may work.

We begin with a brief overview of the literature to discuss the definitions of trust and over-trust and to state the significance of trust and over-trust in the entrepreneurial context. In the next section, we introduce the tenets of the effectuation theory, which serves as a useful lens to understand the entrepreneurial process and the importance of over-trust in entrepreneurial relationships. Based on the assumption that entrepreneurs predominantly apply effectual logic, we develop propositions as to how the unique attitudes of entrepreneurs and the characteristics of the situation such as the cultural milieu lead entrepreneurs to over-trust. We conclude with directions for future research that will extend our understanding of the occurrence of over-trust in relationships developed by entrepreneurs.

Literature Review and Model Development

Trust and Over-Trust

Trust is a complex construct that has been conceptualized in multiple ways; yet a common definition of trust suggests that it is "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions and behavior of another" (Rousseau, Sitkin, Burt, & Camerer, 1998). A decision to trust is also concomitantly a decision to accept the vulnerability (and the risk of loss if the positive expectations of another prove to be misplaced). On the positive side, trust implies that actors involved in trusting relationships will veer away from the tendency of seeking self-interest with guile or, in other words, will avoid opportunism. The definition suggests that trust is relational as it involves interdependence and neither party in the relationship has complete control over the other. To the extent that there is an inability to control, the relationship is fraught with unpredictable outcomes in the relationship between the trustor and the trustee.

Trust as an attitude has cognitive, affective, and behavioral components. The cognitive component of trust suggests a belief or an expression of faith and confidence that the trustor holds with regard to the trustee. The affective component of trust evokes emotions such as a sense of security, both physically and psychologically (Wicks, Berman, & Jones, 1999). The behavioral intention component of trust refers to the ability of a person to rely upon another's words and upon the actions of another. Behavioral intention is a strong predictor of trusting behavior that may vary from high levels of trust to low levels of trust between the trustor and the trustee (McKnight, Cummings, & Chervany, 1998). Acceptance of vulnerability in an exchange relationship implies surrendering of power by the trustor to the trustee with an expectation that the trustee will not take advantage of the situation and cause harm. Therefore, inherent in a trust-based relationship is the risk in the sense of perceived probability of loss and interdependence in that the interests of the trustor cannot be achieved without reliance on the trustee (Rousseau et al., 1998).

Trust is useful to the trustor to the extent that the trustee is trustworthy (Hardin, 1996). While trust may be assumed consciously or habitually, trustworthiness is revealed only after the outcome of the decision to trust is realized. While opportunistic tendencies are not transparent *ex ante* (Williamson, 1985), individuals will attempt to be trustworthy even if the reality is otherwise, leading to over-trust in the relationship. Goel, Bell, and Pierce (2005) proposed: "Over-trust reflects a condition where one chooses, either consciously or habitually, to trust another more than is warranted by an objective assessment of the situation." We refine this definition further in the context of the entrepreneurs' trusting behavior by forgoing reliance on deviation from the objective merits of the situation. We observe that some people can trust in contexts where others may urge caution and seek cautionary safeguards. In this respect, over-trust can be viewed as instrumental in making deals under the *assumption* that the other parties will keep their end of the bargain. The assumptions guiding over-trust in this context are diametrically the opposite of Williamson's (1985) prescription of assuming opportunism in the same context. In other words, the effectual entrepreneur is placing a bet in the opposite direction of the Williamsonian entrepreneur.

Over-trust does not reflect a conscious irrational belief that may result in "blind trust," which is deplete of any assessments or calculations (Williamson, 1993). Instead, over-trust suggests either an unwillingness to predict the future by taking into account the potential risk involved in the relationship or an inability to assess the intentions of the other party and the nature of the relationship. From a rational perspective, such a situation may be labeled as a case of willful negligence of risk resulting from overconfidence or naivety. We propose that entrepreneurs choose not to predict the future. They are often confronted with situations where they are not in a position to make any objective assessments of the risk involved, thereby denying them the ability to predict the future.

