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Moody, Gregory D.; Lowry, Paul Benjamin; and Galletta, Dennis F., "Explaining the Engenderment and Role of Consumer Ambivalence in E-Commerce" (2013). *PACIS 2013 Proceedings*. 173.

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EXPLAINING THE ENGENDERMENT AND ROLE OF CONSUMER AMBIVALENCE IN E-COMMERCE

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Abstract

Although trust and distrust are both crucial in online truster-trustee relationships, researchers disagree as to whether trust and distrust are distinct from each other. Given this debate, it is important to consider how distrust could be distinguished from trust. Accordingly, this paper extends the nomological network of distrust and introduces two novel antecedents never introduced in e-commerce literature: situational abnormalities and suspicion. We also propose that trust and distrust coexist in an online e-commerce relationship and can result in ambivalence when they both have high attitudinal values (represented in emotions, beliefs, or behaviours).

Using a study of online consumer behaviour with 521 consumers, we largely validated our newly proposed model. We find that situational abnormalities and suspicion are separate, important novel antecedents to distrust. We also examine the effect of ambivalence on the truster's intentions towards the website and find a small positive effect that increases the user's intentions towards the website. Finally, we demonstrate the coexistence of trust and distrust as separate constructs, and highlight that distrust has a much larger impact on the truster's intentions than trust. We conclude with implications to theory and practice, along with a discussion of the limitations and future opportunities.

Keywords: Trust, distrust, online behaviour, ambivalence, e-commerce, situational abnormality, situational normality

1 INTRODUCTION

Substantial research focuses on the critical role that trust plays in the success of e-commerce and Internet transactions. 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 behaviours and is unwilling to cope with such outcomes, but might rather act in a negative manner towards the distruster (McKnight & Chervany 2001).

Initial research in this area posited distrust was simply low trust, and that distrust could be overcome simply by developing trust (e.g., McKnight et al. 1998). Yet, more recent research has claimed that distrust is a distinct construct that differs from low trust (e.g., Dimoka 2010). Given the obvious role of trust and distrust in studying e-commerce, it is crucial for researchers to understand both constructs and their relationships thoroughly (Jarvenpaa & Majchrzak 2010).

Although the importance of distrust has been posited for several years, the current nomological network of distrust remains relatively unexplored with few known antecedents of distrust identified (e.g., McKnight et al. 2004). A key step in determining the importance of distrust is demonstrating the constructs that can independently alter distrust or at least produce distinct effects on distrust apart from trust. With the majority of e-commerce research focusing on trust and on factors that influence trust, the extant literature misses the complexity, richness and understanding of consumer behaviour that might result from a re-examination of distrust and its role in e-commerce (Dimoka 2010).

Although recent IS research finds that disposition to distrust increases distrusting beliefs (McKnight et al. 2004) few studies attempt to extend the distrust nomological network further. We assert that research on distrust can only gain prominence and provide greater insight when its role and its predictors are better understood. To better understand distrust it is thus necessary to identify and empirically validate its antecedents. This leads to the first research question of this study: What constructs serve as antecedents of distrust and thereby extend the known nomological distrust network? (RQ1)

Communication research has long posited that anomalous events serve as cues for distrust (Buller & Burgoon 1996). Social psychology research has also proposed that abnormalities in a particular environment (e.g., e-commerce in our context) might also serve as signals for distrust (Schul et al. 2004). We thus propose *situational abnormality*—a truster's perception that something in relation to the trustee is improper or abnormal (McKnight et al. 2002)—will cause an increase in distrust and suspicion.

