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Keywords: Trust, distrust, ambivalence, suspicion, situation abnormality, unified trust-distrust model (UTDM)

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INTRODUCTION

Trust has been studied for several decades in many disciplines (Levine & McCornack, 1991; Mayer et al., 1995; Schul et al., 2004). The widespread adoption of the Internet in the late 1990s initiated a large literature stream to explore the role of trust in electronic commerce (Ba & Pavlou, 2002; Bhattacharjee, 2002; Jarvenpaa & Tractinsky, 1999). Because trust is crucial in relationships and thus enables individuals to enter into exchanges, it is even more crucial in online environments where the relationship between buyer and seller often lacks history, reliable information (Dellarocas, 2006; Dimoka, 2010), or even expectations of future interactions (Dellarocas, 2003; Hann et al., 2007). Additionally, most research in e-commerce has focused on the critical role that trust plays in the success of e-commerce and the Internet (Gefen et al., 2003; Komiak & Benbasat, 2008; McKnight et al., 2002; Pavlou & Fygenson, 2006).

The study of trust within online settings is vital and can expand the understanding of trust in offline settings for several reasons. First, due to the lack of context and information online (Dellarocas, 2003; Dimoka, 2010; Xiao & Benbasat, 2007), the role of trust in transactions is even more crucial than in offline settings. Hence, findings from online trust research can be more readily applied to offline settings where contextual information is more readily available to the trustor. Second, given the crucial role that trust plays in e-commerce (Dimoka, 2010; Gefen & Straub, 2004; Yang et al., 2006), it is possible to see how trust affects outcomes in trust-based relationships. Specifically, the outcomes of trust are more easily ascertained and detected than those of distrust. Most online trust studies have focused on the outcomes that result from trust, and these outcomes can also be readily generalized to offline settings. Third, while consumers are exposed to new information sources they must decide whether they will rely upon these sources or not. Because of the vast amounts of information that an individual encounters for the

first time on the Internet, online trust research provides a unique opportunity to explore how trust is engendered between a truster and trustee. These findings can then be used to explain how trust is created in other offline settings (Schul et al., 2004; Schul et al., 2008).

Despite the pre-eminence of trust in organizational and e-commerce research, our theory-based literature review revealed three theoretical gaps that have yet to be resolved. The first gap is the lack of a unified understanding of the interplay between trust and distrust. Recently in the trust-distrust literature, researchers have suggested that distrust may be an equally integral and important part of the e-commerce process (Dimoka, 2010; McKnight et al., 2003). *Trust* is exhibited when a truster displays a willingness to be vulnerable to the trustee based on the expectation that the trustee will perform as desired by the truster (Mayer et al., 1995).

Conversely, *distrust* is exhibited when a distruster expects that the other party either will not or cannot perform the desired behaviors, and will act negatively toward the distruster (McKnight & Chervany, 2001). Although researchers generally agree on the conceptual differences between trust and distrust, the relationship between these two constructs is being debated currently within the trust research community (Dimoka, 2010; Komiak & Benbasat, 2008; McKnight et al., 2003).

To wit, two major yet contradictory approaches to conceptualizing trust and distrust have emerged. The first view assumes that trust and distrust are at the opposite ends of one continuum and thus increasing trust is all that is needed to avoid the possibility of distrust (McKnight et al., 2002; Rotter, 1980). In contrast, the second view posits that trust and distrust are not only oppositely valenced, but also are distinct, separable constructs (Dimoka, 2010; Komiak & Benbasat, 2008; Lewicki et al., 1998; McKnight et al., 2003). Because both sides in this conceptual debate have reported both theoretical and empirical support for their

conceptualizations of the dimensionality of trust and distrust, the debate remains unresolved.

The second theoretical gap is that current theory is unable to adequately explain what will happen if an online buyer has both high trust and high distrust—resulting in ambivalence—toward an online seller. Earlier research on trust and distrust did not allow for this possibility because they were considered opposite ends of the same spectrum (McKnight et al., 2002; Rotter, 1980), but more recent research debunks by showing that trust and distrust are conceptually distinct constructs that can independently vary from each other (Dimoka, 2010; McKnight & Choudhury, 2006; McKnight et al., 2003). This means that an individual can feel both high distrust and high trust at the same time—creating a state of ambivalence (Cacioppo & Berntson, 1994; Kaplan, 1972; Priester & Petty, 1996). However, no trust- or distrust-related theory exists to explain how this trust-distrust conflict of ambivalence is resolved. For example, does it require large amounts of distrust to overpower the effects of trust, or does minimal distrust disrupt the entire process and discourage e-commerce?

The third theoretical gap is that the distinct predictors of distrust are largely unknown. Although the importance of distrust has been posited for several years (Lewicki et al., 1998; McKnight et al., 2003; Sitkin & Roth, 1993), the current nomological network of distrust remains relatively unexplored with few known antecedents of distrust having been identified to date (McKnight & Choudhury, 2006; McKnight et al., 2004). An important step in determining the importance of distrust is identifying constructs that could independently predict distrust apart from trust. With the majority of e-commerce research focusing on trust antecedents, the current literature is missing the complexity, richness and understanding of consumer behavior that might be the reward of explaining and proposing independent antecedents of distrust in e-commerce.

This paper proposes a new e-commerce model of trust and distrust, called the Unified

Trust-Distrust Model (UTDM) that was created to specifically address these three theoretical opportunities in the literature. First, UTDM builds on both the unidimensional and bidimensional views of trust and distrust by successfully reconciling their inherent contradictions with each other. Second, UTDM extends the distrust nomological network by proposing situational abnormality and suspicion as novel antecedents of distrust. Third, UTDM introduces the ambivalence construct to explain when it is likely that buyers will encounter trust-distrust ambivalence in e-commerce settings, and to predict the likely results of this ambivalence.

THEORETICAL ISSUES ON TRUST AND DISTRUST IN THE LITERATURE

All of the core theoretical issues of trust and distrust that UTDM resolves center on the more fundamental issue of whether distrust is just another manifestation of trust or whether it is a separate construct. UTDM is built on the assumption that distrust is a separate construct, which we justify here by explaining the extant research on distrust—particular in explaining and contrasting unidimensional and bidimensional models of trust-distrust.