The importance of trust is highlighted in the context of numerous business relationships, whether it is interpersonal, institutional, or organizational. The entrepreneurial context is characterized by numerous interpersonal relationships (often untested) under conditions of uncertainty, especially in the formative stages of an enterprise (Larson, 1992). The objects of trust change systematically with personal trust in the early stage to institutionalized trust in the later stages of new business development (Kohtamäki et al., 2004). For entrepreneurs, the early stages of venture creation are crucial where the level of uncertainty is the highest and the degree of predictability is the lowest. During the very early stages, entrepreneurs decide the extent to which they would like others to get involved and the extent to which they place their confidence in others. In this context, trust needs to emerge rather quickly to enable a smooth process of venture creation and development. Such a form of trust is referred to as "swift trust": a form of trust that is prevalent in temporary groups of individuals who do not have history with each other or do not necessarily envision any continuation of pursuits of mutual interests (Meyerson, Weick, & Kramer, 1996). Therefore, swift trust is often based on faith in the entrepreneur's (the individual responsible to coordinate the individuals in the group) own ability and the expectation from the partners in the trusting relationship (Harrison, Dibben, & Mason, 1997). The so-called swift trust relations are pieced together in an almost *ad hoc* fashion to exploit the contingencies that arise in the early stages of venture creation and are not necessarily resulting from existing social networks through strong ties, instead arising spontaneously or serendipitously through weak ties (Granovetter, 1973). Entrepreneurial relationships not strictly based on existing social networks and coupled with unclear expectations of the future give rise to conditions conducive to the occurrence of over-trust. In the absence of perfect information, entrepreneurs are not in a position to conduct a systematic evaluation of objective criteria. Therefore, entrepreneurs make bets on relational outcomes, leading to situations of over-trust.

Effectuation and Over-Trust

An integral part of understanding the process of creation of new ventures involves understanding entrepreneurial decision making. Sarasvathy (2001) proposed that entrepreneurs predominantly apply effectual logic to guide their decision making. Effectuation is a decision-making process or rather a type of human reasoning that involves choosing between possible effects using a given set of means, whereas the causation process involves choosing a set of means to achieve a desired effect. According to Sarasvathy (2001), a better understanding of decision making by entrepreneurs is developed by viewing the entrepreneurial process through the framework of effectuation rather than causation, even though the processes of causation and effectuation are likely to occur concurrently. Effectual logic involves consideration of the given set of means, possible set of effects, constraints on such possible set of effects, and the selection criteria of the desired effect from the set of possible effects. Unlike causal logic that involves careful planning for the acquisition of the means to achieve the desired effect, an effectual approach to decision making is characterized by reconfiguration of means until the desired effect emerges from the possible set of effects. Effectual logic is applied especially in situations where the future is highly uncertain and the precise nature or characteristics of the objectives are not known with any amount of certitude.

The Simplot Case: Contrasting Effectuation and Causation

A compelling illustration of the contrast between effectual and causal processes at work is found in the way that the Idaho-based potato giant, The Simplot Company, evolved from its effectual entrepreneurial origins under the leadership of its founder J.R. Simplot (Anders, 2004). The founder's son, Scott Simplot, approaches the business with a causal approach in his pursuit to consolidate the company's fortunes.

For nearly 8 decades, J.R. Simplot of Boise, Idaho, now a nonagenarian, grew his modest pig farm to a multibillion empire with a wide spectrum of business interests ranging from its dominant potato farm and cattle farm businesses to gold mines in the Dominican Republic and coconut operations in Columbia. J.R. Simplot's exuberance and homegrown ingenuity took him on numerous entrepreneurial endeavors in a variety of landscapes. J.R. succeeded and relished his entrepreneurial adventures based on "hunches." According to his son, Scott Simplot, J.R. had to "try everything." Simplot enterprise ventured into processing onion, iron ore mining, fish farming, hamburger patties, gold mining in the Dominican Republic, and plywood and coconut operations in Columbia among others. Few of these decisions were made by detailed analysis or causal logic. Many of these were driven by J.R. Simplot's ambition and interests, combined with information about these projects. Simplot is now a $3-billion company with worldwide operations with a focus on potato processing, fertilizers, cattle ranches and a presence in phosphate mines and silica production.

