REPUTATION AS A BASIS FOR TRUST

By

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CHAPTER I

INTRODUCTION

Reputation has been studied as it is linked to interpersonal trust (e.g. Lewicki & Bunker, 1995), firm status (e.g. Fombrun & Shanley, 1990), and interpersonal behavioral expectations (e.g. Tinsley, O'Conner, & Sullivan, 2002). As it is related to trust, reputation has received a great deal of attention among economists (Ostrom, 2002) and evolutionary biologists (Axelrod & Hamilton, 1981). Reputation is often considered a tool for the facilitation of calculated trust (Williamson, 1993), meaning that reputation is a kind of odds indicator as to the cooperative intentions of some party. Trust as such is not a psychological state, but is rationally calculated as a simple function of risk—the risk of trust not being reciprocated.

Economic models of reputation and trust which assume self-regarding preferences, such as that proposed by Williamson (1993), ultimately predict no cooperation among players in resource games (Ostrom, 2002). However, experimentalists have shown that players in these resource games consistently show at least some degree of cooperation in single-round games or the first rounds of multi-round games (e.g. Issac, McCue, & Plott, 1985; Orbell and Dawes, 1991, 1993). Davis and Holt (1993) report, "In a wide variety of treatment conditions, participants…persistently contributed 40 to 60 percent of their…endowments to the [public good], far in excess of the zero percent contribution rate consistent with a Nash equilibrium" (p. 325). One explanation for the inconsistency of these data with rational economic theory is offered

by Gouldner's (1960) work. Gouldner described a "norm of reciprocity," the expectation that generous behavior will be reciprocated. In fact, researchers have shown that people often reciprocate trusting acts (Berg, Dikhaut, & McCabe, 1995; Gouldner, 1960) and acts of generosity (Cialdini, 2001), even when unwanted. So while people trust as a way of reciprocating trust, they also trust with the expectation that their trusting behavior will be reciprocated (Malhotra, 2004), and their level of trust varies based on attributions they make of others (Diekmann, Tenbrunsel, & Galinsky, 2003; Malhotra & Murnighan, 2002; Tinsley et al. 2002). Research has explored the effects on trust of risk (Bert et al., 1995; Pillutla, Malhotra, & Murnighan, 2003; Malhotra, 2004), emotion (Dunn & Schweitzer, 2005; Jones & George, 1998), and past personal experience with a trusted party (e.g. Camerer, 2003). However, there is a gap in the trust literature in what we understand about how individual representations and reputation-triggered assumptions about others affect their propensity to trust them. For instance, Granovetter (1985) gives us reason to believe that trusting parities will interpret information from different sources differently, and proposes a hierarchy of information source trustworthiness. It would seem, then, that the value of reputational information depends, at least in part, on the source and quality of the information by which the mental model of a reputation is constructed. In part, I intend this dissertation to address this gap in the literature, by first making a theoretical distinction between reputations formed of third-party information, or *hearsay reputation*, and reputations formed of personal experience, or *experiential reputation*, then testing the varied effects of these two reputation constructs on trusting behavior.

In this dissertation I also address the psychological process by which reputation is processed. I propose and test hypotheses to the effect that reputation is not processed only through cognition, but that reputation invokes an affective response from potential trusting parties, and that affective response in turn influences one's propensity to engage in trusting behavior.

This dissertation also addresses a gap in the negotiation literature. There is a great deal of research describing how various psychological biases and other sorts of deviations from rational behavior influence negotiator performance and negotiation outcomes (Neale & Bazerman, 1991; Bazerman, Curhan, & Moore, 2000a). However, there is a general lack of attention on the role social information plays in informing negotiator behavior (Bazerman, Curhan, & Moore, 2000b). Bazerman and colleagues suggest this may be because of the tendency of negotiation scholars to study negotiation as isolated incidents, absent the complicated social web of information that is present in most real-world negotiations. One way of conceptualizing the social information available to negotiators is through reputation. Negotiators may not have had prior personal experience with their opponent, but in many cases they will know something about them.

Tinsley et al. (2002) define reputation as "socially constructed labels that extend the consequences of a party's actions across time, situations, and other actions." Through the three studies presented here, I develop a better understanding of how these "socially constructed labels" affect individuals' cognition, emotional state, and, ultimately, their trusting behavior in interpersonal relationships.

I begin this dissertation by first reviewing previous research on both reputation and trust and borrow a model of knowledge-based trust in which reputation, as a kind of knowledge, fits. These reviews comprise Chapters 2 and 3. In Chapter 4, I develop a set of hypotheses on the effects of hearsay reputation, risk, affect, experiential personal experience, and firm marketplace tenure on trust. Three studies comprising a total of five experiments tested these hypotheses in a variety of contexts. The first study is reported in Chapter 5. This experiment employs a trust game (Berg et al., 1995; Kreps, 1990; Snijders & Keren, 1999), in which the trusting behavior and emotional state of participants towards a supposed counterpart is observed in given various hearsay and experiential reputation conditions of the counterpart. In Chapter 6, I build on the hypotheses outlined in Chapter 4 by presenting a model of reputation for online retailing which includes several propositions explaining firm and consumer behavior in online marketplaces and hypotheses regarding the effect of firm maturity on buyer trust. Chapter 7 reports the results of a study comprising two experiments set in a hypothetical online marketplace where participants are given hearsay reputational information originating from past consumers, and in the second experiment, experiential reputation, and asked to make a trust decision. Firm age is an additional variable of consideration in this chapter. Chapter 8 reports a final study, comprising two additional experiments, set in an eBay-type online auction environment, where again participants are asked to a make a trust decision given hearsay and experiential reputational information and data on the relative experience of the seller. A general discussion of results follows in Chapter 9.

CHAPTER II

REPUTATION

Until you've lost your reputation, you never realized what a burden it was.

--*Margaret Mitchell*

As have others (Tinsley et al., 2002), I root my theoretical discussion of reputation in the fertile cognitive soil of schema theory (Fiske & Taylor, 1991; Hastie, 1981; Markus & Zajonc, 1985). Schema theory postulates that concepts, ideas, and images are stored in memory as general types, and linked with related concepts, ideas, and images. These stored types, once primed, allow individuals to organize available information (Tinsley et al., 2002) and make reliably accurate assumptions about unknown characteristics of the concepts, ideas, and images the schemata represent (Bruder, 1973). Individual reputations are evoked, rather like stereotypes (Hamilton & Sherman, 1994), by socially transmitted information or reputational cues. Reputational schemata are cognitively useful not only for "filling in the blanks," as it were, with reliable assumed content in order to make meaning of behaviors and images (Vallacher & Wegner, 1989), but also for predicting future behavior (Fiske & Taylor, 1991; Markus & Zajonc, 1985). Tinsley et al. defined reputation as "socially constructed labels that extend the consequences of a party's actions across time, situations, and other actions" (p. 622).

In this chapter, I first discuss the development of contemporary schema theory, upon which I build a conceptualization of reputations as schemata. Next, I review three

different literatures dealing with reputation—research from evolutionary biology and economics on the functionality of reputations, research from strategy and organizational theory concerned with industry-level reputation, and research grounded in social psychology on types, expectations, and first impressions. Finally, drawing from the literature reviews, I draw a theoretical distinction between two kinds of reputations—those developed through social information excluding personal experience, which I call *hearsay reputation*, and those developed through the social information that is personal experience, which I call *experiential reputation*—and provide operational definitions for both which will be used to understand the term "reputation" throughout the balance of this dissertation.

What is a Schema?

Schemata have been described as hypothetical mental structures that focus cognitive attention and organize memory for the subsequent recall of events, things, and behavior (Bartlett, 1932). The term *schema* originates with Kant (1781, 1998), who used it in his elaboration of the Greek philosophy of the ideal type. Plato explains that an ideal type is the perfect representation or form of an object which can be conceived but not materialized. A circle, for example, can be described perfectly through mathematical rules, but no perfect circle can be created nor observed. Kant's description of the schema downplays the dogma of Greek idealism, but borrows the idea to explain how ideas are captured in memory and how people can make sense of a text which lacks full descriptive power. Kant offers a dog as an example—we hold in our minds a general conception of a

dog as a class of four-legged animal without regard to specifics which might describe a particular sub-class, or breed, or a specific, particular dog.

Schemas, and related ideas which are sometimes used to describe the same thing, such as frames, scenes, scenarios, scripts, and models, have been useful in linguistic study, anthropology (D'Andrade, 1995), psychology (Fiske & Taylor, 1991), and in artificial intelligence (Schank & Abelson, 1977). Research in artificial intelligence has been one of the most important drivers of contemporary schema research. That is because schemas can be used to organize information about things, actions, concepts, and—as is the case in this dissertation—people. Computer scientists designing computers to interpret human text quickly learned that so much of the meaning in text is implied. In fact, even most newspaper articles require that the reader understand a great deal about a great number of things in order to digest their content (D'Andrade, 1995). Consider this example text from D'Andrade:

> John wanted to do well on the exam, but his pen ran out of ink and his pencil broke. He tried to find a pencil sharpener, but there wasn't one in the room. Finally he borrowed a pen from another student. By then he was so far behind he had to rush, and the teacher took off points for poor penmanship.

Without the reader having knowledge of the *writing* schema, he or she would be unable to understand because it is not explicitly stated that John would need ink (or usable pencil) to complete the test. However, as most if not all readers would be able to make this connection, because they have a version of the writing schema embedded in their memory, the text can stand alone.

Schemas are inseparable from the texts from which they are derived, texts which are laden with contextual and cultural knowledge. For example, Fillmore (1975) explains how the writing schema in English is similar to that of the Japanese schema represented

by the word *kaku*. In fact, in translations the two words are often treated as synonyms, even though an important distinction exists. The schemas related to each word invoke an image of the use of a sharp instrument which is dragged across a markable object. The image contains a *writer*, a *writing implement*, a *surface* on which to leave a mark, and a *product*. Both schemas are general enough so as to not specify particular or specific characteristics of the writer, the implement, or the surface. One could be writing in the sand with one's finger or in the sky with an airplane. However, in the schema triggered by the English verb *to write*, it is implied that that which is written would be a readable text (letters, numbers, linguistic symbols), whereas the schema triggered by the Japanese verb *kaku* is broad enough to include drawing or doodling, actions which not make sense if described as "writing."

A schema can be conceptualized as a set of interrelated placeholders organized around a theme (D'Andrade, 1995; see Figure 2.1 for a rather detailed visual representation of an *egg* schema). How placeholders are related varies by context. For example, if I were to say, "John was writing with a pen," the reader might easily assume that John was writing with a pen *on paper*. There is nothing in the text of the statement "John was writing with a pen" that explicitly states the relationship of John and his pen to paper, but because the relationship is implied because pen and paper are likely linked in an individual's *writing* schema. In this example, lacking a specific placeholder for the surface on which John was writing, the reader assumes a *default* placeholder. A schema with only default placeholders is called a *prototype* (D'Andrade, 1995).

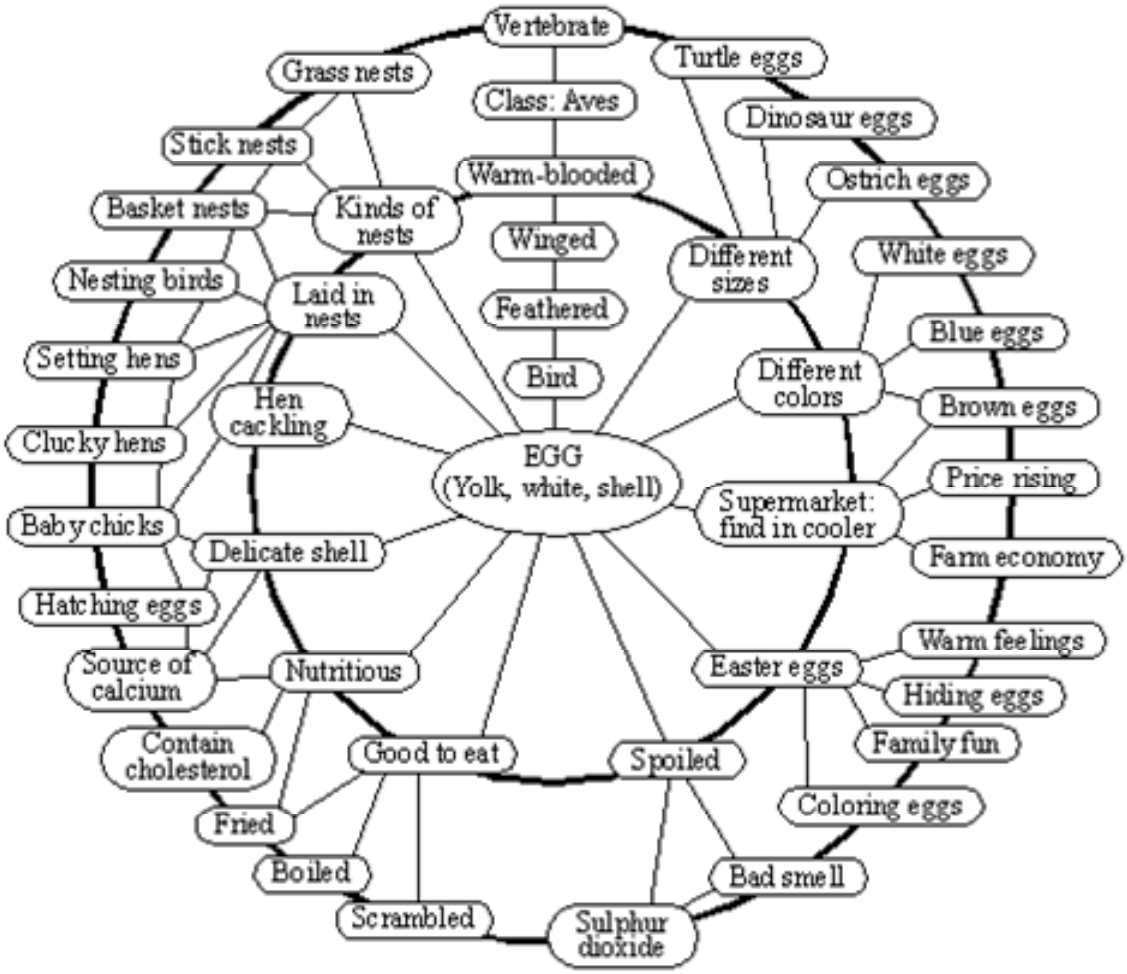


Figure 2.1. A Visual Representation of a Schema for *Egg*

Source: Davis (1991, p. 21).

Reputations as Schemata

Information about other people or organizations can be cognitively organized into reputational schemas (Tinsley et al., 2002). The information by which reputational schemas are constructed is descriptive, but descriptive in that it is information that is relevant to the reputation consumer in making an evaluative judgment—a prediction—regarding the reputation owner's future behavior. Reputational information is acquired through social channels which connect individuals. Information about other parties is

rarely comprehensive, but the bits and pieces that are available provide "clues," which trigger schemas (Fisk & Taylor, 1991), allowing individuals to fill in the blanks, as it were, and create a mental image describing the type of person or organization with which one is interacting (Brunder, 1973). These schemas provide a frame within behavior is interpreted and allow individuals to make predictions, based on a set of expectations, regarding an entity's future behavior (Fiske & Taylor, 1991; Ross & Nisbett, 1991).

Reputational information is only useful insofar as individuals retain schemas of particular types and that the information acquired is consistent with one of those types. These types may be very general, such as that used to organize the information implied by an *athlete* schema, specific enough to imply a *football player* schema, or more specific still, perhaps implying a *linebacker* schema. The sophistication of these types is dependent upon on the experience and intellectual finesse of the schema holder. A sports journalist who writes about football will likely retain much more nuanced schemas to characterize player types and be much more proficient in predicting types from limited information than will an individual with only passing knowledge of the sport.

Reputation schemata are related theoretically to *self-schemata* (Markus, 1977) or *identity schemata* (Kleine, Kleine & Kernan, 1993), the difference being that the prior two constructs describe a person's mental model of themselves, whereas a reputational schema resides in the memory of the subject and describes an object, the subject and the object—who or what the reputation describes—being different, distinct entities (see Figure 2.2). Because reputational schemas have been little described in the literature, but identity schemas have been well researched, it is worth reviewing and defining identity so as to better pinpoint what is meant by reputation.

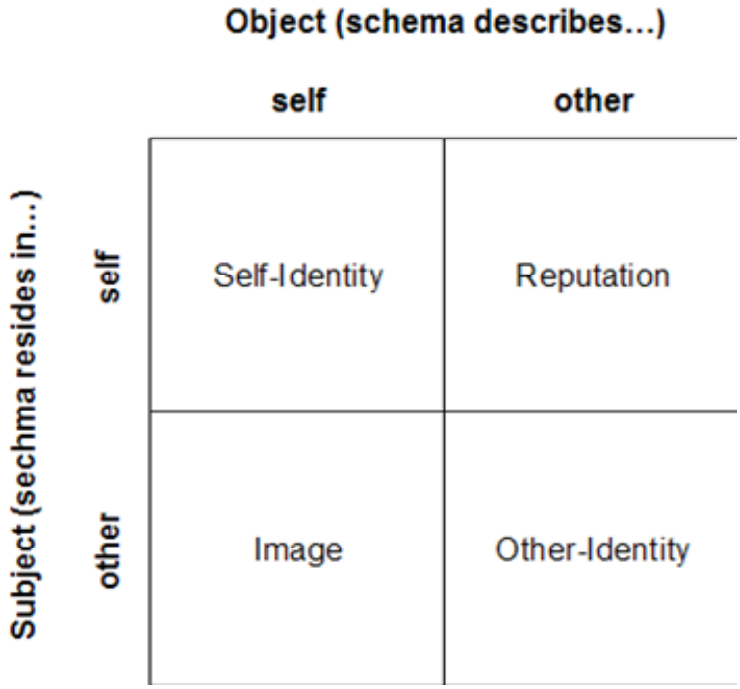


Figure 2.2. Reputation in its Conceptual Context

John Locke conceptualized the self as having distinctive characteristics which endured over time. Definitions of identity are generally grounded in the Lockean view of the self as a distinct psychological being (as opposed to a purely biological being, as Aristotle contended; Monroe, Hankin & Van Vechten, 2000), whose psychology, or personality, is constructed through environmental influences, such as the impact of critical others, including parents (Erikson, 1980 [1959]). In this way, personalities are said to "develop." Through this development, characteristics of one's self—the personality—are not invisible from one's consciousness. A person is capable of having an awareness of him or herself, is "a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing, in different times and places," (Perry, 1975, p. 12) and out of this awareness emerges identity.

Mead described the self as dual-faceted, differentiating between the "I" (self as subject) and the "me" (self as object). What Mead is describing as the "I" identity is a schema which resides in the self and describes the self. It is how one defines one's self to him or herself. The "me" identity is mediated by one's perception of others. It is the self's perception of how others' perceive the self; how a person believes he or she is seen through the eyes of another. Mead's second identity has also been described as a *social image* (Leary, 1995).

Just as there are self-schemas which help people to organize information about themselves, there are other-schemas which help people to organize information about others (Fiske & Taylor, 1991). For example, others may be categorized by race, age, gender, or sexual orientation. This type of other-schema, a cognitive organization of others according to group membership—membership which links characteristics of group members to certain attitudes or behaviors—is called a *stereotype* (Fiske & Neuberg, 1990). Reputation is also a kind of other-schema (Tinsley et al., 2002). Reputation is a broader conceptualization of other-schemas than stereotype in that reputations are formed from more information than merely group membership. However, like stereotype schemas, reputation schemas are triggered by incomplete perceptual information; once triggered, a reputation schema completes the perceptual picture with additional information linked in memory to what has been observed.

Reputational information can also be the collective knowledge of a community about a particular entity in or outside that community. Reputations can be held and transmitted through formal, intuitional mechanisms or may travel through informal social networks. For example, a college graduate considering employment with a number of

firms may have a variety of options for learning more about these firms—for learning their reputations. She might begin with asking friends what they know about particular companies. She might discuss the companies with the career professionals at her institution's career center. She might read about the companies in the newspaper or a trade journal. This process will lead to her developing a mental representation of *what the firm is*, *what values it stands for*, *what sorts of behaviors it's known for*, *what kind of students it hires*, and so on. Some of the information will come through informal social networks, one way in which reputational information travels. Other information comes from more formalized sources, such as a college's career center, which might produce relevant, objective about the firm, like starting salaries, alumni currently employed by the firm, turnover, etc. Reputational data is retained and transferred via the press. Consider the countless articles in the popular business press listing and ranking employers in a variety of "-ests", such as the best places to work, the fastest growing companies, the most "parent friendly," and countless other labels. Reputational information can come from a variety of sources, and as such represents a reflection of a community's collective opinion.

The Tinsley et al. (2002) definition of reputation as "labels that extend the consequences of a party's actions across time, situations, and other actions" (p. 622) implies that reputation is also a cognitive device used for predicting a party's future behavior. In fact, reputations would likely not be of interest to decision-makers were it not thought that knowledge about a person's or organization's past behavior was a reasonable predictor of future behavior. Thus, reputation consumers craft meaning from

what is known of a party's past behavior and use it to make predictions of that party's future behavior.

In the next section, I review the literature on reputation, which I have grouped into three general categories. First, I review a body of literature concerned with linkages between reputation and cooperation and/or trust from an evolutionary perspective; next, reputation as it is constructed by those who study perceptions of the firm; and finally, reputation in interpersonal relationships. In Chapter 3, I review the trust literature. Trust and reputation are often treated as related constructs in some literatures, but they are just as often not. I have chosen to review the reputation and trust literatures separately because they are in fact different literatures, but I have reviewed both with an eye towards my thesis: that reputation informs trust and trusting behavior.

Evolutionary Theories of Reputation

Scholars of evolutionary biology have long puzzled over the problem of altruistic behavior. Theories of direct reciprocity (e.g. Axelrod & Hamilton, 1981; Axelrod, 1984; Trivers, 1971) advance the rather straightforward argument that generous acts are reciprocated and therefore a rational incentive exists to perform them. Theories of indirect reciprocity (e.g. Alexander, 1987; Leimar & Hammerstein, 2001; Lotem, Fishman, & Stone, 1999; Nowak & Sigmund, 1998a; Nowak & Sigmund, 1998b) offer similar explanations of generosity, but with increased complexity—player A's generosity to player B is reciprocated by player B to player C and on again until, in theory, player A is the beneficiary of a generous act. Researchers have developed "games" that can be used to test models of direct and indirect reciprocity in laboratory settings. Empirical

observations of indirect reciprocity are explained with the suggestion that reputations develop organically among members of a community and that generosity benefits the generous not in direct, immediate rewards, but in reputational status. Generous players in indirect reciprocity games develop a 'good' reputation that other players notice and reward in later rounds.

A recent stream of research has experimentally explored how reputations develop in communities. Milinski, Semmann, and Krambeck (2002) showed that individuals in public goods games (games intended to model a commons dilemma, *a la* Hardin, 1968, where participants secretly choose the quantity of private resources to contribute to the public sphere, the quantity of which is distributed equally amongst participants after being multiplied by a factor) cooperated more when participants knew they would be playing an indirect reciprocity game afterwards with someone in the same community. A tally of cooperative and uncooperative moves was kept on each player during the course of the public goods game. The tally scorecard was made available to the rest of the players in the community before each player was paired with another in the community to play a kind of trust game (an extended dictator game, where a dictator divides a sum of resources between himself and a partner, the portion given the partner is multiplied and the partner then may choose to return a portion of her dole to the dictator). Results showed that players seemed to be more conscious of their behavior when they knew that over the course of play a reputation for their cooperativeness was evolving, and that decisions that would affect their future utility might be made using that information.

Barclay (2004), in a similar study, tested whether participants would be more generous in a public goods game if the tally of their donations were made available to

other participants and that participants knew they would play a dyadic trust game with another member of the group afterwards. A trust game (Berg et al., 1995; Kreps, 1990; Snijders & Keren, 1999), sometimes called an investment game, is played by player A first receiving a sum from the experimenter. Player A can choose to keep the money or invest a portion in player B, wherein it is multiplied by some factor (usually two or three). Player B may choose to keep the entire increased amount or reciprocate Player A's trust by returning a portion to Player A. Results indicated that participants contributed more when they knew they would play a trust game with someone from the group afterwards. In fact, participants competed to be the most altruistic, knowing that their altruism would be rewarded. This finding contrasts with that of Clark (2002), who did not observe a competitive altruism when others had merely the opportunity to give to the most altruistic.

These and a number of other studies (Chen, Hogg, & Wozny, 2004; Fehr & Gachter, 2000; Ostrom, Walker, & Gardner, 1992; Yamagishi, 1986), including evidence from hunter-gather societies (Hill, 2002; Kaplin, Hill, Lancaster, & Hurtado, 2000), provide significant empirical support for the position that cooperation is higher between individuals in communities of trade where sanctioning mechanisms are installed versus those communities where no mechanism exists to neither punish the free rider nor reward the altruist. For example, Chen et al. (2004) showed that in a simulated market environment, people fulfilled their contracts more often when other traders in the marketplace were made aware of their actions (high information condition) than when those actions could be made in private (low information condition). Because parties benefit from trade, players reward and punish each other by whom they choose as trading

partners. In another study (Kahneman, Knetsch, & Thaler, 1986a), participants were given the opportunity to punish proposers in a dictator game who had divided $20 unequally. In a dictator game, the "proposer," or dictator, divides a sum of money between himself and a partner, the "reciever." Generally, the partner's role is passive, having no means by which to reward or punish the proposer. In this study, participants were given the option of equally dividing $12 with a proposer who had taken a greater share of the pot in a prior dictator game or $10 with a proposer who had divided the pot evenly. In other words, participants might profit $6 by allocating $6 to a selfish proposer, or profit $5 by allocating $5 to a fair-minded proposer. Seventy-four percent choose to forgo $1 in profit by rewarding the cooperative behavior of the "fair" prosper rather than reward the non-cooperative behavior of the "unfair" proposer.

In a convincing recent study, Gurerk, Irlenbusch, and Rockenback (2006) demonstrated the market efficiency of sanctioning mechanisms. Participants were given the choice of participating in a public goods game where no sanctioning is allowed or one where sanctioning is allowed. By "sanctioning," the authors mean that after investments to the public pool were distributed equally, participants were given the option of either positively sanction cooperators, negatively sanction non-cooperators, or do nothing at all. Both sanctioning options cost the sanctioner equal sums, but in the first case the cooperator was rewarded one money unit, while in the later case the non-cooperator lost three money units. Gurerk and colleagues found that about two thirds of participants in a public goods game initially choose to join a non-sanctioning community over a community where sanctioning is allowed. However, after 30 periods, where in each period participants chose to either remain in their present community or switch to the

other, all 84 participants had migrated to the sanctioning community. The authors' conclusion is that institutions that enable sanctioning have a competitive advantage (in both attracting members and producing utility) over those that do not.

It is important to highlight the fact that in the Gurerk et al. (2006) study only a minority of actors in the sanctioning community actually engaged in sanctioning behavior, but that this minority was sufficient to establish equilibrium of high cooperation among all participants. A unique characteristic of public goods games designed to model real-world sanctioning institutions is that beyond the immediate and obvious social dilemma, a second, nested social dilemma develops: the matter of who will sacrifice personal utility to either punish free riders or reward altruists. While there is ample evidence that humans (at least *some* humans) do sacrifice utility to encourage others' cooperation, and scholars acknowledge sanctioning is sub-optimal to the individual who does it (Camerer & Fehr, 2006), research in this stream fails to provide a meaningful explanation for *why*, except to make the rather cavalier assertion that there exists a particular type of person who will, if given the opportunity, dole out rewards upon cooperators and/or punishment upon free riders. These persons are referred to in the literature as *strong reciprocators* (Fehr, Fischbacher & Gachter, 2002; Gintis, 2000).

The conclusion that sanctioning institutions work when (and because) there exists among any sample of humans a sufficient number of individuals with a disposition towards a kind of super-cooperation is relatively common (see Camerer & Fehr, 2006; Levine, 1998), if not particularly compelling. To explain outcomes not predicted by non-cooperative game theory by simply noting that people vary to the extent of their

selfishness (or "spitefulness"; Levine, 1998), does not make for particularly good theory because it fails to explain *why* some people behave altruistically and others do not.

An alternative to the dispositional explanation is given in what McCabe, Rigdon, and Smith (2003) call the *trust and reciprocity hypothesis*. In two player games, such as the ultimatum game, prisoner's dilemma, or trust game, the sub-game (single round) perfect strategy for player one is the non-cooperative response—which in a trust game, is to hoard all available resources. However, this extreme non-cooperative gambit is of course Pareto-inefficient, by which I mean that significant value is left unclaimed. In a trust game, when the first of a pair of players entrusts all of her resources to the other, the result is that there exists now a larger quantity of resources between the two. A player one who realizes this, and who expects that player two also realizes this, may signal her cooperative intentions by entrusting some portion of her resources to player two. Player two can in turn signal his cooperative intentions by returning to player one a sum greater than was received.

McCabe and colleagues (2003) tested the trust and reciprocity hypothesis by allowing some subjects the opportunity to signal their cooperative intentions while constraining the ability of others to signal anything. To do this, the authors used two versions of the trust game. The first they call a voluntary trust game, where player one can choose to entrust a certain proportion of resources to player two or to keep all the resources to herself. The second they call an involuntary trust game, where player one has no decision, but must entrust a proportion of her resources to player two. McCabe et al. observed that in the voluntary trust game, where subjects could signal cooperative intentions, significantly more reciprocity of trust was observed from player two than in

the involuntary trust game condition, where subjects were unable to signal cooperative intentions.

The trust and reciprocity hypothesis is a signaling model which presumes that players consider the intentions of their counterparts when making trust decisions. As McCabe et al. (2003) demonstrated, social actors look to signals of cooperative intentions when making trust decisions. While the focus of the McCabe study was on the behavior of the trustee rather than the trustor, the results are relevant to the decision-making of trustors as well. In a complex social world, trustors are likely to look for (and find) indicators of intentions from a variety of sources. Without personal prior experience, actors will likely first look to a player's trusting history in similar games with other actors and make assumptions regarding a trustee's intentions from this information. Other sources of reputational information may include observed behavior in unrelated spheres, including associative links—for example, does the trustee associate with groups, individuals or firms with known cooperative reputations.

While the intention-based explanation for cooperation is in some ways more satisfying than the outcome-based, or dispositional differences, explanation, it may not be complete without incorporating an emotional element. For instance, several scholars have suggested that not only cooperative behavior itself, but also the willingness to incur the costs of punishing non-cooperators is emotionally motivated (de Quervain et al., 2004; Fehr & Gachter, 2000, 2002). In a study utilizing positron emission tomography (PET), de Quervain et al. (2004) scanned the brains of participants as they played a trust game. A scan indicated that when participants learned their trust had been betrayed (not reciprocated), and while they considered a punishment, the dorsal striatum, or the portion

of the brain associated with satisfaction at having achieved a goal, was activated. In fact, participants who experienced the most activation were also willing to incur the most cost in order to punish trust abusers. These results suggest that the behavior attributed by some to the dispositional strong reciprocator is actually an emotional reaction to a specific event. The suggestion of Fehr and Gachter (2000, 2002) that cooperative punishment is motivated by anger towards free-riders also supports this reasoning. The expectation of strong emotional reactions to non-cooperative behavior may be a result of the perception of unfairness by cooperators (Kahneman, Knetsch, & Thaler, 1986b).

The idea that trust and/or cooperation are emotionally motivated is explored further in Chapter 4. The crucial point to make here, from this review of the economics literature related to reputation, is that there is strong empirical evidence to support the thesis that people are more likely to cooperate when their behavior is monitored by their community and where members of that community have the power to reward or punish cooperative or uncooperative behavior. The essential characteristic of these communities is that individuals have access to the cooperative history of others. The essential implication is that people use cooperative histories as predictors of future cooperative intentions, supported by the observation that trustors invest more in those with reputations for altruistic or cooperative behavior than in those without.

Firm-Level Theories of Reputation

Scholars of corporate strategy and organizational theory have examined how organizational reputations form and the relationship between a firm's reputation and its performance. For researchers in this stream, reputation is a measurable characteristic of a

firm. Fombrun and others (Fombrun, 1996; Fombrun & Shanley, 1990; McGuire, Schneeweis, & Branch, 1990) conceptualize reputation as the aggregate of a large number of individual perceptions about (usually) a variety of characteristics of a firm. Researchers adopting this perspective are generally interested in reputation as a predictor of firm performance. In Fombrun's studies, reputational measures were borrowed from *Fortune* magazine (Hutton, 1986), which compiled responses from 4000 executives, outside directors, and security analysts on eight components of what they called reputation: "quality of management; quality of products or services; long-term investment value; innovativeness; financial soundness; ability to attract, develop and keep talented people; community and environmental responsibility; and use of corporate assets" (Fombrun & Shanley, 1990, p. 244). Given the items used to build the reputation scale (i.e. financial soundness, use of corporate assets, long-term investment value) it comes as little surprise that reputation was found to be highly correlated with profitability (r = 0.42; $p < .001$) and negatively correlated with a beta coefficient measure of market risk (r = -0.21; $p < .001$).

What we learn from Fombrun and Shanley's (1990) study is that profitable, risk-averse firms are able to communicate their financial status and strategy, whether it be through objective markers or otherwise, sufficiently to business people within their industry; when asked, like-industry respondents report that these firms are, in their opinion, 'reputable' firms. What we do *not* learn is how some firms are successful at *creating* an image that may or may not be reinforced by objective fact (to the extent that accounting data can be called that) or other, less objective signals of status. On the other hand, it may be comforting to note that, to the subject—the party evaluating the

reputation of another person or entity—reputational information is to some extent reflective of reality. In other words, if a firm has a reputation for crafty, opportunistic behavior, we might conclude, given the results of this study, that the firm is more likely than not to indeed be a crafty opportunist.

We also learn from Fombrun and Shanley (1990) that organizations pursue reputation as a means to legitimacy. They suggest that to the extent that a reputation ranking is widely publicized (as is the case with the *Fortune* ranking), managers will use reputation information to reevaluate threats and opportunities from other firms in the marketplace (Dutton & Jackson, 1987). Fombrun and Zajac (1987) provided evidence to support this view by showing how executives' perceptions of their competitive marketplace differed from an objective analysis of structural variables, a difference which presumably affected firms' evolving strategic imperatives.

It may be, however, that firms pursue reputation merely because other firms are pursuing reputation, even if there is no evidence to suggest that acquiring reputation leads to economic benefits (Meyer & Rowan, 1977), a proposition consistent with the institutional theory of the firm. Research by Staw and Epstein (2000) in part supports this view. They found that companies associated with using popular management techniques, such as the implementation of programs focusing on empowerment, team-building, and total quality management, were viewed more favorably and were more admired than others, but that the use of popular management techniques was not associated with higher economic performance. As we compare this finding—no link between reputation and financial performance—with Fombrun and Shanley's (1990)—strong link between reputation and financial performance—it's important to remember

that Frombrun and Shanley's operationalization of firm reputation was much more expansive than that of Staw and Epstein, and included more than just perceptual variables. In fact, Frombrun and Shanley's don't measure individual perceptions, but conceptualize reputation as more objective, seeming to assume reputation consumers would use the same descriptive information to construct their reputation as do Frombrun and Shanley and in the same way—that high community and environmental responsibility is a positive, and so on. So the two findings don't so much contradict each other as point out the confusion that can surround the use of the word "reputation." As we attempt to generalize regarding the effects of reputation on any other variable, we must remember to ask ourselves, *reputation for what?*

Nonetheless, it can be concluded from all the studies reviewed here that, for individuals within an industry domain (business executives and analysts), there *appears* to be a link between profitability and other firm characteristics that are associated with the reputable firm. This means that, *from the perception of the professionals within an industry*, there is a link between a firm's reputation and its performance. This link between profitability and reputation can be examined from two directions. The first is that positive changes in reputation drive performance upward. Through Fombrun's (1996) analysis of the fashion industry, where brand image drives sales, he makes a convincing case that reputation positively impacts firm performance. On the other hand, luxury consumer items might represent a special case, because in the luxury market consumers may be identifying with a firm's prestige and in fact buying that prestige with the purchase of a consumer good. The second way in which reputation might drive performance is when reputation changes in a negative direction. Fombrun (1996)

provides more evidence to support this proposition, citing the negative effect of firm performance from cases of public relations lore: NBC News' rigged exposé of the exploding GM truck (Carter, 1993), the Pepsi syringe scare (a 1993 series of hoaxes where supposed victims claimed to have found hypodermic needles and other materials in their Pepsi cans; Miller & Glick, 1993), and the Exxon Valdez oil spill (Harrison, 1989).

While it seems reasonable to assume that crisis events will have an effect on a firm's reputation, and that reputation and firm performance are linked, it is more difficult to infer causality in that relationship. It may be that Fombrun's (1996) mediation model is unnecessarily complicated. An alternative explanation that seems to fit the data equally well is that crisis events impact reputation *and* performance, that performance and reputation are linked, but that the casual relationship between the two remains an open question.

Others have argued that a firm's generosity in matters of social responsibility generates goodwill from employees, consumers, regulators, and other stakeholders that will be reciprocated in ways beneficial to the firm, and even measurable in terms of financial performance. Orlitzky, Schmidt, and Rynes (2003) conducted a meta-analysis of 52 studies exploring the relationship between corporate social responsibility and financial performance and concluded that the relationship is positive. This view seems plausible given our earlier discussion of altruism and indirect reciprocity. If, in fact, the public rewards firms for generous behavior, then it makes sense that generous firms would reap long-term benefits from altruistic behavior. If positive reputations provide long-run benefits that are not easily measurable or observable based on how other firms

in the marketplace do business, then reputation maintenance may be as important as Fombrun (1996) contends.

Jones (1995), in his version of instrumental stakeholder theory, begins where Fombrun leaves off—that cooperative behavior pays off economically while dishonest or competitive behavior does not pay off. In fact, Jones argues that even in the short-run, opportunists do not reap the benefits they expect from their opportunism. According to Jones (1995), humans make sense of their world through vocabularies—"firms with moral vocabularies will nurture the moral tendencies of employees" (p. 419). The larger point may be that firms "nurture" their reputation through their vocabularies. In this sense, executives who would be their organization's image engineers try to instill values within their firms through words. A mission statement or well-publicized goals are, at least in part, attempts at this kind of image maintenance. Jones goes further, making the claim that reputation, so far as it is salient in the minds of observers, is only salient in the negative. In other words, a firm cannot effectively signal its relative trustworthiness or cooperative intentions. Thus, a reputation for trustworthiness is in all practicality the same as *not* having a reputation for dishonesty.