Two general approaches are used to explain how one individual in a relationship with another can feel both trust and distrust. The general approaches include unidimensional and bidimensional models (Lewicki et al., 2006). Unidimensional models of trust (Rotter, 1980; Worchel, 1979) treat trust and distrust as two opposite ends of one continuum. These models propose that trust has several components (e.g., trusting beliefs, affective trust) that can be captured within a global construct that measures overall trust for an individual (McAllister, 1995; Williams, 2001). Based on the perception of the trustee's trustworthiness, the truster expects and feels that the trustee will behave in a desired manner and is willing to become vulnerable to the trustee (Williams, 2001). The unidimensional conceptualization of trust and distrust assumes that if the trustee is perceived to score high on the global trust construct, the truster will have high

trust in the trustee. Conversely, if the score is low, low trust, which is equated with distrust, will be engendered.

Unidimensional models of trust and distrust are built on earlier trust research that assumed trust and distrust to exist at opposite ends of the same continuum (Barber, 1983; Deutsch, 1958; Rotter, 1980). These earlier models of trust were based on an economic game wherein trust was conceptualized as cooperative behavior and distrust as opportunistic behavior (Arrow, 1974). Additionally, this approach tended to view trust and distrust as substitutes for each other (Lewis & Weigert, 1984) that are mutually exclusive (Lewicki & Bunker, 1996).

However, if the unidimensional view were appropriate, there would be no need to define the construct of distrust or to propose distrust propositions. This assumption is solidly refuted by the bidimensional approach to trust-distrust, upon which UTDM is largely built.

Bidimensional models of trust (Dimoka, 2010; Lewicki et al., 1998; McKnight & Choudhury, 2006) were founded on the principles of separating constructs of negative valence from those of positive valence (Kahneman & Tversky, 1979; Kaplan, 1972). Hence bidimensional models of trust-distrust propose that the constructs trust and distrust are distinct, generally consisting of the same components but exhibiting opposite valences. Trust is posited to include positive expectations regarding the trustee's conduct, whereas distrust includes negative expectations (Luhmann, 1979).

Even though both trust and distrust are used to describe the expectation regarding the trustee's behavior, there are some nuanced differences. First, trust reduces from the truster's consideration the possibility of undesirable actions by the trustee whereas distrust introduces the possibility of undesirable actions to the consideration of the truster (Luhmann, 1979). Both mechanisms are able to reduce social complexity, albeit in opposite directions. Trust makes it

possible to consider future events by minimizing the outcomes to include mainly positive events, but distrust enables the individual to focus on primarily negative outcomes that may occur.

From the bidimensional conceptualization, although the constructs are framed as opposite valences and expectancies of each other, they are treated as independent of each other (Lewicki et al., 1998)—despite the fact that empirical evidence has found moderate correlations between the two (McKnight & Choudhury, 2006). Namely, low trust from this perspective does not mean the same thing as high distrust. Thus, for example, low trust refers to a lack of hope or the uncertainty of the trustee’s behavior, whereas high distrust is associated with increased fear, skepticism and vigilance (Lewicki et al., 1998). Additionally, high trust is not the same as low distrust. High trust relates to beliefs and feelings of hope, faith and confidence in the trustee, while low distrust suggests minimal fear, skepticism, cynicism and a need to monitor the trustee (Lewicki et al., 1998; Lewicki et al., 2006).

Bidimensional models of trust and distrust propose that the relationship between the truster and trustee is more complex than that which is explainable by the unidimensional approach to trust. Lewicki et al. (1998) explained that most relationships are complex and have various facets where distrust or trust can be held, and it is thus impossible to assign a generic label of trust or distrust to a relationship. Instead, a relationship can focus on an aspect of the trustee that is trusted or distrusted. For example, an individual can have trust in his accountant and believe that she has the competency to complete and file an accurate tax return for the truster; but at the same time, the individual may distrust the same accountant to provide investment advice concerning his stock portfolio or to babysit his daughter while he is away on a business trip. Thus, the proper response to whether an individual trusts another should not be “yes or no” but “to do what?” (Hardin, 1993). In complex relationships, it is most important to

refer to the specific aspect of importance to understand whether the truster believes or feels trust towards the trustee. The various facets that make up a relationship allow trust and distrust to coexist, and thus support the bidimensional model of trust and distrust.

We embrace the bidimensional model of trust-distrust because of its increased theoretical explanatory power and because it is solidly backed by empirical evidence (Komiak & Benbasat, 2008; McKnight & Choudhury, 2006; Ou, 2006). Importantly, the most recent empirical evidence in the debate by Dimoka (2010) clearly demonstrates that trust and distrust are distinct and separable by utilizing fMRI techniques. However, little research has been done to examine the distrust nomological network and how distrust can be influenced and modified by its own unique antecedents that are separable, or at least provide differential impacts on distrust when compared to trust. We believe this to be an important part of UTDM by (1) expanding the nomological network of trust and distrust and (2) proposing two such constructs that uniquely predict and have effects on distrust that are separate and unrelated to any change in trust.

DEFINING DISTRUST

The previous section explained why UTDM supports the bidimensional view that trust and distrust are separate constructs. In this section, we propose definitions of a set of distrust constructs; specifically, distrusting beliefs and the disposition to distrust. UTDM builds upon previously-reported models of distrust (McKnight & Choudhury, 2006; McKnight et al., 2002; McKnight et al., 1998).

Distrusting beliefs reflect an individual's assumption that a trustee will act in a self-interested manner, dishonestly, or in an incompetent fashion (McKnight & Choudhury, 2006; McKnight et al., 2004). As distrust is the opposite valence of trust, and trust is commonly composed of three main subconstructs (i.e., benevolence, integrity and competence) (Mayer et

al., 1995), distrust is composed of the three subconstructs that hold the opposite valence of the trust subconstructs, namely: incompetence, malevolence and deceit (McKnight & Choudhury, 2006; McKnight et al., 2004). *Incompetence* refers to the truster's belief that the trustee lacks the ability to perform a desired behavior. *Malevolence* refers to the truster's belief that the trustee has the intention to harm the truster. Deceit refers to the truster's belief that the trustee is dishonest and potentially provides false information. A multidimensional conceptualization of distrust is also supported by other frameworks of distrust (Lewicki et al., 1998; Tomlinson & Lewicki, 2006).

Disposition to distrust is defined as the general tendency of an individual to not rely on or become vulnerable to others (McKnight & Chervany, 2001). The disposition to distrust has most commonly been defined as a general suspicion towards humanity (McKnight et al., 2004; Sitkin & Roth, 1993). McKnight et al. (2004) further built on this by conceptualizing and validating the subdimensions of disposition to distrust that parallel the subdimensions of distrusting beliefs. UTDM adopts these conceptualizations.