During the 1970s, J.R. Simplot began to cede control of his empire to his son, Scott Simplot, MBA. Stark differences in approaches to business became apparent. Scott Simplot, driven by efficiency motives, argued with his father over diversification moves, budgets, and technology. Under the leadership of Scott Simplot, several ailing plants were eliminated; workers were laid off and family interests in nonperforming ventures were scaled back. Because of the slow growth in Simplot's livestock operations, Scott Simplot took the step of reducing the size of cattle feedlots and relocated Simplot's fertilizer unit to Boise in order to tighten controls over costs and speed up decision making. J.R. Simplot was less than pleased at his son's moves driven by analysis and calculation. He expressed his frustration in a symbolic gesture of "You are fired." By then, of course, J.R. was but a nominal head of the gigantic family enterprise and the best that J.R. could do was to reminisce his adventurous days and hope that his son Scott would succeed.

The contrast in the distinct approaches of J.R. Simplot and Scott Simplot is illustrative of the effectual approach of the entrepreneurial father and the causal approach of the managerial son. For the purpose of illustration, some of the categories of differentiation between the two approaches (based on Sarasvathy, 2001) as applied to the Simplot case are illustrated in Table 1.

The Link between Effectuation and Over-Trust

We adopt the theoretical lens of effectuation to understand entrepreneurial decision making to develop the antecedents of over-trust in the bilateral relations that entrepreneurs engage in. In examining the effectuation process of decision making, we examine the

Table 1

The Clash of Effectuation and Causation: The Story of Idaho's Potato Farmers

J.R. Simplot's effectuation approach	Scott Simplot's causal approach
Went into a lot of things that "didn't work" (according to his son Scott)	The goal is given. He had to ensure that Simplot Inc. dealt with threats from competition and continued on its profitable journey.
Exuberance and homegrown ingenuity in contrast to analysis and calculation based on historical trends	Armed with the analytical tools that he learned in his MBA program, Scott is driven by his principal criteria of expected return. He systematically pruned the businesses along the efficiency criterion as long as the expected returns were achieved.
Bet on his hunches	Scott focused on exploiting the knowledge available to him. He emphasized the use of technology (upgrading constantly), taking advantage of opportunities that emerged in ventures abroad through his knowledge that it was not necessary to own physical assets to be successful in new ventures.
He plunged into "whatever interested him." His philosophy is "try everything."	Consolidation of existing markets is the main thrust.

means available to entrepreneurs that may lead to their tendency to over-trust. Table 2 provides an overview.

For instance, the "givens" in the effectuation processes necessitate entrepreneurial hunches and leaps, which are more likely to lead to over-trust as entrepreneurs craft a sense-making glue to create their worldview, which may stymie nonentrepreneurs operating under rational causation. The effectuation decision criteria of affordable loss or acceptable risk make over-trust acceptable if spread (diversified) over multiple trust contexts. Failure from prior over-trust decisions may not make people driven by effectual logic more conservative (unlike people using causal logic) because affordable losses may be considered the cost of doing business, and occasional failures as positive signs of entrepreneurial qualities. This may explain serial entrepreneurs. If loss from trusting is seen as affordable, then trust will be deposed in contexts where calculative logic dictates caution and avoidable loss. Actor-dependent choices of effect make the entrepreneur's characteristics particularly critical for outcomes.

Similarly, fluid competencies of exploiting contingencies as they arise imply that entrepreneurs make stopgap arrangements to exploit immediate contingencies rather than a master plan as causation would dictate, increasing the likelihood of over-trust. Since effectuation is more relevant in human action and entrepreneurs assume dynamic, nonlinear, and ecological environments, they do not expect to be perfect in their trust decisions but as long as they are not catastrophically wrong, they are willing to trust (and over-trust).

Entrepreneurs also may regard trusting as an inevitable and uncontrollable aspect of an unpredictable future and, therefore, may focus on aspects that are controllable because of their bias for action rather than inaction or causal analysis. Rather than going for the efficiency of a single course of analyzed action, they focus on the pursuit of multiple opportunities, each fraught with risk and inefficiency but none of them, in their perception, enough to lead to ruin. Because of their focus on alliances and cooperative strategies, they stretch their networks and rely more heavily on their partners and their partners' networks. This stretching can cause stresses in the use of disciplining mechanisms and communication inefficiencies, leading to delay and loss of transmission of critical communication.