This argument seems to hang on the Platonic assertion that interactions among humans are driven by assumed goodness, unless there is reason to suspect otherwise. While this is certainly a tenable philosophical position on human nature (or perhaps it is not meant to be so fundamental, but rather culturally specific; Jones doesn't give us hints as to which), it does not seem functional nor does it pass the test of anecdotal experience. There may be a general standard of trustworthiness that we expect of strangers, but we would likely not leave a stranger to watch over an expensive camera outside a bus station

while using the restroom. However, had this stranger somehow demonstrated exceptionally trustworthy behavior by, say, returning a $100 bill that had fallen unnoticed from your pocket, you might carry an elevated opinion of this person because of their demonstrated integrity. By the same token, if a friend whom you trust informed you that a certain stranger was in fact not a stranger to her but a trustworthy person, you might be inclined to trust your friend's judgment and similarly exercise trust in this person were the need to arise.

In the previous example, the friend that provided the key social linkage between you and the stranger acted as a facilitator of trust. Because the friend possessed a reputation for trustworthiness, she was able to lend a measure of reputational credibility to the stranger. In this sense, she served a facilitative role in distributing social information relevant to the interaction. Institutions can also serve this role. Maggi (1999) reports that the World Trade Organization (WTO) serves as a kind of reputational broker among WTO member countries. The WTO fulfills this role by (1) verifying violations (anti-cooperative behavior) among WTO members and (2) reporting these violations to third parties. The WTO, while lacking the power to enforce violated agreements directly, nonetheless exercises considerable power through its management of reputations.

Reputation in Online Markets

The internet has facilitated the development and popularity of many formal reputation systems. These reputations systems, environments where buyers (and in some cases sellers) are able to record the quality of their experience and newcomers are able to

access the collective positive and negative experiences of all previous transactions with a particular seller, are de facto sanctioning institutions. By storing data on past interactions and making that information available to users, an environment has been created which facilitates the rewarding (with business) of cooperators and the punishing of non-cooperators (with no business). With potentially billions of people having access to the internet, the scope of possible social connections amongst internet users is so large as to be, for all practical purposes, infinite. The internet marketplace is not Main Street, where buyers and sellers trade within a relatively confined community and reputations develop and are transmitted through traditional and limited social ties, or where institutions such as Better Business Bureaus log complaints and informally police ethical business practices, but an environment where the sum total of every transaction that every occurred involving a particular merchant or individual can be potentially evaluated, recorded, and presented to any interested party. Because reputational information can be easily accessed in online markets, and because traditional reputational markers are not present, reputations may be even more important in online contexts. A particularly salient example of an online marketplace which illustrates the importance of reputation is the online auction site eBay.

eBay is a virtual online auction house. Any internet user may list goods for sale which are auctioned and sold to the highest bidder. With each completed transaction, buyers and sellers are invited to leave feedback—positive, neutral, or negative—for the person with whom they just transacted. eBay tallies the feedback left for each user and that those tallies are displayed with each user's future listings. For example, an eBay user, Ed, may have bought seven items on eBay and sold three, for a total of ten

transactions. Posting feedback is optional, so let's imagine that only eight people with whom Ed has done business left feedback. In one case, an eBay user purchased something from Ed which she felt was misrepresented. Because this user was unsatisfied with her dealing with Ed, she posted negative feedback. All other users have had positive experiences with Ed. Therefore, Ed has a positive feedback score of seven and a positive feedback percentage of 87.5. This information is available to all other eBay users.

Prior research shows that the feedback mechanisms maintained by eBay is salient and important in market player decision-making. Friedman, Anderson, Brett, Olekalns, Goates, and Lisco (2004) showed that eBay users' reputation moderated the effect of anger on settlement when eBay users disputed over a transaction gone sour. The bad reputation of the user against whom the complaint was filed also affected the amount of anger expressed by the user who filed the complaint. The authors conclude that eBay users are conscious of their reputation, and that those with worse reputations, anxious about the possibility of their reputations being further tarnished, may be more motivated to settle disputes where settlement will prevent a further degrading of their reputations.

Of particular importance here is to notice that the social information eBay users have by which to construct hearsay reputations is very simple. Users have access to a history of cooperative and uncooperative interactions in past transactions, as reported by their counterpart in the transaction, and the total number of transactions in which the user has been involved. This data lacks the nuance that is characteristic of reputational information in other social contexts. In fact, the information is so simple that it can be represented in only two continuums—relative cooperativeness and relative experience. So when Friedman et al. (2004) refer to a particular eBay user's reputation as either

"good" or "bad," they mean by this that, relative to others, their history of past interactions indicates relatively more or less cooperation.

Internet auction sites like eBay which have developed reputation systems to aid in commercial exchange must, according to Resnick, Zeckhauser, Friedman, and Kuwabara (2000), meet three challenges to operate efficiently: (1) they must exist long enough that there is an expectation that users will have future interactions; (2) they must capture and distribute data on past transactions such that it is available for others transacting in the present or future; and (3) traders must use reputational data to inform trust behavior. For the sake of this dissertation, points one and two above are assumed. However, point number three, *whether* reputations influence trust behavior (and *how* they are used) falls very much within the scope of this dissertation. In Chapter 4, I develop specific hypotheses pertaining to this point. In Chapter 8, I test these hypotheses specifically in a simulated online auction environment like eBay.

Reputation in Interpersonal Relationships

There is a small, but emerging body of research that has begun to focus on the impact of some form of reputation on individual cognition and decision-making. Research reviewed here appears in literatures on justice and on negotiation, and adopts a social psychological approach to reputational analysis.

Tinsley, O'Conner, & Sullivan (2002) found that negotiators faced with an opponent known for their competitiveness judged their opponent less favorably and used more distributive bargaining tactics, resulting in lower joint gains. In some cases, an

opponent's reputation for competitiveness has no basis in objective fact, rather reputations were manipulated arbitrarily and the effect still held.

Research by Diekmann et al. (2003) by some measure attempted to replicate the findings by Tinsley et al. (2002), except they were also interested in whether negotiators could accurately predict their *own* behavior when faced with a competitive opponent. Participants in their study predicted that when faced with a competitive opponent they themselves would behave competitively. However, participants' behavior contradicted their own predictions: while participants predicted they would behave more competitively when faced with a competitive opponent, they actually conceded more and were more willing to accept a settlement offer slightly worse than their best alternative to a negotiated agreement. These results contradict others' findings where players in prisoner dilemma games who expected more competitive behavior behaved more competitively themselves (see Kelly & Stahelski, 1970; Dawes, McTavish, & Shaklee, 1977).

Evidence in other contexts also supports the hypothesis that when individuals are caught in interactions with people they view as uncooperative or anti-social, they push back and find ways to retaliate. Jones and Skarlicki (2005), studying how individuals respond to authority fairness, presented hypotheses based on "the notion that early impressions impact subsequent information processing" (p. 365). When individuals expected fairness or unfairness (authority figure had reputation for being fair or unfair) and were treated unfairly (an authority figure giving no explanation for being late), they retaliated more than when having no reputational cue or when treated fairly. Reputation here equates to a kind of "early impression."

Other work suggests that individuals may be self-conscious about their own reputations even when reputational information may not be available to others, in this case, a negotiating partner. O'Connor, Arnold, and Burris (2005) found that when a negotiator reaches an impasse in a negotiation, she is more likely to impasse again even when negotiating with a new partner who has no knowledge of her past performance. While the authors struggle to provide a theoretical explanation for this finding, they do point to previous research which found that less self-efficacious negotiators were more inclined to extreme disappointment with impasse (O'Connor & Arnold, 2001). This may suggest that a perceived failure to negotiate a favorable deal (indicated by impasse) contributes to a general negative feeling towards negotiation, and that this negative feeling leads to the more competitive behavioral stance in following negotiations that O'Connor et al. (2005) found led to increased likelihood of impasse in following rounds. A related explanation (my own) is that performance in prior negotiations provides the raw informative power that aids in the construction of personal identities (Markus, 1977; Kleine, Kleine & Kernan, 1993)—specifically, personal identities as negotiators. As an identity is created and reinforced, we would expect a sort of behavioral inertia—the more a negotiator behaves in a certain manner in the past, the more likely she is to behave similarly in the future. While this proposition is couched around the development of schemas (Fiske & Taylor, 1991) that describe one's *self*, the principle should easily apply to how individuals construct schemas of an *other*. Thus we would expect that when individuals predict the future behavior of others, they would be more confident in their predictions when the other has a long, rather than short, history of consistent behavior (an expectation supported by attribution theory; Kelly & Michela, 1980).

Hearsay Versus Experiential Reputation

Reputation has been defined as a characteristic or attribute assigned to one person or entity by another (Wilson, 1985). Though this definition does not specifically address from whence the information for the assignment was derived, Wilson suggests that, operationally, a statement of reputation is an empirical statement. The attributes we assign to individuals or entities are based on our or someone else's experience with those individuals, and the predictive power of a reputation lies with our confidence in the belief that past behavior predicts future behavior. Tinsley and colleagues (2002) similarly conceptualize reputations as derived from information obtained through "either prior social information or credible information from the [individual's] social network" (p. 622). These definitions of reputation blur the distinction between reputational information derived from personal experience with that which comes from the experience of others, despite, at least in the case of the Tinsley group, of distinguishing between "prior social information"—which I take to mean prior personal interaction—and "credible information from the [reputation consumer's] social network." In failing to provide a definition which distinguishes between reputations derived from these two qualitatively different sources, they are not alone. In fact, there are few researchers addressing reputation who argue that the impact of reputational information should be analyzed differently depending on the source of that information (e.g. Lind, Kray & Thompson, 1998; Yamagishi & Yamagishi, 1994).

As does Tinsley et al. (2002), I argue that reputational cues come from two general sources, (1) past personal interaction and (2) information obtained through social networks. However, unlike the Tinsley group, I argue that there are important

theoretical distinctions to be made between reputation derived through personal experience and reputations derived through indirect social information.

Granovetter (1985), in his treatise on the problem of socially embedded behavior, argues against the economic proposition that parties to trade are discouraged from cheating solely because they are worried about a reputation effect—that others will know they cheated and in effect punish them for their past behavior: "In practice, we settle for [reputational] information when nothing better is available, but ordinarily we seek better information. Better than the statement that someone is known to be reliable is…information from one's own past dealings with that person" (p. 490). The intuition that guides this reasoning has been institutionalized in law, where evidence presented based on the reports of others, or hearsay, rather than a witness' personal knowledge, is generally not considered admissible testimony.

Geertz (1979) similarly observed that even in very competitive markets actors privilege information derived from personal experience, preferring to reward past displays of trust even when doing so comes at a short-run economic cost. In the Moroccan bazaar, buyers and sellers who had previously positive interactions favored each other, even to their short-run economic disadvantage (for example, when an alternative buyer is present and willing to pay more, or when an alternative seller is offering a better price on goods of equal quality).

Granovetter's (1985) analysis reveals both that (1) there is an important difference between reputational information garnered indirectly through social networks and reputational information that comes directly through personal experience and (2) there is a quality hierarchy of information based on the proximity of information's source to

one's self, where information acquired personally is valued the most. Granovetter's first assertion is important, because previous research evaluating the effects of reputation on trust and/or cooperation have examined either one dimension of reputation and ignored the other, or combined the dimensions without giving attention to the theoretical differences between them. For example, King-Casas et al. (2005) examined the question of whether reciprocity expressed by one party would predict future trust expressed by the other. Observing dyads that played ten rounds of a trust game, each with the same partner, they found support for their hypothesis. However, the conclusions of the King-Casas study are only relevant to predictions of the effect of reputation as personal experience, leaving the question of the effect of reputation as social information, or hearsay, open.

The contrast between these two dimensions of reputation was better addressed in a study by Bohnet and Huck (2004). Participants first played ten rounds of a trust game in one of three conditions, (1) *stranger*, each round a new partner about which the trustor knows nothing, (2) *partner*, each round with the same partner, or (3) *reputation*, a new partner each round, but one in which the trustor knows his or her history of reciprocity in previous rounds. After ten rounds, all participants play an additional ten rounds in the stranger condition. Results indicate that in the first ten rounds, those in the partner condition trust more than those in the reputation condition which in turn trust more than those in the stranger condition. The same pattern holds for the trustees' propensity for reciprocity. This study goes a long way in examining the differential effects of two dimensions of reputation, that based on hearsay and that based on personal experience.

One of the key objectives of this dissertation is to examine how (and if) individuals process reputational information differently by source. In other words, if a trustor has reputational information from both his or her social network as well as personal experience, (1) to which does the trustor give precedence in making trusting decisions, and (2) through what cognitive or emotional process is this process motivated? The Bohnet and Huck (2004) study, as well as Granovetter's (1985) information hierarchy assertion, hint towards an answer to the first, that trustors will likely experience reputational information acquired through personal experience more saliently than reputational information acquired through social information. Hypotheses to this effect are developed in Chapter 4, following a more detailed discussion of Granovetter's hierarchy of information privilege and a review of literature suggesting an alternative prediction.

Conclusion

In this chapter, I have reviewed three literatures on reputation. Each of these literatures is consistent in the conceptualization of reputations as social constructs which organize the characteristics of the organizations, groups, and individuals with which a person interacts. I have argued that these reputational constructs are best modeled as schemata (Fiske & Taylor, 1991; Markus & Zajonc, 1985). Schema theory offers an explanation of how persons can make predictions about others' behavior given only imperfect and incomplete information about them—that bits of information, called reputational cues, invoke schemas of complete reputational types. Evidence from the evolutionary perspective and the social psychological approach support this theory,

though this evidence leaves open the question as to how reputational information from different sources, hearsay versus personal experience, might be processed or privileged differently. All the same, even incomplete reputational cues are sufficient to direct or change behavior, and in the next chapter I discuss a particular kind of behavior, trusting behavior, which I argue is critically dependent on how individuals process reputation.

CHAPTER III

TRUST

For it is mutual trust, even more than mutual interest, that holds human associations together.

--H. L. Menchen

Scholars have theorized that reputation mechanisms serve as a proxy for trust in decision-making (e.g. Alvarez, Barney, Bosse, 2004; Hardin, 2001; Williamson, 1993), however, differences exist as to how trust and reputation are conceptualized, and these differences have an impact on theory. The goal of this chapter is to dive into the trust literature and resurface with a conceptualization of trust which compliments the conceptualization of reputation developed in Chapter 2, thus guiding the empirical work proposed in the following chapters. Trust is a well-studied construct and has been the subject of considerable discussion over the years in disciplines such as psychology, social psychology, sociology, organization studies, economics, political science, and evolutionary biology. Because of this, there are literally volumes of scholarly text dedicated to the subject. It is my intention to first define trust as I am using it, then to review major streams of research on trust so as to familiarize the reader with the various disciplinary approaches to the study of trust, and finally to locate this study of trust on that disciplinary map.

Trust Defined

The concept of trust has been present in the academic literature for several decades, in a variety of disciplines, and studied across varied levels of analysis (e.g. Cummings & Bromiley, 1996; Deutsch, 1960; Lewis & Weigert, 1985, Luhmann, 1988; Mayer, Davis, & Schoorman, 1995; Worchel, 1979; Williamson, 1993; Yamagishi & Yamagishi, 1994). Definitions, of course, vary by discipline, research focus, and simply from treatment to treatment. Rousseau, Sitkin, Burt, and Camerer (1998), in a review of the trust literatures, suggest that although definitions of trust vary greatly across scholarly efforts, a distinct commonality between all definitions of trust appears to be a "willingness to be vulnerable" (for an example of a definition of trust of which vulnerability is not a prerequisite, see Gambetta, 1988). Not only is a willingness to allow one's self to be vulnerable to risk a key element of most definitions of trust, others have suggested that it may also be "one of the few characteristics common to all trust situations" (Johnson-George and Swap, 1982).

In a major treatment of trust, Mayer et al. (1995) began with the explicit intention of defining trust, and doing so in a way which distinguished trust from cooperation. Mayer and colleagues first define trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (p. 712). They go on to argue that trust is often confused with cooperation because trusting behavior and cooperative behavior may look similar. However, there are many reasons why an individual or collective might act cooperatively while not trusting. Meyer et al. list three: (1) external mechanisms exist which assure

that the trusted party will not take advantage or act deceitfully; (2) if the issue does not leave the trusting party vulnerable—in other words, the matter is not important to the trustor; and (3) "if it's clear that the trustee's motives will lead him or her to behave in a way that coincides with the trustor's desires" (p. 713).

In this dissertation, I adopt the definition of Rousseau and her colleagues (1998): "Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (p. 395).

Worchel's Multi-Disciplinary Typology of Trust

In a 1979 review, Worchel organized the trust research into three distinct groups that still provide useful insight into the variety of perspectives in the trust literature today. Worchel grouped research on trust into (1) theories of personality, (2) the economic or sociological perspectives, and (3) the social psychological view.

Personality theorists (e.g. Erikson, 1963; Kramer & Brewer, 1984) view trust as more or less a basic component of human nature, a general belief in the goodwill and non-malicious intent of others. Differences in the degree to which individuals are willing to trust are dispositional and may be accounted for by developmental context, including culture (Erikson, 1963), group membership (Kramer & Brewer, 1984), and other-self similarities in attitudes and/or behaviors (Pruitt & Carnevale, 1993). Yamagishi and Yamagishi (1994) label this kind of trust *general trust*: "A trusting person is the one who overestimates the benignity of the partner's intentions beyond the level warranted by the prudent assessment of the available information" (p. 136).

Worchel's (1979) second trust grouping, the economic or sociological perspectives, conceptualizes trust as a function of interpersonal experience. The purpose of trust is to reduce uncertainty in institutionalized modes of interaction. Trust forms as obligations and expectations are fulfilled over time; thus the maxim, "Trust is not given, but earned." Trust of this kind can be exercised in individuals or institutions (Neu, 1991). Hardin (1993) describes this trust as "calculated" and provides a definition that is consistent with the paradigm, "You trust someone if you have adequate reason to believe it will be in that person's interest to be trustworthy in the relevant way at the relevant time" (p. 505). This is a useful definition for modeling trusting behavior in economic interactions, but may not adequately explain the behavior of the individual trustor who likely does not look past themselves to consider the interests of others in making everyday trust decisions.

A social psychological conceptualization of trust treats the construct as a matter of expectations based on past behavior, as might economists, but moves beyond probabilities or cost-benefit analysis and pins the vulnerability component of trust (Rousseau et al., 1998) on one's confidence as to how another party will behave (for examples of authors that specifically mention confidence in their definitions of trust, see Cook & Wall, 1980, Deutsch, 1960, Lewis & Weigert, 1985; however, others, such as Luhmann, 1988, take issue with this definition). Thus, trust here is a calculus of expectations, but not necessarily a rational one because this trust may exist even when there are reasons to be hesitant. For example, a person may choose to exercise trust in a friend even when that friend has betrayed trust in the past.

The Three-Tiered Taxonomy of Trust

The Worchel (1979) taxonomy of trust is useful in categorizing definitions of trust and streams of research that fit within these categories. However, other models of trust go a step further in integrating multiple conceptualization of trust. One such model is offered by Shapiro, Sheppard and Cheraskin (1992) and further developed by Lewicki and Bunker (1995). Shapiro et al. create a three-tiered taxonomy of trust. The first, *deterrence-based trust* or *calculative trust*, is based on the prediction that people will do what they say they are going to do in order to avoid the negative consequences of not doing it. This type of trust is deterrence-based because potential punishments deter trustee defection; it is calculative because the trustor estimates the trustee's costs and benefits associated with defection versus cooperation and calculates the relative trustworthiness of the trustee in making trust decisions. Calculative trust may or may not be founded in prior experience. For instance, calculative trust may be built on repetitive, superficial interaction, or it may be built around an institutional confidence, meaning that trustors are confident trusting within a specific institutional context even when interacting with unknown actors (Neu, 1991). For example, the institutional norms of pizza delivery (which reside within the norms of a larger scope of marketplace norms) afford predictability to the relationship between pizza parlor and consumer which allow for comfortable transactions between actors who have had no previous interaction with or knowledge of each other.

The second type of trust is *knowledge-based trust*. Trust is knowledge-based when one knows another well enough to know their interests, values, beliefs, and motivations so as to be able to create accurate expectations of their behavior. With

deterrence-based trust, the trustor trusts because he or she can predict the trustee's fear-motivated behavior, however knowledge-based trust is grounded in an understanding of a trustee's preferences under a wider umbrella of stimuli. Yamagishi and Yamagishi (1994) also describe a knowledge-based trust which is consistent with that discussed here.

The last category of trust described by Shapiro et al. (1992) is *identification-based trust*. Identification-based trust is grounded in the trustor's identification with the trustee's interests. The trustor has a deep knowledge of the trustee's preferences as with knowledge-based trust, but has fully internalized these preferences so that the trustee could act in place of the trustor and make decisions in the same way that the trustor would if the trustor were making them. In this kind of trust relationship, it is not enough to merely know another well enough to know how they might react to different stimuli or order preferences, but the identification-based trustee "agrees with, empathizes with, and endorses" those choices too (Mayer et al., 1995).

The Three-Tiered Taxonomy of Trust: A Critique

It here becomes important to highlight the differences between trust and cooperation. Mayer et al. (1995) argue that while trust often accompanies cooperation, trust is not a necessary condition for cooperation to occur. Mayer and colleagues contend that where external mechanisms or institutional safeguards exist to punish non-cooperators that players can expect cooperation without necessarily trusting one another. This is because these external mechanisms have effectively hedged against the risk that would need to exist for a real trust to exist. Because no personal vulnerability is present,

there is no need for trust (and the existence of formalized risk-hedging or defector-punishing mechanisms is rather evidence against to suggest an *absence* of trust, rather than its presence). Mayer et al. gives the example of an employee who may appear to cooperate with a company initiative, but only because she works under a powerful boss which is able to punish the employee for uncooperative behavior. Based on this conceptualization of trust, one might question whether Shapiro et al.'s (1992) deterrence-based trust relationships or Lewicki and Bunker's (1995) calculative trust are really based on trust at all.

Also, it is clear from the discussions by Shapiro et al. (1992) and Lewicki and Bunker (1995) that knowledge-based trust and identification-based trust are predicated on personal interaction and continued experience between trustor and trustee. However, what is lacking in the Shapiro / Lewicki analysis is a description of a kind of trust that is based on information (sometimes quite sophisticated information) about another that is acquired through means other than prior personal experience. Examples abound: imagine moving to a new city and being referred to a "trustworthy" realtor by a friend; a newspaper editor recommends a restaurant as having the "most authentic" Thai cuisine; *Consumer Reports* recommends a particular brand of toaster for its quality. In each of the above situations, information has been acquired about a person or business through means other than personal experience. This type of information I have previously referred to as hearsay reputation.

The Relationship of Reputation to Trust

In this dissertation, I am exploring how reputation invokes trust (or distrust) within social relationships. My conceptualization of reputation-informed trust fits Worchel's (1979) description of a social psychological perspective of trust because I contend that trust varies in relationships by the salient characteristics of individuals within relationships which are perceived as relevant in deciding whether another person is trustworthy or not. However, my view of trust may also be a self-regarding economic view in the sense that the decision to trust is to some degree a calculative one, however I am arguing something quite different than the proposal that trustors make strictly rational evaluations of reputational cues when making trust decisions. My conceptualization of reputation-informed trust also fits within the Shapiro et al. (1992) model of trust. Here, reputation-based trust is a form of knowledge-based trust. Knowledge of a trusted party's past behavior, received second-hand or inferred from labels, drives the decision to trust.

In Akerlof's (1970) famous analysis of the Market for Lemons, he begins with the assumption that only sellers can know the value of some goods. A buyer that cannot verify the quality of a good cannot know if it is premium quality a "lemon"—a term here used to mean an inferior, unsatisfactory, or defective good—or somewhere in between. Because of this uncertainty, buyers are willing to pay no more than the average value of the good. In some markets, sellers, knowing this, keep higher value goods off the market. When only goods of a lesser quality are for sale, buyers are willing to pay less, which lowers the quality threshold of goods sellers are willing to sell, and so on until, theoretically, no goods are traded or, practically, all goods that are traded are traded at value of the poorest quality goods. However, in markets where buyers can verify the

quality of goods, or where sellers can assure buyers of the quality of their goods, market equilibrium prices will rise. Often sellers will invest in their reputations by spending money in visible ways ("burning money"), hoping that buyers will reason that a firm which can afford to burn money is wealthy and efficient, and that such a firm could not afford to sell inferior products. Burning money changes the incentive structure of the seller, such that it is no longer economical to lie to consumers about the quality of her products. In this sense, the practice of burning money is a signal of cooperative intentions, in that it suggests to buyers that the seller only deals in quality goods. These signals are part of a larger set of information that is consumed by observers. This body of information is modeled here as reputation, and serves as a basis for trust.

The idea that trust is influenced by attributes of the trustee is a view shared by several scholars. Early research by Hovland, Janis, and Kelley (1953) found that in order for a person to be credible, they must be perceived as having expertise and being trustworthy. Lieberman (1981) makes the claim that fiduciaries must be perceived as both competent and as having integrity to be trusted. Ring and Van de Ven (1992) propose that as a matter of risk management, managers must consider the trustworthiness of the parties with whom they transact business. In an effort to synthesize decades of work on the antecedents of trust, Mayer et al. (1995) identify three characteristics of a trusted party that interact in predicting trust in relationships: *ability*, the capacity to fulfill an obligation; *benevolence*, that the trusted party wants good for the trusting party; and *integrity*, "that the trustee adheres to a set of principles that the trustor finds acceptable" (p. 719). According to Mayer et al., while these three attributes of trustees may be

interrelated, they are theoretically separate, such that trustors may consider all or some combination of these characteristics when choosing whether or not to trust.

There is also significant evidence to suggest that individuals take into account varying levels of risk in their decision to trust. Snijders and Keren (1999) and Malhotra (2004) all found that participants in a sequence of experiments trusted more often when the risk of trusting was perceived as low versus high. Kramer (1999) makes a similar conclusion in his review of the organizational literature on trust. Kramer concludes that perceptions of risk are tied to the decision to trust and, similar to the view taken in this paper, that perceptions of risk are influenced by attributes associated with the trusted party.

Conclusion

A central component to a trust situation is that the trustor allow him or herself to be vulnerable to the risk of the trustee not complying with expectations. Reputation, as a social construction of the characteristics specific to an individual or collective (such as a group, organization, firm, etc.) is relevant to the decision to trust in as much as its construction speaks to the presumed trustworthiness of the trustee. Reputation-informed trust, therefore, is not a simple matter of calculative odds—such as the analysis one might perform in choosing to play the lottery. Rather, reputation-informed trusting behavior is both calculative (in as much as information about an individual drives the construction of reputation itself) and distinctly psychological (as there is no guarantee that the trustee will reciprocate the trustor's trust).

CHAPTER IV

THE EFFECTO OF REPUTATION ON TRUSTING BEHAVIOR

We have to distrust each other. It's our only defense against betrayal.

--*Tennessee Williams*

The focus of this dissertation is the effect of reputation on trust and trusting behavior. In this chapter, I develop nine hypotheses which systematically tell a story of how individual reputation is linked to trust in interpersonal relationships. First, I describe the relationship of hearsay reputation and risk on trusting behavior, detailed in Hypotheses 1-3. Second, I discuss the role of affect in the relationship between hearsay reputation and trusting behavior, described in Hypotheses 4 and 5. Third, in Hypotheses 6 and 7, I make predictions regarding the relationship between experiential reputation and trusting behavior. Finally, I discuss the role of affect in the relationship between experiential reputation and trusting behavior, outlined in Hypotheses 8 and 9. Hypothesis 1-9 are first tested by way of a trust game (sometimes called an investment game) in Study 1 (Chapter 5). I attempt to replicate the results of Study 1 in two additional studies (Chapters 7 & 8), each contextualizing reputation and trusting behavior in different ways, but both simulating real-world trust situations. The latter two studies also test an additional hypothesis developed in Chapters 7.

Based on the discussion in Chapters 2 and 3, I propose that a good hearsay reputation signals cooperative intentions. A reputation is social-constructed label

(Tinsely, o'Conner, & Sullivan, 2002) which contains an aggregate—though often abstract—accounting of an actor's past cooperative and non-cooperative acts. As the context modeled in this dissertation is the reputation systems used in online consumer markets, reputation can be thought of as the aggregate number of past cooperative and non-cooperative acts. Reputation exists on a continuum from a totality of cooperative acts to a totality of non-cooperative acts, or from "good" to "bad." Therefore, a "good" reputation references a schema (Fiske & Taylor, 1991) indicating a history of relatively more cooperative behavior. Because past behavior is used as a predictor of future behavior, individuals are more likely to engage in trusting behavior with a person or firm which enjoys a good reputation, which indicates a history of past cooperative behavior. Moreover, a good reputation may trigger an indirect reciprocity norm (Axelrod, 1984; Cialdini, 2001; Gouldner, 1960). A trustor may be more inclined to engage in trusting behavior with a person or firm with a good reputation in order to reward past cooperative behavior (McCabe et al., 2003), cooperative behavior that may not have directly benefited the trustor, but from which the trustor indirectly benefits for interacting in the same community (Kahneman, Knetsch, & Thaler, 1986a). Thus, potential trustors are more likely to trust, or to show trust through trusting behavior with trustees that have good hearsay reputations.

> HYPOTHESIS 1: The better an individual or firm's hearsay reputation the more likely an individual will engage in trusting behavior with them.

The Relationship of Risk to Trust

Numerous scholars have proposed that reputation serves as a way of gauging risk in economic relationships (Ostrom, 2002). In this usage of the term, risk is a proxy for

probability, or *perceived probability* under conditions of uncertainty. A trustee's reputation, therefore, is relevant to decision-making under conditions of uncertainty if it contains information which can be interpreted to a trustor as a trustee's probability of performing a given action under given circumstances. Reputation as such indicates a community's perceived probability of reciprocity in the same way that, for example, an odds ratio indicates the perceived probability of a particular horse winning at the track. Decisions made based on reputational information alone are indifferent to contextual risk factors such as the value of the stake one puts on a risky proposition; in other words, a safe bet is a safe bet whether the bet be $10 or $100. From the self-regarding preferences economic model of reputation, we should expect that the only information relevant to a trust decision is a trustee's prediction of the other party's propensity to reciprocate, and that all the information necessary to come to a calculated decision based on risk is contained within the trusted party's reputation. Contextual risk, then, is irrelevant.

However, in an experimental context where no reputational information was provided trustors, Malhotra (2004) has shown that persons focus a great deal on the personal risk of trusting, where risk is conceptualized as a function of the value of the trusting party's stake in the trusted party. In other words, by *contextual risk* I mean the value of the resources trustors put at risk in the act of trusting. Trustors were also concerned with the interests of the other party, such as the effect trusting (or not) has on the other party, as well as how much the trusted party stands to benefit from being trusted. Based on this evidence, I propose that contextual factors, such as the amount at stake in a trusting situation, are also relevant to predicting trusting behavior, suggesting that the predictive cues contained within reputational information are not processed

independently of the context in which trusting decisions are made. Specifically, I predict that when the consequences of trusting are framed as more risky—that the trustor has more to lose from trustee exploitation—that trustors will exercise less trust. This hypothesis is important because, if verified, it demonstrates that the self-regarding preferences economic model of reputation does not adequately account for how social information is cognitively processed and subsequently motivates trust, suggesting individuals are subjected to systematic psychological biases relevant to the context in which trusting situation are framed (Neale & Bazerman, 1991).

> HYPOTHESIS 2: Individuals are more likely to engage in trusting behavior when there is less to lose (less risk) should their trust be exploited, and less likely to engage in trusting behavior when there is more to lose (more risk) should their trust be exploited.

I do not, however, expect that hearsay reputation and contextual risk will affect trust independently. Rather, I expect the effect of risk on trust to be comparatively weak in comparison to the effect of hearsay reputation. When a hearsay reputation indicates to the trustor that he can have confidence in the trustee's cooperative intentions, the amount of resources (money) to be entrusted should be of little import. In other words, one would be just as likely to entrust $100 as $100,000 in person whose trustworthiness is unquestioned. However, when a party's hearsay reputation brings their trustworthiness into doubt, I predict that trustors will give consideration to the amount of resources to be entrusted, perhaps viewing the transaction as a type of lottery. If the payoff is significant, and the potential for loss low, why not gamble and take a chance on the trustee? On the other hand, if the potential payoff does not justify the price of the lottery ticket, as it were, the trustor is more likely to keep her resources to herself. Thus, I predict that

hearsay reputation and contextual risk will interact such that only when trustees have a bad reputation will risk have an effect on trust.

> HYPOTHESIS 3: Contextual risk will moderate the relationship between reputation and trusting behavior such that risk will only have an effect on trusting behavior when trustees have "bad" reputations.

Reputation and Emotion

Williamson (1993) suggests that reputation is related to trust inasmuch as reputation is a codification of the odds of another's propensity to behave cooperatively. However, other research suggests that the relationship between reputation and trust is not so simple. Fehr and Gachter (2000; 2002) argue that some forms of public goods cooperation, such as conserving common property resources or warfare, cannot be explained by existing evolutionary theories of human cooperation. They argue that theories of direct reciprocity (Axelrod & Hamilton, 1981; Axelrod, 1984; Trivers, 1971) and indirect reciprocity (Alexander, 1987; Leimar & Hammerstein, 2001; Lotem, Fishman, & Stone, 1999; Nowak & Sigmund, 1998), which propose that cooperation is observed because those with reputations for cooperation are rewarded (Barclay, 2004; Milinski et al, 2002), are inadequate because they focus on rewards for cooperative behavior rather than fear of punishment for acting uncooperatively. Fehr and Gachter believe that it is fear of punishment, not the anticipation of a reward, which motivates cooperation: it makes sense to cooperate if a punishment befalls those who free ride. Punishment works as an adequate deterrent only if there are a sufficient number of altruists who will bear the cost of punishing free riders. But what motive does an individual have for incurring the costs of punishing a free-rider? The answer is both the

negative feelings (i.e. anger) cooperators hold against non-cooperators (Fehr & Gachter, 2000, 2002), and the satisfaction derived from having enacted punishment (de Quervain et al., 2004). In other words, displays of anti-social, uncooperative behavior excite anger and resentment by those who are cooperative, or are playing by the rules—be they explicit or implicit—of cooperation.

To illustrate this point let me provide two examples. First, consider the existence of traffic laws as an example of how society defines explicit rules to facilitate cooperative behavior and the reaction of cooperative individuals in the face of an uncooperative act. As a specific example, consider how a traffic signal facilitates cooperative behavior by holding traffic traveling one direction so that traffic may safely flow through a cross street. What happens, however, when a single motorist breaks the rules and, for example, runs a red light? What is the emotional reaction of the other motorists who witness or are affected by the anti-social act? Observing motorists will no doubt respond with anger, indignation, frustration, or resentment.

As a second example, consider the unspoken social norms that dictate line-forming. A class breaks for ten minutes and a handful of students proceed to the vending machine to purchase soft-drinks. Instinctively, the thirsty, tired, mildly bored students line up to make their purchases, without voicing a single word, organizing according to a first-come-first-served cultural norm. Now, what happens if one student ignores the queue and pushes his way to the front of the line? Leaving aside for the moment the possibility of a behavioral response, let us consider first their emotional response. The slighted, cooperative students will likely feel anger, and frustration, perhaps jealousy, or at the very least a mild irritation or resentment because of a perception of unfairness

(Kahneman, Knetsch, & Thaler, 1986b). Similarly, when a cooperative actor observes that other actors are likewise engaging in cooperative behaviors, this likely elicits feelings of contentment, satisfaction, and peace.

A reputation system facilitates cooperation by making a history of past bad behavior available to the larger community. A bad reputation signals a propensity towards anti-social, uncooperative behavior, which incites negative feelings in others (Fehr & Gachter, 2000, 2002). These negative feelings are functional, in terms of the cooperative health of a community, because these feelings motivate cooperative actors to engage in punishing behavior toward non-cooperative actors, even when the act of punishing imposes an economic cost on the punisher. In some cases, society bears this cost through institutionalized mechanisms for enacting punishments. For instance, communities tax their residents to employ a police force empowered to impose financial and sometimes physical punishments on traffic law violators. In other cases, punishing behavior is voluntary and organic. The students slighted by the line-cutter may say something, creating a social distance between the non-cooperator and the rest of the community, or perhaps in merely withholding friendly interaction to the student in some other context. Regardless of the mechanism, cooperation can be maintained even when only a minority of the community's actors are willing to engage in punishing behavior (Gurerk et al., 2006). However, not all punishing behavior imposes a cost on the punisher. In some cases, like those modeled in this dissertation, punishing behavior also protects the punisher from exploitation. The larger point, however, is that cooperation in trust situations can be maintained by reputation systems, because reputations provide a mechanism by which actors are aware of each other's past cooperative and non-

cooperative acts, and because defection elicits an emotionally predictive response from cooperators which may drive them to vigilantism.

Dunn and Schweitzer (2005) demonstrated that individuals experiencing a state of negative affect were less likely to act in a trusting way. Additional support for the link between emotion and cooperation comes from an analysis of the post-Cold War Russian marketplace (Radaev, 2004). Radaev suggests that trust in Russian business networks, when not grounded in the personal experience actors have one with another, is based on affective impressions; or, to use Radaev's word, *feeling*. When actors know each other well, and have developed a trust based on repeated interaction, making trust decisions is simple, programmed, and automatic. However, in new or less established relationships, actors rely on information from other sources in decision-making and follow a pattern of more complex decision-making. It is in these kinds of limited-knowledge situations that Radaev argues affect is important.

The conclusions of Radaev (2004) can be explained theoretically through the Affect Infusion Model (AIM), described by Forgas (1995; also see Forgas & George, 2001)[1]. AIM begins with the assumption that information processing and decision making processes vary by the complexity of the decision. Some problems require sophisticated, elaborate information processing strategies, whereas others are resolved through simpler, quasi-automatic tactics. According to AIM, the affective state of a decision-maker influences decision-making when actors are engaged in higher-order decision-making, but does not influence decision-making in very basic kinds of decision-

[1] It should be noted that while I have chosen to examine Radaev's observations through the AIM, Radeav did not reference Forgas or mention the AIM in his analysis.

making. The more thought that is required to arrive at a decision, the greater chance the decision has of being impacted by the present emotional state of the actor.