PROPOSING THE UNIFIED TRUST-DISTRUST MODEL (UTDM)

Given this foundation, this section introduces the *unified trust-distrust model* (UTDM). This model consists of the following: net trusting beliefs is used to replace both distrusting beliefs and trusting beliefs used in bidimensional models. Next, UTDM adds to the nomological validity of trust and distrust by incorporating two additional negative antecedents of net trusting beliefs. UTDM includes these negative antecedents of net trusting beliefs as the majority of trust-distrust research has focused only on positive antecedents of trust or the disposition to distrust (McKnight & Choudhury, 2006). The first antecedent is situational abnormality, which is predicted by the disposition to distrust. The second new antecedent is suspicion, which is

predicted by situational abnormality. UTDM includes these two specific negative antecedents of net trusting beliefs based on research in communications and social psychology that has proposed that these constructs are strong predictors of distrust (Buller & Burgoon, 1996; Fein & Hilton, 1994; Schul et al., 1996).

UTDM is summarized in Figure 1 (the shaded constructs, and associated relationships, are what we build on from the extant trust-distrust model; unshaded constructs and associated relationships are newly added; dotted lines represent negative relationships, solid lines represent positive relationships). The remainder of this section further explains and justifies the shortcomings of both the unidimensional and bidimensional models of trust that motivate UTDM. The next major sections deal with describing the three main additions to the trust and distrust literature by UTDM: specifically, the explication of net trusting beliefs, the engenderment of ambivalence due to the presence of both trust and distrust in a relationship, and two novel antecedents of distrust (suspicion and situational abnormality).

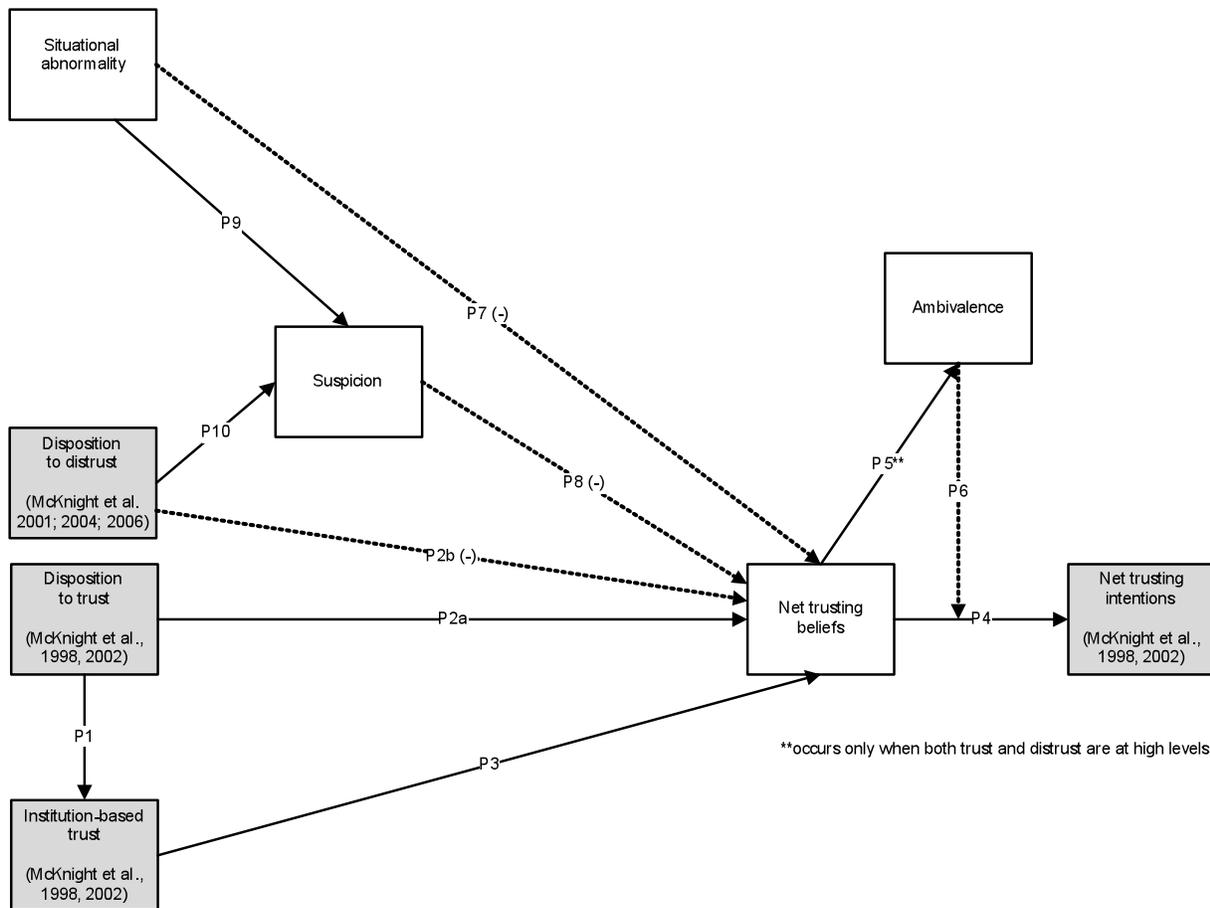


Figure 1. Proposed Unified Trust-Distrust Model (UTDM)

MOTIVATING THE UTDM

This section will briefly highlight shortcomings that are inherent within each of the two general models of trust and distrust. We pose UTDM as a trust model to overcome these shortcomings.

Shortcomings of Unidimensional Models of Trust

Unidimensional approaches to models of trust and distrust have several troublesome research shortcomings. First, the basic premise of these models is that trust and distrust cannot coexist and that an individual will only utilize one of these as a social simplification mechanism (Deutsch, 1958; Rotter, 1980). Further, recent work on trust and distrust has found that they do

coexist (Dimoka, 2010; Komiak & Benbasat, 2008)—thus eroding the underlying premise of these models.

Second, the overemphasis on trust by these models undervalues the possibility that distrust—as a negative valence construct—may have a stronger influence on behavioral intentions and subsequent behaviors than trust (Kahneman & Tversky, 1979; Kaplan, 1972). Yet, research shows that negative valence has a stronger influence on individual attitudes and beliefs than a related positive valence (Kahneman & Tversky, 1979; Kramer, 1999). Third, the unidimensional models assume that the trust between a truster (e.g., buyer) and trustee (e.g., seller) will generalize across the whole relationship. Namely, these models are built upon the assumption that if a truster has trust toward a trustee, the truster will behave positively toward the trustee across all possible behaviors. However, many studies on trust have found and identified various facets of trust that defy such generalization (Mayer et al., 1995). Finally, unidimensional models do not account for intra-aspect conflict (i.e., when differing subconstructs have opposing valences within the dimensions of trust; see (Kaplan, 1972). For example, if a buyer believes that a seller is dependable and competent, but has a negative orientation toward the buyer, this could create moderately high trust levels that may result in subsequently moderately high intentions to purchase from the seller. However, under the same conditions there is a possibility for some level of distrust, and due to the presence of both trust and distrust, ambivalence (discussed in the next section) may be engendered.