Table 2

Effectuation and Over-Trust[†]

Dimensions of effectuation	Effectuation processes	Link to over-trust
Givens	Only some means or tools are given	Gaps in means and tools necessitate taking chances and hunches—increasing the number of chances where over-trust can occur
Decision-making selection criteria	Help choose between possible effects that can be created with given means	Focus on more desirable effects with incomplete means could make trusting more attractive than causation processes would argue
	Selection criteria based on affordable loss or acceptable risk	• Affordable loss or acceptable risk means that entrepreneurs may risk over-trusting if the size of the gamble is relatively small and does not evoke a ruin context. • No overhang of the past—affordable losses may be considered as cost of doing business, and occasional failures as positive signs of entrepreneurial qualities
	Actor dependent: Given specific means, choice of effect is driven by characteristics of the actor and his or her ability to discover and use contingencies	• Actor's personality characteristics play a greater role in outcomes than causation processes that insulate effects of actor's personality • Emphasis on actor-driven discovery and use of contingencies could lead to taking greater risks, including that of over-trust
Competencies employed	Excellent at exploiting contingencies	Contingency exploitation, coupled with selection criteria leads to increased number of trust domains
Context of relevance	More ubiquitous in human action	Dependence of human action rather than situational factors of causal logic could lead to over-trust
	Explicit assumption of dynamic, nonlinear, and ecological environments	Losses due to over-trust are considered as part of doing business rather than as creating negative feedback loops for subsequent cycles
Nature of unknowns	Focus on the controllable aspects of an unpredictable future	• Decision to trust is treated as an unknown and an uncontrollable part of the uncertain future • Decisions to trust may fall outside the controllable "territory," hence may be viewed as a constraint and an inevitable contingency • Fatalistic attitude towards trusting
Underlying logic	To the extent we can control future, we do not need to predict it	Focus on having multiple back-ups and multiple paths out of over-trust risks that may be considered wasteful under causation
Outcomes	New markets created through alliances and other cooperative strategies	• Increased interdependence between firms and actors, reduce the perceived risk of over-trust and increased likelihood of over-trust • Operation in unfamiliar contexts that tests the outermost boundaries of social networks. This implies possible reliance on long and indirect network loops reaching the outer, ill-defined nodes of the network, reducing the vetting capacity due to losses in communication and transmission • Tend to piece together from different networks, requiring high degree of judgment in trust situations without precedent and without clear knowledge of network means to hold the trustees accountable

[†] Columns 1 and 2 are from Sarasvathy (2001).

This could lead to pockets of over-trust developing in their networks as their perception of risk in trusting someone is understated and not accounted for by real, but unknown, information embedded in each relationship.

Entrepreneurs focus only on those things that they control. Therefore, they tend to frame "trust" as uncontrollable, and thus over-trust. They may view trusting someone as an integral risk of doing business, and thus a constraint. As a result, they may not devote any cognitive capacity of trying to reduce the risk of over-trust. In other words, viewing trusting others as a constraint may lead them to view making the distinction between trusting and over-trusting as superfluous.

In summary, entrepreneurs driven by effectuation processes are more likely to have a larger number of over-trust relationships than nonentrepreneurs because they over-trust. In addition, in sharp contrast to the Williamsonian entrepreneurs who are focused on protecting themselves from opportunism, these same entrepreneurs are more likely to enter into greater numbers of deals, some of which may turn out to be economically viable *ex post*. However, that does not imply that they fail more often than nonentrepreneurs or Williamsonian entrepreneurs do because of the criteria of affordable loss. In each specific case where they over-trust, their losses are likely to be small. In cases where multiple over-trust relationships cause failure, entrepreneurs frame new opportunities to repose trust (over-trust) in new parties. In addition, in cases where trust appears as a justified *ex post*, these entrepreneurs create new economic opportunities where none existed before.

Characteristics of Entrepreneurs and Over-Trust

The effectuation theory puts the focus back on entrepreneurs and their worldview, which makes them different from nonentrepreneurs in the specific way they process information and sense and create opportunities by following an effectual logic. Historically, researchers studied the traits of entrepreneurs such as internal locus of control, self-efficacy (Markman, Balkin, & Baron, 2002), high need for achievement (McClelland, 1961), risk propensity (Brockhaus, 1980), and other demographic characteristics such as age, education, and family ties. The trait approach is useful in understanding personality characteristics that suggest why certain individuals are likely to be more entrepreneurial. However, the trait approach is limited in its ability to describe entrepreneurs (Gartner, 1989). According to Gartner (1989), in addition to developing an understanding of the traits of entrepreneurs, entrepreneurial behavior should be the focus of entrepreneurship literature. A useful framework to understand the behavior is the theory of planned behavior (Fishbein & Ajzen, 1975), according to which the underlying attitudes create intentions that eventually lead to behavior. Therefore, we will focus on both traits and attitudes of entrepreneurs that have an impact on how entrepreneurs behave and attempt to determine why they are more prone to use effectual logic, which leads to over-trust. In this article, our object of behavior is the trust propensity of entrepreneurs. More specifically, we focus on the tendency of entrepreneurs to trust too much (over-trust).