It is important to mentioned that the AIM models affect specifically as mood, not necessarily emotion (Forgas & George, 2001), which I am discussing here. However, the constructs are similar enough to warrant this adaptation of the model. Forgas (1992) defines moods as "low-intensity, diffuse and relatively enduring affective states without a salient antecedent cause and therefore little cognitive content (e.g., feeling good or feeling bad)." Emotions are "more intense, short-lived and usually [have] a definite cause and clear cognitive content" (p. 230). While moods and emotions have been defined as distinct constructs, they are similar in that they describe transitory affective states rather than dispositional personality traits (Barry, Fulmer, & Goates, 2006). The key distinction between moods and emotions are their intensity and that emotions are generally thought to be event-driven. Given that AIM was developed with low-intensity affective experience in mind, it is reasonable to assume that in the case of high-intensity affective experience that emotion would more strongly affect high-order cognitive work such as reasoning and complex decision-making. In this dissertation, all predictions made regarding affect are referring to as emotional states rather than mood or dispositional affect.

AIM sheds light on both how behavior is influenced by affective state and how behavior varies by the valence of affective state. To predict affect's primary effect on behavior, Forgas (1995) adopts the affect-as-information approach (Schwarz & Clore, 1988). As individuals exert effort to makes sense of emotional events, such as the valence of their emotional state (Schwarz, 1990; Smith & Ellsworth, 1985), they may

misattribute and misapply their feelings to judgments at hand. Schwarz and Clore (1988) argue that individuals, in making judgments, ask themselves how they are feeling (about the object of the judgment) and allow the valence of their emotional state to flavor their appraisal. Thus, if an individual is feeling happy (it does not matter why), they are more likely to make positive judgments about others. Likewise, an individual in a negative affective state is more likely to make negative judgments about others.

The decision to trust is one that requires judgment or information processing. The strategies used in making trust decisions run the gamut of the information processing strategies described by Forgas (1995). Some trust decisions might be simple and require little or no thought, like the trust exercised in other drivers when proceeding through an intersection on a green traffic light. However, the kinds of trust decisions which I'm modeling here involve more complicated judgment or information processing strategies.

I have previously argued that the decision to trust in an economic relationship is complicated by the trustor having to make sense of reputation information as a kind of social information. Others (Williamson, 1993) have argued that this sensemaking process is purely cognitive, a rational calculation of odds based on past performance. I do not take issue with this proposition entirely, but suggest that the cognitive explanation does not tell the whole story. Therefore, in proposing affect as a mediator between reputation processing and the decision to trust, I do so with the expectation that the decision to trust is also influenced directly by non-emotional cognitive reasoning. However, I predict that reputational information is processed in the way Forgas and colleagues (Forgas, 1995; Forgas & George) theorize other types of information is processed, that a decision-maker's affective state influences his or her decision to trust in

a manner consistent with the affect-as-information model (Schwarz & Clore, 1988). The decision to trust is not influenced entirely by rational cognitive calculation nor emotional response, but some combination of the two. Formally put, I expect the relationship between hearsay reputation and the decision to trust to be *partially* mediated by the affective state of the trustor, specifically,

> HYPOTHESIS 4: Trustee hearsay reputation predicts trustor emotional state such that
>
> (a) "good" hearsay reputations (reputations for reciprocity) elicit a positive emotional response from trustors, and
>
> (b) "bad" hearsay reputations (reputations for exploitation) elicit a negative emotional response from trustors.
>
> HYPOTHESIS 5: Emotional state partially mediates the relationship between trustee hearsay reputation and trustor trust such that
>
> (a) trustors experience a positive emotional response to trustees with "good" hearsay reputations and are in turn more likely to trust them, and
>
> (b) trustors experience a negative emotional response to trustees with "bad" hearsay reputations and are in turn less likely to trust them.

Hearsay versus Experiential Reputation

Reputation is a community's collective knowledge about the behavioral tendencies of a particular person or entity. As such, a reputation theoretically contains more information than any one single individual's personal experience might contain. In an organizational context, information collected by the community may be important to individual sensemaking in that information from peers helps construct and clarify the meaning of organizational events (DeGoey, 2000). Lind, Kray, and Thompson (1998) contend that reputation, or information obtained through social networks, is a more

powerful representation of reality than is a person's personal experience because reputations are the compilation of numerous individuals' numerous experiences. Hearsay reputation might also be a more representative sample of a person or firm's behavior, whereas a personal experience, a single data point, may reflect any number of potential biases. Based on this line of reasoning, to the extent that it is beneficial to form an accurate opinion of another's integrity or cooperative tendencies, trustors should weigh hearsay-type reputational information more heavily than that which comes of individual experience.

I have previously argued that the trust that reputation elicits lies somewhere between calculative and psychological trust. Shapiro et al. (1992) conceptualize another kind of trust, knowledge-based trust, as the ability to predict another's behavior because the other is so well known to the trustor. Lewicki and Bunker (1995, p. 149-150) use the following example, "Brothers who are always competing with each other learn to anticipate the other's tactics so well that they can predict exactly how one will attempt to cheat and therefore take measures to ensure that cheating isn't attempted." Shapiro et al.'s (1992) knowledge-based trust is a trust based on personal interaction or experience. Both hearsay reputation (an individual's perception of a community's collective knowledge about a specific object) and experiential reputation (the information about a specific object that an individual can attest to with certainty) provide information about a potential trustee on which trustors can rely in making trust decisions. However, contrary to Lind et al.'s (1998) hypothesis, who argue that because reputation is based on collective experience it is a more powerful indicator of behavioral intentions, I predict that individuals will privilege information that is born of personal experience over that

which comes from others. This prediction is based in part by the argument and evidence presented by Granovetter (1985) and Geertz (1979). Granovetter (1985) contends that people trust knowledge acquired through their own experience more than that acquired through other sources, and Geertz's (1979) empirical work supports this contention.

According to Granovetter (1985), there are four reasons why information that comes through one's own experience is better than that which comes through social networks: (1) it is less expensive; (2) it is more complete, containing more details and nuance, and is known (perceived) to be accurate; (3) the expectation for trustworthy behavior is greater with those whom future, continued interaction is likely; and (4) past experience lays the foundation of social linkage—"continuing economic relations often become overlaid with social content that carries strong expectations of trust and abstention from opportunism" (p. 490).

These rationales for favoring information acquired through personal interaction (experience) over that which comes from others (reputation) are consistent with standard economic analysis save the fourth. The fourth rationale is laden with the weight of social experience. It suggests that people are less concerned with general reputation probability analyses—how might an actor interact with a randomly selected other—but are more interested in how that actor will interact with *them*, specifically. For example, a certain used car dealer might have the worst kind of reputation for cheating his customers, but if I personally have developed a trusting relationship with him, based on past interactions, I am likely to continue to reward him with my business regardless of whatever bad experience others have had. Geertz (1979) observed this phenomenon even in the hypercompetitive Moroccan bazaar markets.

Sometimes individuals may have information from both the community (hearsay reputation) and personal experience (experiential reputation) which is contradictory. A co-worker may have a reputation for not delivering on commitments, however in all your personal interaction with this person they have been nothing but timely. Conflicting information of this sort may give way to cognitive dissonance when faced with the decision to trust. Based on the above discussion, however, I predict that individuals will tend to resolve their dissonance by making decisions based on information acquired through personal experience rather than hearsay.

> HYPOTHESIS 6: Individuals will trust more in persons or entities with relatively better experiential reputations than in those with relatively worse experiential reputations.
>
> HYPOTHESIS 7: Where both hearsay reputation and experiential reputation are available, experiential reputation will more strongly predict trust than will hearsay reputation.

Hearsay Reputation, Experiential Reputation, and the Salience of Emotion

As with the relationship between hearsay reputation and trust, I expect affect to mediate the relationship between experiential reputation and trust. In those circumstances where a party trusted based on hearsay reputation and found their trust exploited—when expectations of trustworthiness were not met—I expect individuals to feel angry and perhaps betrayed. A single betrayal amongst many cooperative acts is probably not enough to discourage trusting behavior, unless the many cooperative acts were directed towards others and the single betrayal was directed towards the trustor. Hearsay reputation, as the collective knowledge of a community, may indicate that a particular party behaves cooperatively generally, but if any one person faced with trusting

that party has had a negative experience, the negative affect caused by that negative experience will keep him or her from again trusting in that party, in a manner consistent with Dunn and Schweitzer's (2005) finding that negative affect makes an individual less likely to trust. I also expect the inverse, that when an individual "takes a chance" on a reputedly untrustworthy party and their trust is reciprocated, or a trusting act is made and reciprocated prior to the availability of any reputational information, trustors will experience a positive emotional reaction and will subsequently be more likely to trust that party in the future regardless of the trustee's hearsay reputation. Thus, information from personal experience is hypothesized to be more emotionally salient than information derived through social networks, such that emotional state will mediate the relationship between experiential reputation and trust, independent of hearsay reputation.

> HYPOTHESIS 8: The personal experience of trustors with trustees (experiential reputation) predicts trustor emotional state (and cancels any similar effect from hearsay reputation) such that
>
> (a) positive experiences elicit a positive emotional response from trustors, and
>
> (b) negative experiences elicit a negative emotional response from trustors.
>
> HYPOTHESIS 9: Emotional state mediates the relationship between personal experience (experiential reputation) and trust such that
>
> (a) trustors experience a positive emotional response to having had a positive experience with a trustee and are in turn more likely to trust them, and
>
> (b) trustors experience a negative emotional response to having had a negative personal interaction with a trustee and are in turn less likely to trust them.

CHAPTER V

REPUTATION IN A TRUST GAME

You can't build a reputation on what you are going to do.

--Henry Ford

Study 1 was designed to test the sensitivity of trustors to the hearsay reputation of trustees and evaluate the relative salience of personal experience versus hearsay reputation in decision-making. Hypotheses 1 through 9b, presented in Chapter 4, are tested with a trust game (Berg et al, 1995; Kreps, 1990; Snijders & Keren, 1999), a two-player sequential decision-making game (see Figure 5.1 for a graphical depiction of a trust game). In this version, player one is given a sum of money which she can choose to keep (the decision not to trust) or invest a portion thereof in player two (the decision to trust). If player one chooses to trust, the sum of money (the pot) is multiplied by a factor and given to player two. Player two now chooses how to divide the pot between himself and player one. If player two chooses to return a value greater than what player one gave up, player two is said to have reciprocated trust. However, if player two chooses to return a value less than what player one gave up, player two is said to have exploited trust. The payoff structure (see Figure 5.1) and rules of the game are explained to both players before the game begins.

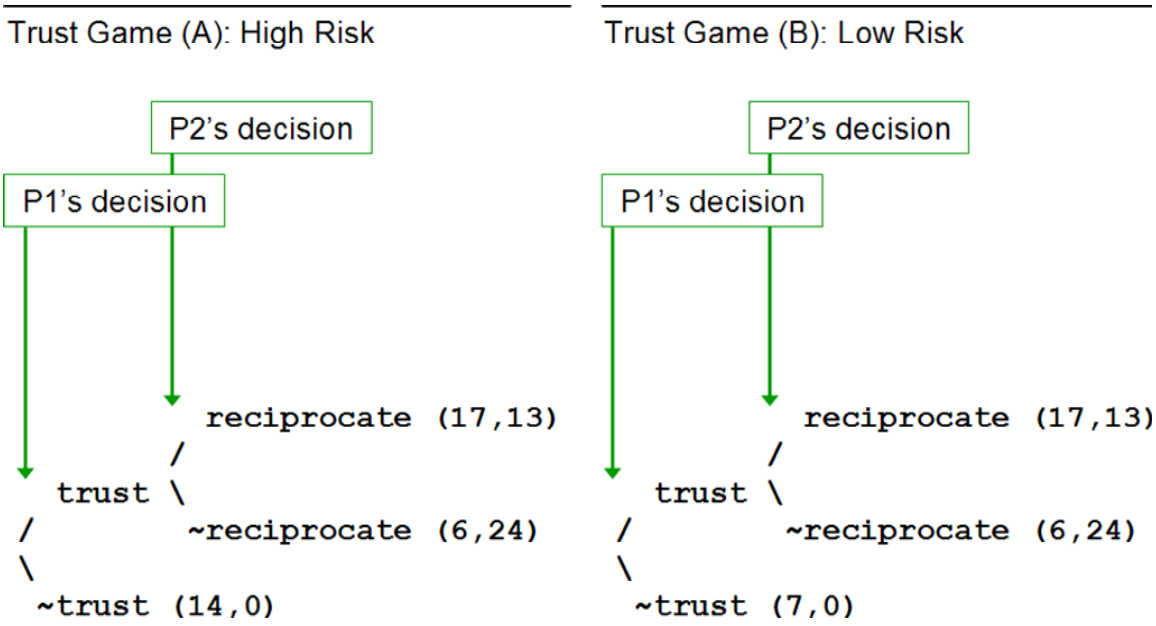


Figure 5.1. Flow and Payoff Structure of Trust Game by Risk Condition, Experiment 1

Notes: The tilde (~) indicates "not," as in "Player one did not trust."

The numbers in parentheses indicate the payoffs for player one (first number) and player two (second number). So in trust game A, if player one trusts and player two does not reciprocate that trust, the payoffs are 6 lab dollars and 24 lab dollars for player one and player two respectively.

Payoffs and risk manipulation modeled after Malhotra (2004).

According to the theoretical framework outlined by Coleman (1990) and the implementation used by Berg et al. (1995), participants demonstrate trust to facilitate exchange if the following conditions are met: (1) risk is assumed by the trusting party; (2) the trusted party chooses to reciprocate such that he or she benefits the trusting party at his or her own expense; and (3) both parties are better off than they would be had the trusting party chose not to trust. The trust game used in this study accurately measures trust because it allows for these criteria to be met when (1) player one chooses to send money to player two, (2) player two has the option of returning a sum of money to player

one greater than player one gave up, and (3) because the total sum given to player one in the beginning is multiplied by a constant factor when passed from player one to player two, player one can potentially end up with more money by trusting than not. In other words, joint value increases when player one engages in trusting behavior.

The trust game is a simplified operationalization of many real-world trust situations. In a commercial context, consumers engage in trusting behavior (e.g. paying for a good or service) expecting their behavior will be reciprocated by an honest fulfillment of a commitment (e.g. delivering the promised good or service). Player one can gain by trusting only if her trust is reciprocated, which typifies the risk dynamic in real-world consumer transactions. In a single iteration of the game, player two receives the highest payoff by exploiting player one and keeping most of the investment to himself, the real world equivalent of receiving payment but failing to deliver the promised good or service.

The trust game also allows for the manipulation of contextual risk, hearsay reputation, and, in later rounds, exploitation (experiential reputation). Contextual risk is operationalized as high when player one's default payoff, or the payoff received if player one chooses not to invest (trust) in player two (see Figure 5.1), is high rather than low. In other words, contextual risk is high when player one is putting more at risk, relative to potential gains, by trusting in player two. This risk manipulation follows the procedure used by Malhotra (2004).

In this version of the trust game, player two is simulated by a computer, and player two's reputation is experimentally manipulated. Player two's reputation is represented as the number of times player two has reciprocated trust and exploited trust in

six, identical, past trust games. For instance, player one might be told that player two has played an identical trust game several times before, and has reciprocated trust six of six times trusted. The example given above is how a "good" reputation is operationalized in this experiment.

Describing a reputation as "good" or "bad" may at first seem overly simplistic, but often the data from which hearsay reputations emerge would be difficult to interpret any other way. Composite scores from consumer rankings is one way reputation is stored and communicated (and in Studies 3 & 4, operationalized). Because it is this type of reputational device that I wish to model here, speaking of "good" and "bad" reputations is sufficient.

Method

Research Design

The experiment was divided into two parts, corresponding to two sequential rounds of a trust game (see Figure 5.2). The data collected from part one of the experiment were analyzed with a 2 x 2 (Contextual Risk x Trustee Hearsay Reputation) between-subjects design. The dependent variable in Hypotheses 1, 2, 3, 5a, and 5b is player one's trust in player two in Round 1, operationalized as player one's (the trustor's) decision to invest (or not to invest) in player two (the trustee) in Round 1. Because the experiment was designed to measure the effects of contextual risk, the trustee hearsay reputation, and (in part two) trustee experiential reputation, only the behavior of the trustor is of interest. Participants are told that they will be randomly assigned to the role of trustor or trustee, but in fact all participants were assigned the role of trustor and a

computer program simulated the trustee. Computer simulated dyadic games have been used in prior research without evidence of participants suspecting they were not interacting with a real person (Goates & Friedman, 2006; Van Kleef, De Dreu, & Manstead, 2004).

In many versions of the trust game, the trustor is allowed to give any proportion of his or her initial allotment to the trustee (e.g., Berg et al., 1995; Barclay, 2004). However, by measuring trustor's decision to invest in this way, there remains ambiguity as to what behavior constitutes trust. For example, if the trustor is given $10, any portion of which he or she can send to the trustee, and the trustor decides to send $5, it is not clear whether the trustor has demonstrated trusting behavior or not. One might respond that any sum greater than zero demonstrates a degree of trust, but this argument is unsatisfying as we observe that the trustor who sends $1 (or 1/10 the value of their allotment) is not putting themselves in a position of any significant vulnerability, and is also demonstrating a great deal less trust than the player who sends $9. An alternative design strategy is to give players a binary choice: trustors may either invest the whole of their allotment or none of it, trustees may either divide resources in their own or the others' favor (for examples of this usage of the trust game, see Dasgupta, 2000; King-Casas et al., 2005; or Malhotra, 2004). By forcing the trustor to choose between only two options, we are able to observe without ambiguity his or her intentions. Because the focus of this experiment was on the manifestation of trusting behavior, I adopted this alternative design.

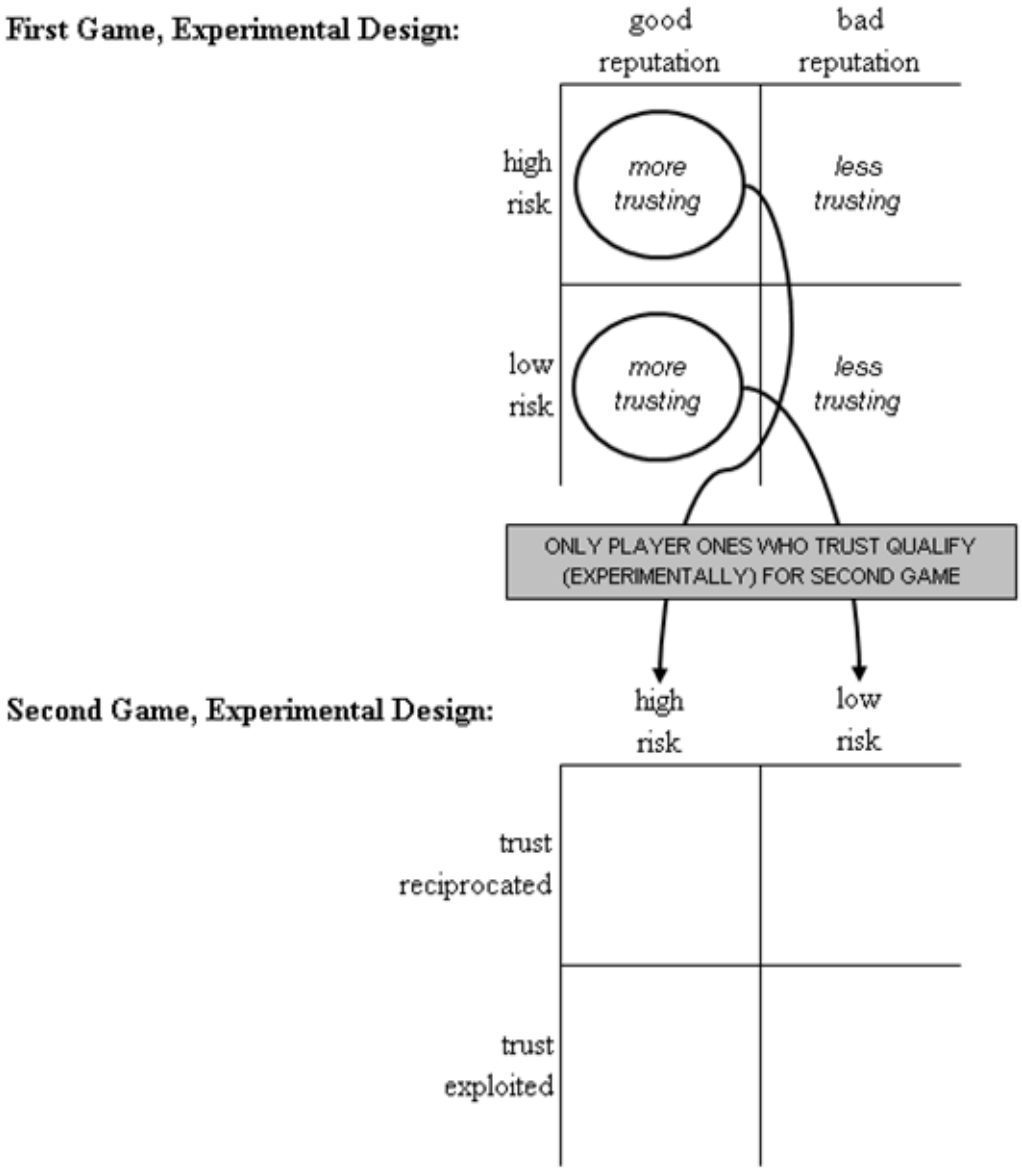


Figure 5.2. Trust Game, Experimental Design, Experiment 1

Note: The figure presented here is merely intended as a visual aid in understanding the research design, not as a theoretical model to define phenomena associated with each cell in the 2 x 2.

Part two of the experiment involves a second, identical trust game that all participants who trusted in the first game were invited to play for the chance to increase their odds of winning a $100 prize. Participants were not told about the second game

prior to completion of the first so as to not influence their strategy in the first game. In the second game, participants were told they would again be playing the role of trustor and again with the same person as trustee, the trustee of course being simulated by computer. All participants asked to complete part two of the experiment complied.

Hypothesis 7 states that when hearsay and experiential reputation contradict one another, experiential reputation will overshadow hearsay reputation as means for making future trust decisions. Part two of Experiment 1 is designed to test this and subsequent hypotheses. Data from part two were analyzed with a 2 x 2 x 2 (Contextual Risk x Trustee Hearsay Reputation x Trustee Experiential Reputation) between-subjects design. The dependent variable for Hypotheses 6, 7, 9a, and 9b is the participant's trust in player two in Round 2, or player one's decision to invest (or not invest) in player two in Round 2.

Procedure

Those who chose to participate were directed to a website where the nature of the game was explained (Figure 5.3 is a graphical representation of the experiment's procedural flow). All games were played and all data collected online. Participants were told that they would be randomly assigned to either the role of player one (trusting party) or player two (trusted party), when in reality all participants were assigned to play the player one role; player two was simulated by computer program. To make the simulation more believable, participants were told that they can play only at certain times of the day and only then if another participant is available. However, if a potential participant logged on during "open" hours, he or she was able to participate. A similar procedure was used by Goates and Friedman (2006).

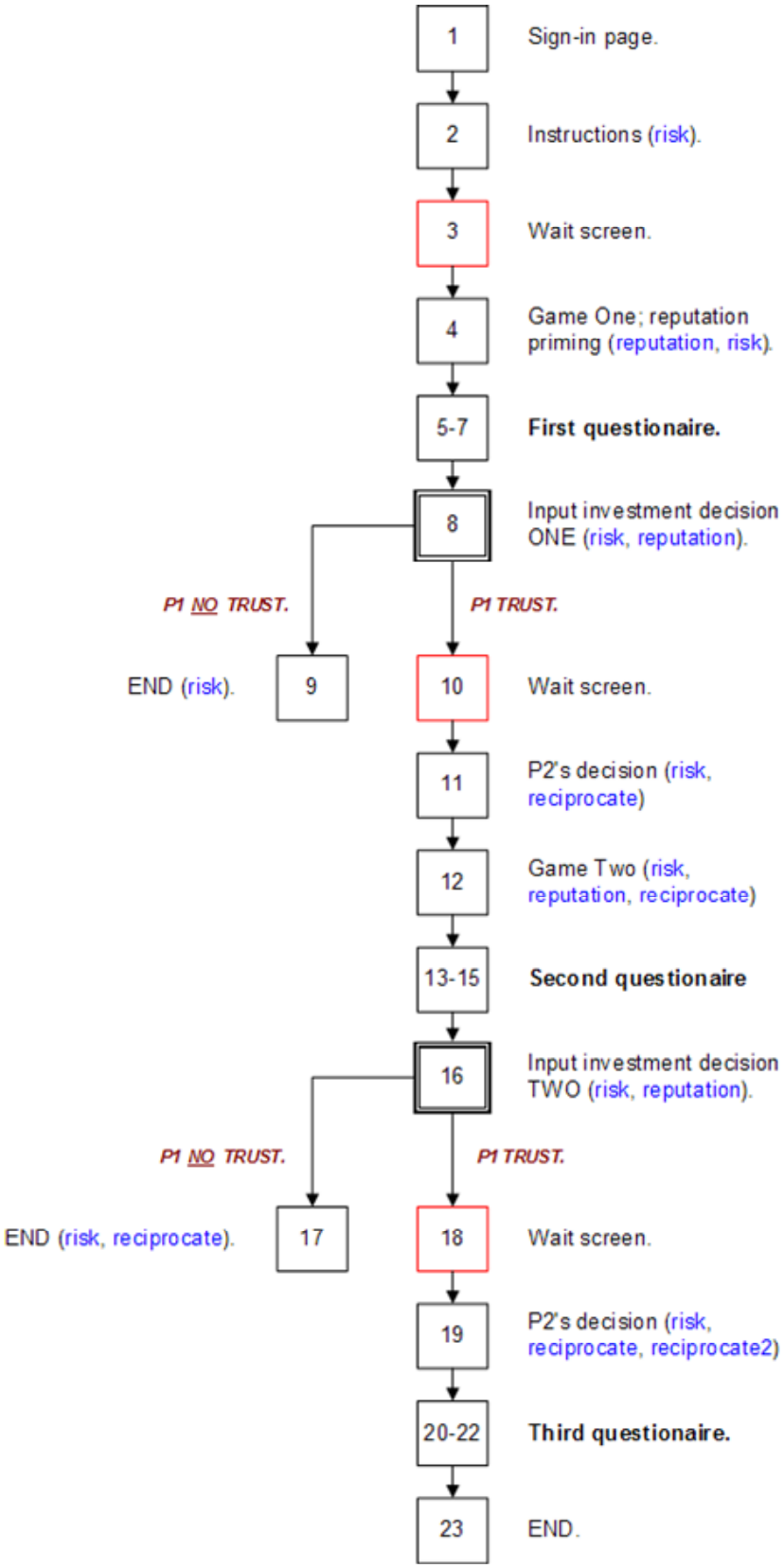


Figure 5.3. Procedural Flow of Experiment 1

After the nature of the game was explained and a participant was "connected" with his or her opponent, the participant was told that their counterpart has played the game several times before. Each participant (player one) is given information regarding his or her trading partner's (computer-simulated player two's) past behavior: the number of times player two chose to reciprocate versus exploit in past (fictional) runs of identically structured games. The game was explained to participants both through pictures—by showing them a diagram of the game's payoffs by condition—and through words (see Appendix A for the actual diagrams and accompanying text used to explain the experiment to research participants). Explaining the game through both graphical and written text assures to the extent practically possible that participants understand the procedures and payoffs of the game.

The diagrams shown participants indicated payoffs of actual US dollars. However, it was explained to participants that they were playing for "lab dollars," and that each lab dollar represented a 1:600 chance at winning a $100 prize, several of which would be awarded after the experiment was completed. The better participants did in the game (by absolute value, not comparative value) the better chance they had of winning the lottery. For example, the payoff structure in Figure 5.1 shows that participants (all player one) in both risk conditions who choose to trust but whose trust is not reciprocated by player two receive the lowest possible payoff (6 lab dollars), whereas participants who choose to trust and whose trust was reciprocated by player two received the highest possible player one payoff (17 lab dollars). Participants who get the lowest possible score (6 lab dollars) have a 1 in 100 chance at winning a $100 prize. Participants who get the highest possible score (17 lab dollars) increase their chance of winning the $100 prize

by more than 2.8 times, to greater than 1 in 35. Other researchers have used similar lottery payoff systems with success (Barclay, 2004).

Immediately prior to the point where participants are asked for their trusting decision, they are presented with a short survey through which survey instruments for measuring positive and negative affect and trust are administered. Because emotion is hypothesized to mediate the relationship between reputation and trust, it was important to measure emotion after participants were presented with and had time to process the reputation of the player two (remember that player two is simulated by computer and that reputation is experimentally manipulated), but before participants perform (or not) a trusting act.

After the rules of the game were explained, payoffs shown, participants given the trustee's hearsay reputation, and after participants complete the emotion and trust surveys, participants are asked to decide whether or not to invest in player two. The following is the text shown to all participants in the high risk, good reputation condition (to see the exact text used for all conditions, including color formatting, see Appendix A):

> You now have 14 lab dollars.
>
> You must choose to invest this sum in Player Two or to keep it to yourself. Remember, if you give the money to Player Two, your 14 lab dollars will become 30. Player Two then has two options for dividing it:
>
> Gives $17 to you and keeps $13
>
> OR
>
> Gives $6 to you and keeps $24.
>
> As was mentioned before, [player two] has already completed this exercise several times. Here are [player two's] statistics:

Number of times [player two] divided $30 investment in favor of Player One: 6

Number of times [player two] divided $30 investment in favor of Player Two: 0

For those participants who engaged in trusting behavior, player two's decision to reciprocate or exploit is communicated through a message to player one after approximately a one minute delay. Because player two's behavior is simulated by a computer, this delay represents the time it might take for a real person to process player one's decision and choose to reciprocate or exploit. In fact, the player two's decision to reciprocate or exploit is manipulated as part of the experimental design.

Hypothesis 1, that trustees with good hearsay reputations will be trusted more often than those with bad hearsay reputations, Hypothesis 2, that individuals will trust more often under conditions of low contextual risk, and Hypothesis 3, that the effect of risk and trustees' hearsay reputation is additive, were tested through the collection of data in part one of this experiment—the procedure described above. Hypotheses regarding hearsay reputation's effect on emotional state (H4a & H4b) and the meditating effect of emotional state on the relationship between hearsay reputation and trust (H5a & H5b) are also tested through these data. However, I have also hypothesized the effect of experiential reputation on trust (H6), the salience of experiential reputation versus hearsay reputation (H7) and the emotional response of trusting parties to unreciprocated trust (H8 & H9). To test these hypotheses, the computer-simulated Player Two's decision to reciprocate or exploit player one's trust was manipulated. Participants who trust receive a message indicating the trustee's computer-generated response and are afterwards invited to play an additional game, again as Player One and with the same

trustee (see Figure 5.3). The trustee's reputation data is recalculated and the process was repeated in this second game as described above.

Participants

Participants were drawn from the Vanderbilt University eLab research panel. At the time data was collected, eLab was part of the Vanderbilt University Sloan Center for Internet Retailing and funded by a grant from the Alfred P. Sloan Foundation (at the time of publishing, eLab was funded entirely by Vanderbilt University). eLab maintains a panel of over 50,000 internet users who have volunteered to participate in behavioral research projects. All panelists are at least 18 years of age. For this experiment, potential participants were randomly selected from the eLab panel and emailed an invitation to participate in an experiment about "consumer behavior in online retailing." Three hundred five participants completed the experiment, 52 percent of which were female. Data for part one of this experiment comes from those 305 participants. Two hundred twenty-five exhibited trusting behavior in the first round of the game therefore qualifying themselves for a second game, part two of the experiment. Fifty percent of these 225 participants were female.

Measures

The dependent variable for Hypotheses 1, 2, 3, 5a, 5b, 6, 7, 8a, 8b, 9a, and 9b is the participant's (player one's) trusting behavior, or trust, in the trustee (player two). Trusting behavior, or the decision to trust, is a dichotomous variable; participants that choose to invest in player two are said to have engaged in trusting behavior, while participants who choose not to invest are said to have not engaged in trusting behavior. While this operationalization of trusting behavior has been used before (Berg et al., 1995;

Malhotra, 2004) and uncontroversial, the possibility must be entertained that when participants play the game that they choose arbitrarily, or that their choice may not related to trust. Mayer et al. (1995) argue that cooperative behavior that looks like trust may in fact be motivated something other than trust. Mayer and colleagues give three reasons why someone might act cooperatively without trusting: (1) external mechanisms exist which assure that the trusted party will not take advantage or act deceitfully; (2) if the issue does not leave the trusting party vulnerable—in other words, the matter is not important to the trustor; and (3) "if it's clear that the trustee's motives will lead him or her to behave in a way that coincides with the trustor's desires" (p. 713). In this present use of the trust game, none of these three reasons should apply. However, to safeguard against the possibility of participants choosing the game's cooperative option motivated by something other than trust participants are asked to complete a short questionnaire measuring trust. Participants completed the measure immediately prior to submitting their investment decision. Trust was measured through a modified version of the Organizational Trust Inventory (OTI). The OTI-short form was developed by Cummings and Bromiley (1996) and a modified version for negotiation was used by Naquin and Paulson (2003). Here I used a further modified version, removing items which did not make sense in this experimental context, or by removing merely terms such as "negotiation" or "joint gains" from items where necessary (scale items are listed in Appendix B). If player one's decision to invest in player two was motivated by trust, we would expect a significant correlation between player one's investment decision and trust as measured by the OTI.

Hypotheses 4a predicts that good hearsay reputations will be processed in such a way as to instigate a positive affective state, and Hypothesis 4b predicts that bad hearsay reputations will instigate a negative affective state. Hypothesis 5a and 5b predict that positive and negative affective states mediate the relationship between hearsay reputation and trusting behavior. Similarly, Hypotheses 8a and 8b predict that experiential reputation will predict emotional state (and override any lingering hearsay reputational effect)—trustee reciprocity leading to positive trustor feelings and trustee exploitation leading to negative trustor feelings. Hypotheses 9a and 9b predict that emotional state will mediate the relationship between experiential reputation and participant trusting behavior. Because of the mediated relationships proposed in Hypotheses 5a, 5b, 9a, and 9b, it is important that affect be assessed in such a way as to capture the emotional state of the participant between processing the reputational data of player two in the experiment and before the decision whether to invest in player two has been made. Therefore, a brief questionnaire, utilizing the Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988), was administered with the OTI immediately prior to player one submitting his or her investment decision. The PANAS requires that participants read twenty "emotion words" (i.e. "excited," "alert," "distressed," "hostile") and indicate the extent to which the word describes their "feelings and emotions" *while deciding* to invest or not invest in player two on a five-point scale (where 1 = "very slightly" and 5 = "extremely"). The PANAS measures both positive and negative affect as two separate, orthogonal scales.

Results

Preliminary Analysis

Manipulation checks for hearsay reputation and contextual risk were preformed as part of the OTI/PANAS questionnaire after player one made his or her initial decision to invest. The hearsay reputation manipulation was checked through the question, "Given what you know about [player two], how would you evaluate his or her reputation for reciprocity." Participants were asked to respond on a seven-point Likert-type scale anchored between "very bad" and "very good." Participants in the good hearsay reputation condition responded with a mean of 5.60 ($\sigma = 1.364$) compared to a mean of 3.75 ($\sigma = 1.940$) for those in the bad hearsay reputation condition. An independent-samples t-test confirms the means significantly different ($t = -9.634$, $p < .001$). Perceptions of risk were checked by asking, "If you choose to invest your lab dollars to Player Two, how much are you risking relative to what you stand to gain?" Participants responded on a seven-point Likert-type scale anchored between "risking very little" and "risking a great deal." The mean response of those in the high-risk condition was 4.77 ($\sigma = 1.636$) while the mean response of those in the low-risk condition was 4.34 ($\sigma = 1.863$). An independent samples t-test confirms the means significantly for this manipulation also ($t = -2.138$, $p < .05$).

A factor analysis of the twenty-item PANAS scale administered at T_1, just prior to participants' investment decision in Round 1, revealed two definite and distinct factors (Eigenvalues of 5.84 and 5.018; goodness-of-fit $\chi^2 = 951.31$, $p < .001$). A scale developed from the ten items loading on the first factor (interested, excited, strong, enthusiastic, alert, inspired, determined, attentive, active, and proud), which are

consistent with definitions of positive affect, returned a Cronbach's α of 0.905. Similarly, a scale developed from ten items loading on the second factor (afraid, guilty, hostile, irritable, ashamed, nervous, distressed, upset, scared, jittery), which are consistent with definitions of negative affect, returned a Cronbach's α of 0.892. The PANAS was again administered at T_2, just prior to participants' investment decision in Round 2. A confirmatory factor analysis of the PANAS administered at T_2 again revealed two definite and distinct factors (Eigenvalues of 7.385 and 6.196; goodness-of-fit χ^2 = 878.126, $p < .001$). For the positive affect scale, Cronbach's $\alpha = 0.946$; for the negative affect scale, Cronbach's $\alpha = 0.942$.

Trust was measured as behavior by the participant's decision to invest in the (computer simulated) Player 2 trustee as well as by a survey instrument administered to participants just prior to making that decision. Because there are two rounds to the trust game used in this study, there are two trust decisions made by participants (at T_1 and T_2) and two corresponding administrations of the OTI. Means for participants' trust decision by conditional cell are reported in Tables 5.1 and 5.2. A factor analysis (maximum likelihood extraction) conducted on the nine-item trust instruments used at T_1 and T_2 showed that all items loaded heavily on one factor with both administrations; the lowest weighted item at T_1 loading at 0.352 and the lowest weighted item at T_2 loading at 0.453. The chi-square goodness-of-fit statistic for the factor analyses on the OTI at both T_1 and T_2 was significant at $p < .001$. Reliability analyses of the nine-item scale produced a Cronbach's α of 0.892 at T_1 and 0.927 at T_2.