The same research streams further posit that the relationship between distrust and abnormal events is enabled through the process of suspicion. *Suspicion* is defined as the truster doubting the sincerity or motivations of the trustee (Hilton et al. 1993). However, no study to date has empirically validated these propositions, although recent work has emphasized the connection between deception and distrust (Jarvenpaa & Majchrzak 2010). This raises an interesting question: is suspicion the process that increases distrust? Our study seeks to more fully understand the causal chain by answering the following research question: Do abnormalities in the interaction between the truster and trustee cause an increased sense of distrust due to the increased level of suspicion felt by the truster? (RQ2)

Because distrust is a functional equivalent of trust and aids in the ability to understand one's environment (Lewicki et al. 1998), distrust can be conceptualized as a negative attitude whereas trust can be conceptualized as a positive attitude. In situations where a person can form both a positive and negative attitude towards the same attitude object, it is possible for both attitudes to coexist and thereby ambivalence is engendered. *Ambivalence* is defined as the condition when a person holds at least two attitudes towards the same attitude object that are contradictory (Kaplan 1972).

By extending the ambivalence literature to include both trust and distrust, the joint effects of trust and distrust in e-commerce can be theoretically explained. Due to conflicting attitudes held by online sellers, it is possible that a person's trusting beliefs might be attenuated by ambivalence (Priester et al. 2007). Moreover, ambivalence itself could alter how information is processed by buyers, and observing and understanding that alteration could provide additional insights for future e-commerce research. For

example, some researchers have proposed that signals for distrust might increase the motivation for certainty, and thereby cause information to be processed systematically, which might paradoxically lead buyers to have increased intentions to engage in trusting behaviours (Schul et al. 2008). At the very least, the intentions are strengthened in either a positive or negative direction. Jarvenpaa and Majchrzak (2010) called for research on ambivalence to show how it can be applied to the juxtaposed trust-distrust relationships found in e-commerce. We thus ask: Does the existence of both trust and distrust cause the truster to feel ambivalence towards the trustee? Further, does ambivalence strengthen or weaken the trusting relationship between the truster and trustee? (RQ3)

2 MODEL DEVELOPMENT

We propose two main improvements to the extant trust-distrust model that was based on the theory of reasoned action (TRA) (e.g., McKnight et al. 2002; McKnight et al. 1998). First, we propose that situational abnormality and suspicion serve as novel antecedents of distrusting beliefs; further, we predict that the effects of these relationships will be stronger than the effects of the dispositions to trust and distrust. Second, we introduce and propose the moderating role of ambivalence when both trusting and distrusting beliefs are present. We predict the effect of ambivalence on the relationship between trusting and distrusting beliefs on behavioural intentions. Our model is depicted in Figure 1.

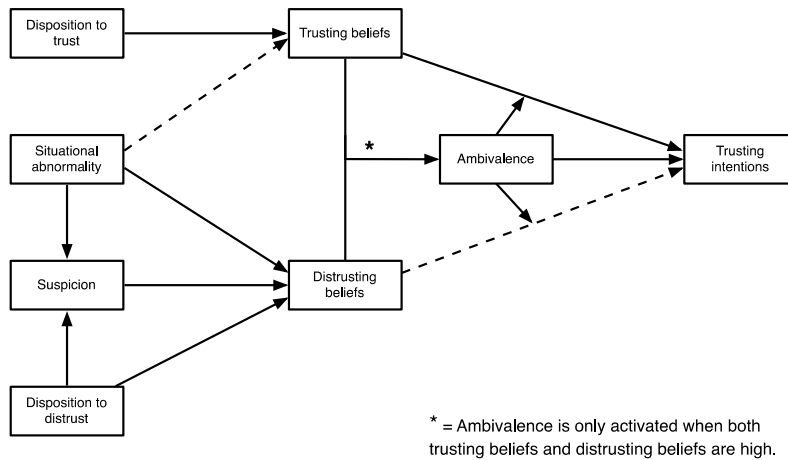


Figure 1. Theoretical Model

2.1 Proposed Antecedents of Trust and Distrust

Because this paper extends the nomological network of trust and distrust in an e-commerce context, we adopt generally accepted conceptualizations of trust and distrust from the same context. *Trusting beliefs* is defined as the willingness of the truster to become vulnerable to the trustee based on the belief that the trustee will perform a desired behaviour (McKnight et al. 1998). *Distrusting beliefs* is defined as unwillingness to become vulnerable to the trustee based on the belief that the trustee will behave in a harmful, neglectful, or incompetent manner (McKnight et al. 2003).