In the role of a trustor, entrepreneurs influence the level of trust between those partners whose interests are focused on the success of venture creation. Entrepreneurial attitudes and the past experiences in trust-based relationships cause the entrepreneur in the role of a trustor to overestimate the likelihood of continued positive outcomes of trust and thereby making the decision to trust as a "default choice" (Bell, Oppenheimer, & Bastien, 2002).

Nonconformity

Originality, rule conformity, and efficiency are three subconstructs used in measuring innovation and adaptation (Kirton, 1976). Individuals can channel their creativity toward adaptive innovations that follow accepted rules and procedures. High conformity to rules will likely produce adaptive or incremental innovations and solutions. Low conformity to rules, on the contrary, enhances originality, resulting in original innovations (Mudd, 1996; Rosenfeld, Winger-Bearskin, Marcic, & Braun, 1993). Entrepreneurs display a high degree of nonconformity as compared to nonentrepreneurs. Therefore, challenging the status quo is a strong indicator of entrepreneurial attitudes.

Nonconformity as a dominant characteristic results in entrepreneurs' ignoring conventional signals or warnings against opportunism. The ability to recognize opportunities that are not visible to others is a by-product of the nonconformity exhibited by entrepreneurs. While others may view rules and norms as constraints, successful entrepreneurs, with a worldview that does not necessarily conform to the "conventional wisdom," take advantage of opportunities that are invisible to others. The benefits of challenging the existing norms will promote over-trust. For instance, while some are bound by the norms in a culture and therefore may be cautious about the amount of trust they place in others, entrepreneurs will defy these norms and place their trust without appraising the likelihood of failure of trust.

Proposition 1: Entrepreneurs with a high degree of nonconformity are more likely to over-trust.

Self-efficacy

The persistence and effectiveness of entrepreneurs is an effect of the belief that they are capable of successfully completing a task or attaining a goal. A study that examined patent inventors found that those who successfully started businesses had a significantly higher self-efficacy than those who did not (Markman et al., 2002). Self-efficacy is a belief that reflects high levels of core self-evaluation including self-esteem, emotional stability, and internal locus of control (Judge, Erez, Bono, & Thoresen, 2003). Self-efficacious individuals maintain a positive, optimistic, and determined view (Watson, Clark, & Tellegen, 1988). As an attitude, self-efficacy is found to be a reliable predictor of entrepreneurial behavior (Chen, Green, & Crick, 1998). An entrepreneurs' perceived ability to muster the necessary resources for a start-up is significantly related to their self-efficacy (Erikson, 2002).

Perceived self-efficacy has a significant effect on aspiration levels, goal commitment, task persistence, and work attitudes (Gist, 1987). Self-efficacy will therefore influence the entrepreneurs' perceived ability to control the behavior of people they trust. Such a perception also leads to their belief that they are in a position to predict any contingencies that arise out of such a trust relationship. The outcomes of trusting others are seen as positive owing to the optimistic view of self-efficacious entrepreneurs. For instance, some studies found a significant positive effect of actual self-efficacy on risk taking (Heath & Tversky, 1991). Similarly, perceived self-efficacy leads to risk taking as entrepreneurs frame risky choices as opportunities that they can control and manage through their competence (March & Shapira, 1992). Any negative signals are dismissed, which diminishes their capability to consider any negative outcomes of trusting others.

Entrepreneurs are also susceptible to overconfidence as reflected in their tendency to make risky decisions (Busenitz, 1999). Overconfidence as a decision-making bias results from an anchoring and adjustment heuristic (Tversky & Kahneman, 1974). Decision makers are quick to make their initial assessments and slow to adjust their judgments despite the availability of additional information (Schwenk, 1988). Risk propensity is found to have a significant positive association with self-efficacy. Individuals who believe in their abilities are more likely to see opportunities in a risky choice, while individuals with low self-efficacy are more likely to see threats and consequently take fewer risks (Krueger, Jr. & Dickson, 1994).