Table 5.1. Means of Participants' Decision to Trust by Conditional Cell at T_1, Experiment 1

		Hearsay Reputation	
		bad	good
Contextual Risk	high	47.4% n = 76	90.9% n = 77
	low	63.2% n = 76	93.4% n = 76

Table 5.2. Means of Participants' Decision to Trust by Conditional Cell at T_2, Experiment 1

		Hearsay Reputation			
		bad		good	
		Experiential Reputation		Experiential Reputation	
		bad	good	bad	good
Contextual Risk	high	45.0% n = 20	93.8% n = 16	58.3% n = 36	94.1% n = 34
	low	45.0% n = 20	96.4% n = 28	83.3% n = 36	100.0% n = 35

The two measures of trust, participants' investment decision and trust as measured by the OTI, are significantly correlated at T_1 ($r = 0.45$, $p < .001$) and at T_2 ($r = 0.42$, $p < .001$). These results confirm that the trust decision in an investment-type game (such as described here) is a behavior motivated by trust, or that the decision to invest indicates

trust. For means, standard deviations, and correlations between variables used in this experiment, see Tables 5.3 and 5.4.

Primary Analysis

Part One (H1 – H5b). Hypotheses 1 and 2 state, respectively, that the hearsay reputation of the trustee and the contextual risk of the trusting situation will independently influence trustor trusting behavior. An independent samples t-test comparing participants in the good reputation versus bad reputation conditions revealed that trusting behavior was significantly higher in the good reputation condition ($\mu = 0.92$, $\sigma = 0.270$) than in the bad reputation condition ($\mu = 0.55$, $\sigma = 0.499$; $t = -8.026$, $p < .001$), providing support for Hypothesis 1. A similar comparison of those in the high risk versus low risk conditions showed that trusting behavior was significantly lower in the high risk condition ($\mu = 0.69$, $\sigma = .463$) than in the low risk condition ($\mu = 0.78$, $\sigma = 0.414$; $t = 1.792$, $p < .05$), supporting Hypothesis 2. An ANCOVA model including variables for both hearsay reputation and contextual risk, while controlling for participant gender, confirms these results (see Table 5.5, Model 1). The model proved significant ($F[304] = 23.184$, $p < .001$; adj. $R^2 = 0.18$) as did the coefficients for both hearsay reputation ($F = 64.500$, $p < .001$) and contextual risk ($F = 4.061$, $p < .05$). These results provide strong support for both Hypothesis 1 and Hypothesis 2.

Table 5.3. Descriptive Statistics and Correlations between Variables Associated with the First Game (Hypotheses 1-5b)[1]

Variable	Mean	S.D.	2	3	4	5	6	7
1 *trustor investment decision at T1*	0.74	0.441	0.451 **	-0.102	0.419 **	0.189 **	-0.332 **	0.053
2 *OTI at T1*	4.54	1.228	-	-0.088	0.445 **	0.344 **	-0.481 **	0.126 *
3 *contextual risk*	0.50	0.501		-	0.003	0.025	0.127 *	0.030
4 *trustee hearsay reputation*	0.50	0.501			-	0.168 **	-0.177 **	0.056
5 *trustor positive affect at T1*	3.12	0.863				-	-0.069	-0.035
6 *trustor negative affect at T1*	1.62	0.672					-	-0.049
7 *trustor gender* (1 = female)	0.48	0.500						-

[1] N = 305
** p < 0.01; * p < 0.05.

Table 5.4. Descriptive Statistics and Correlations between Variables Associated with the Second Game (Hypotheses 6-9b)[1]

Variable	Mean	S.D.	2	3	4	5	6	7	8
1 *trustor investment decision at T2*	0.79	0.407	0.418 **	-0.150 *	0.146 *	0.429 **	0.104	-0.260 **	-0.035
2 *OTI at T2*	4.78	1.534	-	-0.086	0.139 *	0.646 **	0.369 **	-0.442 **	0.089
3 *contextual risk*	0.47	0.500		-	0.066	-0.058	-0.020	0.129	0.004
4 *trustee hearsay reputation*	0.63	0.485			-	-0.033	0.047	-0.026	0.033
5 *trustee experiential*	0.50	0.501				-	0.275 **	-0.194 **	0.049
6 *trustor positive affect at T2*	3.26	1.055					-	0.083	-0.041
7 *trustor negative affect at T2*	1.57	0.822						-	-0.071
8 *trustor gender* (1 = female)	0.50	0.501							-

[1] N = 225
** p < 0.01; * p < 0.05.

Hypothesis 3 predicts an interactive effect between hearsay reputation and contextual risk on trusting behavior. Though the model was significant ($F[304] = 17.988$, $p < .001$; adj. $R^2 = 0.18$) an ANCOVA reveals no statistical significance for the coefficient of the interaction term ($F = 2.137$, $p = .07$); see Table 5.5, Model 2). However, Hypothesis 3 specifically predicts that contextual risk will only matter when the trustee has a bad hearsay reputation (risk will have no effect on trusting behavior when the trustee has a good hearsay reputation). A plot of the interaction modeled above suggests this to be the case (see Figure 5.4). A t-test comparing participants in the high risk ($\mu = 0.91$, $\sigma = 0.289$) and low risk ($\mu = 0.93$, $\sigma = 0.250$) conditions, but only among those in the good trustee hearsay reputation condition, revealed no significant difference in levels of trust ($t = .575$, ns). However, the same test comparing participants in the high risk ($\mu = 0.47$, $\sigma = 0.503$) and low risk ($\mu = 0.63$, $\sigma = 0.486$) conditions among those in the bad trustee hearsay reputation condition proved significant ($t = 1.970$, $p < .05$). This test more succinctly matched the specific prediction of the interaction between hearsay reputation and contextual risk and the results support Hypothesis 3.

Table 5.5. Analysis of Variance of Participant Trusting Behavior on Trustee Good Hearsay Reputation and Contextual Risk, Controlling for Participant Gender at T_1, Experiment 1

Model	*1*	*2*
F	23.184***	17.988***
df	304	304
adj. R^2	0.18	0.18
	F	F
Intercept	93.950***	93.996***
Participant Gender	0.397	0.418
Good Hearsay Reputation	64.500***	64.653*
Low Contextual Risk	4.061*	4.097
Good Hearsay Reputation X Low Contextual Risk		2.137

*** p < .001; ** p < .01; * p < .05

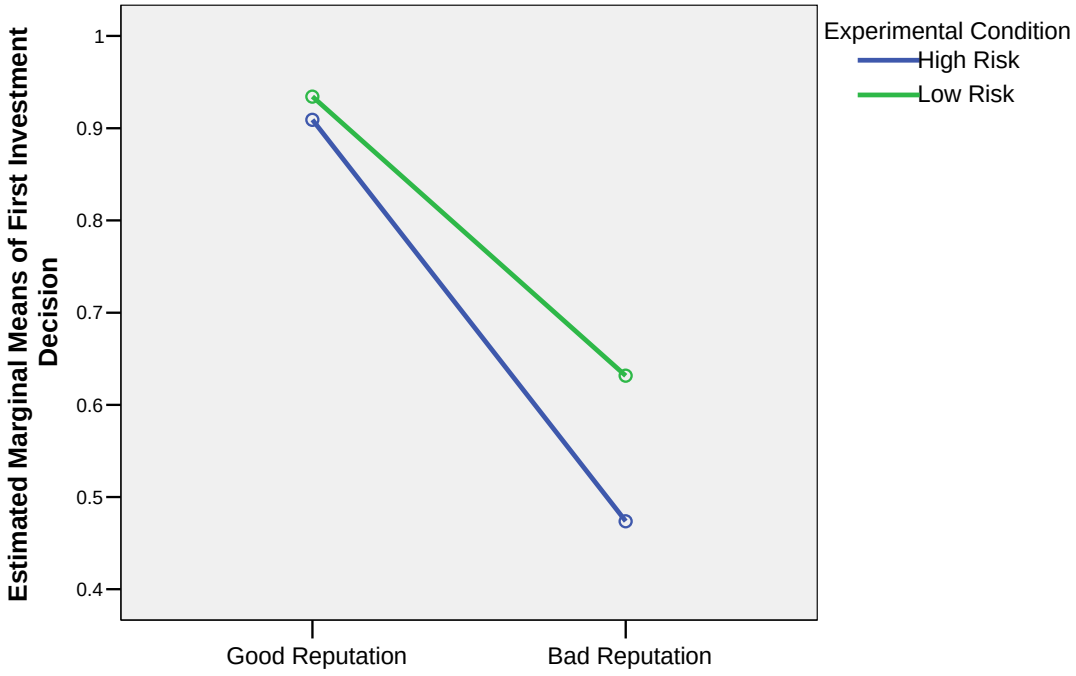


Figure 5.4. Interaction of Contextual Risk and Trustee Hearsay Reputation Plotted on Participant Trusting Behavior at T_1, Experiment 1

Table 5.6. Participant Positive and Negative Affect Regressed on Trustee Good Hearsay Reputation, with Controls, at T_1, Experiment 1

Model	*1*	*2*
DV	*Positive Affect*	*Negative Affect*
F	3.207*	4.078**
df	304	183
adj. R^2	0.02	0.06
	β	β
Participant Gender	-0.045	-0.182
Good Hearsay Reputation	0.171**	-0.168**
Low Contextual Risk	0.025	0.133*

** p < .01; * p < .05
Note: Positive affect α = 0.905; negative affect α = 0.892.

Table 5.7. Analysis of Variance of Good Trustee Experiential Reputation on Participant Trusting Behavior, Controlling for Participant Gender, Good Trustee Hearsay Reputation, and Contextual Risk at T_2, Experiment 1

Model	*1*	*2*
F	3.755*	16.59***
df	224	224
adj. R^2	0.04	0.22
	F	F
Intercept	94.180***	122.950***
Participant Gender	0.365	1.069
Good Hearsay Reputation	5.748*	8.339**
Low Contextual Risk	5.951*	5.293*
Good Experiential Reputation		52.474***

*** p < .001; ** p < .01; * p < .05

Hypotheses 4a and 4b state that trustee hearsay reputation will influence trustor emotional state, specifically stating that good reputations will invoke positive feelings (H4a) while bad reputations will invoke negative feelings (H4b). Both Hypotheses 4a

and 4b were tested with ordinary least squares regression, controlling for both participant gender as well as contextual risk. Both hypotheses were supported (see Table 5.6). With positive affect modeled as DV, the overall model was significant ($F[304] = 3.207$, $p < .05$; adj. $R^2 = 0.021$) as was the coefficient of trustee hearsay reputation ($\beta = 0.171$, $p < .01$; see Table 5.6, Model 1). With negative affect modeled as DV, the overall model was also significant ($F[304] = 5.221$, $p < .01$; adj. $R^2 = 0.063$), as was the coefficient of trustee hearsay reputation ($\beta = -0.175$, $p < .01$; see Table 5.6, Model 2).

Hypothesis 5a and 5b state that the relationship between trustee hearsay reputation and participant (trustor) trusting behavior is mediated by participant's emotional state, specifically, that good trustee reputations will invoke positive feelings on the part of the trustor leading to increased trusting behavior (H5a) and that bad trustee reputations will invoke negative feelings on the part of the trustor leading to decreased trusting behavior (H5b). Following the recommendation of James and Brett (1984) and James, Mulaik and Brett (2006), the mediated relationships were tested through a confirmatory analytic technique, in this case, using SPSS Amos 7.0. James and Brett specifically argued that when mediation models are conceptualized as causal models, analytic techniques should be applied that are specifically designed to test causal models, such as structural equation modeling (SEM). Indeed, the experiment was specifically designed as a causal model. Participants are first presented with the trustee's hearsay reputation and explained its significance, then asked to complete the PANAS measure, and finally they record their decision to invest in the trustee. The sequential measurement of variables used in the analysis fits well the methodological requirements for testing mediation through SEM.

The specific hypotheses tested here were that trustor positive affect (H5a) and negative affect (H5b) would *partially* mediate the relationship between hearsay reputation and trust. The distinction between complete mediation and partial mediation is important. In a simple three variable model, where Y represents the dependent variable, X is the antecedent, and M is the mediating variable, complete mediation is represented as X → M → Y. To determine complete mediation, the analytic technique, whether by way of the Baron and Kenny (1986) technique or by SEM, must demonstrate that (1) X has a significant effect on Y and (2) X separately has an effect on M, that (3) M has a significant effect on Y, but that (4) when both X and M are included in a model predicting Y, that X does not have a significant effect on Y. Partial mediation differs from complete mediation in that this last condition is not required. In other words, M is said to partially mediate the relationship between X and Y when (1) X has a significant effect on Y and (2) X separately has an effect on M, (3) M has a significant effect on Y, and (4) when both X and M are included in a model predicting Y, both X and M significantly affect Y. To test partial mediation with SEM, partial mediation must be predicted a priori, the model must be shown to fit the model (through various goodness-of-fit statistics), and the coefficients for the paths X → M and M → Y must be statistically significant (James, Mulaik, & Brett, 2006).

Figure 5.5 shows the path model used to test the mediation models predicted in Hypotheses 5a and 5b. While only the mediation paths from hearsay reputation to trusting behavior through trustor positive and negative affect are hypothesized, additional paths are included in the model as controls.

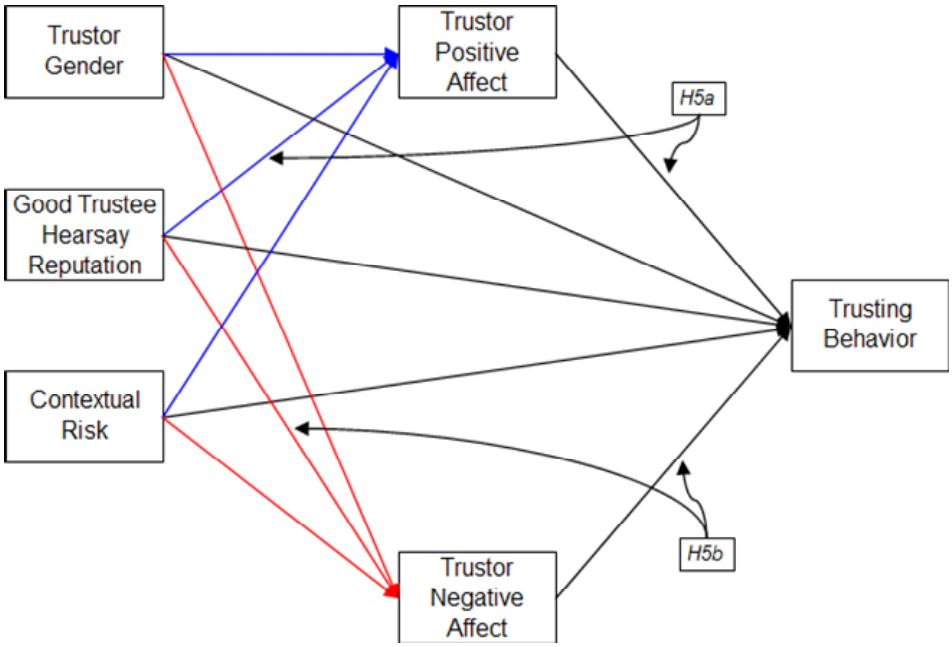


Figure 5.5. A Path Model Representing the Mediation Model Described in Hypotheses 5a and 5b, at T_1, Experiment 1

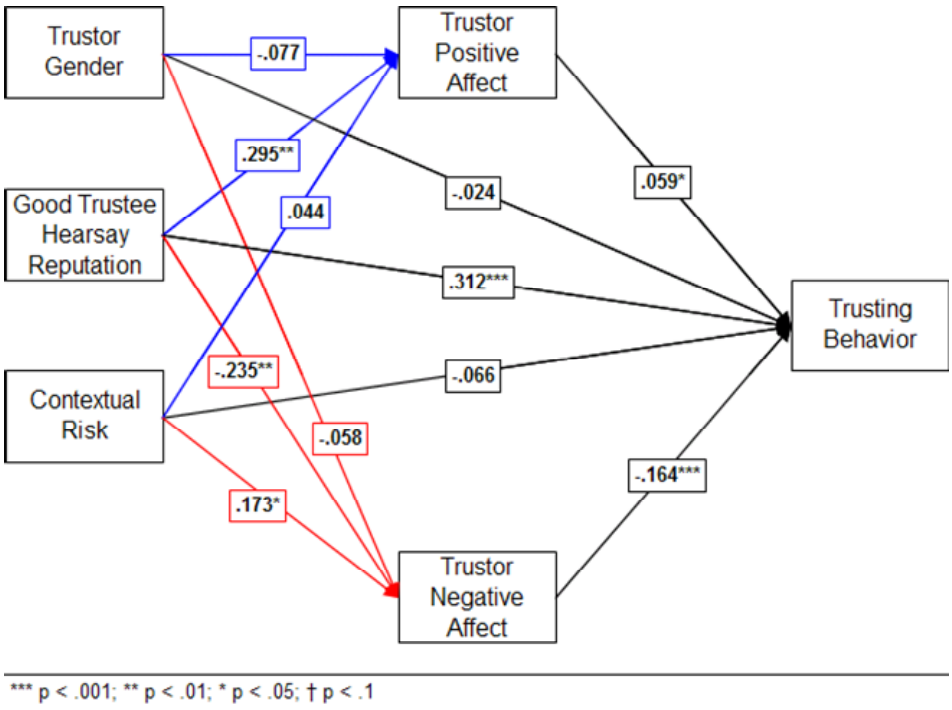


Figure 5.6. The Path Model Used to Test Hypotheses 5a and 5b, with Standardized Coefficients, at T_1, Experiment 1

In structural equation modeling, the model must be shown to fit the data before individual path coefficients can be meaningfully interpreted. The goodness-of-fit statistics used to test the fit of the data to the model are generally accepted in the literature as adequate indicators of model fit. First, a χ^2 statistic, where significant, indicates that the model statically differs from the data. Next, three model fit statistics, the comparative fit index (CFI), the normed fit index (NFI), and the root-mean-square error of approximation (RMSEA) were examined, each with it's unique strength in determining fit. Models returning CFI and NFI statistics above 0.9 are considered acceptable, whereas the RMSEA statistic should be below 0.05.

The data fit the hypothesized model well ($\chi^2[4, N = 305] = 1.859$, *ns.*). All goodness-of-fit statistics were within accepted standards (CFI = 0.998; NFI = 0.929; RMSEA = 0.011). The data also supports the predicted indirect mediation effects. While the direct path from trustee hearsay reputation to trust remains significant ($\beta = 0.312$, $p < .001$), paths from trustee hearsay reputation to trust through both trustor positive affect and trustor negative affect were also significant (see Figure 5.6 for standardized beta weights for all paths). First, the path from hearsay reputation to positive affect is significant and in the expected direction ($\beta = 0.295$, $p < .01$) as is the subsequent path from positive affect to trust ($\beta = 0.059$, $p < .05$). Second, the path from hearsay reputation to negative affect is significant and in the expected direction ($\beta = -.235$, $p < .001$) as is the path from negative affect to trust ($\beta = -0.164$, $p < .001$). These results fulfill the requirements described by James, Mulaik, and Brett (2006) and support the hypotheses (H5a & H5b) that trustor positive and negative affect indirectly mediate the relationship between trustee hearsay reputation and a trustor's decision to trust.

Part Two (H6 – H9b). Those who chose to trust in Round 1 of the trust game, 225 of the original 305 participants, played a second round. Trustee reciprocity (remember that all participants played the role of trustor; trustees were simulated by computer) was manipulated so that half of the participants had their trust reciprocated, while the other half were exploited. This manipulation served as the basis for experiential reputation in this experiment.

Hypothesis 6 states that participants will trust more in a party with a "good" experiential reputation and less in a party with a "bad" experiential reputation. Comparing means in the good experiential reputation ($\mu = 0.96$, $\sigma = 0.186$) and bad experiential reputation ($\mu = 0.62$, $\sigma = 0.489$) conditions revealed a significant difference in trust ($t = -7.086$, $p < .001$). Modeling trusting behavior in Round 2 as dependent variable in an ANCOVA, including good experiential reputation, good hearsay reputation, and contextual risk as predictors and participant gender as a control, substantiated these results. The model was significant ($F[224] = 16.59$, $p < .001$; adj. $R^2 = 0.22$) as well as the independent effect of good experiential reputation on trusting behavior ($F = 52.474$, $p < .001$; see Table 5.7).

Note also the relative effects of hearsay versus experiential reputation in Table 5.7. When experiential reputation is excluded the model is significant ($F = 3.755$, $p < .05$), but has little explanatory power (adj. $R^2 = 0.04$). However, when experiential reputation is included, the model is meaningfully better at explaining the variance in trust (adj. $R^2 = 0.22$). Repeating the analysis with logistic regression reveals the relative strength of the effect of experiential reputation relative to hearsay reputation on trust. The overall model was significant ($\chi^2[df = 4] = 59.624$, $p < .001$; Nagelkerke $R^2 = 0.36$),

as were the beta weights of both hearsay reputation ($\beta = 1.076$, $p < .01$) and experiential reputation (2.975, $p < .001$; see Table 5.8). Of special interest, however, is that the estimated odds ratio of experiential reputation ($e^{\beta} = 19.589$) is more than six times that of hearsay reputation ($e^{\beta} = 2.933$), meaning that in this model a change in trustee experiential reputation is more than six times more likely to predict the dependent variable, trust, than is trustee hearsay reputation. While these results confirm the (unexpected) result that the effect of hearsay reputation remains significant when experiential reputation is included in the model, they nonetheless provide strong support for Hypothesis 7. While the effect of hearsay reputation cannot be denied, the relative effect of the two predictors must be considered. The models including experiential reputation have much more explanatory power over the dependent variable.

Hypotheses 8a and 8b predict that the trustee's experiential reputation influences the buyer's expression of positive (H8a) and negative affect (H8b). Using simple ordinary least squares, experiential reputation was regressed on participant expression of positive affect and negative affect, controlling for participant gender, hearsay reputation, and contextual risk. Model 1 was significant ($F[224] = 4.927$, $p < .01$; adj. $R^2 = 0.07$), as was the coefficient for trustee experiential reputation on participant positive affect ($\beta = 0.539$, $p < .001$; see Table 5.9, Model 1). Likewise, Model 2 demonstrated the significant effect of trustee experiential reputation on participant negative affect. Both the model ($F[224] = 3.312$, $p < .05$; adj. $R^2 = 0.04$) and the coefficient for experiential reputation ($\beta = -0.304$, $p < .01$) were significant (see Table 5.9, Model 2). These results provide strong support for both Hypotheses 8a and 8b.

Hypotheses 9a and 9b again predict a mediated relationship between the reputation predictor variable and trusting behavior. In this case, the hypotheses deal with the relationship of trustee experiential reputation to trusting behavior. The prediction is that the relationship is partially mediated by the participant's experience of (H9a) positive and (H9b) negative affect. Again following the recommendation of James and Brett (1984) and James, Mulaik, and Brett (2006) for mediated causal models, the hypotheses were tested using SEM. A path model representing the tested structural equation is shown in Figure 5.7. Only the relationships experiential reputation → positive affect → trust and experiential reputation → negative affect → trusting behavior are of interest here, however other endogenous variables—trustee hearsay reputation, contextual risk, participant gender—are included as controls.

Table 5.8. Good Hearsay and Good Experiential Reputation Regressed Logistically on Trusting Behavior at T_2, Contextual Risk and Participant Gender Included as Controls, Experiment 1

Model	*1*	*2*
Chi-square	11.012*	59.624***
df	3	4
Nagelkerke R^2	0.07	0.36
	Exp(B)	Exp(B)
Constant	5.062**	2.135
Participant Gender	0.808	0.700
Good Hearsay Reputation	2.243*	2.933**
Low Contextual Risk	0.438*	0.444*
Good Experiential Reputation		19.589***

*** p < .001; ** p < .01; * p < .05

Table 5.9. Participant Positive and Negative Affect Regressed on Trustee Good Experiential Reputation, with Controls, at T_2, Experiment 1

Model	*1*	*2*
DV	*Positive Affect*	*Negative Affect*
F	4.927**	3.312*
df	224	224
adj. R^2	0.07	0.04
	β	β
Participant Gender	-0.119	-0.100
Good Hearsay Reputation	0.128	-0.065
Low Contextual Risk	-0.016	0.199†
Good Experiential Reputation	0.589***	-0.304**

*** p < .001; ** p < .01; * p < .05; † p < .1
Note: Positive affect α = 0.946; negative affect α = 0.942

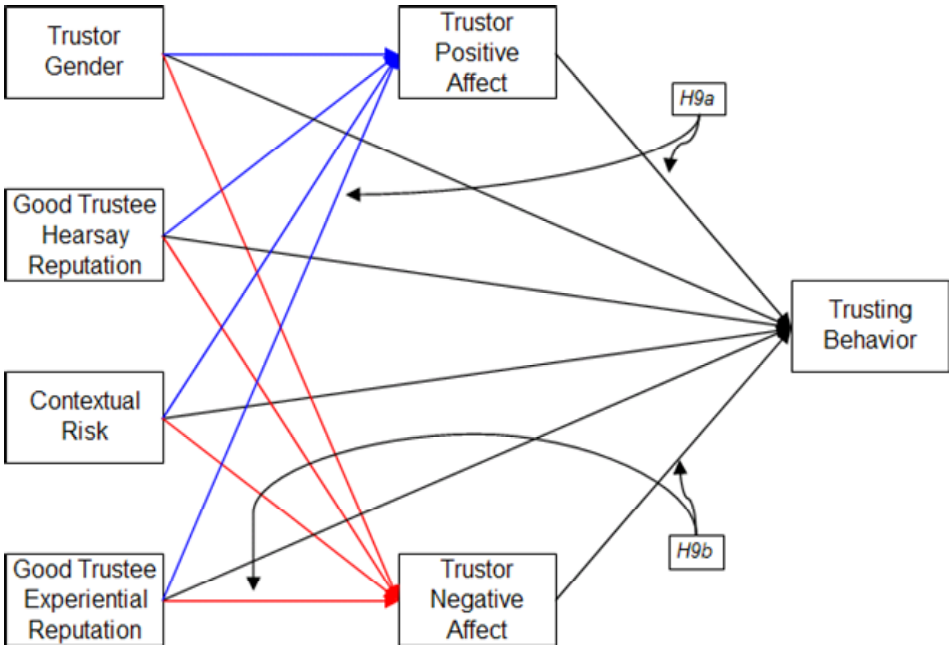


Figure 5.7. A Path Model Representing the Mediation Model Described in Hypotheses 9a and 9b, at T_2, Experiment 1

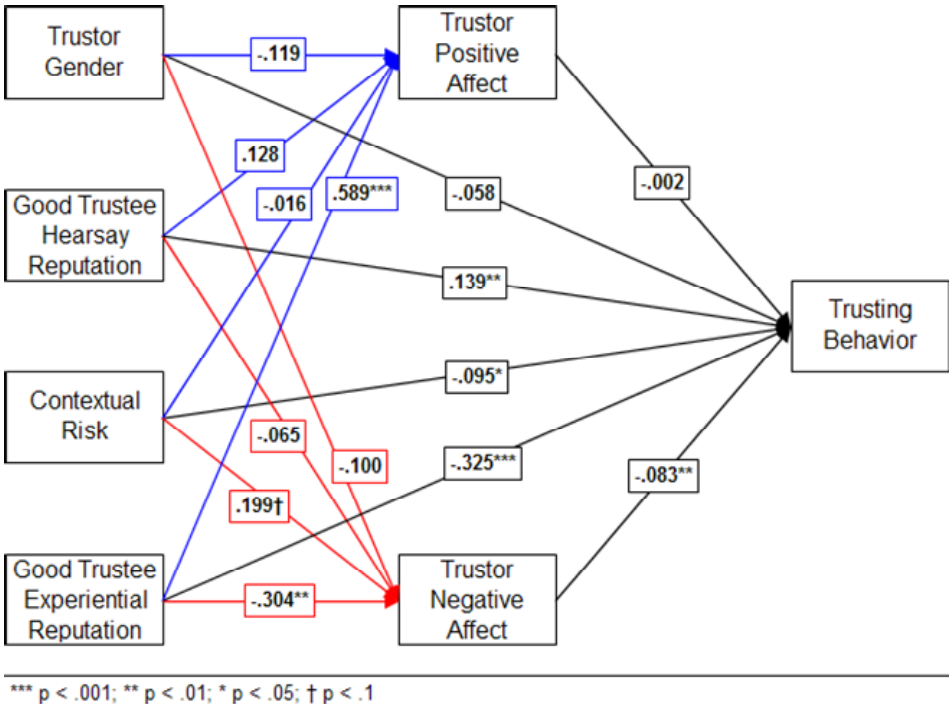


Figure 5.8. The Path Model Used to Test Hypotheses 9a and 9b, with Standardized Coefficients, at T_2, Experiment 1

The χ^2 statistic for the hypothesized model was not significant ($\chi^2[7, N = 225] = 6.040$, *ns.*), indicating that the data fit the model. Additionally, commonly used goodness-of-fit statistics were all within accepted standards (CFI = 1.000; NFI = 0.943; RMSEA = 0.000). These results suggest that it is appropriate to interpret specifically hypothesized path relationships. To demonstrate that the relationship between trustee experiential reputation and participant trust is partially mediated by participant positive affect, the path from experiential reputation to positive affect must be significant as well as the path from positive affect to trust. Because a partial mediation was hypothesized, it is expected that the direct path from experiential reputation to trust will also be significant. The data did not support these predictions. The path from experiential reputation to positive affect was significant ($\beta = 0.589$, $p < .001$), however the path from positive affect to trust was not (-0.002, *ns.*; see Figure 5.8 for the coefficients of all paths). These results provide no support for Hypothesis 9a. Hypothesis 9b, on the other hand, was supported by the data. The path from experiential reputation to negative affect was significant ($\beta = -0.304$, $p < .01$) as was the path from negative affect to trust ($\beta = -0.083$, $p < .01$), both in the expected direction. Also as expected, the direct path from experiential reputation to trust was significant ($\beta = -0.325$, $p < .001$), confirming partial, rather than complete, mediation.

Post-Hoc Analysis

Of special interest in this dissertation is the relationship between two kinds of reputation—hearsay reputation, or social information gleaned through social networks, and experiential reputation, social information gleaned through personal experience.

Hypothesis 7 pits these two constructs against each other, and I predicted that when decision-makers had both types of reputational information available, they would make decisions based on experiential reputation, or that experiential reputation would more strongly influence the decision to trust than would hearsay reputation. While the previous analysis confirms this prediction, the significant effect of hearsay reputation in the complete model remains a point of interest. This result suggests a more nuanced relationship between hearsay and experiential reputation than hypothesized.

Table 5.7, Model 2, reports the results of an ANCOVA, with the participants' trusting behavior at T_2 as dependent variable and participant gender, trustee hearsay reputation, contextual risk, and trustee experiential reputation as predictors. The analysis reveals that, contrary to expectations, both experiential reputation ($F = 58.750$, $p < .001$) and hearsay reputations ($F = 8.745$, $p < .01$) have a significant influence on participant trust. However, it must be acknowledged that experiential reputation has a much larger influence, by F statistic, an influence more than five times greater than hearsay reputation. This observation prompted additional analysis.

Table 5.10. Interaction Effects of Good Hearsay and Good Experiential Reputation on Participant Trusting Behavior at T_2, Experiment 1

Model	*1*	*2*	*Experiential Reputation: Bad*	*Experiential Reputation: Good*
F	16.590***	14.608***	4.89**	2.05
df	225	225	112	113
adj. R^2	0.22	0.23	0.10	0.03
	F	F	F	F
Constant	112.953***	124.825***	35.310***	238.037***
Participant Gender	1.069	1.092	3.375†	4.130*
Good Hearsay Reputation	8.339**	8.745**	8.301**	0.291
Contextual Risk	5.293*	4.724*	2.750	1.381
Good Experiential Reputation	52.474***	58.750***		
Good Hearsay Reputation X Good Experiential Reputation		5.363*		

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

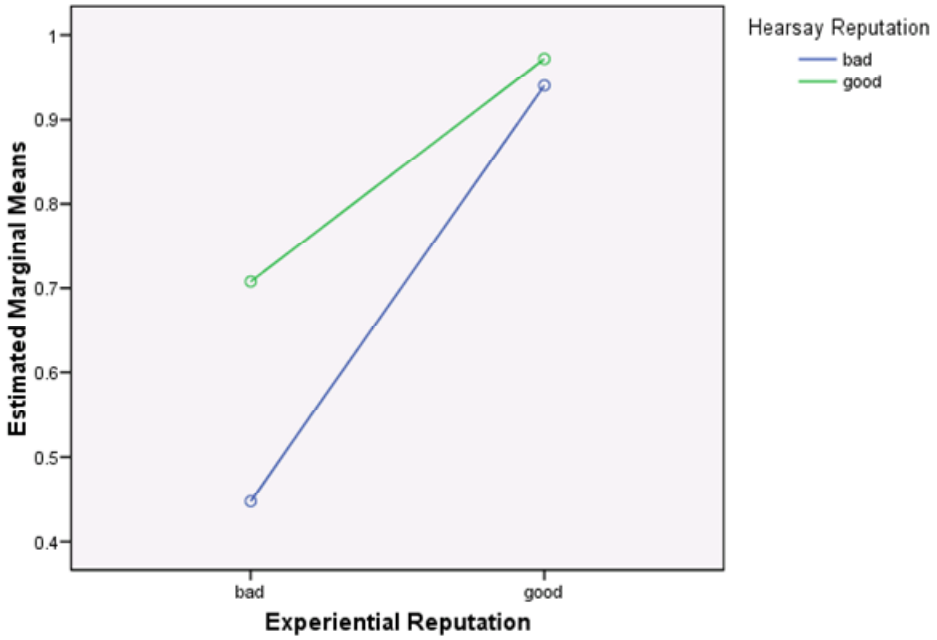


Figure 5.9. Interactive Effect of Hearsay Reputation and Experiential Reputation on the Estimated Marginal Means of Participant Trust at T_2, Experiment 1

Table 5.10 reports the results of four Analyses of Covariance. The first repeats the analysis reported in Table 5.7, Model 2. The second adds the interaction of hearsay and experiential reputation as a predictor. The third examines those participants in the bad experiential reputation condition only and the fourth those participants in the good experiential reputation condition only. Results indicate a significant interaction between hearsay and experiential reputation. In the second model, the F statistics for both the model ($F[225] = 124.83$, $p < .001$; Adj. $R2 = 0.23$) and the interaction term ($F = 5.363$, $p < .05$) were significant. A plot of the two reputation variables on the estimated marginal means of trust suggests that (1) hearsay reputation influences trust decision-making only when prior personal experience with the trustee has been negative, and that (2) when prior personal experience with the trustee has been positive, information regarding the

trustee's behavior with others is not considered (see Figure 5.9). The final two analyses support this conclusion. Examining only those participants in the bad experiential reputation condition, an ANCOVA, with trusting behavior modeled as dependent variable and participant gender, hearsay reputation, and contextual risk included as predictors, revealed a significant coefficient for hearsay reputation ($F = 8.301$, $p < .001$), while a similar analysis using only data from those participants in the good experiential reputation condition revealed a non-significant result ($F = 0.291$, *ns.*; see Table 5.10).

Discussion

Several important conclusions can be drawn from these results. First, these results strongly support the idea that reputation matters. Hearsay reputation alone had an impact on trust, confirming the results of Tinsley et al. (2002) and others. Additionally, and independently, experiential reputation had a strong impact on trust. Disentangling the effects of these two constructs, both theoretically and empirically, is a central purpose of this dissertation. Results from this experiment support the theoretical argument, but these results are also important because previous empirical work has not made this distinction (i.e. Chen et al., 2004; Fehr & Gachter, 2000; Hill, 2002; Kaplin et al., 2000; Ostrom et al., 1992; Yamagishi, 1986), making the results of these studies sometimes ambiguous and difficult to interpret.

A second important conclusion relates to the type of information that reputation consumers perceive reputation to contain. Others (e.g. Ostrom, 2002) have suggested that measures of reputation subsume all elements of transactional risk. I have argued, however, that context matters—that reputation consumers weigh trustee reputation

relative to other risks, such as the quantity of resources they are willing to entrust. Results from this experiment support this conclusion. Participants were more likely to trust when there was less at stake, when they stood to lose less if their trust were exploited. However, an interaction effect provides additional insight. Results suggest that when trustees have a good reputation, trustors are just as likely to risk a large amount as they are a small amount. The same is not true, however, when the trustee has a bad reputation. In this case it appears that trustor might be willing to take a bet with the trustee if stakes are low. Care must be taken in interpreting this result, however. The difference between a big versus a small risk in this experiment, while proportionally great, was probably insignificant relative to the practical economic realities of participants.

Third, the results of this experiment also help to articulate the cognitive processes involved in consuming reputational information. Results suggest a strong causal relationship between both types of reputation and the experience of both positive and negative affect by the reputation consumer. This is true when the trustor has had no previous experience with the trustee, but it is also true when the trustor has had personal experience with the trustee, and in this later case it is experiential reputation that triggers trustor emotional state and hearsay reputation has little if any effect. Results also showed that the emotional state of trustors had a strong predictive effect on trustors' propensity to engage in trusting behavior, a result which substantiates and clarifies the findings of Dunn and Schwitzer (2005), who also reported a predictive relationship between emotional state and trust. However, the current study builds on their findings by manipulating emotional state in a context relevant to the trust decision, whereas the mood

manipulation Dunn and Schwitzer used was completely divorced from the trusting scenario later used to measure trust. Thus, we see a causal pattern develop—good reputation, be it hearsay or experiential, leads to positive emotion which leads to trusting behavior; bad reputation leads to negative emotion which leads to punishing behavior.

If we were to understand reputation consumption through a simple economic lens of individual self-interest, we would still predict that a trustee's reputation would predict trustor trusting behavior, but we would reason that trustors are merely making a calculated decision as to the odds of their trust being reciprocated, and there would be no reason to suspect emotion had a role in trust decision-making. Introducing emotion into the model, and verifying both that reputation induces an emotional reaction and that the emotional reaction predicts trusting behavior, lends credibility to the alternative hypothesis argued here, that the link between reputation and emotion is driven not by economic self-interest, but by actors' perceptions of fairness—that bad reputations, signaling past non-cooperative behavior, induce feelings of anger, resentment, or some other constellation of negative feelings, feelings which lead to a desire to punish the non-cooperative actor; and that good reputations, which signal past cooperative behavior, induce feelings of contentment, satisfaction, or other positive feelings which motivate a desire to reward the cooperative actor.