As these models posit that low levels of trust have relatively little impact on intentions and behaviors, the predictions of trust-dependent e-commerce behaviors are unreliable. Rather, we argue that it would make more sense to compare the relative magnitudes of the given trust subconstructs/beliefs, and the reliabilities of these ratings, and how these weighted magnitudes

influence the overall decision to trust or to distrust. Further, by supposing that low trust is in fact distrust, these models ignore the possibility that distrust may have a more powerful impact on intentions than trust.

Shortcomings of Bidimensional Models of Trust

Several researchers have already identified limitations of unidimensional models of trust and distrust and proposed that these approaches to trust be modified to either include distrust in a more prominent role (McKnight & Chervany, 2001), or to consider that both trust and distrust can coexist (Kramer, 1999; Lewicki et al., 1998). Generally, these models support the coexistence of trust and distrust, and also support a multi-dimensional view of trust and distrust that was lacking in the unidimensional models.

Despite the improvements made by the bidimensional models there remains room for further improvement that UTDM capitalizes on. First, although these models were developed from attitudinal research highlighting that positive and negative valence constructs often coexist and should be modeled as independent constructs (Kahneman & Tversky, 1979; Kaplan, 1972), more recent and highly salient attitudinal work has largely been ignored—specifically in the area of ambivalence, which will be further explained in the next section.

Second, the adoption of the bidimensional model of trust and distrust from attitude research necessitates that the constructs of trust and distrust should comprise positive and negative beliefs (Cacioppo & Berntson, 1994). Building on the review of trust by Mayer et al. (1995), most trust research conceptualizes a multi-dimensional view of trust (McKnight et al., 2002; McKnight et al., 1998), and this multi-dimensional view of trust has likewise been applied towards distrust (Lewicki et al., 2006; McKnight & Choudhury, 2006; McKnight et al., 2004). However, in adopting the separate dimension of distrust, these models incorrectly proposed that

each trust-related belief (i.e., the dimensions of trust) also consists of its own separable positive and negative valence in the same fashion as trust and distrust (Kaplan, 1972). Importantly, this assumption is not supported in attitudinal research, which focuses on the overall negative and positive attitudes that may coexist, each of which is composed of negative and positive beliefs respectively (Cacioppo & Berntson, 1994; Kaplan, 1972; Petty et al., 2006). Although general negative and positive attitudes can coexist, the models from attitudinal and ambivalence literature do not propose that an individual concurrently believes and disbelieves the same thing.

UTDM addresses this major limitation by proposing the new conceptualization of net trusting beliefs.

ADDITION #1: NET TRUSTING BELIEFS

Distrust is engendered whenever one of the subconstructs is perceived to be negative by the truster. Likewise, trust is engendered whenever one of the three subconstructs is perceived to be positive. Subsequently, net trusting beliefs are formed from the three subconstructs. This conceptualization of net trusting beliefs is depicted in Figure 2. The remainder of this section further explains and justifies this conceptualization by explaining and building on the limitations of both the unidimensional and bidimensional approaches.

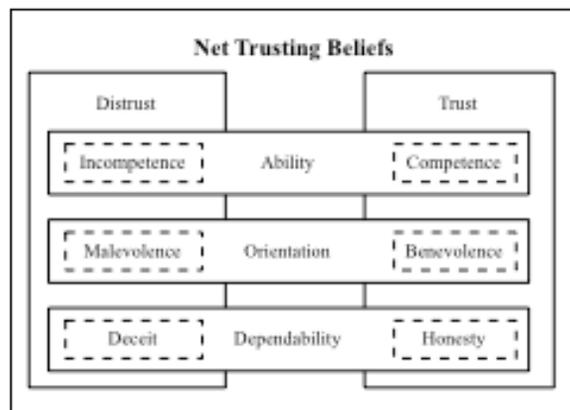


Figure 2. Conceptualization of Net Trusting Beliefs for UTDM

As depicted in Figure 2, the formation of net trusting beliefs from trust and distrust adopts conceptualizations and assumptions from both the unidimensional and bidimensional perspectives, and incorporates concepts and theory from attitudinal and ambivalence research. First, in conceptualizing net trusting beliefs, both trust and distrust beliefs are modeled to include several dimensions: ability, orientation and dependability. These dimensions are based on research on the subdimensions of trust described above (Mayer et al., 1995; McKnight et al., 2002; McKnight et al., 1998). *Ability* refers to the notion that the seller has the necessary competence to complete a given task. *Orientation* refers to the idea that the seller is positively or negatively disposed towards the buyer. Finally, *dependability* refers to the notion that the buyer expects the seller to adhere to a set of principles or guidelines. Thus, we propose that net trust is a multi-dimensional construct, with each dimension representing a distinct continuum for that dimension only.

Second, building on the bidimensional model of trust, UTDM assumes that trust and distrust can coexist within the truster-trustee relationship (Lewicki et al., 1998; Lewicki et al., 2006; McKnight & Choudhury, 2006). Several studies have found empirical support that both positive and negative valence factors have been found and related to the felt trust or distrust for an individual towards another (Dimoka, 2010; Komiak & Benbasat, 2008). Thus, each of these components may result in either a positive or a negative instantiation on that continuum. Hence, trust is composed of the positive instantiations of these aspects (i.e., competence, benevolence, and integrity), whereas distrust is composed of the negative instantiations (i.e., incompetence, malevolence, and deceit). These continuums are then used to form net trust, a multi-dimensional construct.

Third, building on the unidimensional approach, UTDM proposes that though trust and

distrust can coexist, only one instantiation (e.g., competence or incompetence) can exist for each specific aspect. A truster will only feel distrust or trust on any component at a point in time, independent of other components. For example, an online buyer might believe that the seller is incompetent and thus should not be trusted. However, despite the inability of the buyer to believe that the seller is competent, the buyer may feel trust towards the seller in regard to other components of trust (i.e., benevolence or integrity). In other words, while the buyer may believe that the seller is incompetent, the buyer could also feel that the seller will be honest during the buying process and has the buyer's good will in mind.

UTDM assumes that having contradictory beliefs at the subconstruct model either requires illogical and contradictory beliefs, or requires effort beyond the level at which the truster is willing to expend. An example of an illogical contradictory belief would be that the trustee intends to harm the truster and intends good will towards the trustee. An example of an effortful contradictory belief would be that the trustee is competent in choosing the shipping method requested by the truster, but that the trustee is not competent to address the package correctly. Consistent with the work of Gefen (2002) and Simon (1957; 1991), UTDM assumes that the truster would elect to form a summary belief that the trustee is not competent to get the items to the truster in the time-frame agreed-upon rather than to actively process and keep salient a notion of trust regarding each individual step in the shipping process.