Proposition 2: Entrepreneurs with high self-efficacy are more likely to over-trust.

Achievement Motivation

Entrepreneurs are more achievement-oriented than the general population (Hornaday, 1982). Compared to entrepreneurs, managers of large firms showed a higher need for power and a lower need for achievement (McClelland & Winter, 1969). Tenacity and the single-minded pursuit of opportunities is a common characteristic of entrepreneurs. Under conditions of trust, signals from initial small losses are often ignored. Entrepreneurs have a tendency to view initial setbacks as a motivation to persevere through the "rough weather." A high-achievement orientation may therefore result in an unwarranted placement of one's trust in others.

Proposition 3: Entrepreneurs with a high-achievement orientation are more likely to over-trust.

Preference for Innovation

Entrepreneurs are distinct in their creative urge and innovativeness (Drucker, 1985; Schumpeter, 1934). Empirical studies conclude that entrepreneurs are significantly different from managers in their preference for innovation (Carland & Carland, 1991; Timmons, 1990). Managers are typically inclined toward actions that are efficient rather than creative. Experimentation and creativity feed the entrepreneurial drive and make entrepreneurs hypersensitive to opportunity recognition. This preference for innovation implies that entrepreneurs are unfazed by lack of priors in a given context. In addition, they have a limited "overhang of history" because of their sensitivity to the novelty of the situation rather than similarity with priors. These characteristics are more likely to cause them to over-trust more than a nonentrepreneur operating under a causal logic.

Proposition 4: Entrepreneurs with a preference for innovation are more likely to over-trust.

Contribution of Culture

Following Hofstede's research on cultural values (Hofstede, 1980), several studies examined the association between cultural dimensions and entrepreneurial behavior. Important cultural dimensions studied in the context of entrepreneurial behavior are individualism–collectivism, uncertainty avoidance, power-distance, and masculinity–femininity (Shane, 1992). In general, the findings of the empirical studies suggest that cultures characterized by high individualism, low uncertainty avoidance, low power distance, and high masculinity exhibit higher levels of entrepreneurial activity (cf. Hayton, George, & Zahra, 2002). For example, internal locus of control and innovativeness were found to be dominant in individualistic and low uncertainty avoidant cultures (Mueller &

Thomas, 2000). Comparisons of entrepreneurs and nonentrepreneurs across cultures suggest that entrepreneurs are similar in their characteristics across cultures and entrepreneurs are similar in cultural values regardless of their national affiliation (McGrath, MacMillan, & Scheinberg, 1992).

According to Fukuyama (1995), levels of trust at the nation-state level manifest themselves at the individual level (Fukuyama, 1995). Therefore, it is relevant to study the relationship between the dimensions of culture at the nation-state level and the phenomenon of over-trust at the individual level. Individuals with collectivistic values rely on close interdependent relationships. In contrast to those with individualistic values who tend to engage in self-serving behavior, individuals in collectivistic cultures are likely to be prone to over-trust. We therefore argue that entrepreneurs with collectivistic values tend to rely on informal trust-based relationships. Trustworthiness is assumed in such cultures in contrast to those who espouse individualistic values. Entrepreneurs in individualistic cultures are more cautious and guarded in trusting others.

Proposition 5: Entrepreneurs in collectivistic cultures are more likely to over-trust than do entrepreneurs in individualistic cultures.

Uncertainty avoidance is an important dimension identified by Hofstede (1980). Low uncertainty avoidance suggests that individuals accept uncertainty and high uncertainty avoidance suggests that individuals are apprehensive of uncertainty. Acceptance of uncertainty signifies the readiness with which individuals are willing to make changes, even if it means departing from past relationships. Low uncertainty avoidance leads to opportunistic behavior when faced with a threat (Doney, Cannon, & Mullen, 1998). Mueller and Thomas (2000) found an empirical support for a strong correlation between low uncertainty avoidance and internal locus of control. Therefore, entrepreneurs in low uncertainty avoidance cultures are more likely to exploit any trust-based relationship, while in a high uncertainty avoidance culture, entrepreneurs are more likely to persist with trust-based relationships despite the perceived threat in the environment.