The final conclusion is really a set of conclusions regarding the interplay between hearsay and experiential reputation in trust decision-making. Results provided support for both Hypotheses 6 and 7, that is, experiential reputation had a strong influence on trust, and when trustors had access to both types of reputation, experiential reputation had a much more meaningful impact on trust than did hearsay reputation. However, the

inclusion of experiential reputation did not entirely absorb the effects of hearsay reputation. When trustors had a negative personal experience with the trustee they appear to rely on information from other sources, being much more likely to trust when others have had a positive experience than when they have not. These results suggest a reworking of Granovetter's (1985) hierarchy of social information. While these results convincingly suggest that reputation consumers prefer, and rely upon, information from personal experience over that from others' experiences, this effect appears to be more pronounced when personal experience has been positive. When personal experience is negative it may be that trustors second-guess their prior experience, dismissing it as a fluke or an isolated experience when considered next to the several experiences of others. Trustors may also be expressing insecurity in their ability to accurately process reputational information. Alternatively, it may be that the nature of the game modeled in this experiment lends itself to trustor risk-taking, that it is the inclination of participants to trust unless overpowering evidence to the contrary is available.

CHAPTER VI

TRUST IN INTERNET TRANSACTIONS

The slanderer and the assassin differ only in the weapon they use; with the one it is the dagger, with the other the tongue. The former is worse than the latter, for the last only kills the body, while the other murders the reputation.

--Tyron Edwards

To strengthen my claim that reputational processing affects trust decision-making, I will further explore Hypotheses 1-9b in two experiments designed to simulate real world contexts where reputation matters—traditional online retailing and online auctioning. However, these online contexts also afford the opportunity to pursue additional questions related to how reputational information is processed and used in making trust decisions. In this chapter, I examine the unique role of reputation in inspiring consumer confidence and trust in the online retail marketplace. Likening consumers in an online retail market to lenders who are unable to distinguish between safe and risky borrowers, I present three propositions and one testable hypothesis (Hypothesis 10) regarding how consumers make trust decisions in the absence of reputational cues as well as how reputational information is employed to make trust decisions when it is available. Hypothesis 10 is tested in the experiments presented in Chapters 7 and 8.

The Role of Trust for Market-Newcomers

Common wisdom in online shopping suggests that to minimize the risk of being defrauded consumers should only choose well-known retail or service outlets. Consumers wary of being cheated by unknown fraudsters are hesitant to reveal credit card information or to otherwise trust new and/or unknown internet businesses to fulfill their commitments. Their caution, however, may be unfounded.

In a paper on borrower reputation in debt markets, Diamond (1989) outlines three types of borrowers: (1) *safe borrowers*, who always choose safe projects, (2) *risky borrowers*, who always choose risky, but potentially high-returning projects, and (3) *strategic borrowers* who select a project based on its expected long-term payoff. However, lenders are unable to distinguish between borrowers with whom they have no experience (or what serves as a proxy for experience in lending markets—credit history with other lenders). Therefore, lenders always lend to unknown borrowers at the same high rate, the rate they would lend to risky borrowers. Strategic borrowers, recognizing that lenders cannot distinguish between borrower types, will only take on risky projects—projects with a profit potential high enough to compensate for the high cost of borrowing. Either through luck or finesse, the strategic borrower may eventually choose a project which succeeds and will subsequently be successful in fulfilling his or her debt obligations with the lender. In so doing, the borrower develops a "reputation" for being a safe borrower. Having thus established this reputation, the strategic borrower nurtures it further by "masquerading" as a safe borrower, securing low interest rates because of her good reputation and choosing only safe projects.

Let us imagine the consumer in an online retail interaction as the lender in Diamond's (1989) analysis. The consumer is analogous to the lender in Diamond's model because the consumer, like the lender, must interpret reputational cues in making trust decisions. When a consumer purchases an item from a well-known, well-reputed retailer, she assumes a low risk of being defrauded and is therefore willing to pay a certain price, akin to the interest rate a lender assigns the safe borrower. However, when a consumer transacts with a firm of marginal reputation, the consumer applies a *risk discount* to the price she is willing to pay, akin to the high interest rate a lender assigns the "risky" borrower. In other words, the consumer is not willing to pay the low risk premium she would to the well-reputed retailer. Instead, the consumer applies a bad reputation risk discount to the value she would otherwise be willing to pay for the product or service he or she is purchasing. The discount is a hedge against the perceived increased probability of being defrauded by a retailer with a marginal reputation. To the consumer, firms with no reputational history, like borrowers with no borrowing history, are indistinguishable from disreputable firms. Thus, consumers apply the same risk discount to unknown firms or firms with minimal reputational markers as they do to firms with marginal reputations.

The model can also be conceptualized in terms of market-clearing prices (see Figure 5.1). In a market of well-known, well-reputed firms—where the quality of goods and services is assured, both by actual product quality and a reasonable return policy—the market clears at a price P_0. However, consumer demand decreases in a market with firms of unknown reputation (because consumers cannot distinguish between unknown and disreputable firms), resulting in a market-clearing price of P_1. It is therefore expected

that consumers will pay less for advertised identical goods when contracted from an unknown firm versus a known, well-reputed firm.

> PROPOSITION 1: Consumers are not willing pay as much for identical goods from unknown firms as they are from known, well-reputed firms.

Furthermore, known firms that have established cooperative reputations with consumers may be less motivated to strictly maintain cooperative norms. A single consumer's sour experience will not likely taint the reputable image of a long-running interest. However, from an unknown firm, worried about its developing reputation, we might expect to observe a sort of *uber*cooperative behavior.

In Diamond's (1989) model of lending behavior, it is clear that the unknown firm, in order to maximize its long-run payoff, will want to emulate or *masquerade* as a reputable firm. In fact, there is reason to believe that the unknown firm has *more* incentive to behave cooperatively than the known, reputable firm. In an analysis of new employee labor markets, Holmstrom (1999) argues that the behavior of new employees, who have little history in a firm, is weighed more heavily and judged more critically than employees with more history when mangers and co-workers evaluate ability or potential (what we might call a *first-impression effect*). In a multi-round game situations (like the continuous interaction of employees with their superiors and peers) where uncertainty exists in the minds of players about a property or characteristic of another, players look to past behavior to predict future behavior (Wilson, 1985). A new employee's behavior will be judged more critically; thus, new employees have an interest in performing at their best during the first days, weeks, or months of their stint with an employer (Holmstrom, 1999). Likewise, it's expected that what little reputational information is available to the consumer regarding an unknown internet retailer will have more salience and be judged

more critically than the reputational information of the well-known retailer. New firms therefore may have a greater interest in delivering quality goods and services than even well-known, well-reputed firms.

Dellarocas (2003) explains that sometimes players in long-term games lock themselves into a particular action. For example, in a prisoner's dilemma game, a player might signal their long-term cooperative intentions by removing their very ability to defect. These kinds of actions are referred to generally as commitment types. A subclass of the commitment type is called the Stackelberg type, after the nineteenth century German economist Heinrich von Stackelberg. Stackelberg types are players in long-term games who would credibly commit to the most profitable long-term action if they could so commit. For example, in an online auction context like eBay, where reputation is developed over time and available to potential future customers or sellers in the form of feedback scores, the *Stakelberg action* would be to cooperate (fulfill commitments), because cooperation maximizes the online auction user's lifetime payoffs. The longer the game, the greater the benefits of the Stakelberg action. In the case of a firm (versus an individual), where its lifetime may long surpass the interests of a single person, the lifetime is potentially (or at least theoretically) infinite.

Players utilize a variety of methods to demonstrate a commitment to a long-term cooperative strategy, including conspicuous advertising expense (Nelson, 1970). The mechanism of interest here, of course, is the development of a cooperative reputation, which can only be achieved through repeated cooperative action, and actions toward the beginning of a firm's life are the most salient. Thus, I expect that new firms in an online marketplace, to the extent to which they have the capacity to fulfill commitments, will

fulfill them with at least the same regularity and standard of quality as, if not greater than will known, well-reputed firms.

> PROPOSITION 2: New or unknown firms will cooperate in long-term games at least as frequently as known, well-reputed firms.

Researchers studying human generosity have theorized that gift-giving and other generous behaviors, while having their obvious short-term costs, pay off in the long-run through direct (e.g. Axelrod & Hamilton, 1981; Axelrod, 1984; Trivers, 1971) and indirect (e.g. Alexander, 1987; Milinski, Semmann & Krambeck, 20002; Nowak & Sigmund, 1998a; Nowak & Sigmund, 1998b) reciprocal generosity. Wedekind and Braithwaite (2002) found that among a group of participants randomly paired to play a series of single-shot (meaning they never played with the same partner twice) prisoner dilemma and reciprocity games, but where tallies of cooperative versus uncooperative behavior were kept and available to all, more generous, cooperative players fared better overall than less generous, competitive players. In other words, players developed reputations characterizing their behavior. Reputations formed in prior games resulted in increased cooperation from players in later games which resulted in higher overall payoffs.

While these observations do not lead to direct propositions regarding whether firms in the online retail marketplace (or any other marketplace) will choose to behave more or less cooperatively, they do allow for predictions of outcomes contingent upon that choice. Reputation is a dynamic property that travels through loosely-coupled networks. Reputational information is not direct experience, but rather the perception of others' experience. Where a new or unknown firm fulfills its contracted commitments with consumers by delivering quality goods and services, it is expected that other

potential consumers will come to know this and, in a sense, reciprocate a firm's good will with patronage. Consumers do this not as indirect reciprocity of generosity, per se, but because it is in their financial best interest, assuming that the firm that has cooperated more in the past is more likely to cooperate in the future.

> PROPOSITION 3: New or unknown firms that demonstrate cooperative behavior from the time of their entrance into the marketplace will generate more profits long-term than firms that do not.

A Caveat

The propositions stated here, taken together, suggest that conventional wisdom regarding the safety of purchasing products from unknown retailers may be ill-founded. New and unknown retailers must discount their products to the market-clearing price of the unknown firm, but also have an interest in delivering quality goods and services to at least the standard established by known, well-reputed firms in the same industry sector. Therefore, consumers may be better off, both in terms of price and risk, doing their online shopping with the unknown retailer.

There is, however, one important caveat. An important component to a firm's "good" reputation is its ability to fulfill contracted commitments (Fombrun & Shanley, 1990; Mayer et al., 1996). A well-known firm has likely already demonstrated that it can deliver on its promises. A new firm, despite its best intentions, is untested in its product delivery capabilities. Thus, we must concede that despite my suggestion that consumers are better off purchasing from unknown retailers versus known, well-reputed firms, there remains risk associated with the new firm's unproven mechanism for delivering goods and services.

A Testable Hypothesis

I argued at the beginning of this chapter that consumers are not willing to pay as much for identical products from firms with no reputations as they will from firms with good reputations. Of course, to have a reputation at all, a firm must be known. A firm new to the marketplace must, by the definition of reputation, be reputation-less, because the community which compiles reputational information has had no access to information about the firm. A firm can only develop a reputation—that is, a hearsay reputation—after having interacted with a community, which compiles its information collectively to produce a reputational schema.

The decision to place trust in, and how much to trust in, a given firm is equivalent to player one's decision to invest in player two as modeled in Study 1's trust game. In a real-world application of the trust game, such as in an online retailing market, a trustor (consumer) who invests more money in a purchase is demonstrating more trust in the trustee (the firm). Therefore, the amount of money the consumer is willing to put at risk with the firm is a measure of the consumer's trust in the firm.

> HYPOTHESIS 10: All else equal, participants will trust more in firms and sellers who are more experienced, and more established in the marketplace than those who are not.

This hypothesis speaks to factors related but peripheral to reputation which have an impact on trusting behavior. By virtue of the operationalization of reputation used throughout this dissertation, reputation is constrained to previous behavior of an identical nature to the behavior the trustor is contemplating. For example, for a consumer considering a purchase with an online retailer, reputation is data concerning the retailer's

prior reciprocation or exploitation of trust in previous, identical interactions either with others (in the case of hearsay reputation construction) or herself (in the case of experiential reputation construction). But just as I previously hypothesized that the contextual risk of the transaction of interest would have an independent effect on trusting behavior, I contend that trustors take into account information from other sources as well when making trust decision; in this case, the relative marketplace tenure of the trustee.

CHAPTER VII

THE VALUE OF REPTUATION IN ONLINE RETAILING

The purpose of the experiment outlined in this chapter is to replicate the findings of Study 1, retesting Hypotheses 1-9b in an experiment modeling a real-world market context, internet retailing. This experiment also tests Hypothesis 10, that, all else equal, consumers are willing to pay more for identical products from firms that have been in the marketplace longer.

The internet retail market is still evolving, but has undeniably emerged as an important part of the world retail economy. The internet allows consumers unprecedented global access to retailers who are, in essence, location-less; where physical location may be all important in traditional retailing, the physical location of an internet retailer is almost irrelevant. The absence of physical location in internet retailing is important because as firms pursue legitimacy through reputation (Fombrun & Shanley, 1990), firms cannot use their building's physical characteristics to create a reputation, "burning money", as it were, to signal cooperative intentions (Akerlof, 1970). Shopping at a physical store can give consumers psychological comfort because they have face-to-face interactions with representatives of the firm while shopping, providing the opportunity for positive personal relationships to form through self-disclosure and rapport building (Jourard, 1959; Moore, Kurtzberg, Thompson, & Morris, 1999). A storefront retailer is also not likely to disappear overnight. If a consumer experiences some difficulty or defect in quality with a good, he or she can return to the store and make

demands of retribution. There are physical ways in which internet retailers can also buy legitimacy, such as in the presentation of a website or in costly advertising. However, these strategies may not foster the same level of confidence or trust consumers exercise in traditional retailers. Developing marketplace legitimacy through a cooperative, trustworthy reputation may be especially important, albeit uniquely challenging, to the internet retailer.

Within the online retail environment, novel means for the development and management of reputational information have emerged. One way in which this is accomplished is through third party "reputation clearinghouses." These often take the form of interactive websites that allow consumers to rate their experience with different online retailers. For example, using a five point scale, Yahoo! Shopping invites consumers to evaluate retailers on five dimensions of quality: price, shipping options, delivery, ease of purchase, and customer service. Consumers also rate retailers as to the overall quality of their shopping experience. Overall ratings are averaged and presented in the aggregate to internet users who query on a particular firm. In this way, quantifiable "reputations" evolve. The reputation clearinghouse, while not providing the raw data from which the reputation is quantified, nonetheless are the caretakers of reputation as they collect, store, and distribute reputational the collective experience of communities of consumers. I call these types of reputation systems *quasi-objective*. They appear objective because they provide the user with a quantitative reputational score of each retailer. However, the objectivity is qualified because these systems rely on consumers' voluntary participation, which introduces a sample bias—consumers may be more likely

to leave feedback when their expectations are either not met (the disgruntled client) or are greatly exceeded.

Generally speaking, the social information that is compiled into an individual reputational schema may be deeply nuanced and extremely complex. However, in an online environment such as explained above, the social information that goes into forming a reputational schema has been vastly reduced—summarized, if you will, within a simple, single continuous scale. To the individual evaluating a reputational rating of this sort, reputation appears on a continuum of good to bad; nice to mean; cooperative to uncooperative; ethical to unethical; reciprocity-oriented to defection-oriented.

The experiment outlined in this chapter models an internet reputation system similar to existing internet reputation systems, such as is used by Yahoo! Shopping or Amazon.com. Participants are presented with a scenario which describes a hypothetical online retailer and an internet reputation system. Participants are told they want to purchase a product which they have the option of purchasing from two sources. The first is an online retailer with whom they have interacted before and had positive results (the low risk condition). The second is from an unknown internet retailer who is offering the same item at a discounted price (the high risk condition). Given the information available from a third-party internet reputation system, participants are asked to choose to purchase the item from the known firm with which they have a relationship or at a significant discount with the unknown firm. The time that the unknown internet retailer has been in business is also manipulated.

Method

Research Design

Study 2 consists of two experiments, Experiments 2 and 3 in this dissertation. Experiment 2 was designed with three manipulations, a 2 x 2 x 2 (Contextual Risk x Firm's Hearsay Reputation x Firm Age) between-subjects design. In Experiment 3, the same three manipulations were included, in exactly the same way, but an additional manipulation was added to examine the effect of the consumer's prior experience with the discount internet retailer, or experiential reputation, on the dependent variable, thus Experiment 3 utilized a 2 x 2 x 2 x 2 (Contextual Risk x Firm's Hearsay Reputation x Firm Age x Firm's Experiential Reputation) between-subjects design. Contextual risk was operationalized by the price of the good advertised by the discount internet retailer. This operationalization captures the risk inherent in a remote purchasing decision. A consumer's placement of an order constituted a trust move, and consumer trust was expected to vary as a function of the size of the trust move the retailer requested. For example, in this experiment a good retailed at a known, trusted retailer for $450. If the price advertised by an online discount retailer was $250 (low risk condition), the participant was given the potential opportunity to save $200 and need only risk $250; if the price advertised by a discount retailer was $400 (high risk condition), the consumer could potentially save $50, but only by risking $400.

Hearsay reputation was operationalized through the introduction of a hypothetical internet reputation system similar to the internet reputation systems used by Yahoo! Shopping and Amazon.com. Such internet reputation systems rely on the voluntary participation of internet shoppers whom, having purchased something from a particular

retailer, take the time to post feedback through the system on their shopping experience with the retailer. Internet reputation systems like this allow, importantly, for both (1) the organic evolution of a retailer's reputation and (2) the real time transmission of reputational information to potential consumers all over the world. Voluntary user feedback systems have been used previously to operationalize reputation (Friedman et al., 2004). In this case, the feedback rating system was modeled on a "five star" system. This means that consumers rate their shopping experience on a five point scale, in effect evaluating their experience as 100 percent satisfactory (5 stars), 75 percent satisfactory (4 stars), 50 percent satisfactory (3 stars), 25 percent satisfactory (2 stars), or not at all satisfactory (1 star). The aggregate feedback left by all users is averaged such that the feedback score presented to potential consumers is on a five point (star) summary scale: retailers are assigned one, two, three, four, or five stars. Retailer hearsay reputation was manipulated in the text of the scenario. Participants were given reputational information from "a website…which allows buyers to rate the quality of their overall shopping experience with specific online retailers." The discount retailer in the experimental scenario was given an aggregate reputation score of either three stars (bad hearsay reputation condition) or five stars (good hearsay reputation condition).

Firm age was operationalized by the quantity of feedback the retailer had received. Where nothing else is known about the retailer, the number of instances of feedback it has received may be the only information a consumer has which indicates the relative time a retailer has been in business.

The consumer's prior experience with the retailing firm, or experiential reputation, was also manipulated, but only in the second variation of the experiment.

Participants were randomly assigned to one of two conditions: good experiential reputation or bad experiential reputation. Participants in the good experiential reputation condition read the following text:

> You remember having previously ordered an item from [the discount retailer]. On that occasion, you had a relatively good experience with the retailer—meaning that your expectations for security, quality, and promptness of delivery were satisfied. Had you been asked, you would have rated your overall shopping experience as excellent.

While participants in the bad experiential reputation condition read this:

> You remember having previously ordered an item from [the discount retailer]. On that occasion, you had a relatively bad experience with the retailer—meaning that your expectations for security, quality, and/or promptness of delivery were NOT satisfied. Had you been asked, you would have rated your overall shopping experience as poor.

Procedure

Participants were invited to participate in a study about "consumer behavior in online retailing." Those who chose to participate were directed to a website, randomly assigned an experimental cell, and presented with one of twenty-four versions (based on experimental cell) of the experimental scenario. After reading through the scenario, participants were asked whether they would choose to order the item from the discount internet retailer, or the established, well-known, "safe-bet" retailer which sells the item at no discount. All participants were then asked to complete a post-experimental questionnaire which included measures for trust, positive and negative affect, demographic information, and manipulation checks. Participants who completed the exercise were entered into a lottery for a $100 prize which they have a 1 in 100 chance of winning.

Participants

As with the first experiment, participants were drawn from the Vanderbilt University eLab research panel. Potential participants were randomly selected from the eLab panel and emailed an invitation to participate in an experiment about "consumer behavior in online retailing." A total of 180 persons completed Experiment 2; 308 completed Experiment 3.

Measures

Trusting Behavior. The dependent variable for Hypotheses 1-3, 5a-6, 8a-9 is the consumer's trusting behavior. As in the previous experiment, trusting behavior was operationalized by the buyer's trust decision—in this case, the decision to buy from the discount internet retailer (operationalized as trusting behavior) or from the alternative, "safe-bet" retailer (operationalized as not trusting behavior). However, trust was again also measured through a modified version of the Organizational Trust Inventory (OTI; Commins & Bromiley, 1996; Naquin & Paulson, 2003; Appendix C contains the items used for this application of the OTI). As with Experiment 1, a strong, significant correlation between the participant's purchase decision and the OTI would suggest that the purchase decision was indeed motivated by trust.

Positive and Negative Affect. Hypothesis 4a and 4b predict that hearsay reputation will influence buyer emotional state such that a good hearsay reputation will lead to increased buyer positive affect (H4a) while a bad hearsay reputation will lead to increased buyer negative affect (H4b). Hypotheses 5a and 5b in turn predict that the participant's emotional state mediates the relationship between the retailer's reputation and participant trusting behavior, such that hearsay reputation triggers an affective state

which then influences buyer trust. Similarly, Hypotheses 8a and 8b predict that participants' emotional state mediates the relationship between experiential reputation and buyer trusting behavior. Because of the mediated relationships proposed, it was important that affect be assessed in such a way as to capture the affective state of the participant between the time the buyer is first exposed to the discount retailer's feedback score and when the buyer is asked to make a decision whether or not to purchase from the discount retailer. To this end, participants were presented an instrument designed to measure affective state just prior to recording their decision whether or not to purchase. As in the previous experiment, the PANAS (Watson, Clark, & Tellegen, 1988) was used to measure both positive and negative affect.

Results

Experiment 2 (H1 – H5b, H10)

Preliminary Analysis. The eight-item modified OTI used to measure trust returned a Cronbach's α of 0.908. The items were averaged into a scale and correlated with the participant's purchase decision at 0.512 ($p < .001$). This result suggests that the participant's decision to purchase from the discount internet retailer in this experiment is motivated by trust, or that it is an action demonstrative of trust towards the retailer. Means for trusting behavior, as the participant's decision to purchase from the discount retailer, are reported by conditional cell in Table 7.1.

An exploratory factor analysis using maximum likelihood extraction (with Varimax rotation) revealed two distinct factors from the 20-item PANAS measure. The items loaded as expected, with those items associated with positive feelings loading with

an Eigen value of 5.543 on the first factor, and those items associated with negative feelings loading with an Eigen value of 5.334 on the second factor. Cronbach's α for the positive and negative affect scales were 0.916 and 0.908 respectively, well above the acceptable cutoff point for scale validity.

Table 7.1. Means of Participants' Trusting Behavior by Conditional Cell, Experiment 2

Firm Age			Hearsay Reputation: bad	Hearsay Reputation: good
young	Contextual Risk	high	47.8% n = 23	52.2% n = 23
		low	78.3% n = 23	87.0% n = 23
established	Contextual Risk	high	56.5% n = 23	78.3% n = 23
		low	82.6% n = 23	73.9% n = 23

Means, standard deviations, and correlations between variables used in the first variation of this study are reported in Table 7.2.

Table 7.2. Descriptive Statistics and Correlations between Variables Used in Experiment 2

Variable	Mean	S.D.	2	3	4	5	6	7	8
1 *purchase decision*	0.70	0.461	0.512 **	-0.236 **	0.071	0.071	0.384 **	-0.277 **	-0.080
2 *OTI*	4.61	1.119	-	-0.133	0.189 *	0.060	0.468 **	-0.478 **	0.114
3 *contextual risk*	1.50	0.501		-	0.000	0.000	-0.214 **	0.106	0.130
4 *firm reputation*	1.50	0.501			-	0.000	0.138	-0.188 *	0.130
5 *firm age*	1.50	0.501				-	0.101	-0.045	0.022
6 *buyer positive affect*	2.81	0.944					-	-0.047	-0.055
7 *buyer negative affect*	1.67	0.733						-	-0.205 **
8 *buyer gender* (1 = female)	0.51	0.501							-

[1] N = 184
** p < 0.01; * p < 0.05.

Primary Analysis. Hypotheses 1, 2, and 10 all posit the relationship of a single variable to the consumer's trust decision. Hypothesis 1 states that firm hearsay reputation will predict consumer trusting behavior. The results of a t-test with a one-tailed test of significance comparing participants in the good versus bad firm hearsay reputation condition did not support this hypothesis ($t = -0.958$, *ns*). Hypothesis 2 states that contextual risk will affect consumer trusting behavior. In this case, the results of a t-test comparing participants in the low versus high contextual risk conditions did support the hypothesis ($t = 3.346$, $p < .001$). Hypothesis 10, that relative firm age would predict consumer trust, was similarly examined by t-test, but was not supported ($t = -0.958$, *ns*). An additional test by ANCOVA confirmed these results. All three experimental manipulations (hearsay reputation, contextual risk, and firm age) were included in the model, as well as participant gender as a control variable. The model proved significant ($F = 3.347$, $p < .05$), as did the F statistic for contextual risk ($F = 9.837$, $p < .01$), however hearsay reputation ($F = 1.180$, *ns*) and firm age ($F = 1.003$, *ns*) did not vary significantly from the dependent variable (see Table 7.3, Model 1).

Hypothesis 3 predicted an interaction effect between reputation and risk on trusting behavior. This was tested by adding an interaction between hearsay reputation and contextual risk to the model reported above and again tested by ANCOVA. The new model was significant ($F = 2.878$, $p < .05$), but the coefficient for the interaction term was not ($F = 1.004$, *ns.*), thus providing no evidence to support a rejection of the null hypothesis (see Table 7.3, Model 2).

Table 7.3. Analysis of Variance of Contextual Risk and Firm Reputation, Controlling for Participant Gender and Firm Age, on Participant Trusting Behavior, Experiment 2

Model	*1*	*2*
F	3.347*	2.878*
df	184	184
	F	F
Intercept	440.320***	-1.456*
Participant Gender	0.720	0.757
Good Firm Hearsay Reputation	1.180	1.186
Low Contextual Risk	9.837**	9.819**
Older Firm	1.003	1.004
Good Firm Hearsay Reputation X Low Contextual Risk		1.004

*** p < .001; ** p < .01; * p < .05

Table 7.4. Buyer Positive and Negative Affect Regressed on Firm Hearsay Reputation, with Controls, Experiment 2

Model	*1*	*2*
DV	*Positive Affect*	*Negative Affect*
F	4.369**	4.078**
df	183	183
adj. R^2	0.07	0.06
	β	β
Participant Gender	-0.033	-0.182*
Good Firm Hearsay Reputation	0.157*	-0.168*
Low Contextual Risk	-0.224**	0.133†
Older Firm	0.111	-0.050

** p < .01; * p < .05; † p < .1
Note: Positive affect α = 0.916; negative affect α = 0.908

Hypotheses 4a and 4b predicted that the seller's hearsay reputation would influence the emotional state of the buyer, both the buyer's positive affect (H4a) and the buyer's negative affect (H4b). OLS regression was used to test both hypotheses (results

are reported in Table 7.4). With positive affect modeled as the dependent variable, and hearsay reputation, contextual risk, firm age, and buyer gender all included as regressors, the model was significant ($F = 3.036$, $p < .05$; Adj. $R^2 = 0.069$) as was the coefficient for firm hearsay reputation ($\beta = 0.157$, $p < .05$). Similarly, with negative affect modeled as the dependent variable the model was significant ($F = 4.078$, $p < .01$; Adj. $R^2 = 0.063$) as was the coefficient for firm hearsay reputation ($\beta = -0.168$, $p < .05$). These results provide strong support for both Hypothesis 4a and 4b.

Hypotheses 5a and 5b predict that buyer positive affect and buyer negative affect, respectively, will mediate the relationship between firm hearsay reputation and trust. As with Experiment 1, the recommendations of James and Brett (1984) and James, Mulaik and Brett (2006) were followed and the mediated relationships were tested by SEM. Experiment 2 was specifically designed as a causal model, fitting James and Brett's criteria for the use of SEM in testing mediation models: participants are first presented with the discount retailer's hearsay reputation and explained its significance, then asked to complete the PANAS measure, and finally they record their decision to purchase from the discount retailer.

The mediation model tested is shown in Figure 7.1. While only the mediating effects of positive and negative affect from hearsay reputation to trusting behavior are of interest here, additional paths are included as controls.

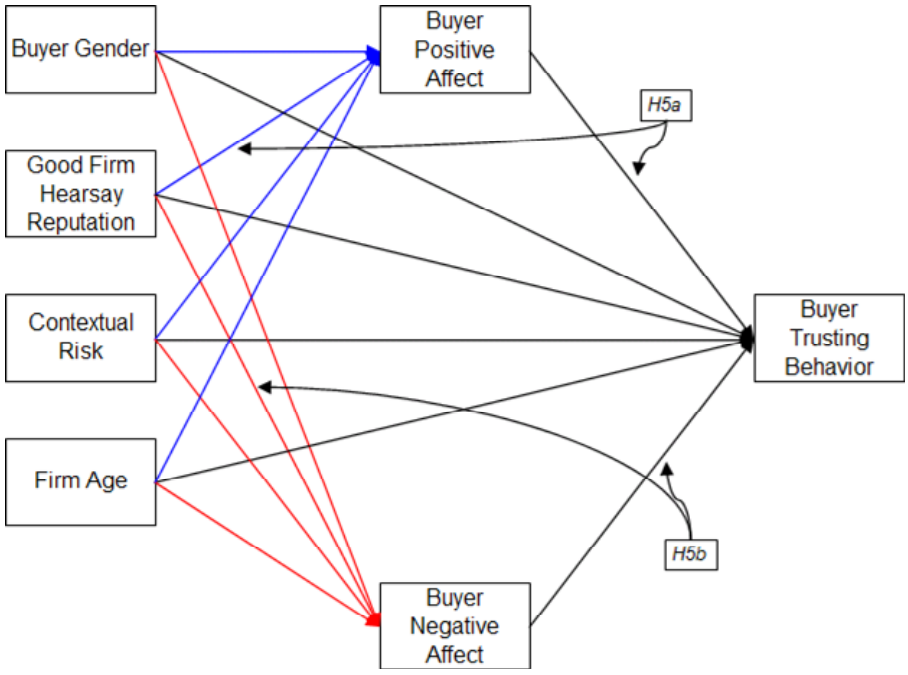


Figure 7.1. A Path Model Representing the Mediation Model Described in Hypotheses 5a and 5b, Experiment 2

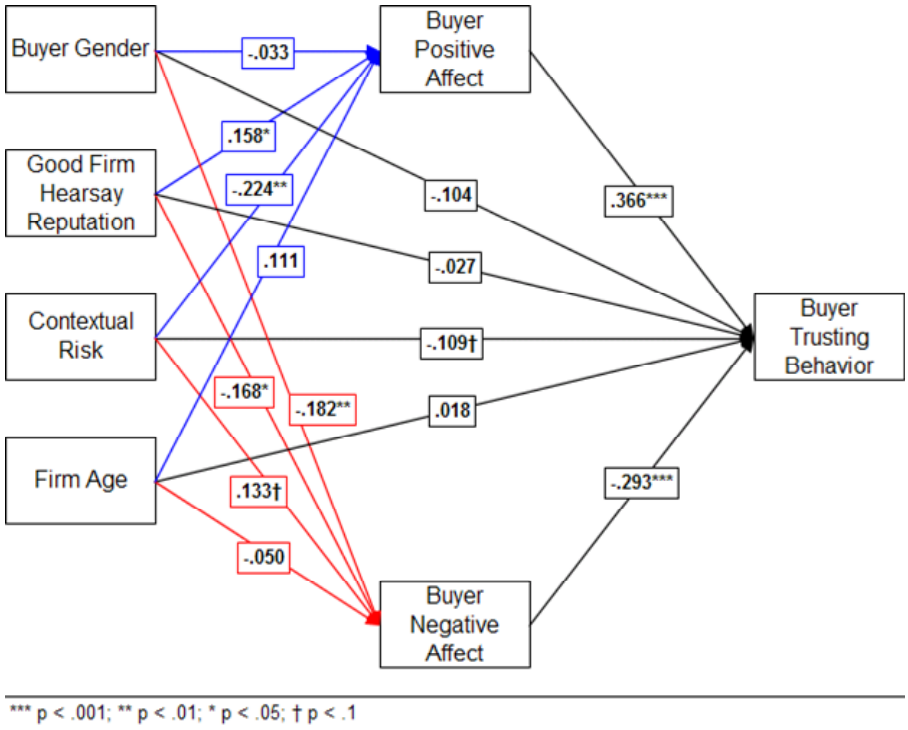


Figure 7.2. The Path Model Used to Test Hypotheses 5a and 5b, with Standardized Coefficients, Experiment 2

The data fit the hypothesized model well ($\chi^2[7, N = 180] = 7.145$, *ns.*), and all goodness-of-fit statistics were within accepted standards (CFI = 0.998; NFI = 0.929; RMSEA = 0.011). The data also supports the predicted mediation effects. The path from hearsay reputation to buyer positive affect is significant ($\beta = 0.158$, $p < .05$) as is the path from buyer positive affect to buyer trusting behavior ($\beta = 0.336$, $p < .001$), providing support for Hypothesis 5a. Similarly, the path from hearsay reputation to buyer negative affect is significant ($\beta = -0.168$, $p < .05$) as is the subsequent path from buyer negative affect to buyer trusting behavior ($\beta = -0.293$, $p < .001$), providing support for Hypothesis 5b. Standardized beta weights for all paths are reported in Figure 7.2.

Experiment 3 (H6 – H10)

The substantive difference between the analysis described in Experiment 2 and that described here is the addition of a manipulation for experiential reputation, or the consumer's prior experience with the online internet retailer. In Experiment 2, the consumer had no prior experience with the retailer, thus, in relation to the buyer, the retailer had no experiential reputation; in Experiment 3, the buyer was told that he or she had previously purchased something from the retailer and had had either a positive or negative experience. This additional manipulation was necessary to test Hypotheses 6-9b.

Preliminary Analysis. For those cases used in the Experiment 3, the eight-item modified OTI used to measure trust returned a Cronbach's α of 0.928. The scale derived from the OTI correlated with the consumer's purchase decision, or trusting behavior, at 0.597, $p < .001$. This again confirms that the dependent variable, in this case, the participant's decision to purchase from the discounted internet retailer, is informed by

trust, or that it is an action demonstrative of trust towards the retailer. Means for trusting behavior are reported by conditional cell in Table 7.5.

Table 7.5. Means of Participants' Trusting Behavior by Conditional Cell, Experiment 3

			Hearsay Reputation			
			bad		good	
			Experiential Reputation		Experiential Reputation	
			bad	good	bad	good
Firm Age	young	Contextual Risk high	11.1% n = 18	100.0% n = 20	20.0% n = 20	75.0% n = 20
		Contextual Risk low	50.0% n = 18	85.0% n = 20	44.4% n = 18	90.0% n = 20
	established	Contextual Risk high	22.2% n = 18	70.0% n = 20	45.0% n = 20	95.0% n = 20
		Contextual Risk low	61.1% n = 18	85.0% n = 20	88.9% n = 18	90.0% n = 20

Table 7.6. Descriptive Statistics, and Correlations between Variables Used in Experiment 3

Variable	Mean	S.D.	2	3	4	5	6	7	8	9
1 *purchase decision*	0.65	0.477	0.597 **	-0.202 **	0.071	0.458 **	0.102	0.384 **	-0.339 **	-0.019
2 *OTI*	4.24	1.391	-	-0.084	0.103	0.567 **	0.023	0.443 **	-0.552 **	-0.053
3 *contextual risk*	1.51	0.501		-	0.013	-0.014	0.000	-0.138 *	0.031	-0.001
4 *firm reputation*	1.51	0.501			-	-0.014	0.000	0.167 **	-0.021	-0.130 *
5 *buyer's previous*	1.52	0.500				-	0.000	0.291 **	-0.353 **	-0.041
6 *firm age*	1.50	0.501					-	0.011	-0.024	0.013
7 *buyer positive affect*	2.63	0.920						-	-0.145 *	-0.141 *
8 *buyer negative affect*	1.85	0.795							-	-0.016
9 *buyer gender* (1 = female)	0.52	0.500								-

[1] N = 308
** p < 0.01; * p < 0.05.

An exploratory factor analysis on the 20-item PANAS measure again revealed two distinct factors. Except for the item associated with *alert*, which loaded on both factors equally, the items loaded as expected, with those items associated with positive feelings loading on the first factor with an Eigen value of 5.422, and those items associated with negative feelings loading on the second factor with an Eigen value of 4.964. The item associated with *alert* was not included in either scale. Cronbach's α for the scale created from the remaining positive items was 0.922, and for the negative affect scales was 0.897.

Means, standard deviations, and correlations between variables used in the first variation of this study are reported in Table 7.6.

Primary Analysis. Hypothesis 6 predicts a positive relationship between experiential reputation and buyer trusting behavior. The results of a t-test with a one-tailed test of significance comparing participants in the good versus bad firm experiential reputation condition supports this hypothesis ($t = -9.402$, $p < .001$). Hypothesis 10 also predicts a simple positive relationship between a manipulated variable, firm age, and buyer trusting beavhior. This hypothesis was tested in Experiment 2, but was not confirmed. A t-test on the data in this dataset provides support for Hypothesis 10 (-1.799, $p < .05$). An ANCOVA including all four manipulated variables (hearsay reputation, contextual risk, firm age, and experiential reputation) as well as consumer gender as a control confirms these results. The model was significant ($F = 21.807$, $p < .001$) as were the coefficients for experiential reputation ($F = 85.706$, $p < .001$) and firm age (4.290, $p < .05$; see Table 7.7, Model 2).