We likewise build upon recent work that has established the duality of trust and distrust as separate, yet related, constructs. McKnight et al. (2001) originally proposed that distrust, as a potentially more emotional construct than trust, should also be considered in e-commerce literature. Since then, studies have studied these related constructs and found that despite their naturally polarized definitions, they are in fact separable and distinct (e.g., Dimoka 2010; Komiak & Benbasat 2008).

Despite its emerging importance, little research has specifically explored antecedents of distrust. Initial studies, building on trust models, proposed and found that the disposition to distrust is a significant predictor of distrusting beliefs (McKnight & Chervany 2001; McKnight et al. 2003; 2004). Given the substantial focus on trust in IS research, its nomological network is vast and includes many antecedents:

social presence and Web site design; branding; system quality and culture; shared values, amount of interaction, quality content, credibility, etc. Compared to distrust, the general understanding of trust and its nomological network is much better known. We thus expand this network.

2.1.1 *Situational Abnormality as a Distrust Antecedent*

Situational abnormality refers to environments that defy or violate the dominant rules and social norms that serve as general expectations for a truster in determining what should normally be expected within the truster-trustee relationship (Schul et al. 2008). A truster perceives abnormal situations when the situation appears to be out of the norm or when unexpected events occur. In abnormal environments, people sense that in the given context, the setting or people might not be as they appear (Schul et al. 2008). Because a given situation is perceived to be abnormal and thus somewhat novel, a person does not have prior experience, knowledge, or feelings to draw upon to guide attitudes or behaviours (Fein & Hilton 1994). In abnormal situations people must resort to nonroutine information processing to understand the situation as routine behaviours and attitudes are not available in novel situations (Schul et al. 2008).

As people seek to understand an abnormal environment, they seek to understand the motivations behind available information (Kelley & Michela 1980). This search for underlying motives often results in assuming that others' underlying motives are negative and might not result in positive outcomes for the individual (Schul et al. 1996). In an attempt to understand the environment and unknown motives, people 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 behaviours of others; including their having hidden motives that could result in negative outcomes for the truster (Schul et al. 1996).

Abnormal situations thus cause people to engage in non-routine processing that focuses on discriminative encoding designed to systematically judge the motives of those behind the abnormality. This systematic judgment process fosters distrust because of the counter scenarios that are created in one's mind to explain the motives behind the abnormality. Previous studies have found that abnormal situations are likely to lead people to distrust others (Schul et al. 2004; 2008).

H1: Situational abnormalities will be positively related to distrusting beliefs; and therefore will be negatively related to trusting beliefs.

2.1.2 *Suspicion as a Distrust Antecedent*

We propose suspicion as another key antecedent of distrust. *Suspicion* occurs when a person actively entertains multiple, rival hypotheses regarding the intentions of another's behaviour that prevents the individual from adopting a positive or negative attitude towards the object (Kramer 1999). People who are suspicious of others actively consider multiple hypotheses due to a lack of sufficient evidence that would allow them to achieve the sufficiency threshold that would allow them to be certain and thus hold to their beliefs. They lack certainty of a desired attitude among competing attitudes without enough evidence to warrant one attitude to hold precedence over the others. This lack 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 people to become more vigilant, and thus more 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).

Suspicious people tend to overestimate the likelihood of ulterior motives, as demonstrated by the *correspondence bias* (Hilton et al. 1993). People under the influence of the correspondence bias would assume that the behaviour of a person is demonstrative of the intention motivating the behaviour. Yet, suspicious people who are aware of potential ulterior motives in a scenario may not have or may not wish to devote enough cognitive resources to correct or evaluate them all. Though suspicion-oriented people

might have the same information as those who display the correspondence bias, the inability to ascertain the certainty of the information toward one specific attitude relegates the individual to remain suspicious and non-committal to any particular attitude regarding the attitude object (e.g., seller's Web site).