Proposition 6: Entrepreneurs with low uncertainty avoidant values are less likely to over-trust than do entrepreneurs who are high uncertainty avoidant.

Entrepreneurs' Prior Experience

Over-trust is likely to occur due to experiences that indicated trustworthiness among partners. Previous entrepreneurial success involving trusting relationships are likely to be used as indicators of trustworthiness regardless of the nature of the new situation. Serial entrepreneurs who had positive outcomes from their previous relationships will have difficulties in forming a neutral assessment of the trustworthiness even if the changed circumstances warrant such an assessment.

Proposition 7: Serial entrepreneurs with positive experiences from trusting others are more likely to be prone to over-trust.

Effectual reasoning of entrepreneurs employs the principle of affordable loss or acceptable risk rather than expected return. The emphasis of entrepreneurs in such an event is on experimenting with many strategies with the given set of means and relies on their ability to create options in the future as opposed to maximizing returns in the present (Sarasvathy, 2001). An affordable loss or an acceptable risk means that entrepreneurs may risk over-trusting if the size of the gamble is relatively small and does not evoke a ruin context. Unlike a nonentrepreneurial person, negative experiences from prior over-trust decisions may not make entrepreneurs hold back because affordable losses may be considered an inevitable cost of doing business and occasional failures as positive signs of entrepreneurial qualities. Despite the calculative logic warranting caution, when the loss from trusting is seen as affordable, trust will be deposed.

Proposition 8: Entrepreneurs with prior negative experiences in trust-based relationships combined with diversified trust relationships are prone to over-trust.

Successful entrepreneurs gain a reputation for making the right choices and build an aura of "invincibility" around them in their ability to establish successful new ventures. While the success of entrepreneurs may be specific to an area of expertise, their ability to start new enterprises may engender a sense of confidence in others with respect to their ability to succeed in other areas as well. Goel et al. (2005) refer to this phenomenon as "cross-domain errors." For instance, Donald Trump is seen as the most successful entrepreneur. Over time, those who bestowed their trust upon him and were satisfied with the results are prone to trust Mr. Trump in areas that are not part of his domain. Such a generalization of the abilities of a successful entrepreneur across a domain leads to over-trust on behalf of the trustors. Entrepreneurs are more prone to these "errors" (in a causal sense) since they develop working hypotheses rather than comprehensive ones and settle on the "best" and first-available cues to take action rather than being overly analytical.

Proposition 9: Entrepreneurs may commit more cross-domain errors, leading to over-trust.

Discussion and Conclusion

We develop a model of why entrepreneurs may over-trust. A summary of the propositions developed in this article are summarized in Table 3. Trust is usually considered a positive attribute in a situation, even though trust and risk are two sides of the same coin (Moesel, Fiet, Busenitz, & Barney, 1996). Over-trust in this article refers to conditions

Table 3

Summary of Propositions

	Entrepreneurial characteristics
Proposition 1:	Entrepreneurs with a high degree of nonconformity are more likely to over-trust.
Proposition 2:	Entrepreneurs with high self-efficacy are more likely to over-trust.
Proposition 3:	Entrepreneurs with high achievement orientation are more likely to over-trust.
Proposition 4:	Entrepreneurs with a preference for innovation are more likely to over-trust.
	Culture—contributor to over-trust
Proposition 5:	Entrepreneurs in collectivistic cultures are more likely to over-trust than do entrepreneurs in individualistic cultures.
Proposition 6:	Entrepreneurs with low uncertainty avoidant values are less likely to over trust than do entrepreneurs who are high uncertainty avoidant.
	Past experience—contributor to over-trust
Proposition 7:	Serial entrepreneurs with positive experiences from trusting others are more likely to be prone to over-trust.
Proposition 8:	Entrepreneurs with prior negative experiences in trust-based relationships combined with diversified trust relationships are prone to over-trust.
Proposition 9:	Entrepreneurs may commit more cross-domain errors leading to over-trust.