Table 7.7. Analysis of Variance of the Consumers' (Participants') Trusting Behavior on Firm Experiential Reputation with Controls, Experiment 3

Model	*1*	*2*
F	4.558**	21.807***
df	308	308
adj. R^2	0.04	0.25
	F	F
Intercept	292.504***	352.572***
Participant Gender	0.041	0.028
Good Firm Hearsay Reputation	1.635	2.625
Low Contextual Risk	13.216***	15.911***
Firm Age	3.370†	4.290
Good Firm Experiential Reputation		85.706***

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

Table 7.8. Good Hearsay and Good Experiential Reputation Regressed Logistically on Trusting Behavior, Participant Gender, Contextual Risk, and Firm Age Included as Controls, Experiment 3

Model	*1*	*2*
Chi-square	17.861**	90.191***
df	4	5
Nagelkerke R^2	0.08	0.35
	Exp(B)	Exp(B)
Constant	2.388	0.073**
Participant Gender	0.951	1.095
Good Hearsay Reputation	1.377	0.095
Low Contextual Risk	0.412***	0.327***
Firm Age	1.574†	1.806*
Good Experiential Reputation		10.212***

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

Hypothesis 7 states that when reputation consumers have access to both types of reputation, hearsay and experiential, that the effect of experiential reputation will

overshadow any effect of hearsay reputation on trusting behavior. As in Experiment 1, this hypothesis is tested in two ways. First, the two ANCOVAs reported in Table 7.7. In the first, experiential reputation is left out of the model. In the second, experiential reputation is included in the model. Note that the variance explained by the predictors in Model 2 ($F = 21.807$, $p < .001$; $R^2 = 0.25$) is substantially greater than Model 1 ($F = 4.558$, $p < .01$; $R^2 = 0.04$). Furthermore, when the two models were again analyzed through logistic regression, with trusting behavior modeled as dependent variable (see Table 7.8), these results were substantiated. Both the model excluding experiential reputation ($\chi^2 = 17.861$, $p < .01$; Nagelkerke $R^2 = 0.08$) and the model including experiential reputation ($\chi^2 = 90.191$, $p < .001$; Nagelkerke $R^2 = 0.35$) were significant; however, the second model again explained substantially more variance in participant trusting behavior. Additionally, an examination of the odds ratio of hearsay reputation in the two models reveals a considerably lower coefficient in the model including experiential reputation. Taken together, this evidence provides support for Hypothesis 7.

Hypotheses 8a and 8b predict that the trustee's experiential reputation influences the buyer's expression of positive (H8a) and negative affect (H8b). These hypotheses were tested with OLS regression. A model with buyer gender, contextual risk, hearsay reputation, firm age, and experiential reputation regressed on buyer positive affect was significant ($F(307) = 14.207$, $p < .001$; Adj $R^2 = 0.18$; see Table 7.9, Model 1), as was the coefficient for experiential reputation ($\beta = 0.338$, $p < .001$), providing support for Hypothesis 8a. A model including the same regressors, but buyer negative affect modeled as dependent variable was also significant ($F(307) = 9.965$, $p < .001$; Adj $R^2 =$

0.13; see Table 7.9, Model 2), as was the coefficient for experiential reputation (β = -0.371, p < .001), providing support for Hypothesis 8b.

Table 7.9. Buyer Positive and Negative Affect Regressed on Firm Experiential Reputation, with Controls, Experiment 3

Model	*1*	*2*
DV	*Positive Affect*	*Negative Affect*
F	14.207***	9.965
df	307	307
adj. R^2	0.18	0.13
	β	β
Participant Gender	-0.119*	-0.016
Good Firm Hearsay Reputation	0.168**	-0.043
Low Contextual Risk	-0.162**	0.041
Firm Age	0.016	-0.022
Good Firm Experiential Reputation	0.338***	-0.371***

*** p < .001; ** p < .01; * p < .05
Note: Positive affect α = 0.922; negative affect α = 0.897

To test the mediation effects predicted in Hypothesis 9a and 9b, that buyer positive and negative affect would mediate the relationship between experiential reputation and buyer trust, the same analytic technique used in Experiment 2 was employed. Figure 7.3 shows the path model representing the structural equation model tested. The data fit the hypothesized model well (χ^2[11, N = 308] = 12.434, *ns.*), and all goodness-of-fit statistics were within accepted standards (CFI = 0.994; NFI = 0.953; RMSEA = 0.021). Standardized beta weights for all paths are reported in Figure 7.4.

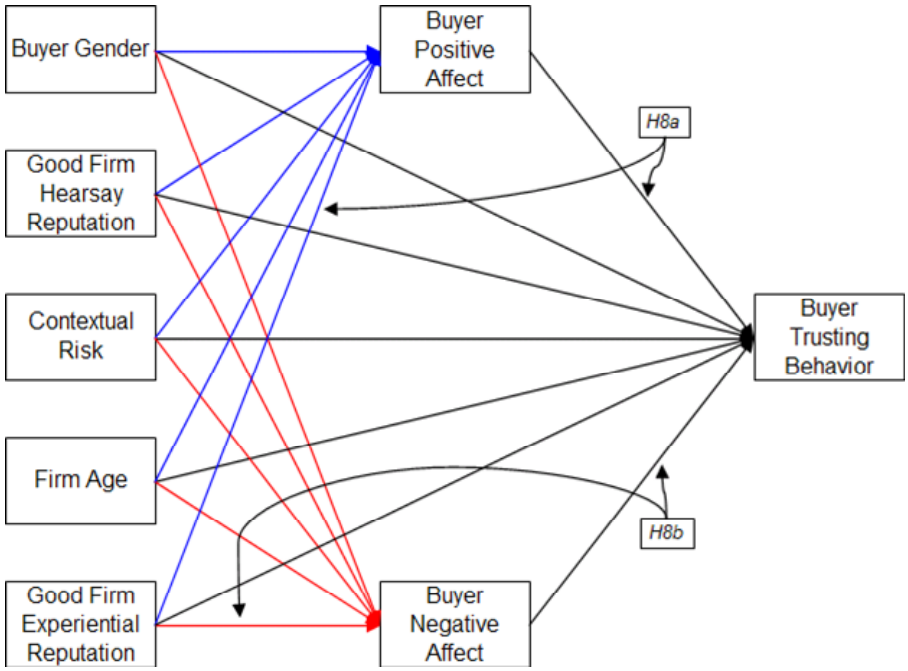


Figure 7.3. A Path Model Representing the Mediation Model Described in Hypotheses 9a and 9b, Experiment 3

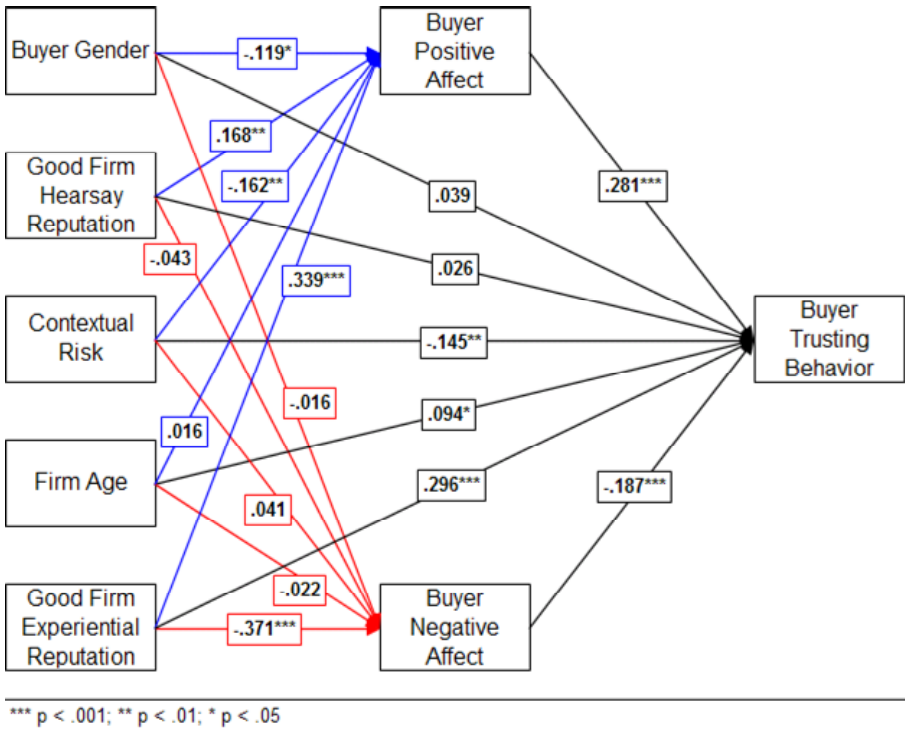


Figure 7.4. The Path Model Used to Test Hypotheses 9a and 9b, with Standardized Coefficients, Experiment 3

The SEM analysis shows the path from experiential reputation to buyer positive affect is significant ($\beta = 0.339$, $p < .001$) as is the path from buyer positive affect to buyer trusting behavior ($\beta = 0.281$, $p < .001$), providing strong support for Hypothesis 9a. The path from experiential reputation to buyer negative affect was also significant ($\beta = -.371$, $p < .001$) as was the path from buyer negative affect to buyer trusting behavior ($\beta = -0.187$, $p < .001$), which supports Hypothesis 9b.

Post-Hoc Analysis

The unhypothesized interaction effect between hearsay and experiential reputation that was demonstrated in Experiment 1 is again of interest here. In Experiment 1 we concluded that when a trusting party is faced with trustee reputational information from both outside sources (hearsay reputation) and personal experience (experiential reputation), information from outside sources is only considered when personal experience has been negative. Presumably trustors look to hearsay reputation as a check on the decisions they make based on personal experience, being willing to overlook a personal bad experience if all other evidence suggests the trustee is a cooperative, trustworthy party.

The data from Experiment 3 did not, however, support this finding. Modeling buyer trusting behavior as dependent variable and controlling for buyer gender, contextual risk, and firm age, an ANCOVA ($F = 18.397$, $p < .001$) returned an insignificant interaction coefficient, the interaction of interest being that between hearsay and experiential reputation ($F = 1.257$, *ns.*).

This is not the only result from Study 1 that was contradicted by the results of Study 2, the most obvious of which is Hypothesis 1, that trustors would be more likely to trust in trustees with good hearsay reputations (or reputations for reciprocity) than they would in trustees with bad hearsay reputations (or reputations for exploitation). While it must be noted that the SEM analysis demonstrated this effect, albeit indirectly through positive and negative affect, the initial contradiction prompted consideration of the different operationalizations of reputation used in Study 1 versus Study 2. In both, hearsay reputation was operationalized strictly as the trustee's history of reciprocity in similar trust situations with unknown third parties. The context of the later two experiments, however, may have prompted participants to consider other information that they might weigh when considering "reputation." For instance, it may be that when processing the hearsay reputation of trustees, trustors garner information from diverse and varied sources, including information that is at best peripheral to a trustee's history of reciprocity, such as the length of time the trustee (retailer) has been in business or the total number of transactions the trustee has completed. The buyer might reasonably rationalize that a retailer that does not meet at least a certain standard of cooperative behavior would not stay in business long, thus concluding that any retailer with a significant history of transactions, regardless their outcome, is more likely to reciprocate trust than a retailer with little transaction history.

To explore this post-hoc hypothesis empirically, a new hearsay reputation variable was created by combining the old hearsay reputation and firm age variables. Participants in the established firm, good hearsay reputation cell were coded as being in the new good hearsay reputation condition. Participants in the unestablished firm, bad

hearsay reputation cell were coded as being in the new bad hearsay reputation condition. Participants in the remaining two cells (unestablished firm, good hearsay reputation and established firm, bad hearsay reputation) were excluded from the analysis. To first determine whether this new hearsay reputation variable would have an impact on buyer trust—or, in other words, to retest Hypothesis 1—an ANCOVA analysis was conducted with buyer trust modeled as dependent variable and buyer gender, contextual risk, and experiential reputation included as controls. Even with greatly reduced power, the overall model was significant using the dataset from Experiment 3 ($F = 15.705$, $p < .01$), as was the coefficient for the new hearsay reputation variable ($F = 7.243$, $p < .01$). The effect predicted in Hypothesis 2 (that buyers are more likely to trust in low risk contexts) was also confirmed ($F = 5.408$, $p < .05$). Additionally, Hypothesis 7, which predicted that experiential reputation would overshadow hearsay reputation in its power to predict buyer trust, was also supported, as the F statistic for experiential reputation ($F = 49.772$, $p < .001$) was significant and exceeded the F statistic for the new hearsay reputation variable ($F = 7.243$, $p < .01$) by nearly seven times (see Table 7.10, Model 1).

Table 7.10. Post Hoc Analysis of Variance of the Consumers' (Participants') Trusting Behavior on the New Hearsay Reputation Variable with Controls, Experiment 3

Model	*1*	*2*
F	15.705***	14.892***
df	154	154
adj. R^2	0.278	0.312
	F	F
Intercept	240.770***	238.054***
Participant Gender	0.138	0.004
New Good Firm Hearsay Rep Variable	7.243**	8.536**
Low Contextual Risk	5.408*	5.893*
Good Firm Experiential Reputation	49.772***	52.968***
New Hearsay Rep Variable X Experiential Reputation		8.486**

*** p < .001; ** p< .01; * p < .05

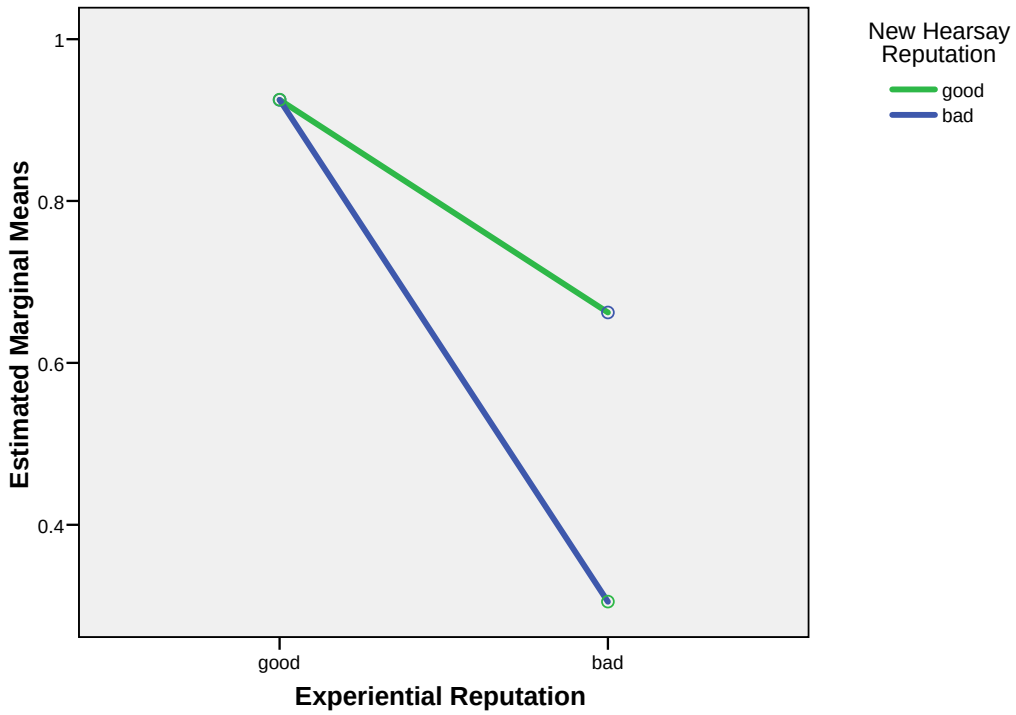


Figure 7.5. Interactive Effect of New Hearsay Reputation (Old Hearsay Reputation and Firm Age Combined) with Experiential Reputation on Trust, Experiment 3

Next, an interaction between the new firm hearsay reputation and experiential reputation was added to the model. This model also proved significant ($F = 14.892$, $p < .001$; see Table 7.10, Model 2) as did the interaction term ($F = 8.486$, $p < .001$; see Figure 7.5 for a graphical depiction of the result), indicating that when buyers have had a positive personal experience with a retailer, hearsay reputation is irrelevant. In fact, in nearly all cases buyers who have had a prior positive experience with the discount retailer were willing to trust the retailer with a second order. However, when the buyer's prior experience was negative, hearsay reputation did matter; when the retailer enjoyed a good reputation, buyers were more likely to trust the retailer than when the retailer had a bad reputation.

Discussion

The purpose of Study 2 was to reproduce the results of Study 1 in a more realistic retail environment and to extend the analysis to include the question of how a firm's longevity in the marketplace impacts consumer trusting behavior. The results from Study 1 were mostly substantiated by this second study. However, it is in the exceptions where our interest lies.

Experiment 2 did not at first appear to support the fundamental, primary hypothesis that trusting behavior is influenced by hearsay reputation. However, subsequent structural analyses demonstrated that hearsay reputation does indeed have an impact on trusting behavior, but through affect. Of course, this was expected, but Hypotheses 4a and 4b specifically predicted that buyer positive and negative affect would *partially* mediate the relationship between hearsay reputation and buyer trusting

behavior. The data from Experiment 2 indicate that this relationship is *fully* mediated. While I had argued that the reputation consumer processes reputational information both cognitively and emotionally—and the results of Study 1 supported this argument—the present data suggest that my expectation of cognitive processing may have been overestimated. The data instead suggest stronger support for the functional hypothesis of emotion; that emotion motivates actors to reward the cooperative and punish the uncooperative, the social forces which encourage societal cooperation.

Experiment 2 also did not initially provide support for the hypothesis that a firm's tenure (firm age) in the marketplace matters to trustors. However, as the post hoc analysis suggests, it may be that as reputation consumers conflate information from a variety of sources as they process "reputation." While I have argued that hearsay reputation is the cumulative past experience of various third parties with a particular person or firm, a definition consistent with the contention of others that a component of a firm's reputation is its track record for fulfilling commitments (Fombrun & Shanley, 1990; Mayer et al., 1996), the reputation consumer may take other factors into account. In other words, my operationalization of reputation is driven by a theoretical understanding of what reputation is. However, the actual cognitive mapping of reputational schema may be more complex in that individuals, for all practical purposes, consider much more than just information about a firm's past cooperative or non-cooperative acts when constructing *reputation*. For instance, reasoning that a firm would not be able to stay in the marketplace long without fulfilling commitments, the reputation consumer may conclude that a more established firm is more likely to fulfill future commitments merely by the fact that it is still in existence. Thus, a firm's long tenure

might be interpreted as a signal of future cooperative intentions, a signal which multiplies what I have operationalized as reputation—recorded incidences of cooperative or non-cooperative behavior. (It should be mentioned that in Experiment 3 the relationship between firm age and trusting behavior was significant, as was the relationship between experiential reputation and trusting behavior, perhaps because the salience of personal experience is strong enough to be processed differently, and therefore separately, from information derived from the tenure of the firm.) Results from the post hoc analysis support this view, but also suggest a potentially problematic disconnect between formal definitions of reputation and the actual social phenomena that researchers intend to describe when talking of reputation.

While the post hoc analysis may lead to a reconsideration of reputation which includes the impact of other signals (firm age) on perceptions of past performance, the results from both the primary analysis of Study 2 and the post hoc analysis—that trusting behavior is influenced by contextual risk—support my prediction that reputation consumers separate a firm's past behavior from the risk in a transaction relative to how much the trustor has to lose should the transaction go sour.

CHAPTER VIII

THE VALUE OF REPTUATION IN ONLINE AUCTIONS

A good reputation is more valuable than money.

--Publius Syrus

A second, relevant real-world context for the modeling of reputation's effect on trusting behavior is online auctioning. Unlike the retail environment modeled in Study 2, auctions allow for dynamic pricing of a good. Given a particular kind of auction environment, an individual's maximum bid can be understood as the maximum value that individual places on the item for sale. In an auction involving risk, the risk of the seller dishonestly representing material facts about the item up for bid or of the seller not fulfilling his or her obligation to deliver the item, the value of that risk should be represented in the buyer's bidding price. For example, imagine a specific commodity-like product is up for auction that can otherwise be easily and without risk purchased for $100. If the buyer could be assured that there was no risk of the seller not fulfilling his or her obligation to deliver the item or the item being misrepresented, the rational buyer would be willing to pay anything equal to or less than $100 for the item up for auction. However, introduce the risk that the seller may somehow cheat the auction winner and the potential buyer will likely be willing to pay a maximum of something far less than $100 for the item up for auction.

The Mayer et al. (1995, p. 712) definition of trust discussed earlier, "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party," implies that there must be risk if there is to be trust. In a commodity auction, the difference between the no-risk alternative and an individual's maximum bid I refer to as a *risk discount*. The risk discount reflects the degree to which the buyer trusts the seller.

Many online auction sites, like eBay, allow for buyers and sellers to post "feedback" after each transaction. This feedback is in reality a satisfaction rating of the transaction experience. eBay provides only three options for a feedback rating: positive, negative, or neutral. The number of instances of feedback of each type become available to all eBay users, and become in essence a material characteristic of the user to which they are assigned. Reputation, in this context, is quantitatively real, and as visible and accessible to others as one's hair color, or gender, might be in face-to-face conversation.

These feedback ratings serve an important social function in online auction communities because they contain the collective experience of the community with a particular user and transmit this information to novice users or others who may have had no experience with another of the community. Feedback ratings, or reputation scores, may be the only indicator as to how much a particular user can be trusted. Therefore, online auctions provide a useful context for evaluating the central question of this dissertation, how reputation informs trust decision-making.

The social dynamic through which reputations develop in auction environments differs qualitatively from how reputations develop in online commercial markets that

mirror a traditional retail shopping experience, such as that modeled in Experiments Two and Three. This difference merits some discussion. In the marketplace reputation system modeled in the prior study, buyers post feedback on sellers in anonymity, with no fear of exploitation and no expectation for reciprocity. The motivation to leave feedback lies either in the buyer's good will to the community of buyers or in a desire to punish retailers for not meeting buyer expectations. In online auction environments, such as the one modeled in this study, reputations develop as buyers and sellers post feedback on one another after completing a transaction. Because the reputational information of all members of the community is available, and both buyers and sellers can discriminate based on reputation, buyers and sellers may not wish to leave negative feedback for fear of reprisal. Likewise, users may be motivated to leave positive feedback (even after less positive transactions) to prompt a reciprocal posting of positive feedback. Past experience studying eBay feedback suggests that users leave feedback honestly (Friedman et al., 2004), meaning that when they feel they have been wronged they leave negative feedback. However, it is important to note that in this study only users who had already entered into a dispute with their transaction partner were sampled.

Experiments Four and Five were designed to explore the effect of reputation on trusting behavior in an online auction setting. Prior research (Resnick & Zeckhauser, 2001) has shown that while sellers with good reputations could more easily sell the items they listed on eBay, they were unable to garner any price premium. The present study challenges this conclusion, albeit peripherally. The hypothesis here is that a seller's reputation is related to buyer trust, and the experiment is designed specifically to capture trusting behavior. This is done by asking participants for a single, maximum bid, a value

indicative of trusting behavior. This procedure differs substantially from how bidders actually behave in an auction. Nonetheless, I expect seller reputation to be significantly correlated to bid values, a prediction which, if substantiated, would contradict Resnick and Zeckhauser's finding.

An important difference between this study and the prior studies reported in this dissertation is the absence of the contextual risk experimental condition. In the previous three experiments,, risk was conceptualized as the amount the trustor stood to lose should the trustee exploit the situation and chose not to reciprocate. Risk was therefore described as either "high" or "low," given the specific conditions of the experiment. In an auction situation, however, it does not make sense to conceptualize risk in this way. Bidders are presumably factoring their assessment of risk into their bid price—bidding higher (putting more at risk) in situations they judge as relatively safe; lower (putting less at risk) in situations they judge as relatively risky. In an auction situation, a bid therefore reflects the buyer's assessment of risk. However, a bid also reflects the buyer's trust of the seller. Thus, in an auction, a buyer's evaluation of contextual risk and trust in the seller are behaviorally indistinguishable.

Method

Research Design

Like Study 2, Study 3 was composed of two distinct experiments. The first, Experiment 4, contained two manipulations, a 2 x 2 (Seller's Hearsay Reputation x Seller's Auction Tenure/Experience) between-subjects design. The second, Experiment 5, included the same two manipulations, but a third, experiential reputation (the buyer's

prior experience with the seller), was also included. Thus, variation two used a 2 x 2 x 2 (Seller's Social Reputation x Seller's Auction Tenure/Experience x Seller's Experiential Reputation) between-subjects design.

Hearsay reputation was operationalized by the percentage of positive feedback to all feedback the seller had received for prior transactions. Participants, all of which were assigned the role of buyer, read the following when assigned to the "good" hearsay reputation condition:

> [The seller] has a positive feedback percentage of **100 percent**, which is very good when compared to the average. In fact, [the seller] has a positive feedback percentage 2.5 points higher than the average user on this site.

Participants in the "bad" hearsay reputation condition read:

> [The seller] has a positive feedback percentage of **95 percent**, which is not very good when compared to the average. In fact, [the seller] has a positive feedback percentage 2.5 points lower than the average user on this site.

Seller experience was manipulated in a manner similar to how firm age was manipulated in Experiments Two and Three, by the total instances of feedback a seller has received. Risk was not manipulated in this experiment.

A seller's auction experience, or tenure, was operationalized by the total feedback the seller has received from prior transactions. In the eBay auction system, posting feedback after a transaction is optional, thus the total sum of user feedback may not equal the total number of transactions an eBay user has performed. However, assuming users post feedback after transactions at the same rate across the community, it is an appropriate proxy for user tenure. In this experiment, participants assigned to the condition of high seller auction experience, or long seller tenure read:

> …**more than 300 people** have left feedback in all, indicating that [the seller] is a relatively experienced user on this auction site.

Participants assigned to the low seller auction experience, or short seller tenure condition read:

> …**only 19 people** have left feedback, indicating that [the seller] is a relatively inexperienced user on this auction site.

Finally, in Experiment 5, participants were assigned to one of two experimental conditions relating to experiential reputation, or the buyer's prior experience with the seller. Participants in the "good" experiential reputation condition read:

> …you have previously ordered an item from this same seller…. On that occasion you had a relatively good experience with the seller—meaning that your expectations for security, quality, and promptness of delivery were satisfied. You didn't leave feedback, but had you done so you would have rated your overall experience as POSITIVE.

Participants in the "bad" experiential reputation condition read:

> …you remember having previously ordered an item from this same seller…. On that occasion you had a relatively bad experience with the seller—meaning that your expectations for security, quality, and/or promptness of delivery were NOT satisfied. You didn't leave feedback, but had you done so you would have rated your overall experience as NEGATIVE.

Procedure

Participants were invited to participate in a study about "consumer behavior in online retailing." Those who chose to participate were directed to a website, randomly assigned to an experimental condition, and presented with one of four versions of the following scenario, corresponding to experimental condition. First, all participants read the following.

> To complete this experiment some familiarity with the eBay auction system is necessary. A brief explanation of what eBay is and how eBay works follows. Afterwards, you will be asked to read a hypothetical scenario in which you should imagine yourself being the person described.

How eBay Works

eBay is an online auction house where anyone can attempt to auction nearly anything. Users (potential buyers) bid for the items for sale and, after a seller designated period of time, the auction is over and a winner is declared. Buyers and sellers work out terms for shipment and payment.

One feature of the eBay system is that, for buyers, bidding is automated up to a buyer specified maximum bid. Say, for example, that a radio is being auctioned on eBay. The opening bid is set at $6. If you are willing to pay a maximum of $20 for the radio, you enter $20 as your maximum bid, but eBay shows the seller that you have only raised the bid from $6 up one increment to $6.50. However, if someone else outbids $6.50, eBay will automatically outbid the other bidder on your behalf, up to the maximum amount you indicated, which in this case is $20.

Another feature of the eBay auction system is that buyers and sellers, after each transaction, leave feedback for their trading partner. Users may leave either positive, negative, or neutral feedback. Feedback scores are totaled and displayed for all eBay users to see. In this way, when you bid on an item up for auction, you have some idea regarding others' experience buying from and selling to the person with whom you will be trading.

An Item for Sale

Imagine an item that you have been planning to purchase for some time. Retail, this item costs $450. The nature of this item is such that it can rarely be found on sale, so if you buy it, you would more or less expect to pay around $450.

However, you are always on the look out for a bargain. Recently, you have been searching eBay in hopes of finding it up for auction. Today you found it.

You are comfortable buying things on eBay, but realize there is always a chance of being defrauded by sellers who may misrepresent the quality of their goods. So the reputation of eBay sellers is an important factor in your decision.

Only participants in the bad hearsay reputation, low seller auction experience condition read this:

You note that the seller of the item you want has a feedback score of only seven, with 88 percent positive feedback, meaning that a total of eight users left feedback, of which one left negative feedback. The user who left negative feedback felt that the seller dishonestly represented the item for auction, and was doubly upset because they were not allowed to return the item for a refund.

Only participants in the bad hearsay reputation, high seller auction experience condition read this:

> You note that the seller of the item you want has a feedback score of 1082 with 88 percent positive feedback, meaning that a total of 1237 users left feedback, of which 157 left negative feedback. Many of the users who left negative feedback felt that the seller dishonestly represented the item for auction, and were doubly upset because they were not allowed to return the item for a refund.

Only participants in the good hearsay reputation, low seller auction experience condition read this:

> You note that the seller of the item you want has a feedback score of only nine, but with 100 percent positive feedback, meaning that all users who have transacted with this one left positive feedback.

Only participants in the good hearsay reputation, high seller auction experience condition read this:

> You note that the seller of the item you want has a feedback score of 1213 with 98 percent positive feedback, meaning that a total of 1237 users left feedback, of which 24 left negative feedback.
>
> There are two days left in the auction, you know you won't have time to monitor the auction until its close, so you'll have to decide now whether you will bid on the item and the maximum price you are willing to pay. Currently the high bid is at $50.
>
> What is your maximum bid? (Enter zero if you would not bid on this item.)

Because online auction environments, like that of eBay, may not be familiar to some participants, the scenario is prefaced with a brief explanation of how online auctioning works. While I believe this explanation is enough to give participants a sufficient operating understanding of auction sites like eBay, I also ask participants how familiar they are with online auction houses, and if they have ever bought or sold something through a company like eBay. When asked, 5.8 percent of participants in Experiment 4 and 4.7 percent of participants in Experiment 5 reported being not at all

familiar with online auction sites such as eBay. Eight-one percent of participants in Experiment 4 reported having bought at least one item on an online auction site like eBay; 83.3 percent in Experiment 5. These data suggest that the participants in these studies generally have an adequate understanding of the mechanics of online auctioning, and no cases were removed from the analysis in light of this finding.

After participants reported their maximum bid, they were asked to complete a post-experimental questionnaire which included measures for trust, positive and negative affect, demographic information, and manipulation checks. Participants were then entered into a lottery for a $100 price which they had a 1 in 100 chance of winning.

In this experiment, participants were asked to bid on a hypothetical item: "Imagine an item that you have been planning to purchase…" This approach deserves some discussion. On the one hand, asking participants to bid on a hypothetical item, rather than a real, concrete item, may present a problem: how can someone name a price for a hypothetical good? On the other hand, if a specific good were specified, such as a TV or a digital camera, a quite different problem arises. If a specific item is named, let's imagine a digital camera, the bids on that item will be influenced by the natural variance within the sample population of desire for that item. Someone who is not interested in a camera may grossly underbid, the camera only becoming "worth it" at a significant discount. Whereas to someone very interested in a camera, perhaps in reality on the verge of buying one themselves, any discount at all over the price they expect to pay would be welcome. A second, potentially more serious problem is that there will also be a good deal of variance in how much information participants have relative to the market in which cameras are bought and sold. A camera connoisseur and eBay aficionado may

have a remarkably accurate sense of the eBay market value of the camera describing in the scenario and therefore offer a more informed bid than a novice. By writing the scenario in such a way as to force the participant to imagine a product of their own invention, something which to them a $450 retail price tag seems realistic, I have sidestepped these difficulties and am better able to capture the relationships between variables of interest in this study. Participants were asked to report the item they had in mind while completing the exercise. A little over half reported some kind of electronic item, such as a TV, digital camera, personal computer, or stereo. Other responses included a bed, handbag, widget, jewelry, quality tools, and designer shoes. About 25 percent reported that they had nothing in particular in mind.

Participants

Participants were again drawn from the Vanderbilt University eLab research panel. Invitees were randomly selected from the eLab panel and emailed an invitation to participate in an experiment about "consumer behavior in online retailing." Experiment 4 was completed by 139 persons; 277 completed Experiment 5.

Measures

Trusting Behavior. As with the previous two studies, the dependent variable for Hypotheses 1 and Hypotheses 4a-5b is the buyer's trusting behavior. In this experiment, trusting behavior is operationalized by the buyer's bid. If a participant bids zero, she is clearly signaling her lack of trust in the seller. However, a low bid can also signal low trust. Consider the case of two individuals in negotiation over the price of an apple. The seller wants one dollar for the apple. The buyer agrees that the apple is worth one dollar, but doubts the seller's intentions to deliver the apple after payment. In fact, the buyer

estimates the odds of the seller fulfilling his bargain at one in ten. Though a delivered apple is worth a dollar to the buyer, given her risk calculation of the seller not surrender the apple, the seller is only willing to pay ten cents for the apple, or one tenth the real value. The value of seller's bid, therefore, signals the level of trust the buyer has in the seller, where no bid is the equivalent of no trust, and a bid equal to the alternative retail price of the item for auction indicates a level of trust equivalent to what the buyer has in the alternative retailer.

To confirm the construct validity of this operationalization of trust, I also measured trust through a survey instrument—a modified version of the OTI (Cummings & Bromiley, 2003; Naquin & Paulson, 2003; see Appendix B) as described in Experiment 1. A correlation between bid price and the OTI would indicate convergent validity toward the desired construct, and in fact the scale created from the OTI and the buyer's bid were significantly correlated in both Experiment 4 ($r = 0.335$, $p < .001$) and 5 ($r = 0.600$, $p < .001$).

Positive and Negative Affect. Hypothesis 4a predicts that a buyer's positive affective state increases the likelihood of buyer trusting behavior whereas Hypothesis 4b predicts that a buyer's negative affective state decreases the likelihood of buyer trusting behavior. Hypothesis 5 goes on to predicts that a buyer's affective state mediates the relationship between a seller's reputation and a buyer's trust, such that reputation triggers an affective state which then affects trusting behavior. Because of the mediated relationships proposed, it was important that emotion be assessed in such a way as to capture the affective state of the participant after the participant is first exposed to the feedback score of the seller, yet before recording his or her bid. Participants were

therefore asked to complete a survey measuring positive and negative affect just prior to recording their bids. As with the prior four experiments, the PANAS (Watson, Clark, & Tellegen, 1988), was used to measure participants' emotional state. The PANAS is a measure of both positive and negative affect.

Results

Experiment 4 (H1, H4a – H5b, H9)

Preliminary Analysis. The eight-item survey instrument used to measure trust, the OTI, returned a Cronbach's α of 0.907. The scale created from the OTI and the buyer's bid were highly correlated ($r = 0.335$, $p < .001$), indicating that bid price in an auction setting is indicative of buyer trust. Means of trusting behavior, measured by the buyer's maximum bid, are reported by cell in Table 8.1.

Table 8.1. Means of Participants' Trusting Behavior by Conditional Cell, Experiment 4

		Hearsay Reputation	
		bad	good
Seller Auction Experience	young	196.7 n = 35	168.3 n = 34
	estab.	234.9 n = 35	270.8 n = 35

Table 8.2. Means, Standard Deviations, and Correlations Between Variables Used in Experiment 4

Descriptive Statistics and Correlations, Experiment 4[1]								
Variable	Mean	S.D.	2	3	4	5	6	7
1 *maximum bid*	218.02	170.497	0.335 ***	-0.013	0.206 *	0.265 **	-0.108	-0.087
2 *OTI*	4.94	1.337	-	0.398 ***	0.008	0.299 ***	-0.631 ***	0.105
3 *seller hearsay reputation*	1.50	0.502		-	-0.007	0.147 †	-0.277 **	0.064
4 *seller auction experience*	1.50	0.502			-	0.160 †	-0.075	-0.138
5 *buyer positive affect*	3.05	0.916				-	-0.094	0.023
6 *buyer negative affect*	1.70	0.734					-	-0.049
7 *buyer gender* (1 = female)	0.55	0.499						-

[1] N = 139

*** p < 0.001; ** p < 0.01; * p < 0.05 † < 0.1

The 20-item PANAS was subjected to factor analysis, using maximum likelihood extraction and Varimax rotation. The items loaded predictably, and quite elegantly, on two distinct factors; the factor labeled positive affect returned an Eigen value of 6.452, whereas the factor labeled negative affect returned an Eigen value of 5.2387. The scales produced from the ten items loading on each factor proved reliable, both for positive affect (Cronbach's $\alpha = 0.914$) and negative affect (Cronbach's $\alpha = 0.913$).

Descriptive statistics as well as correlations between variables used in Experiment 4 are reported in Table 8.2.

Primary Analysis. Hypothesis 1, that seller hearsay reputation will predict buyer trusting behavior, was tested by t-test and then by ANCOVA, in a model including controls. The t-test compared participants in the good versus bad seller hearsay reputation conditions. Results did not support the hypothesis ($t = 0.155$, *ns*). Hypothesis 10, that the relative experience of the seller will positively impact buyer trusting behavior, was also tested by t-test and ANCOVA. The results of the t-test supported the hypothesis ($t = -2.468$, $p < .01$). An ANCOVA modeling buyer trusting behavior as dependent variable and hearsay reputation, seller experience, and buyer gender as independent variables supported these results. The model proved significant ($F(138) = 2.173$, $p < 0.1$; adj. $R^2 = 0.03$), as did the coefficient for seller's auction experience ($\beta = 0.198$, $p < .05$), while the coefficient for hearsay reputation was not significant ($\beta = -0.008$, *ns*; see Table 8.3).

Table 8.3. Analysis of Variance of Seller Hearsay Reputation, Controlling for Participant Gender and Seller Experience, on Participant Trusting Behavior, Experiment 4

F	2.173†
df	138
adj. R^2	0.03
	F
Buyer Gender	-0.059
Good Seller Hearsay Reputation	-0.008
Experienced Seller	0.198*

* p < .05; † < .1

Table 8.4. Buyer Positive and Negative Affect Regressed on Firm Hearsay Reputation, with Controls, Experiment 4

Model	*1*	*2*
DV	*Positive Affect*	*Negative Affect*
F	2.309†	4.078
df	138	138
adj. R^2	0.03	0.06
	β	β
Buyer Gender	0.037	-0.182
Good Seller Hearsay Reputation	0.146*	-0.168***
Seller Auction Experience	0.146*	-0.050

*** p < .001; ** p < .01; * p < .05; † p < .1; asterisks indicate one-tailed significance
Note: Positive affect α = 0.914; negative affect α = 0.913

Hypotheses 4a and 4b stated that the seller's hearsay reputation would influence both the positive and negative affect of the buyer, good reputations having positive effect on the buyer's experience of positive affect and a negative effect on the buyer's experience of negative affect and bad reputations having the opposite effect. These hypotheses were tested by OLS regression. Seller's hearsay reputation, seller's auction

experience, and buyer gender were included in the model as predictors. With positive affect modeled as dependent variable, the model proved significant ($F(138) = 2.309$, $p < .1$) as did the coefficient for seller hearsay reputation, in the hypothesized direction ($\beta = 0.146$, $p < .05$, see Table 8.4, Model 1). Likewise, with negative affect modeled as dependent variable, the model again proved significant ($F(138) = 4.078$, $p < .01$) as did the coefficient for seller hearsay reputation, in the hypothesized direction ($\beta = -0.168$, $p < .001$, see Table 8.4, Model 2). These results support both Hypotheses 4a and 4b.