Another consideration regarding suspicion is the relative weight assigned to each of the conflicting attitudes. Previous research in risk and risk taking shows a general tendency of people to shy away from risky behaviour (Epley & Huff 1998). Even if more relevant and/or specific evidence supports a positive outcome, the desire to avoid a negative outcome is stronger for most people 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 compared to positive attitudes (Kahneman & Tversky 1979).

Suspicion is usually manifested in two common ways (Kramer 1999). First, people experiencing suspicion know that they lack information related to other people (Hilton et al. 1993). Second, because of the lack of information, suspicious people are unable to correctly attribute the behaviour of other people to either internal or external causes (Kelley 1973). It thus follows that the inability to attribute the behaviour of other people to either a trusting or distrusting concept reduces the ability of people experiencing suspicion to evaluate hypotheses regarding the trusting or distrusting nature of others (Kelley 1973). They thus must begin to evaluate all possible information to increase certainty until enough can be achieved to discount rival hypotheses and firmly accept one of the relevant attitudes.

Suspicion research asserts that suspicion is most likely to occur when something in the situation is different than expected, or in other words abnormal (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 a trustee might have ulterior or hidden motives beyond what is readily apparent, the truster will likely become suspicious. The presence of both positive signals about aspects of the trustee and negative signals inferred from the abnormalities provides some information to the truster. However, it might not be enough to clearly convince the truster to either trust or distrust—thereby increasing the level of suspicion (Gurtman & Lion 1982). The vigilance of the buyer would increase, resulting in more thorough information processing—a process that is more likely to produce distrust (described earlier). Supporting this assertion, research in communication and management has proposed that abnormalities in the environment lead to suspicion, which then leads to distrust (Schul et al. 2004; 2008). However these assertions have not been empirically validated.

H2: Situational abnormality will be positively related to suspicion.

Research has also proposed that suspicion is the main antecedent of distrust (Schul et al. 2008). People who are suspicious of other persons and situations are more likely to be sensitized to motives in others that could cause potential harm to the individual. By identifying potential negative consequences, a person is able to form negative expectations regarding the actions of others, which are the basis for distrusting beliefs.

H3: Suspicion will be positively related to distrusting beliefs.

2.1.3 Disposition to Distrust and Trust as Antecedents of Distrust and Trust

Finally, we include the known relationships of dispositions to distrust and trust for purposes of nomological validity. *Disposition to distrust* is marked by the tendency of the truster to believe that most other people are either incapable of performing desired behaviours or lack the motivation to engage in those behaviours (Kramer 1999). With the truster doubting either the ability or motivation of a trustee to perform a given behaviour, he or she would thus believe that trustees have at the same time the stated intentions of performing the given desired behaviour, but also ulterior intentions to take advantage of the truster. These competing attitudes are the core of suspicion. Hence, 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 because of easily imagined hidden motives in others. Notably, previous research proposes that the disposition to distrust, or suspicion of humanity, is linked to increased tendencies towards suspicion (McKnight et al. 2004). Conversely, the *disposition to trust* is a persistent view that a truster holds across situations. If a person has a high disposition to trust, he or she would be highly likely to believe in the

trustworthiness of the trustee and as a result will rely on the trustee.

H4a: The disposition to distrust will be positively related to suspicion.

H4b: The disposition to distrust will be positively related to distrusting beliefs.

H4c: The disposition to trust will be positively related to trusting beliefs.

2.2 The Generation of Ambivalence

Turning from our proposed novel antecedents of distrust and trust, we newly propose *ambivalence* as a key addition to the literature and to our nomological net of trust-distrust. Ambivalence, more specifically *attitudinal ambivalence*, is the state in which a person 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, the combination of the two constructs has the potential to produce attitudinal ambivalence if they are both held at roughly equivalent levels toward the same attitude object (Jonas et al. 1997). Yet, this compelling possibility is not accounted for in extant trust-distrust research or e-commerce research.