Thus, a truster is expected to only have a negative or a positive belief for each particular component within the model, and cannot have logically contradictory negative and positive beliefs about any one component.

Fourth, UTDM replicates and partially extends the basic nomological relationships of extant trust-distrust models. Building on previous models of trust and distrust (McKnight et al.,

2002; McKnight et al., 1998; McKnight et al., 2004; Ou, 2006), UTDM proposes that the trust instantiations (benevolence, competence, and integrity) positively predict trust, and vice versa, the distrust instantiations (deceit, incompetence, and malevolence) predict distrust.

Moreover, previous work on trust and distrust has proposed that the truster's disposition towards both distrust and trust are related to the truster's subsequent distrusting or trusting beliefs in specific trustees (McKnight & Choudhury, 2006; McKnight et al., 2002; McKnight et al., 2003). As a truster's general disposition to trust or distrust is a permanent characteristic of the truster, an individual with high disposition to trust or distrust will be most likely to either trust or distrust others, respectively (Mayer et al., 1995; McKnight et al., 2002; McKnight et al., 2004).

Given the above assumptions extending to net trusting beliefs, it follows that trusting beliefs positively impact net trusting beliefs whereas distrusting beliefs negatively impact net trusting beliefs. Likewise, disposition to trust positively impacts net trusting beliefs, while disposition to distrust negatively impacts net trusting beliefs. Similarly, disposition to trust positively impacts institution-based trust, and institution-based trust positively impacts net trusting beliefs.

P1. An increase in disposition to trust increases institution-based trust.

P2a. An increase in disposition to trust increases trusting beliefs and thus increases net trusting beliefs.

P2b. An increase in disposition to distrust increases distrusting beliefs and thus increases net trusting beliefs).

P3. An increase in institution-based trust increases trusting beliefs and thus increases net trusting beliefs.

Likewise, previous studies on trust, distrust and TRA (Ajzen, 1985; Fishbein & Ajzen, 1975; Mayer et al., 1995; McKnight et al., 2002; McKnight et al., 1998) have predicted and have demonstrated that trusting intentions are predicted by the truster's trusting beliefs. Thus, this relationship is also replicated in this model as a central tenet of TRA—as extended to net trusting beliefs:

P4. An increase in net trusting beliefs increases net trusting intentions.

Operationalizing Net trusting Beliefs

Due to the dimensionality of net trusting beliefs and the inherent differences that are built into the opposing continuum within each subdimension of trust (e.g., incompetence vs. competence), polynomial modeling could be used to calculate net trusting beliefs. Such modeling is explained further in Edwards and Parry (1993) and Edwards, (2002). A two-step process would be needed to calculate net trusting beliefs, given that there are two main determinants (one with negative and one with positive valence).

First, the values for each opposing continuum in each dimension of trust the researcher would use polynomial regression to determine the overall score for the given dimension. The advantage of this type of technique over a contrasting form of differential measurement (i.e., difference, absolute difference, or even squared difference) is that polynomial regression provides a more comprehensive test of the relationship between the two continuums and their joint effects (Edwards, 2002). Specifically, polynomial coefficients from two continuums allow for the comparison of each effect (by not assuming that they are equal) and for the joint effects. In other words, polynomial regression does not assume that the effect of trust would be equal to that of distrust, and is able to determine independent effects, and how these effects may alter the joint effects of the distinct continuums.

Second, once each dimension of trust has been regressed with a polynomial quadratic equation (Edwards and Parry, 1993; Edwards, 2001), net trusting beliefs would then be formed using a typical second-order formative construct with three formative indicators for the second-order formative construct, net trusting beliefs. This approach typifies a formative, second-order construction, and is in alignment with the subdimensions of trust in previous models of trust (Mayer et al., 1995; McKnight et al., 1998; 2002).

Additionally, by building the overall trust on top of polynomial regression of the dimensions, it is possible to better clarify the effects that a negative or positive signal within each dimension of trust has on overall trust judgments. Polynomial regression typically improves the predictability of a model, when compared to differential scores, and provides deeper insights into joint effects that can be interpreted with the aid of response surface methodology (Edwards, 2002, 2007). Response surface methodology would allow for the understanding of whether and to what extent the positive or negative continuum within each dimension has an effect on overall trust. Further analytical methods are available depending on the nature and type of data that are empirically collected (Edwards, 2002).

ADDITION #2: AMBIVALENCE ENGENDERMENT DUE TO CONFLICTED ATTITUDES

Recent theoretical research on attitude, beliefs, and ambivalence helps us further explain why conflicting attitudes about trust and distrust can co-exist; it is these causal mechanisms that we incorporate into UTDM. *Attitude* is the general inclination of an individual to respond to the attitude object in a favorable or unfavorable manner (Kaplan, 1972). Attitudes are composed of three components: beliefs, feelings and behaviors (Bagozzi et al., 1979; Smith, 1947). *Beliefs* refer to the knowledge structures, perceptual responses and thoughts of the individual (Bagozzi

et al., 1979). *Feelings* refer to the moods, emotions and affect that the individual holds towards the attitude object (Piderit, 2000). *Behaviors* refer to behavioral intentions or overt behaviors that the individual exhibits towards the attitude object (Breckler, 1984).

Although several social psychologists proposed models of dual/opposing attitudes (Chein, 1951; Scott, 1969), prior to the first ambivalence model presented by Kaplan (1972), this work was greatly hindered due to generally accepted assumptions from the field of psychology based on Cognitive Dissonance Theory (Festinger, 1957), and Balance Theory (Heider, 1946). Both of these theories are built upon the assumption that individuals cannot or will not allow competing attitudes to coexist within an individual's mind. Whenever an individual is experiencing conflicting attitudes, he or she has high motivation to strengthen one attitude and minimize the other. Researchers in marketing began to question this assumption in the early 1990s (Cacioppo & Berntson, 1994; Thompson & Zanna, 1995). Instead, these researchers proposed that rather than adopting only one attitude, individuals are able to compare and evaluate several attitudes—even if the attitudes are contradictory—that could eventually lead the individual to some conclusion or behavior (Priester & Petty, 1996). Several studies have supported this assumption and have demonstrated that conflicting attitudes can coexist (Jonas et al., 1997; Williams & Aaker, 2002).