Hypotheses 5a and 5b predict that buyer positive and negative affect will mediate the relationship between seller hearsay reputation and buyer trusting behavior. As with the prior two experiments, the mediation analysis was conducted through structural equation modeling (SEM) as recommended by James, Mulaik, and Brett (2006). The complete model, with labels indicating the paths included in the mediation analysis, is represented as a path model in Figure 8.1.

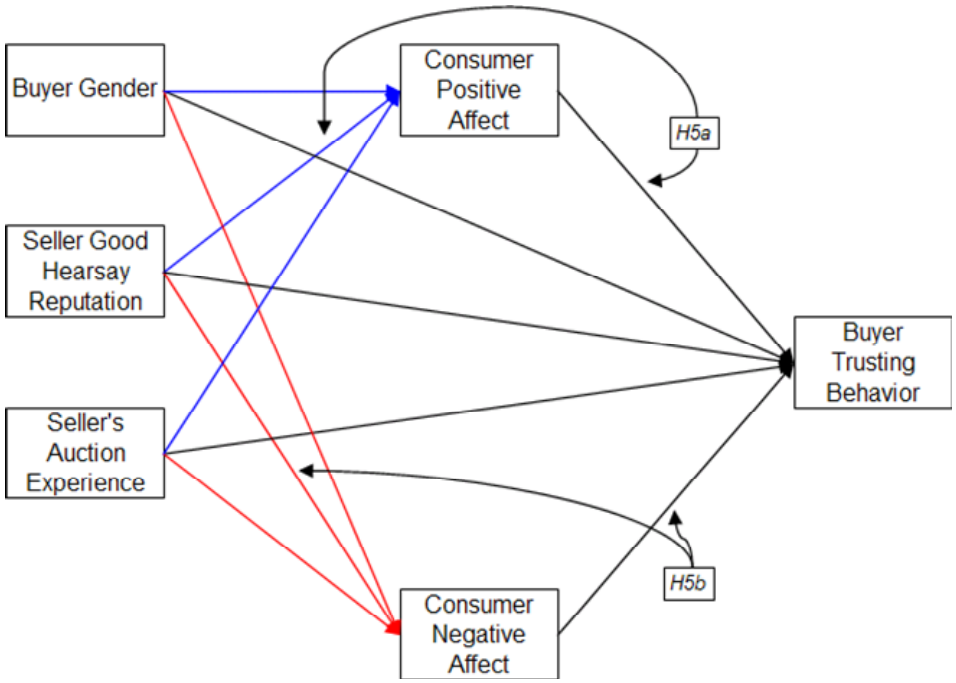


Figure 8.1. A Path Model Representing the Mediation Model Described in Hypotheses 5a and 5b, Experiment 4

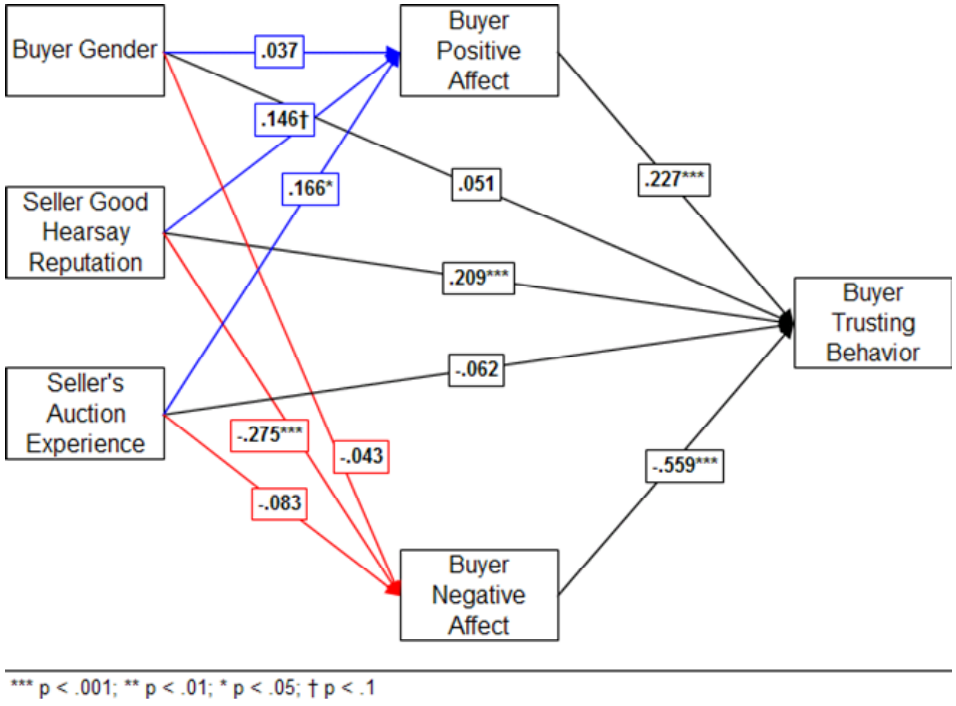


Figure 8.2. The Path Model Used to Test Hypotheses 5a and 5b, with Standardized Coefficients, Experiment 4

The same statistics used in Experiments 1-3 to assure data-model fit were used again here, and as was the case previously, these data fit the hypothesized model well ($\chi^2[4, N = 139] = 3.477$, *ns*) and all goodness-of-fit statistics were well within accepted standards (CFI = 1.000; NFI = 0.911; RMSEA = 0.000). The data also supports both partial mediation hypotheses. The coefficient for path from seller hearsay reputation to buyer positive affect was marginally significant ($\beta = 0.146$, $p < .1$) and the coefficient for the path from buyer positive affect to buyer trusting behavior ($\beta = 0.227$, $p < .001$) was significant, providing moderate support for Hypothesis 5a. The coefficient for the path from seller hearsay reputation to buyer negative affect was also significant ($\beta = -0.275$, $p < .001$) as was the coefficient for the path from buyer negative affect to buyer trust ($\beta = -0.559$, $p < .001$), results that support Hypothesis 5b. Standardized beta weights for all paths are reported in Figure 8.2.

Experiment 5 (H6 – H9)

Preliminary Analysis. The OTI proved highly reliable in this experiment (Cronbach's $\alpha = 0.957$), and highly correlated with buyer trusting behavior, the buyer's bid ($r = 0.600$, $p < .001$). A correlation this high leaves little doubt that a buyer's bid is representative of his or her relative trust in the seller. Means of buyer trusting beheavior, measured by the buyer's maximum bid, are reported by cell in Table 8.5.

An exploratory factor analysis of the 20-item PANAS instrument revealed two distinct factors, loading as expected, with one exception, on items associated with either positive or negative affect. The item asking participants about the degree to which they felt alert loaded inconclusively on neither factor, and was thus removed from the analysis. With the item removed, a second exploratory analysis loaded elegantly on two

factors. The first, labeled negative affect, returned an Eigen value of 5.547, while the second, labeled positive affect, returned an Eigen value of 5.300. The items which loaded on the factor labeled positive affect proved reliable as a scale (Cronbach's α = 0.922) as did those labeled negative affect (Cronbach's α = 0.918).

Descriptives and correlations are summarized in Table 8.5.

Primary Analysis. In this experiment the analysis is focused around the addition of buyer's prior experience with the seller as a manipulated experimental condition, or seller experiential reputation. Hypothesis 6 states that seller experiential reputation is positively related to buyer trusting behavior (operationalized in this and Experiment 4 by buyer high bid) and Hypothesis 7 states that the effect of experiential reputation will diminish the effect of seller hearsay reputation on buyer trust to a level of inconsequentiality. It's important to note here, however, that the hypothesis that hearsay reputation is positively related to buyer trust was not supported in Experiment 4.

Table 8.5. Means of Participants' Trusting Behavior by Conditional Cell, Experiment 5

		Hearsay Reputation			
		bad		good	
		Experiential Reputation		Experiential Reputation	
		bad	good	bad	good
Seller Auction Experience	young	66.3 n = 34	228.4 n = 34	126.3 n = 35	253.1 n = 35
	estab.	148.1 n = 34	242.3 n = 35	192.0 n = 35	295.3 n = 35

Table 8.6. Means, Standard Deviations, and Correlations Between Variables Used in Experiment 5

Descriptive Statistics and Correlations, Experiment 5[1]									
Variable	Mean	S.D.	2	3	4	5	6	7	8
1 *maximum bid*	194.49	166.372	0.600 ***	0.135 *	0.154 *	0.366 ***	0.420 ***	-0.483 ***	-0.044
2 *OTI*	4.41	1.627	-	0.193 **	0.159 **	0.704 ***	0.659 ***	-0.593 ***	-0.018
3 *seller hearsay reputation*	1.51	0.501		-	-0.004	-0.004	0.202 **	-0.075	-0.119 *
4 *seller auction experience*	1.50	0.501			-	0.004	0.124 *	-0.106 †	-0.040
5 *experiential reputation*	1.50	0.501				-	0.441 ***	-0.504 ***	-0.011
6 *buyer positive affect*	2.80	0.947					-	-0.194 **	-0.001
7 *buyer negative affect*	1.91	0.846						-	0.046
8 *buyer gender* (1 = female)	0.49	0.501							-

[1] N = 277

*** p < 0.001; ** p < 0.01; * p < 0.05 † < 0.1

A t-test with a one-tailed test of significance comparing participants in the good experiential reputation condition with those in the bad experiential reputation condition provided support for Hypothesis 6 ($t = -6.513$, $p < .001$). These data also confirmed Hypothesis 10; a t-test comparing participants in the experienced versus inexperienced seller condition was significant ($t = -2.583$, $p < .01$). And while the data from Experiment 4 did not support Hypothesis 1, these data did ($t = -2.264$, $p < .05$). An ANCOVA including all three conditional variables as well as controlling for buyer gender confirms these results (see Table 8.7). The model was significant ($F(276) = 14.523$, $p < .001$; adj $R^2 = 0.16$), as were the coefficients for seller hearsay reputation ($F = 5.922$, $p < .05$), seller auction experience ($F = 7.652$, $p < .01$), and experiential reputation ($F = 44.040$, $p < .001$).

The hypothesized relationship between experiential reputation and buyer trust is supported by these results. The inclusion of experiential reputation into the model did not eliminate the impact of hearsay reputation on trusting behavior, but the effect of experiential reputation on trusting behavior is meaningfully greater than the effect of hearsay reputation on trusting behavior. By regressing buyer high bid (trusting behavior) on seller hearsay reputation, seller auction experience, and seller experiential reputation while controlling for buyer gender, and by comparing the standardized beta weights of the coefficients of hearsay reputation and experiential reputation, we are able to quantify the difference in the effect size of the two variables on buyer trusting behavior. An OLS regression returned standardized beta weights of 0.135 and 0.365 for hearsay and experiential reputation respectively (see Table 8.8). Notice that the effect size of experiential reputation on buyer trust is more than 2.7 times the effect size of hearsay

reputation on buyer trusting behavior. Therefore, while the effect of hearsay reputation on buyer trusting behavior remains significant, the differential of effect size noted here still provides support for Hypothesis 7.

Table 8.7. Analysis of Variance of Seller Experiential Reputation, Controlling for Seller Hearsay Reputation, Buyer Gender and Seller Experience, on Participant Trusting Behavior, Experiment 5

F	14.523***
df	276
adj. R^2	0.16
	F
Buyer Gender	-0.102
Good Seller Hearsay Reputation	5.922*
Experienced Seller	7.652**
Good Seller Experiential Reputation	44.040***

*** p < .001; ** p < .01; * p < .05

Table 8.8. Buyer Trusting Behavior Regressed on Seller Hearsay Reputation and Seller Experiential Reputation, Controlling for Buyer Gender and Seller Experience, Experiment 5

F	14.523***
df	276
adj. R^2	0.16
	F
Buyer Gender	-0.018
Good Seller Hearsay Reputation	0.135*
Experienced Seller	0.152**
Good Seller Experiential Reputation	0.365***

*** p < .001; ** p < .01; * p < .05

Table 8.9. Buyer Positive and Negative Affect Regressed on Firm Hearsay Reputation, with Controls, Experiment 5

Model	*1*	*2*
DV	*Positive Affect*	*Negative Affect*
F	22.994	25.338
df	276	276
adj. R^2	0.24	0.26
	β	β
Buyer Gender	0.034	-0.028
Good Seller Hearsay Reputation	0.208***	-0.074
Seller Auction Experience	0.125*	-0.103*
Good Seller Experiential Reputation	0.442***	-0.504***

*** p < .001; * p < .05
Note: Positive affect α = 0.922; negative affect α = 0.918

Hypotheses 8a and 8b concern the predictive relationship of experiential reputation on positive and negative affect. These hypotheses were tested, as before, with OLS regression. Regressing buyer positive affect on seller hearsay reputation, auction experience, and experiential reputation, the model proved significant ($F(276) = 22.994$, $p < .001$; adj. $R^2 = 0.24$) as did the coefficient for experiential reputation ($\beta = 0.442$, $p < .001$; see Table 8.9, Model 1). A second model regressing buyer negative affect on the same set of four variables likewise proved significant ($F(276) = 25.338$, $p < .001$; adj. $R^2 = 0.26$) as did the coefficient for experiential reputation within that model ($\beta = -0.504$, $p < .001$; see Table 8.9, Model 2). Experiment 4 confirmed that seller hearsay reputation had a predictable impact on buyer positive and negative affect. I have argued in this dissertation that trustors give trustee experiential reputation, when available, cognitive priority over trustee hearsay reputation in trust decision-making. If this prediction is correct, we would expect that the effect of experiential reputation on positive and

negative affect would be noticeably greater than any effect of hearsay reputation when both are included in the model. Results from this analysis support that hypothesis. With positive affect modeled as the dependent variable, the effect of hearsay reputation was significant ($\beta = 0.208$, $p < .001$), however the effect of experiential reputation was more than double the size ($\beta = 0.442$, $p < .001$). More profound is the contrast between the two effects when negative affect was modeled as dependent variable. Hearsay reputation did not have a significant effect on negative affect ($\beta = -0.074$, *ns*), while the effect of experiential reputation accounted for more 50 percent of the variance in participant negative affect ($\beta = -0.504$, $p < .001$).

SEM was again used to test the predicted mediation effects predicted in Hypothesis 9a and 9b. The path model tested is graphically represented in Figure 7.3. The data fit the hypothesized model well ($\chi^2[7]$, $N = 276] = 6.040$, *ns.*), and all goodness-of-fit statistics were within accepted standards (CFI = 1.000; NFI = 0.979; RMSEA = 0.000). Standardized beta weights for all paths are reported in Figure 7.4.

The SEM analysis indicates that the paths from experiential reputation to buyer positive affect ($\beta = 0.442$, $p < .001$) and from buyer positive affect to buyer trusting behavior ($\beta = 0.313$, $p < .001$) are both significant, which supports Hypothesis 9a. The analysis also indicates that the paths from experiential reputation to buyer negative affect ($\beta = -0.504$, $p < .001$) and from buyer negative affect to buyer trusting behavior ($\beta = -0.394$, $p < .001$) are significant, which supports Hypothesis 9b.

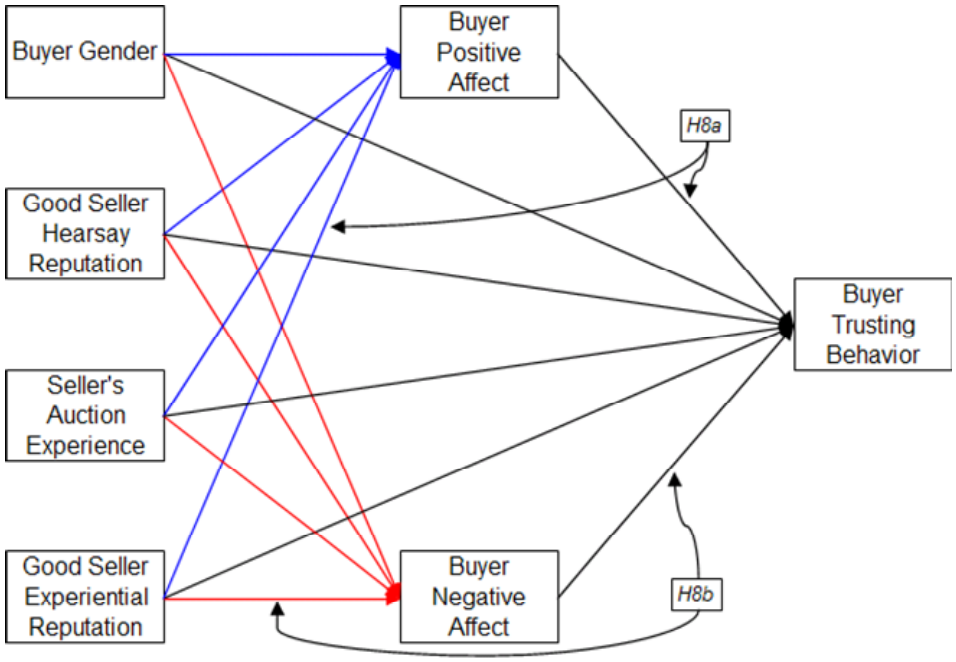


Figure 8.3. A Path Model Representing the Mediation Model Described in Hypotheses 9a and 9b, Experiment 5

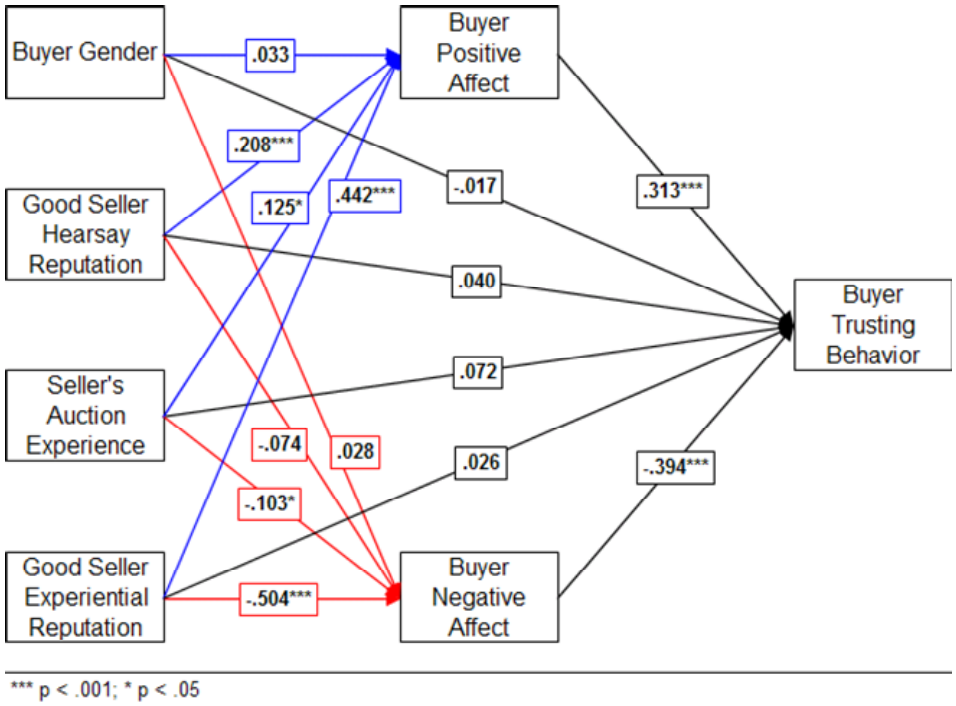


Figure 8.4. The Path Model Used to Test Hypotheses 9a and 9b, with Standardized Coefficients, Experiment 5

Post-Hoc Analysis

Again, the unhypothesized interaction effect between hearsay and experiential reputation is of interest. The data from Study 1 suggested that trusting parties only consider hearsay reputation when experiential reputation is negative. The data from Study 2 did not initially appear to support this finding, however when the hearsay and firm age variables were combined into a new hearsay reputation variable, the finding was supported.

Table 8.10. Buyer Trusting Behavior Regressed on Seller Hearsay Reputation, Seller Experience, and Buyer Gender by Experiential Reputation Conditional Cell, Experiment 5

Data	*Experiential Reputation = Good*	*Experiential Reputation = Bad*
F	2.758*	6.961***
df	138	137
adj. R^2	0.04	0.12
	β	β
Buyer Gender	0.186*	-0.222**
Good Seller Hearsay Reputation	0.148†	0.144†
Seller Auction Experience	0.086	0.218**

*** p < .001; * p < .05

The data from Study 3 did not support this finding. In an ANCOVA with buyer trusting behavior modeled as dependent variable and controlling for buyer gender and the seller's auction experience, the model proved significant ($F = 11.606$, $p < .001$), but the interaction effect did not ($F = 0.123$, *ns*). Similarly, separating the data by participants assigned to the good experiential reputation condition versus participants in the bad

experiential reputation condition revealed no meaningful difference in the effect size of hearsay reputation across conditions (see Table 8.10). A plot of the proposed interaction effect indicates the two variables had an additive effect on buyer trust (see Figure 8.5), a conclusion corroborated by the analysis used above to test Hypotheses 6 and 7.

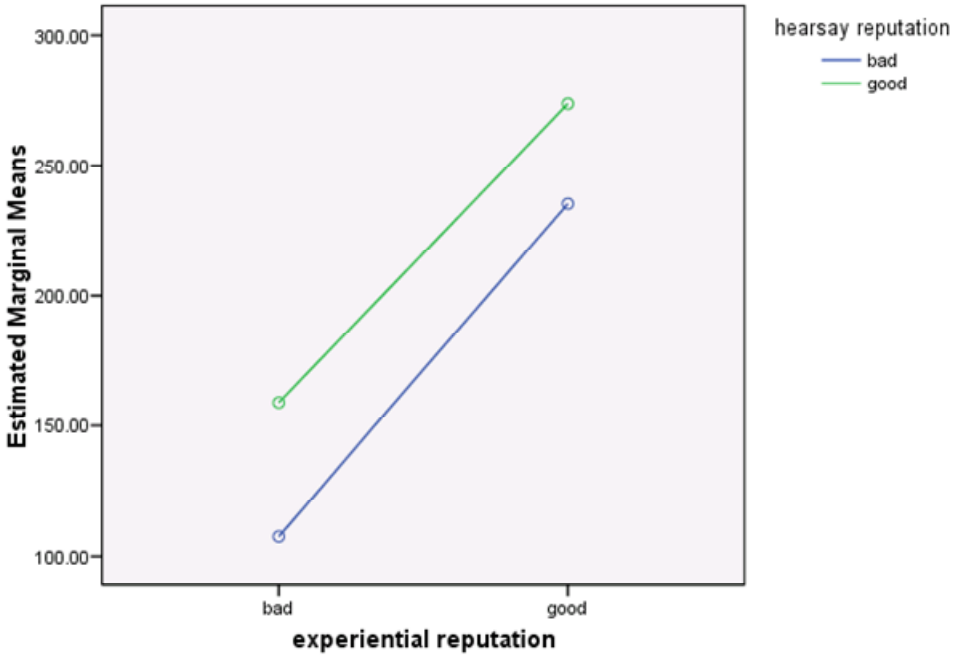


Figure 8.5. Additive effect of Hearsay Reputation and Experiential Reputation on Trust, Experiment 5

As in Study 2, I also explored the possibility that reputation consumers consider two sources of information when constructing schemas of reputation, both reputation as operationalized in this study and the relative experience of the seller. As in the post-hoc analysis of the Study 2, I combined the hearsay reputation variable and auction experience variables such those in the good hearsay reputation and high auction experience conditions were assigned the new good hearsay reputation condition. Similarly, those originally in the bad hearsay reputation and low auction experience

conditions were assigned to the new bad reputation condition. An ANCOVA predicting trusting behavior with the new hearsay reputation, experiential reputation, and buyer gender included as a control, revealed ($F = 13.995$, $p < .001$; adj. $R^2 = 0.22$) that both the new reputation variable ($\beta = 0.275$, $p < .001$) and experiential reputation ($\beta = 0.393$, $p < .001$) had a significant impact on trusting behavior (see Table 8.11, Model 1). However, a second model testing the interaction effect between the new hearsay reputation variable and experiential reputation, while significant ($F = 10.821$, $p < .001$; adj. $R^2 = 0.22$), did not return a significant interaction effect ($\beta = -0.365$, *ns*).

Table 8.11. Post Hoc Analysis of Variance of the Buyers' (Participants') Trusting Behavior on the New Hearsay Reputation Variable with Controls, Experiment 5

Model	*1*	*2*
F	13.995***	10.821***
df	137	137
adj. R^2	0.22	0.22
	β	β
Buyer Gender	0.064	-0.059
New Good Seller Hearsay Rep Variable	0.275***	-0.527*
Good Seller Experiential Reputation	0.393***	-0.645**
New Hearsay Rep Variable X Experiential Reputation		-0.365

*** p < .001; ** p < .01; * p < .05

Discussion

Study 3 was designed to test the same hypotheses tested in the prior studies (except Hypotheses 2 and 3), but in a simulated online auction environment, with characteristics unique from other online marketplaces. In a traditional retail relationship, the buyer demonstrates his or her trust in the retailer by purchasing the good for sale at a

price the seller sets. In an auction, however, pricing is dynamic, and as I have designed this experiment (which is a variation on how we normally think of auctioning), buyers signal their trust in the seller with their high bid. In this experiment, the buyer's high bid relative to his or her "safe" alternative represents the degree to which the buyer trusts the seller. Furthermore, trust has been described in this dissertation as a characteristic of the relationship (Mayer, Davis, Schoorman, 1995) between buyer and seller rather than a dispositional characteristic of either party, thus it is worth discussing the difference in the relationship between buyer and seller in a fixed-price marketplace versus an auction marketplace. When interacting with a retail firm, a buyer does not usually consider that he or she is interacting with a specific individual or group of individuals, but an institution. Online auctions, however, are generally much more personal. A bidder has the sense he is interacting with a person who is a principal unto him or herself, not a firm or its agent. While the psychology of constructing a reputational schema for an institution versus an individual is not dissimilar, attributions of competence and intent directed towards institutions likely concern systemic functions of the institution whereas the same attributions towards individuals would tend toward the personal. For example, after a negative experience trying to resolve a dispute with a retail firm, one might comment, "The customer service at that company is a disgrace." However, after a similarly negative experience with an individual principal, one might hear, "So and so is a cheat and a scoundrel." The first comment suggests a systemic problem with a management solution, the second a personal characteristic, or personality trait, of an individual.

As with Study 2, the hypothesis that hearsay reputation influences trust was not here immediately supported. Also as with Study 2, subsequent structural analysis revealed that trust is influenced by hearsay reputation, both directly and, as later hypothesized, indirectly through the reputation consumer's positive and negative affect, the emotional state of the buyer being influenced by hearsay reputation. These results again underscore the importance of emotional state in the relationship between reputation and trust. Reputation consumers evaluate reputational information emotionally, and that their subsequent emotional state influences how much they are willing to risk, or how vulnerable they are willing to make themselves in a trusting situation. Buyer affect was also confirmed to mediate the relationship between experiential reputation and trusting behavior.

Results from this study also show that not all reputational information is of equal value to reputational consumers. As with prior studies, results show that buyers put more weight on information from personal experience than with hearsay.

A departure from the results of the prior two studies comes when examining the post hoc analysis. Notably, the interaction effect observed between hearsay and experiential reputation on trusting behavior in the prior two studies could not be reproduced in Study 3 despite the fact that both hearsay and experiential reputation had significant, independent effects on the dependent variable. As the results from the prior two studies suggested a more nuanced relationship between hearsay and experiential reputation in predicting trust than was hypothesized, results from Study 3 suggest that there may be some additional theoretical element missing, and suggest an avenue for future investigation.

CHAPTER IX

GENERAL DISCUSSION

It is the intention of this dissertation to explore the relationships between reputation, emotion, and trust. I began by making the argument that reputations are cognitively organized as representational schemata. As such, characteristics common to schemata can be associated with reputation. Similar to Platonic ideal types or Kantian classes (Kant, 1781, 1998), which describe how characteristics of physical objects and beings are organized in memory, reputational schema are simplifications of complex *social* information relevant to the relationship between the reputation consumer and the reputation target, such as events and behavior which indicate future cooperative or uncooperative intentions. Reputational schemas are used to inform future decision-making in social relationships under conditions of uncertainty and vulnerability.

Reputation consumers use information from past interactions, either personal or that of others', to create simple reputations. As the focus of this dissertation is on trusting behavior in one dimensional trust situations (i.e. to invest or not invest, how much to risk), reputational schemata can be understood simply as describing an individual or entity as trustworthy or not, or as having a *good* or *bad* reputation. Thus, I predicted that reputation consumers would exercise more trusting behavior toward reputation targets with good reputation than with bad (see Tables 9.1 & 9.2 for a summary of tested effects and their outcomes).

Table 9.1. Summary of Results from Tests of Hypothesized Effects

		STUDY 1	STUDY 2		STUDY 3	
		Experiment 1	Experiment 2	Experiment 3	Experiment 4	Experiment 5
H1	hearsay reputation → trusting behavior	**supported** (*t-test, ANCOVA; Table 5.5, Model 1*)	NOT supported (*t-test, ANCOVA; Table 7.3, Model 1*)		NOT supported (*t-test, ANCOVA Table 8.3*)	
H2	contextual risk → trusting behavior	**supported** (*t-test, ANCOVA; Table 5.5, Model 1*)	**supported** (*t-test, ANCOVA; Table 7.3, Model 1*)			
H3	trusting behavior = *f*(hearsay repuation, contextual risk)	**supported** (*t-test; Figure 5.4*)	NOT supported (*ANCOVA; Table 7.3, Model 2*)			
H4a	good hearsay reputation → positive affect	**supported** (*OLS regression; Table 5.6, Model 1*)	**supported** (*OLS regression; Table 7.4, Model 1*)		**supported** (*OLS regression; Table 8.4, Model 1*)	
H4b	bad hearsay reputation → negative affect	**supported** (*OLS regression; Table 5.6, Model 2*)	**supported** (*OLS regression; Table 7.4, Model 2*)		**supported** (*OLS regression; Table 8.4, Model 2*)	
H5a	good hearsay reputation → positive affect → more trusting behavior	**supported** (*SEM; Figure 5.6*)	**supported** (*SEM; Figure 7.2*)		**supported** (*SEM; Figure 8.2*)	
H5b	bad hearsay reputation → negative affect → less trusting behavior	**supported** (*SEM; Figure 5.6*)	**supported** (*SEM; Figure 7.2*)		**supported** (*SEM; Figure 8.2*)	
H6	experiential reputation → trusting behavior	**supported** (*t-test, ANCOVA; Table 5.7, Model 2*)		**supported** (*t-test, ANCOVA; Table 7.7, Model 2*)		**supported** (*t-test, ANCOVA; Table 8.7*)
H7	experiential reputation (more than hearsay reputation) → trusting behavior	**supported** (*ANCOVA, logit regression; Table 5.8*)		**supported** (*ANCOVA, logit regression; Table 7.8*)		**supported** (*ANCOVA, OLS regression; Table 8.7, 8.8*)
H8a	good experiential reputation → positive affect	**supported** (*OLS regression; Table 5.9, Model 1*)		**supported** (*OLS regression; Table 7.9, Model 1*)		**supported** (*OLS regression; Table 8.7, Model 1*)
H8b	bad experiential reputation → negative affect	**supported** (*OLS regression; Table 5.9, Model 2*)		**supported** (*OLS regression; Table 7.9, Model 2*)		**supported** (*OLS regression; Table 8.7, Model 2*)
H9a	good experiential reputation → positive affect → more trusting behavior	NOT supported (*SEM; Figure 5.8*)		**supported** (*SEM; Figure 7.4*)		**supported** (*SEM; Figure 8.4*)
H9b	bad experiential reputation → negative affect → less trusting behavior	**supported** (*SEM; Figure 5.8*)		**supported** (*SEM; Figure 7.4*)		**supported** (*SEM; Figure 8.4*)
H10	firm age → trusting behavior		NOT supported (*t-test, ANCOVA; Table 7.3, Model 1*)	**supported** (*t-test, ANCOVA; Table 7.7*)	**supported** (*t-test, ANCOVA; Table 8.3*)	**supported** (*t-test, ANCOVA; Table 8.7*)

Table 9.2. Summary of Results from Tests of Unhypothesized Effects and Other Post-Hoc Analyses

		STUDY 1	STUDY 2		STUDY 3	
		Experiment 1	Experiment 2	Experiment 3	Experiment 4	Experiment 5
UH1	trusting behavior = *f*(hearsay repuation, experiential reputation)	**supported** (*ANCOVA; Table 5.10, Figure 5.9, 5.10)*		NOT supported (*ANCOVA)*		NOT supported (*ANCOVA; Table 8.10)*
With New Hearsay Reputation Variable…						
H1	new hearsay reputation → trusting behavior			**supported** (*ANCOVA; Table 7.10, Model 1)*		**supported** (*ANCOVA; Table 8.11, Model 1)*
H2	contextual risk → trusting behavior			**supported** (*ANCOVA; Table 7.10, Model 1)*		
H7	experiential reputation (more than hearsay reputation) → trusting behavior			**supported** (*ANCOVA; Table 7.10, Model 1)*		**supported** (*ANCOVA; Table 8.11, Model 1)*
UH1	trusting behavior = *f*(hearsay repuation, experiential reputation)			**supported** (*ANCOVA; Table 7.10, Model 2)*		NOT supported (*ANCOVA; Table 8.11, Model 2)*

However, data by which reputational schemas are constructed comes from varied sources, and may thus be of variable value to the reputation consumer in predicting future target behavior. In Chapter 2, I highlighted an ambiguity in prior investigations into the relationship between reputation and trust and theorized that information regarding an individual or entity from third-party sources is qualitatively different from information obtained firsthand, therefore used differently by reputation consumers. I described reputation developed from these two sources of information as either *hearsay reputation*—a reputational schema constructed from hearsay, or information from third-party sources—and *experiential reputation*—a reputational schemata constructed from the reputation consumer's personal experience with the reputation target. Based on Granovetter's (1985) hierarchy of information value, I rejected Lind et al's (1998) prediction that information obtained through social networks is a more powerful representation of reality to reputation consumers, who privilege information obtained through their own experience to that of others. Prior researchers focused on the behavioral effects of reputation have failed to make this distinction (i.e. Chen, Hogg, & Wozny, 2004; Fehr & Gachter, 2000; Hill, 2002; Kaplin, Hill, Lancaster & Hurtado, 2000; Ostrom, Walker & Gardner, 1992; Yamagishi, 1986), making the interpretation and comparison of their experimental results sometimes difficult.

Studies 1, 2, and 3 were all explicitly designed to test the hypotheses that hearsay reputation influences trusting behavior (Hypothesis 1), experiential reputation influences trusting behavior (Hypothesis 6), and the effect of experiential reputation on trusting behavior is stronger than the effect of hearsay reputation (Hypothesis 7). The data used in all three studies provided strong support for these hypotheses (Hypothesis 1 was not

initially supported in Studies 2 and 3, but the structural analysis later showed that hearsay reputation did impact trusting behavior through the trustor's affective state). The contribution to the social psychological literature here is not so much that trust is impacted by reputation, but that reputation consumers differentiate reputational information by type (hearsay or experiential), and furthermore that they rely more on experiential reputation to guide trusting behavior. The distinction between hearsay and experiential reputation is theoretically critical, but also has implications for management which I will discuss later on.

This dissertation also proffers an explanation as to the cognitive process by which reputation leads to trusting behavior. Reputation-trust relationships have traditionally been explained through evolutionary theories of human cooperation which conceptualize the human decision-maker as a rational being making rational decisions (Alexander, 1987; Axelrod & Hamilton, 1981; Axelrod, 1984; Leimar & Hammerstein, 2001; Lotem, Fishman, & Stone, 1999; Nowak & Sigmund, 1998a, 1998b). Evolutionary theories of cooperation generally require that cooperative agents, or *altruists*, within a system punish non-cooperators and/or reward cooperators in ways that are not directly self-interested. Fehr and Gachter (2000, 2002) argue that altruism is an insufficient explanation for this seemingly non-rational behavior, and that rather than being motivated by altruism, per se, the rewarding and punishing behavior that keeps cooperative systems sustainable is motivated by the agent's emotional response to others' cooperative or non-cooperative behavior.

Studies 1, 2, and 3 were also designed to test predictions based on this theory. Specifically, I have argued that the motivation to engage in trusting behavior—or not

to—is motivated by the trustor's emotional state, and that emotional state is impacted the reputation, be it hearsay or experiential, or the trustee. Two avenues for this path were hypothesized, the first through trustor positive affect and the second through trustor negative affect. In the first case, the positive feelings—and lack of negative feelings—result from interacting with a cooperative agent, whereas in the second case the negative feelings—and lack of positive feelings—are a consequence of interacting with a non-cooperative agent. In both instances, the emotional response is an innate, evolutionary derived response which motivates either rewarding (trusting) or punishing (not trusting) behavior. These hypotheses were tested in each study both as a function of hearsay reputation and experiential reputation and in each study the data fit the hypothesized model well. That is, altogether six separate tests of the hypothesis that reputation effects emotion which effects trusting behavior were conducted, and each test supported the prediction.

These results are important because they support the proposition that emotions are evolutionarily functional in maintaining cooperation in economic communities. Models of the reputation-trust relationship, where reputation's social function is hypothesized to be only an indicator of the odds of trustee exploitive intentions inadequately explain the psychological and physiological component of the decision to engage in trusting behavior. Furthermore, these tests of the emotion-trust link go beyond earlier evidence presented by Dunn and Schweitzer (2005) that trustor mood effects trust because in this dissertation emotion was modeled as a consequence of reputational information processing. Dunn and Schweitzer found that a trusting parties ambient mood—emotional state unrelated to the context of the trusting situation—impacted trust. I have shown,

however, that mere exposure to a good or bad reputation is enough to impact emotional state. It is reasonable to conclude, therefore, that emotion influences trusting behavior regardless the antecedent of the emotional state. However, the finding that reputation itself influences trustor emotional state has implications for practice worthy of discussion.