where the trust deposed is independent of the merits of the situation, thereby exposing trustors to greater risks that are invisible to them. Effectual logic used by entrepreneurs plays a dominant role in causing over-trust and is the basis of the role of entrepreneurs as *tertius gaudens* (Coleman, 1990). This article advances knowledge and contributes to detailing effectuation by tracing specific personality aspects of entrepreneurs (the givens) that may lead them to over-trust. While we have focused on entrepreneurial characteristics and their relationship to over-trust, future research could also focus on how effectual processes lead to over-trust more directly. That is, whether the elements of effectual logic have main effects on over-trust, as we have outlined in Table 2. For instance, do the selection criteria employed by entrepreneurs make them more liable to over-trust? How does the entrepreneurial propensity for sense making and bias for action affect their perception of vulnerability in trust contexts? Does the way in which entrepreneurs use networks (relative to nonentrepreneurs) lead to over-trust?

Even though over-trust could have negative consequences, the model proposed here is value neutral. The fact that entrepreneurs may over-trust more often than nonentrepreneurs does not necessarily mean that it has negative outcomes for entrepreneurs, their ventures, or even entrepreneurial activity in general. Over-trusting may be part of entrepreneurial activity, and entrepreneurs' bias for action and effectual logic may make over-trusting part of the risks that entrepreneurs take and the opportunities that entrepreneurs create. Viewing over-trust as a predictor construct, it would be an empirical question if in fact over-trust causes entrepreneurs to fail more often, as one would predict from causal logic. What would be at least as useful to investigate, however, would be whether the initial condition of over-trust causes changes in trustee behavior subsequently, leading to a level of trust being in line with that required by the situation. In other words, is entrepreneurial optimism and risk taking infectious and inspiring to cause a "change of heart" in the trustee over time? This could be one way in which entrepreneurial activity at a collective level could have a significant positive externality in an entrepreneurial climate. Over-trusting by a population of entrepreneurs could make trusting others relatively unconditionally a cultural norm and isolate people who violate this collective norm. While outcomes of over-trust is beyond the scope of this article, future research could detail the processes through which this takes place as well as identify other effects of over-trust at individual, firm, institutional, cultural, and national levels.

In this article, we have focused on why entrepreneurs may over-trust. As a trustee, entrepreneurs engage in establishing their trustworthiness. Trustworthiness increases the probability of success for an entrepreneur as it provides access to resources and leverages the strength of networks and relationships between crucial partners in the creation and management of new ventures. Future research could pursue the notion of whether entrepreneurs in their role as trustees engender over-trust in themselves. In other words, do entrepreneurs tend to emit signals of trustworthiness (even unwittingly) when none exists? Several proxies of trust have been acknowledged in literature such as participation in a network and moral and ethical beliefs (Fukuyama, 1995). Because there is value in projecting trustworthiness, trustees are constantly striving to reinforce their image of trustworthiness either through weak signals or through tangible actions. One could argue that in their pursuit of entrepreneurial opportunities using effectual logic, entrepreneurs are likely to promote over-trust by projecting trustworthiness when it may not exist. Some of the traits and behaviors of entrepreneurs could make them more prone to engender over-trust by trustors, even without any specific motivation or concerted action directed at this outcome.

There are some practical implications of understanding the causes of over-trust as well. Entrepreneurial activity involves taking risks, and accepting and recognizing over-trust as one of the risks may help entrepreneurs understand these risks better. Entrepreneurs may be quick to "size-up" potential partners and associates; awareness of over-trust may make entrepreneurs more sensitive to the trust-related cues in the situation. In addition, entrepreneurs may have a better assessment of differences and a worldview of potential associates who are entrepreneurs relative to nonentrepreneurs. At the margin, this could improve the strength and quality of their network as well as their chances of success.

In conclusion, this article complements extant literature on entrepreneurship and trust by proposing a model of over-trust using entrepreneurial characteristics and effectual logic. In the process, it highlights how specific entrepreneurial characteristics could lead to over-trust in combination with effectual logic, leading to a greater understanding of the role that entrepreneurs and entrepreneurship play in trust formation and economic opportunity creation in their role as trustors.

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We would like to thank the editors of this special issue for their encouragement and two anonymous reviewers for their thoughtful comments on the earlier draft of this article. Part of this article was written when Sanjay Goel was visiting Blekinge Institute of Technology (BIT), Ronneby, Sweden during the summers of 2004 and 2005. The assistance provided by BIT is gratefully acknowledged.