Building on this assumption that conflicting attitudes can coexist, more recent work further proposed that opposing attitudes coexist in memory, and explain that internal conflict between opposing attitudes can be accepted and assimilated into an individual's long term memory structure (Petty et al., 2007; Petty et al., 2006) as explained by the associative network model of memory.

UTDM assumes that people can certainly hold these conflicting attitudes, but there is a

limit to the detail that can or will be held by the truster. As described above, the conflicting beliefs about the trustee's competence, benevolence, and honesty address major trust characteristics. However, assessing overall shipping competence would be much less effortful than holding a variety of details about shipping to the right address, choosing the agreed-upon method, and shipping promptly. Such simplification is consistent with previous literature (Gefen, 2002; Simon, 1957; 1991),

Trust and distrust have been shown to alter how an individual may or may not behave. However, before the advent of the theory of reasoned action (TRA) (Ajzen, 1985; Fishbein & Ajzen), other theorists also proposed models to explain how attitudes affect behavior. One such important notion is the idea that an individual's ambivalence towards a behavior attenuates the link between attitudes and behavior (Conner et al., 2002). *Ambivalence*—more specifically *attitudinal ambivalence*—is the state in which an individual is inclined to assess both equivalently strong positive and negative evaluations toward an attitude object (Thompson & Zanna, 1995). Because trust is a positive evaluation and distrust is a negative evaluation, trust and distrust have the potential to produce attitudinal ambivalence if they are both held at roughly equivalent levels towards the same attitude object (Jonas et al., 1997; Kaplan, 1972).

Attitude and ambivalence research posits that attitudes consist of multiple components: feelings, beliefs, and behaviors (Kachadourian et al., 2005; Trafimow & Sheeran, 1998). Further, ambivalence can occur within (i.e., intracomponent ambivalence) or between (i.e., intercomponent ambivalence) these three components (Maio et al., 1996; Thompson & Zanna, 1995). Thus, ambivalence could be engendered through conflicting attitudes within the same component (e.g., positive and negative feelings) or through having different components with opposing valences (e.g., positive feelings and negative beliefs).

Intracomponent ambivalence refers to the idea that the individual has conflicting evidence regarding one belief that is used to generate an attitude (Kaplan, 1972). In the context of UTDM, if an individual were to experience both positive and negative aspects of the same trust belief (e.g., ability), intracomponent ambivalence would exist. For example, if a buyer doubts a specific competency relating to shipment, but believes that the seller is able to accurately describe the product, it is possible that this situation would result in ambivalence about trusting the seller's general competence. Thus, although the valence for one competency is instantiated within the positive end of the ability continuum, the other competency has a negative valence. These conflicting beliefs may then cause the individual to become ambivalent about the perceived ability of the seller.

Likewise, *intercomponent ambivalence* in UTDM refers to the possibility of subconstructs with opposing valences within the makeup of net trust (Kaplan, 1972). Namely, the truster experiences one or more subconstructs positively while also experiencing one or more other subconstructs negatively. These oppositely-valenced subconstructs increase the possibility that intercomponent ambivalence will be engendered. For example, a buyer could have a positive perception of competence with respect to ability and conflicting negative perceptions with respect to the orientation and dependability components (i.e., malevolence and deceit). The coexistence of conflicting separate dimensions is a situation where ambivalence can be engendered due to conflicts between disparate components.

Although intercomponent ambivalence and intracomponent ambivalence are sources of ambivalence, they do not always result in perceived ambivalence. Perceived ambivalence becomes more likely as the levels of intercomponent ambivalence and intracomponent ambivalence increase. However, despite the conflicting beliefs that an individual may hold,

individuals may avoid ambivalence by discarding or ignoring conflicting beliefs as explained by Cognitive Dissonance Theory (Festinger, 1957).

Research on ambivalence proposes that heightened levels of ambivalence attenuate the relationship between attitudes and behaviors, and also explains how ambivalence can be decreased (Conner et al., 2003; Petty et al., 2006; Sparks et al., 2004). As the trustor becomes more ambivalent towards the trustee, his or her respective intentions to behave in a given manner weaken due to the inability of the trustor to form specific beliefs and attitudes towards the trustee.

In summary, each component of trust (i.e., competence, benevolence and integrity) represents a different aspect of the buyer-seller relationship. Each of these aspects can result in a positive or negative expectation of the seller's behavior by the buyer. Thus, there is the potential that various aspects of trust can be opposed and result in conflicting beliefs regarding the trustworthiness of the seller. These conflicting beliefs should result in increased ambivalence due to conflict within the trusting beliefs components. Mixed, concurrent components of attitude have been shown to result in attitudinal ambivalence (Kachadourian et al., 2005; Maio et al., 1996; Priester et al., 2007). Mixed, concurrent components of attitude have also been proposed in the domain of trust and distrust, but have never been tested (Lewicki et al., 2006). Therefore, the following proposition is posited:

P5: High levels of trust and distrust within net trusting beliefs will be positively related to perceived ambivalence.

P6: High levels of perceived ambivalence will attenuate (negatively moderate) the relationship between net trusting beliefs and net trusting intentions.

ADDITION #3: SITUATIONAL ABNORMALITY AND SUSPICION AS ANTECEDENTS

OF DISTRUSTING BELIEFS

Much of the research on distrust has focused on understanding the disposition to distrust and how it predicts distrusting beliefs and various types of intentions. However, UTDM extends the distrust nomological network by considering novel antecedents that are predicted to increase distrusting beliefs. The two novel antecedents considered in this study are situational abnormality and suspicion—discussed as follows:

Situational abnormality. *Situational abnormality* refers to environments that are defined by dominant rules and social norms that serve as general expectations for a truster in determining what to expect within the truster-trustee relationship (Schul et al., 2008). To wit, a truster perceives an abnormal situation whenever unexpected things occur. In abnormal environments, individuals sense that in the given setting, things or individuals may not be as they appear (Schul et al., 2008). Since a given setting is perceived to be abnormal and thus somewhat novel, an individual does not have prior experience, knowledge, or feelings to draw upon to guide attitudes or behaviors (Fein & Hilton, 1994; Hilton et al., 1993). Thus, in abnormal situations, individuals must resort to non-routine information processing to understand the situation, as routine behaviors and attitudes are not available in novel situations (Schul et al., 2008).