The post-hoc analyses from the three studies also merit attention. Data from Study 1 provided evidence of an interaction effect between hearsay and experiential reputations. Figure 5.9 shows that trusting behavior is always more likely when the trustor has had a positive experience with the trustee (good experiential reputation), hearsay reputation only has an impact on trusting behavior when the trustor has had a negative personal experience with the trustee (bad experiential reputation). This finding was also supported by data from Study 2 when modeled with the new hearsay reputation variable (see Figure 7.5). Even though this finding was not supported by Study 3, the observation may have important implications for practice because it suggests that broken trust, as evidenced by a bad experiential reputation, can be healed through hearsay reputation. That is, a retailer's good hearsay reputation may go a long way in convincing customers who have at one time had a negative experience to come back and try the retailer again.

The introduction of the firm age manipulation in Studies 2 and 3 prompted a post-hoc revaluation of the operationalization of reputation used in this dissertation. Theorizing that individuals may combine information and signals from a variety of sources in constructing their personal reputational schema, and that the tenure of a firm's marketplace presence might be one signal informing the complex cognitive structure that is a reputational schema, I created a new hearsay reputation variable combining the

original hearsay reputation variable with firm age. Even though doing so reduced the statistical power of the analysis, the data from Studies 2 and 3 directly supported Hypothesis 1—that hearsay reputation predicts trusting behavior—whereas the data from the original operationalization of hearsay reputation did not.

LIMITATIONS AND FUTURE DIRECTIONS

This finding illustrates a practical constraint of all research investigating reputational effects in particular, and to some extent work in the social sciences generally. The operationalization of reputation in this dissertation is informed by the work of others, but is undeniably unique. This observation may at first call into question the generalizablity of any conclusions, but when considered as one point of light in a larger constellation of related research, a general picture of the phenomena, at first fuzzy, comes into focus. An advantage of an experimental design such as those used here is that the researcher can hope to disentangle the effect of what he or she is declaring *reputation* from other informational noise. The intention is to simplify the texture of the complex cognitive structures that are reputational schemas. The counterpoint is that real world reputations are not created in vacuums, but are inevitably and invariably constructed within an ear-shattering chaos of social noise.

One reason that hearsay reputation was not as strong a predictor of trusting behavior as was experiential reputation in all three studies could be that the participants were unable to evaluate the quality of information provided in hearsay reputation. It is possible that hearsay information provided by individuals close (not anonymous) to the participants would have been more influential in determining a participant's trusting

behavior. In fact, Granovetter (1985, p. 490) states, "better than a statement that someone is known to be reliable is information from a trusted informant that he has dealt with that individual and found him so." As the experiments were designed, the participant is asked to make a trust decision based on information from an informant that he does not know can be trusted. There may be other factors related to the source of hearsay reputation important in considering the strength of the predictive impact of hearsay reputation on trusting behavior such as whether that source is intuitional (eBay's reputation system) or personal (the experience of a friend).

The larger point is that this dissertation did not attempt to address the question of the quality, strength, or intensity of reputational signals, and how the quality of a hearsay reputational signal may in some cases be better than the quality of experiential information. For instance, it's not difficult to imagine situations in which the opinion of an expert third party would be of more value than one's own naive opinion, even if derived from personal experience. Varying levels of reputational quality, strength, or intensity might not only lead to differences in the direct effects of hearsay and experiential reputations on trusting behavior, but interesting interaction effects as well.

Furthermore, future consideration should be given to the sequence of information exposure. In the first of the three studies reported here, participants were first exposed to hearsay reputation, and then later had personal experience to draw on. In the other two experiments where hearsay and experiential reputations were pitted against each other, constraints of the experimental protocol left participants to process both types of reputational information simultaneously. The question of how might the relationship between hearsay and experiential reputation on trusting behavior be affected by a person

first having had a personal experience with the trustee, then being exposed to hearsay reputation is one that will need to be addressed by some future investigation. Future research might also consider that it may take more than one interaction to construct an experiential reputation of another person or firm. Thus, the effect on trusting behavior of an experiential reputation based on a single interaction may be theoretically distinct from an experiential reputation based reoccurring interactions (though reoccurring interactions are likely to occur only if the trustee has proven reliable in reciprocating trust).

Another limitation relates to both the small rewards at stake for participants and the possibility of a trusting bias. It should be noted that many researchers that make use of similar experimental designs—trust games (c.f. Berg et al., 1995), public goods games (c.f. King-Casas et al., 2005), modified dictator games (c.f. Kahneman, Knetsch, Thaler, 1986b) reward participation with monetary sums as much as 100 times greater than those offered here. While my approach to participant compensation is not without precedent (Barclay, 2004), the limitation of this method to motivate the type of activity I expected must be acknowledged. It may be that the type of people willing to participate in an online research experiment for very little compensation—who are willing to provide personal information over the internet and, in the case of the lottery winners, share their social security number with the researchers in order to be compensated—are simply, on average, more trusting than the average person from the population that this sample is meant to represent. To some extent, this limitation could be addressed by including in the experimental design a measure for dispositional trust and controlling for it in each analysis.

An additional idiosyncrasy of the experimental design is that participants are only given the option of trust versus no trust, where in reality individuals faced with trust decisions often have alternative individuals or firms in which to engage in trusting behavior. In Studies 2 and 3 in particular, the observation of trusting behavior may be artificially inflated in the bad reputation conditions. Some participants that engaged in trusting behavior may have otherwise sought alternative exchange partners had they that opportunity.

In this dissertation I modeled positive and negative affect mediating the relationship between reputation and trusting behavior. While I believe this approach was appropriate (and certainly defensible given the statistical methodologies I applied), it should be noted that the range of emotion contained within the constructs *positive affect* and *negative affect* is quite large. Consider, for example, the various components of the PANAS used to measure negative affect: afraid, guilty, hostile, irritable, ashamed, nervous, distressed, upset, scared, and jittery. In short, the general construct *negative affect* covers a lot of emotional terrain. Researchers studying the role of affect in a variety of behavioral contexts have begun focus more on the differentiation of discrete emotions, such as differentiating between anger and sadness (DeSterno, Petty, Rucker, Wegener & Braverman, 2004; DeSterno, Petty, Wegener & Rucker, 2000) or anger and disgust (Lerner, Small & Loewenstein, 2004). To better understand the cognitive-emotional process by which reputations are processed, future work might follow in this vein with the intention of investigating precisely what emotions reputations invoke as well as their varying effects on trusting behavior.

In the present work reputation was operationalized as the behavior of the trustee in past equivalent transactions, such as how many times Player Two, in prior rounds of a trust game, reciprocated or exploited trust. However, by defining reputation as a schema the realm of information that a trustor might use to develop a reputation is more expansive. As was previously discussed, a schema is a model for understanding how concepts (like a reputational type) are stored in memory (Fiske & Taylor, 1991) and are used to make reliable assumptions about unknown characteristics or behavioral tendencies of the schema target (Bruder, 1973). This conceptualization of reputation allows for information other than trustee behavior in past equivalent transactions to be considered—and experimentally operationalized—reputational information. The present investigation hinted at one other source of reputational information, a firm's marketplace tenure. In a way similar to that discussed by Akerlof (1970), firms (even online retailers and auctioneers) "burn money" by developing websites with sophisticated technological capability and pleasing aesthetics to woo and reassure potential clientele. And a third factor which may influence the quality and type of reputational schema trustors construct relates to how firms borrow reputation from other firms, professional associations, and regulatory agencies. For example, banks prominently display logos of the FDIC, indicating that deposits are insured by the federal government. Internet retailers draw on the reputation of secure sockets layer (SSL) Certificate Authority enablers, such as VeriSign, by not only using their service, but by conspicuously displaying their logo at checkout. These observations provide fertile ground for theory development and subsequent empirical investigation. How are different sources of reputational information theoretically distinct? How do they differentially impact trustor affect and

trustor behavior? Do these sources of reputational information interact in significant ways?

A final direction for future research concerns the trustee side, or target side, or reputation. In other words, how do concerns about reputation management affect the behavior of the reputation owner? In a study of conflict resolution between two parties to an eBay transaction gone sour, Friedman et al. (2004) found that expressions of anger hindered settlement, except in those cases where the respondent of the complaint had a bad reputation, and resolution of the conflict promised the removal of negative feedback. This finding points to how at least one contingency—the quality of one's reputation—effects a person's behavior in regard to managing their reputation. More research is needed in this area. Not only do we know little regarding what the antecedents of reputation management behavior are, we also don't know what kind of behavior individuals perceive as having an effect on their reputation.

IMPLICATIONS FOR PRACTICE

The results of these studies have implications for three parties: trustors, trustees, and those who design markets where trusting behaviors are observed. For trustors, the implications are relatively simple. Trustors should be aware that their behavior is influenced by reputation, and that personal experience weighs more heavily than hearsay reputation in that calculus. Trustors should also acknowledge that these tendencies are heavily influenced by their emotional reaction to good and bad reputations. Reflection on this reality may lead trustors to consider other factors which the present studies have not addressed, such as the quality and source of the information used in developing

reputational schema as well as the particular experiences by which reputations were constructed. In other words, exactly *how* was trusting behavior either reciprocated or exploited may be relevant. For instance, a customer may give an online retailer a poor evaluation because the retailer failed to accept the return of an item. If a return guarantee is of no importance to the present trustor, the fact that the retailer offers none is of no relevance.

To trustees the implications of the present work are more profound. For firms that rely on repeat business, managers should know that the quality of customers' personal experience looms large in their decision to interact with the firm in the future, regardless of the firm's overall reputation. However, a firm's overall reputation may go a long way in repairing strained trust relationships. Results from the first two studies suggest that even when trustors have had a negative personal experience with a trustee that they are much more willing to engage in trusting behavior with the trustee again *if* the trustee has a good hearsay reputation. This suggests that it may be in the best interest of the firm to make customers with past negative experiences aware of the positive experience of others, an effort that might be pursued through the firm's marketing and public relations arms.

Another implication for business regards standards for quality control and other procedures designed to affirm customer satisfaction. Because experiential reputation has such a strong impact on trusting behavior, a firm might safely upset a significant portion of its customers and still retain enough business to be able to sustain the livelihood of the firm. For instance, if a firm relies entirely on new business for its customer base, and can sufficiently control reputational information such that the firm itself is the only source of

customer information about it (through its public relations and marketing functions), it may not be necessary to invest any resources in quality control and customer service beyond a legal standard. Or in another instance, if a firm knows that nearly one hundred percent of customers that have had a positive experience will return, but that five percent of its customers are always new customers, it could safely afford to upset up to five percent of its returning customers and still maintain its current level of business. These realizations have rather unfortunate implications, from the consumer's perspective, for a firm's strategic standard of quality control.

Finally, the work reported here has implications for those who design markets. My findings support the view (for an example, see Bohnet and Huck, 2004) that when reputational information is made available trust is facilitated. Trustees, understanding that past behavior will influence the likelihood of others to trust have an interest in building and maintaining reputations of trust and reciprocity. Those who design markets, who have an interest in eliminating consumer trust barriers, should be encouraged by these findings to integrate into their markets systems which facilitate the recording and dissemination of transactional information relevant to the construction of reputations. However, my findings also suggest that records of past behavior alone is not all that is of interest to trustors. The post-hoc analyses of Studies 2 and 3 suggest that at least a firm's marketplace tenure is also relevant to the trustor's decision to engage in trusting behavior. Designers who tap into all the sources of reputational information that consumers use in making trust decision would create the best systems—which is to say the systems that would most facilitate the trust required to enable economic exchange.

APPENDIX A

EXPERIMENTAL PROTOCOL FOR EXPERIMENT 1

The following is the text used in Experiment 1 (Chapter 4) to explain the experimental procedure to participants. Text in brackets [] indicates page ordering and the experimental condition shown the text that follows.

[PAGE 2 – instructions – all conditions]

In this exercise there are two players, you and another eLab participant with whom you will be connected. (If no other participants are available, we'll ask that you login again later.) You will be randomly assigned to the role of either Player One or Player Two.

*** **Right now, there are 3 others eLab participants logged on.** ***

At the beginning of the exercise (or game) Player One is given a sum of "lab dollars." Player One can choose to keep this money to him or her self, in which case Player Two receives nothing, or give the entire sum to Player Two. If Player One gives the money to Player Two, the total sum of money will be multiplied by a factor such that Player Two receives considerably more than Player One gave. Player Two then has two options for dividing the now larger sum of money between both players: (1) Player Two can divide the money in his or her own favor or (2) Player Two can divide the money in Player One's favor.

Each lab dollar in this exercise represents a 1 in 1000 chance at winning a $100 prize. The more lab dollars you collect, the better chance you have at winning. For example, if you ended the game with **15** lab dollars, you would have better than a 1 in 70 chance at winning $100.

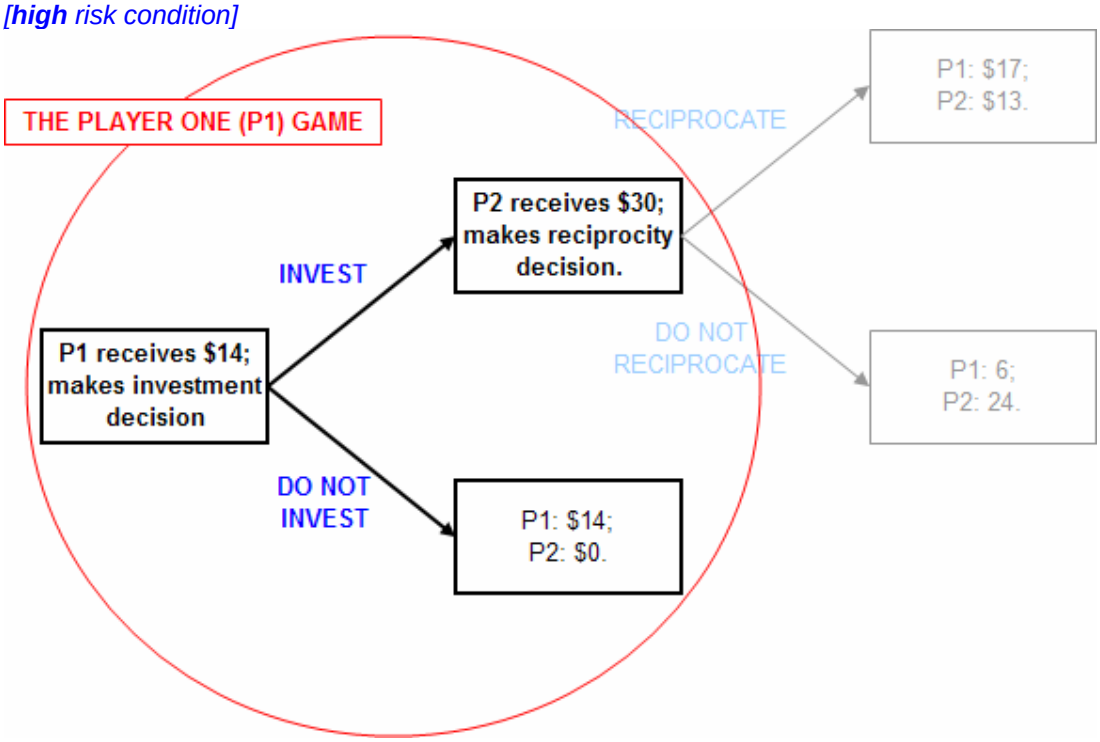
Some pairs, after completing the first game, will be asked to play again. The more you play the more you may increase your odds of winning.

[PAGE 2.5 – instructions (cont)]

You have been randomly assigned as **Player One**.

The game from your perspective is depicted in the following figure:

*[**high** risk condition]*

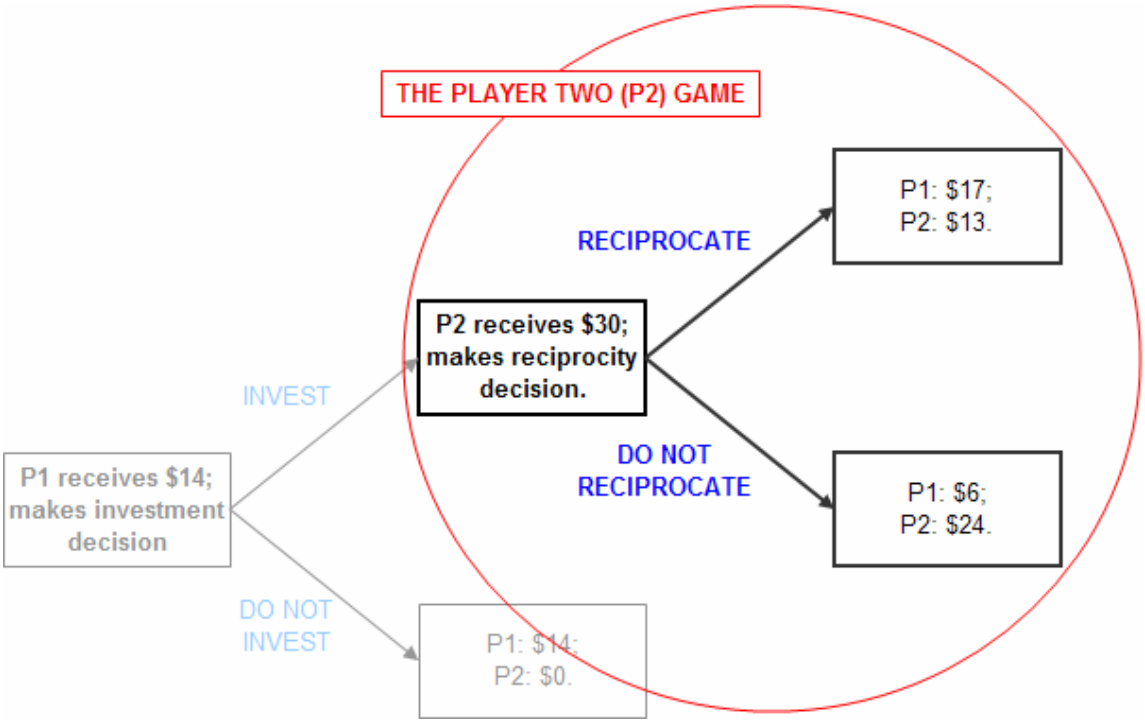


You will be given **14** lab dollars which you may either keep (depicted by the "DO NOT INVEST" branch of the decision tree above) or *invest* in Player Two (depicted by the "INVEST" branch of the decision tree).

If you choose <u>not</u> to invest in Player Two, you walk away with **14** lab dollars and Player Two receives nothing.

If you choose to invest in Player Two, you will be giving your **14** lab dollars to Player Two and the **14** lab dollars will become **30** lab dollars.

Player Two then has two options, as depicted in the following figure:



(1) Player Two may split the money in his or her favor, keeping **24** lab dollars and returning only **6** lab dollars to you. Or,

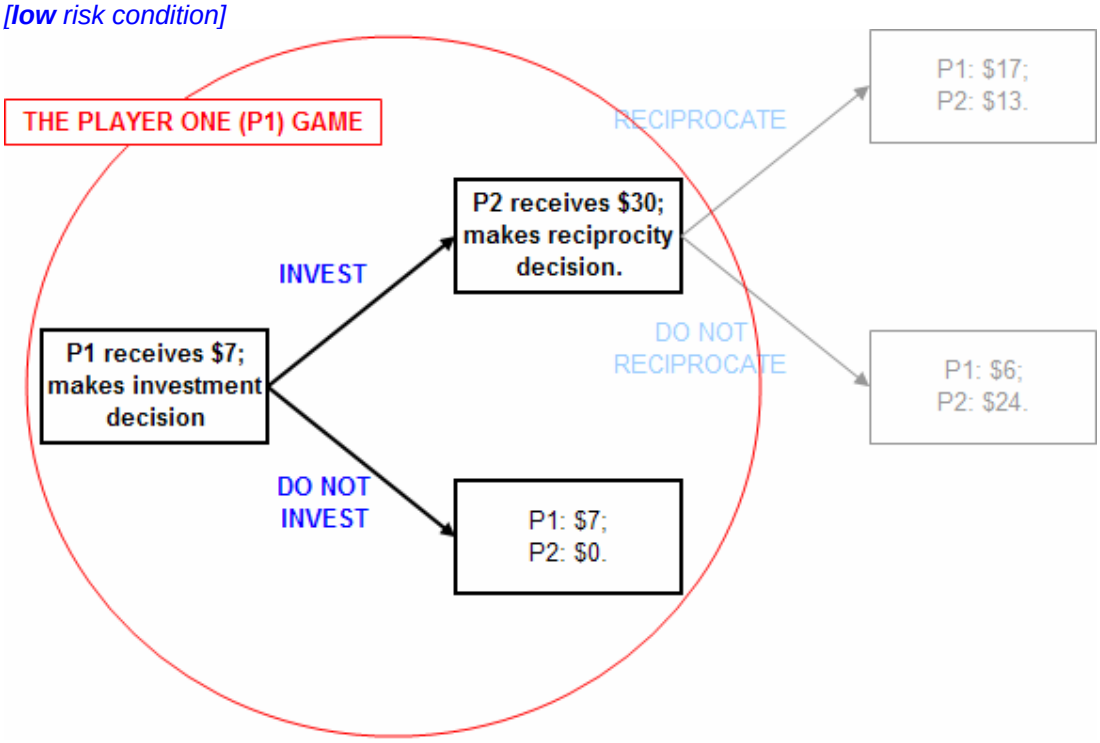
(2) Player Two may split the money in your favor, keeping **13** lab dollars and returning **17**.

In other words, by making the decision to invest in Player Two you stand to gain something (**3** lab dollars), but could also lose something (**8** lab dollars).

All the information contained in the above figures has also been given to Player Two.

Take a moment to make sure you understand the flow of the game. When you click on the "Proceed" button below, you will be connected with another eLab participant who will play the role of Player Two. Please be patient…depending on user availability, the process of connecting may take a few minutes.

*[**low** risk condition]*

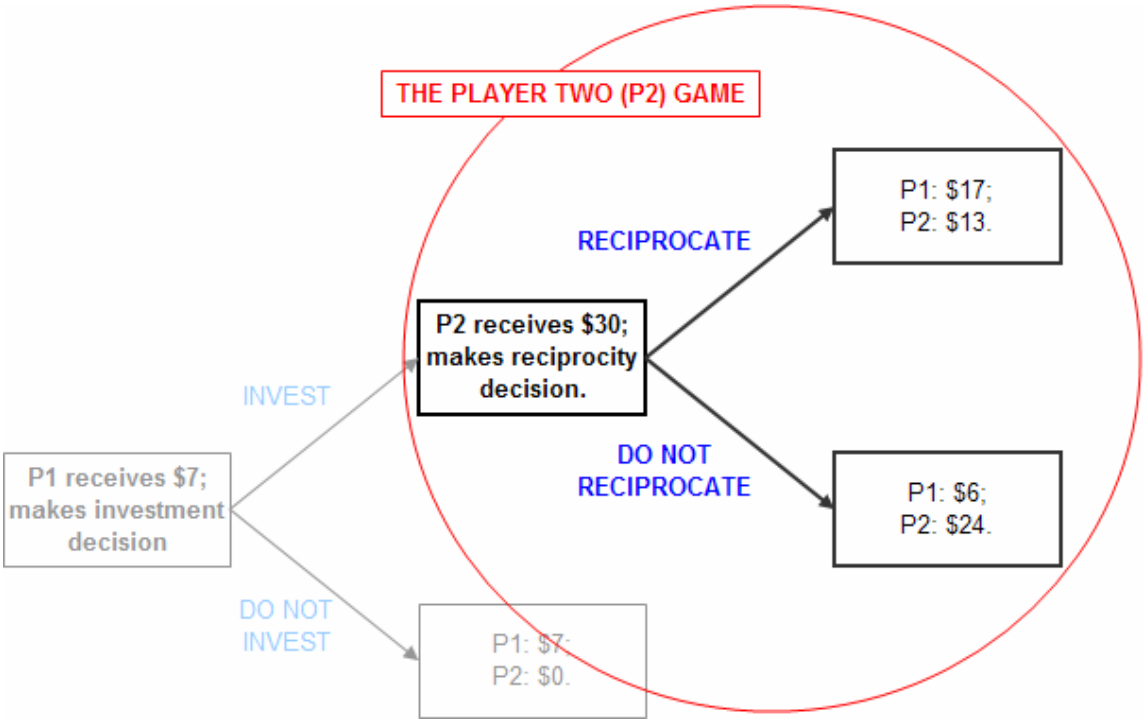


You will be given **7** lab dollars which you may either keep (depicted by the "DO NOT INVEST" branch of the decision tree above) or *invest* in Player Two (depicted by the "INVEST" branch of the decision tree).

If you choose <u>not</u> to invest in Player Two, you walk away with **7** lab dollars and Player Two receives nothing.

If you choose to invest in Player Two, you will be giving your **7** lab dollars to Player Two and the **7** lab dollars will become **30** lab dollars.

At this point, Player Two has two options, as depicted in the following figure:



(1) Player Two may split the money in his or her favor, keeping **24** lab dollars and returning only **6** lab dollars to you. Or,

(2) Player Two may split the money in your favor, keeping **13** lab dollars and returning **17**.

In other words, by making the decision to invest in Player Two you stand to gain something (**10** lab dollars), but could also lose something (**1** lab dollars).

All the information contained in the above figures has also been given to Player Two.

Take a moment to make sure you understand the flow of the game. When you click on the "Proceed" button below, you will be connected with another eLab participant who will play the role of Player Two. Please be patient…depending on user availability, the process of connecting may take a few minutes.

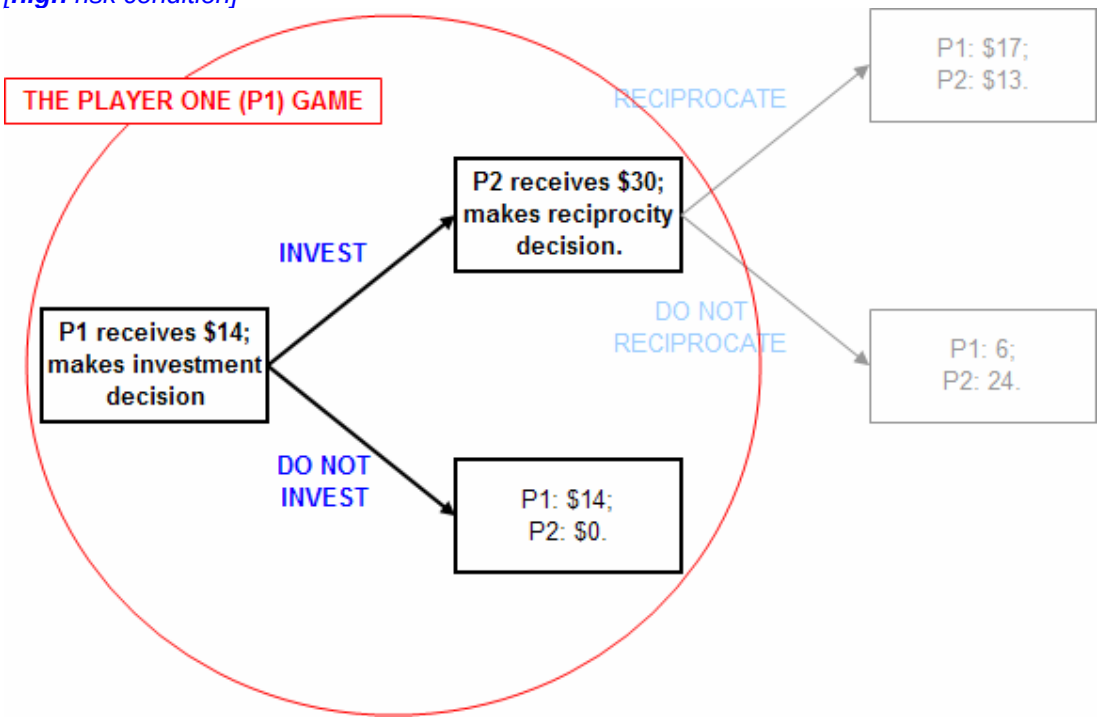
[Page 3 – wait screen]

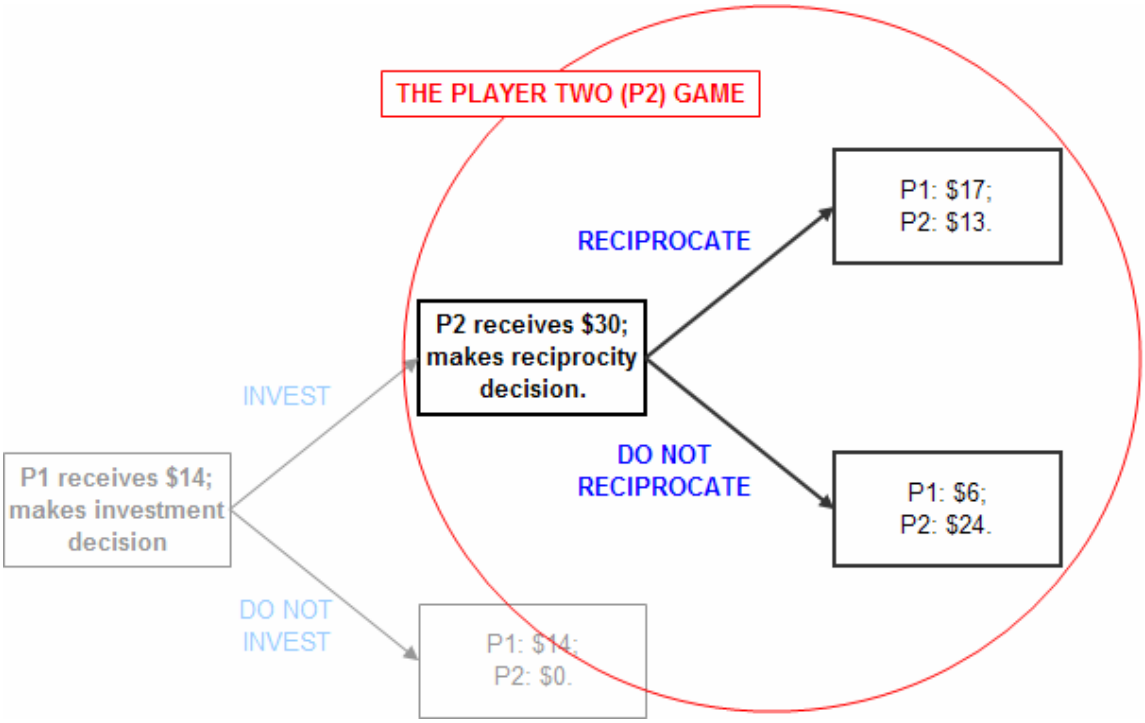
Please wait while we search for an available participant.
Estimated wait time from 0 to 4 minutes.

…

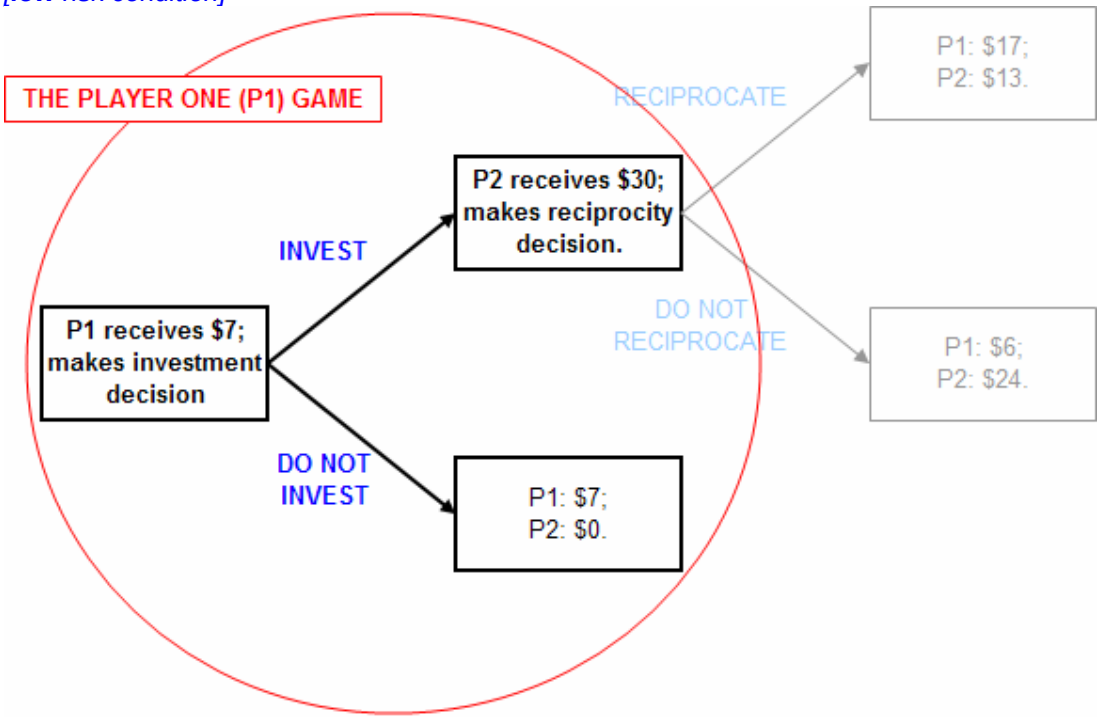
You are being connected with **User #487G1**.

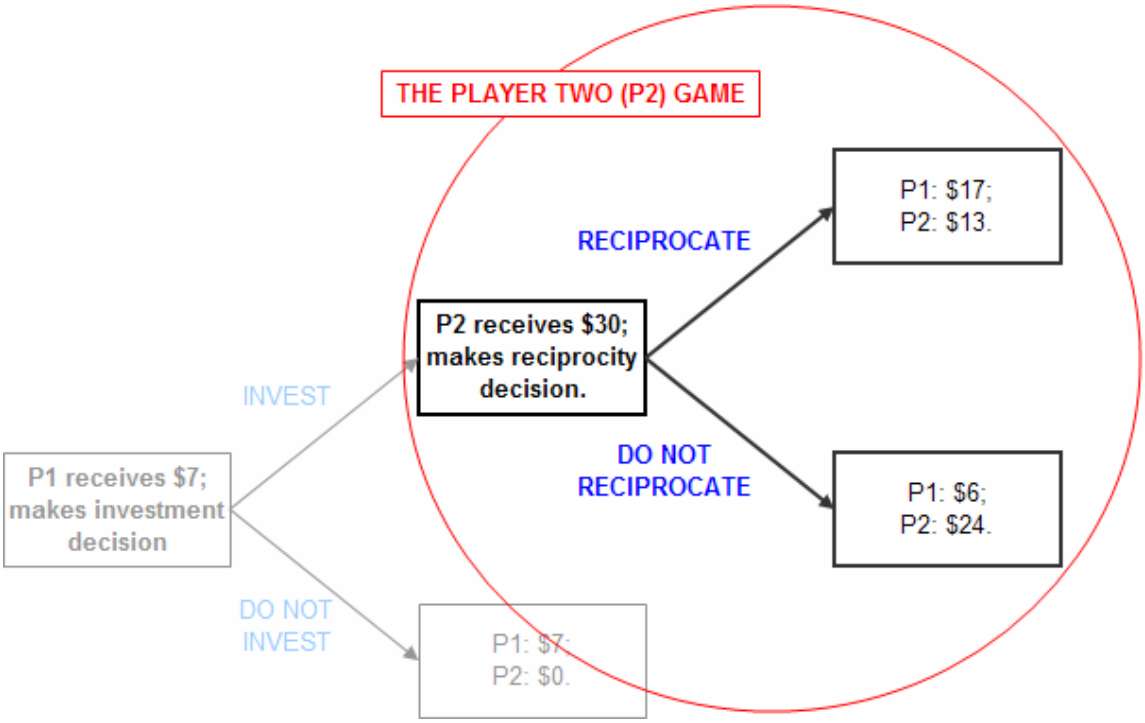
*[**high** risk condition]*





*[**low** risk condition]*




THE PLAYER TWO (P2) GAME
P1: $17;
P2: $13.
RECIPROCATE
P2 receives $30;
makes reciprocity
decision.
INVEST
P1 receives $7;
makes investment
decision
DO NOT
RECIPROCATE
P1: $6;
P2: $24.
DO NOT
INVEST
P1: $7;
P2: $0.

[Page 4 – P1 to trust decision, all conditions]

You have been connected with **User #487G1**. **User #487G1** has completed this exercise **6** times before (each time as Player Two).

You now have **14** [**7**] lab dollars.

You must choose to invest this sum in Player Two or to keep it to yourself. Remember, if you give the money to Player Two, your **14** [**7**] lab dollars will become **30**. Player Two then has two options for dividing it:

Gives **$17** to you and keeps **$13**

OR

Gives **$6** to you and keeps **$24**.

As was mentioned before, **User #487G1** has already completed this exercise several times. Here are **User #487G1**'s statistics:

*[**good** reputation condition]*
Number of times **User #487G1** divided **$30** investment in favor of Player One: **6**
Number of times **User #487G1** divided **$30** investment in favor of Player Two: **0**

*[**bad** reputation condition]*
Number of times **User #487G1** divided **$30** investment in favor of Player One: **0**
Number of times **User #487G1** divided **$30** investment in favor of Player Two: **6**

APPENDIX B

TRUST INSTRUMENT USED IN STUDY 1

Please mark the number below each statement that most clearly describes your opinion of the other party right now.

1. I think that the other party meets its obligations.

1..7, where *1 = strongly disagree*
4 = neither agree nor disagree
7 = strongly agree

2. In my opinion, the other party is reliable.
3. I think that the other party succeeds by stepping on other people.
4. I feel that the other party tries to get the upper hand.
5. I think that the other party took advantage of me.
6. I feel that the other party represented itself honestly.
7. I think the other party has not misled me.
8. I think the other party tires to get out of its commitments.
9. I feel that the other party takes advantage of people who are vulnerable.

APPENDIX C

TRUST INSTRUMENT USED IN STUDY 2

Please mark the number below each statement that most clearly describes your opinion of *www.whatyouwant4less.com* right now.

1. I think that *www.whatyouwant4less.com* meets its obligations.

1..7, where *1 = strongly disagree*
4 = neither agree nor disagree
7 = strongly agree

2. In my opinion, *www.whatyouwant4less.com* is reliable.
3. I think that *www.whatyouwant4less.com* succeeds by stepping on its customers.
4. I feel that *www.whatyouwant4less.com* tries to take advantage of people.
5. I feel that *www.whatyouwant4less.com* represents itself honestly.
6. I think *www.whatyouwant4less.com* has not misled me.
7. I think *www.whatyouwant4less.com* tires to get out of its commitments.
8. I feel that *www.whatyouwant4less.com* takes advantage of people who are vulnerable.

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