As individuals seek to understand the abnormal environment, they seek to understand the motivations behind available information (Kelley, 1973; Kelley & Michela, 1980). This search for underlying motives often results in assuming that others' underlying motives are negative and may not result in positive outcomes for the individual (Fein & Hilton, 1994; Hilton et al., 1993; Kelley & Michela, 1980). In an attempt to understand the environment and unknown motives, individuals engage in discriminative encoding. *Discriminative encoding* refers to information processing where information is delayed during the encoding process while the individual

promotes the construction of alternative scenarios, motivations, or interpretations, called counter scenarios (Schul et al., 1996). *Counter scenarios* refer to scenarios that the truster creates in his or her mind in an attempt to understand what motivates the behaviors of others; including their possible hidden motives that could result in negative outcomes for the truster (Schul et al., 1996). By considering the negative scenarios that may occur, the truster utilizes distrust to deduce the behavior of others, based on his or her perceptions of the trustee's distrustworthiness (Schul et al., 2004; Schul et al., 2008).

Previous studies have found that abnormal situations are likely to lead individuals to distrust others in the same environment (Fein & Hilton, 1994; Schul et al., 2004; Schul et al., 2008). Therefore, it is proposed that situational abnormalities will be positively related to distrust. This deviance from other normal relationships or contexts violates the expectations for a capable trustee and may result in negative affect towards the trustee (Buller & Burgoon, 1996). Likewise, abnormalities may also signal that the trustee has motives or intentions that may be dishonest or result in negative outcomes for the truster.

As previously explained, abnormalities can cause the truster to expect negative characteristics for the trustee (Buller & Burgoon, 1996; Burgoon & Hale, 1988). These negative expectations regarding the characteristics of the trustee will lead the truster to form negative attitudes towards the trustee (Burgoon & Hale, 1988). These negative attitudes will likely result in perceptions of distrust towards the trustee (Kramer, 1999; Lewicki & Bunker, 1996). This leads to the following proposition:

P7: An increase in situational abnormality will increase distrusting beliefs and thus decrease net trusting beliefs.

Suspicion. Suspicion has long been cited as a construct related to distrust (Deutsch,

1958; Fein & Hilton, 1994; Hilton et al., 1993; Schul et al., 2008). No other constructs, except the general disposition to distrust (McKnight et al., 2004), have been empirically examined as antecedents of distrust. Suspicion is thus well situated as a novel, distinct construct that can be used to explain why individuals are more likely to engender distrust towards others. Further, suspicion is unique in that it is predicted to primarily affect distrust and not trust, differentiating it from other antecedents of trust and distrust. It is interesting to note that no similar antecedents of trust have been found that are posited to affect only trust and not distrust—making the addition of suspicion to the trust-distrust nomological network an important contribution. In this section, we further explain and predict why this is so and why suspicion temporally precedes distrust.

Suspicion is said to occur when an individual actively entertains multiple, rival hypotheses regarding the intentions of another's behavior that prevents the individual from adopting a positive or negative attitude towards the object at that current time (Kramer, 1999). Many definitions exist for suspicion; several are linked to concepts of distrust (Deutsch, 1958; Gurtman & Lion, 1982), while others are tied to experimental manipulations (Buller & Burgoon, 1996; Levine & McCornack, 1991). Additionally, both state and trait suspicions exist (Levine & McCornack, 1991; McCornack & Levine, 1990); however, the trait aspect of suspicion is akin to suspicion of humanity, which is the subconstruct measure used for the disposition to distrust. Thus, when suspicion is used in UTDM, it refers to state suspicion, or the suspicion that an individual feels in a given, specific situation.

Individuals who are suspicious of others actively consider multiple hypotheses due to a lack of sufficient evidence or proof that would allow them to achieve the sufficiency threshold that would allow them to be certain and thus hold to their beliefs (Buller & Burgoon, 1996;

Hilton et al., 1993). An individual lacks certainty of a desired attitude among competing attitudes without enough evidence to warrant one or the other attitude dominating the other. This lack of precedence for one attitude over the other causes an increased motivation to acquire more information or to more thoroughly process information to arrive at a conclusion (Hilton et al., 1993). This increased motivation to acquire information causes individuals to become more vigilant (i.e., suspicious of available information). This resulting lack of knowledge, evidence or certainty should cause the individual to be reluctant to draw inferences regarding his or her intention to distrust or trust a given seller (Hilton et al., 1993). As certainty is increased, or knowledge acquired, the individual's suspicion in this context changes to either trusting beliefs or distrusting beliefs (Buller & Burgoon, 1996).

Although trusters who are suspicious of other individuals would neither be trusting nor distrusting, several tendencies accompany suspicion: Suspicious individuals are more likely to overestimate the likelihood of ulterior motives, rather than what can be easily inferred from behavior, as demonstrated by the correspondence bias (Hilton et al., 1993). Typically, an individual under the influence of the correspondence bias would assume that the behavior of the individual is demonstrative of the intention motivating the behavior. However, suspicious individuals are aware of information regarding potential ulterior motives in a scenario and do not have or do not wish to devote enough cognitive resources to correct or evaluate these rival hypotheses regarding the ulterior motives of the other person. Although suspicious individuals have the same information as those who display the correspondence bias, the inability to ascertain the certainty of the information towards one specific attitude relegates the individual to remain suspicious and non-committal to any particular attitude over another regarding the attitude object (e.g., seller, Web site).

Another important consideration in regard to suspicion involves the relative weights assigned to the conflicting attitudes, despite evidence to the contrary. Previous research in risk and risk-taking shows a general tendency of individuals to shy away from risky behavior (Epley & Huff, 1998; Kahneman & Tversky, 1979). Even if more relevant and/or specific evidence supports a positive outcome, for most individuals the desire to avoid a negative outcome is stronger than the desire for a potentially positive outcome. It is thus likely that negative attitudes will have greater weights attached to them and be of more importance in comparison to positive attitudes.

Kramer (1999) highlights two general sources of suspicion: First, individuals experiencing suspicion know that they lack information related to other people (Hilton et al., 1993). For example, they may not know the other people well enough or they may not understand the context completely. Second, the individuals lacking information and experiencing suspicion are unable to successfully attribute the behavior of other people to either internal or external causes in the given situation (Kelley, 1973). The inability to attribute the behavior of other people to either a trusting or distrusting concept makes it impossible to discount hypotheses regarding the trusting or distrusting nature of the other person. Therefore, they must evaluate all possible information to provide some level of certainty regarding the other people, until enough certainty can be achieved to discount rival hypothesis and firmly accept one of the relevant attitudes (i.e., net trust or distrust in this study).

In summary, because suspicion causes people to believe that others have ulterior motives (Hilton et al., 1993) and because perceptions of ulterior motives tend to relate to potentially risky and harmful situations (Buller & Burgoon, 1996; Hilton et al., 1993; Kramer, 1999), suspicion generally proceeds and leads to distrust. Therefore, we propose:

P8: An increase in suspicion will increase distrusting beliefs and thus decrease net trusting beliefs.

Situational abnormality and suspicion. With suspicion being predicted as the main antecedent of distrusting beliefs, it is equally important to understand how and when suspicion is likely to be invoked in a given truster-trustee relationship. Most of the literature on suspicion explains that suspicion is most likely to occur when something in the situation is different than expected, or abnormal (Gurtman & Lion, 1982; Vlaar et al., 2007). When trusters encounter something that is different than expected or outside the norm, they are more likely to become more vigilant and aware of the environment and actors in the given circumstance (Gurtman & Lion, 1982).

If the abnormality provides cues or signals that the trustee may have ulterior or hidden motives beyond what is readily apparent, the truster will likely become suspicious. Trusters should especially become suspicious when only few abnormalities about the trustee are perceived, when the likelihood of receiving both positive and negative signals increases. The presence of both positive signals from normal aspects of the process and some minimal negative signals from the abnormalities provide some information to the buyer, but potentially not enough to initially convince the truster to either trust or distrust (Gurtman & Lion, 1982). Thus, suspicion would be engendered, which would then increase the vigilance of the buyer and result in more thorough information processing, which is in turn more likely to produce distrust.

Research in communication and management has proposed that abnormalities in the environment lead to suspicion, which then leads to distrust (Fein & Hilton, 1994; Hilton et al., 1993; Schul et al., 2008). However, these research streams have not focused on this relationship, but simply proposed its existence. This leads to the following proposition:

P9: An increase in situational abnormality will increase suspicion.

The tie between suspicion and distrusting beliefs begs the question as to whether some people are more prone to suspicion than others. The prevalent research on distrust commonly contains the disposition to distrust, which is generally indicative of one's general suspicion of humanity. The disposition to distrust is a persistent characteristic that an individual has across situations and other individuals (McKnight & Chervany, 2001; McKnight et al., 2003). The disposition to distrust is marked by the tendency of the truster to believe that all other people are either incapable of performing desired behaviors or lack the motivation to engage in those behaviors (Kramer, 1999). With the truster doubting either the ability or motivation of the trustee to perform the given behavior, he or she would thus believe that trustees have both the stated intentions of performing the given behavior, but also ulterior intentions to take advantage of the truster. These competing hypotheses are the central core of suspicion. Thus, if a truster has a general tendency to distrust everyone, it is likely that no matter the situation, he or she will be more suspicious of others due to the increased likelihood of attributing ulterior intentions to the trustee.

Previous research has proposed that the disposition to distrust, or suspicion of humanity, is linked to increased tendencies towards suspicion (Kramer, 1999; McKnight et al., 2004).

Therefore, we propose:

P10: An increase in disposition to distrust increases suspicion.

THEORETICAL IMPLICATIONS OF UTDM

UTDM meaningfully adds to the existing trust-distrust literature and theory in three major ways, which are briefly discussed in this section:

1. It uniquely integrates the conceptual contributions of both the unidimensional and bidimensional perspectives on trust-distrust by proposing the conceptualization of

net-trusting beliefs.

2. It leverages the concepts of attitudes and ambivalence to more clearly argue why trust and distrust can co-exist and act as separate conceptualizations that yet fundamentally affect each other.
3. It further predicts *situational abnormality* and *suspicion* as major predictors of distrust beliefs.

Specifically, UTDM proposes a unique approach to trust and distrust that overcomes the weaknesses of both the unidimensional and bidimensional approaches to trust and distrust.

UTDM proposes that both trust and distrust can coexist, but that each specific underlying belief is in fact unidimensional, ranging from negative to positive. UTDM thus builds upon both of the approaches to trust and distrust and attempts to reconcile the inconsistencies that have been highlighted concerning trust and distrust (Lewicki et al., 1998; Sitkin & Roth, 1993).

UTDM also contributes significantly to the trust and distrust literature by introducing and proposing the concept of ambivalence. Although researchers have attempted to show that these two oppositely-valenced constructs can coexist, the same studies have overlooked the implications of concurrent existence of both high levels of trust and distrust. UTDM builds upon ambivalence research and explains (Jonas et al., 1997; Kaplan, 1972; Priester et al., 2007) that the coexistence of both trust and distrust has important implications for net trusting intentions. Further, UTDM explains how different types of ambivalence can be engendered.

Implications for Practice

UTDM has several important implications for practice. First, given that trust and distrust have received special importance in the success of e-commerce and in relationships, it is important to note that the relevance of ambivalence in the same context has been largely overlooked. Currently, Web sites strive to use cues, design factors, ratings, and reviews in an effort to increase trust and decrease distrust, but little attention has been given to the reduction of

ambivalence, which oversight might have detrimental effects on actual purchasing behaviors desired by the Web site owners. UTDM can allow for the measurement of ambivalence, by way of several methods, so that Web site developers can modify the site in an effort to minimize ambivalence.

Second, by expanding the nomological network of distrust, UTDM shows specific antecedents that can be avoided by practitioners and thus minimizes the generation of distrust in a relationship. UTDM proposes that the most likely generator of distrust derives from anomalous cues in the environment that increases the likelihood of an individual becoming suspicious in a given relationship or context. Once an individual become suspicious, it is more likely that distrust will be engendered, which at least will result in some level of ambivalence that will attenuate the effects of net trusting beliefs on behavioral outcomes. Additionally, greater levels of suspicion will not only increase levels of ambivalence, but also high levels of distrust that may cause net trusting beliefs to be negatively cast and thus produce negative outcomes for the truster (or distruster in this case).

Third, UTDM proposes several ways in which cues can be categorized as anomalous and thus increase the likelihood of suspicion. By attempting to categorize the main ways in which anomalous cues can be detected by the truster, UTDM pinpoints specific areas in which trustees can focus to strategically present information, contextual information or communication that will minimize the possibility for suspicion.

CONCLUSION

Trust is an important construct of interest that has received enormous research attention in a variety of fields, settings and methods (Deutsch, 1958; Mayer et al., 1995; Schul et al., 2004). However, extant trust literature has been contradictory regarding the relationship of trust

and distrust (Dimoka, 2010; Lewicki et al., 1998; Sitkin & Roth, 1993). This paper proposes the UTDM model that aims to reconcile these differences and to relate trust and distrust as subconstructs of net trusting beliefs. Additionally, UTDM introduces and proposes the importance of ambivalence as a potential outcome in situations where both trust and distrust can be engendered. Ambivalence is an important construct to consider in trusting relationship as it can strongly reduce the impact of net trusting beliefs on net trusting intentions. Further, UTDM expands the trust-distrust literature by proposing two new antecedents of distrust: suspicion and situational abnormality. Finally, the paper concludes by explaining how this model can be measured, and how it can be further enhanced in future research.

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