Better understanding attitudes is the core to understanding the generation of ambivalence. As foundation, research posits that attitudes consist of multiple components: feelings, beliefs, and behaviours (Kachadourian et al. 2005). Further, ambivalence can occur within (i.e., *intracomponent ambivalence*) or between (i.e., *intercomponent ambivalence*) these three attitude components (MacDonald & Zanna 1998). Ambivalence can thus be created through conflicting attitudes within the same component or through having different components with opposing valences (e.g., positive feelings and negative beliefs).

For example, suppose that an online buyer holds trusting (positive) affect toward the buyer due to numerous customer ratings that serve as an indicator of the seller's benevolent reputation with other buyers. Yet, suppose that the buyer also feels distrust toward the seller due to the perception that the seller lacks competence—as demonstrated by errors or incomplete information about the product (Everard & Galletta 2005). In this scenario, the buyer could feel both trust and distrust toward different aspects of the seller that would eventually be used to formulate a decision regarding the purchase of an item from that seller. If the strength of each of these feelings was relatively strong, then it is likely that the buyer would experience a form of intercomponent ambivalence.

Extant literature on trust and distrust highlight that distrust and trust can coexist and are of opposite valences (e.g., Lewicki & Bunker 1996). Specifically, it has proposed that trust involves the positive expectations of the seller's behaviours, whereas distrust focuses on the buyer's negative expectations of the seller's behaviours (McKnight et al. 2004). Each of these beliefs can result in a positive or negative expectation of the trustee's behaviour by the truster. Accordingly, trusting and distrusting beliefs can be juxtaposed within a truster—resulting in conflicting beliefs regarding the trustworthiness of the seller. These conflicting beliefs are expected to result in an increased likelihood for ambivalence due to conflict between the two beliefs. Mixed, concurrent beliefs have been shown to result in attitudinal ambivalence (Priester et al. 2007). A similar effect has also been proposed in regard to trust and distrust, but has never been tested.

H5: High, simultaneous levels of both trust and distrust will be positively related to perceived ambivalence.

Most ambivalence research provides evidence that ambivalence attenuates the relationship between attitudes and behaviour; however, some theorists propose that ambivalence might actually increase the connection between attitudes and future behaviour (Jonas et al. 1997). For example, a buyer who feels ambivalence toward a seller is more likely to engage in systematic processing because of increased motivation to process and arrive at a solution. Thus, cues regarding trust or distrust toward the seller will be more closely scrutinized in an attempt to arrive at a solution. With a more thorough analysis, any intention that the buyer has towards the seller will be based more on information processing and is more likely to occur than a person with lower or no ambivalence toward the seller. Jonas et al. (1997) thus pose an interesting departure from the general trend to focus on how ambivalence attenuate the relationship between attitudes and behaviours. They reason that dual attitude models naturally extend and combine with dual processing models of information—particularly with the heuristic-systematic dual processing model (HSM) (Chaiken & Maheswaran 1994).

Jonas et al. (1997) proposed that ambivalence demonstrates little confidence in one's attitudes. It is thus possible that this lessening of confidence is below the sufficiency level desired by the individual for the given situation. As a result, a person would likely engage in systematic processing in an attempt to increase the confidence level regarding the processed information. As a person performs a more thorough and effortful elaboration of the information, the relationships among attitudes, intentions and behaviours are likely to be more consistent.

Building on this ambivalence literature and applying it to the e-commerce domain, trust and distrust can be conceptualized as related, conflicting positive and negative attitudes. As related attitudes, it is possible for a person to experience both of these conflicting attitudes at the same time, which might result in ambivalence if the individual has neither strong feelings of trust nor distrust, or relatively equal levels of trust and distrust towards the attitude object.

H6a: High levels of perceived ambivalence will attenuate (negatively moderate) the relationship between trusting and distrusting beliefs and behavioural intentions.

H6b: High levels of perceived ambivalence will amplify (positively moderate) the relationship between trusting and distrusting beliefs and behavioural intentions.

3 METHODOLOGY

Participants were recruited to participate in a free-simulation experiment, which consisted of varying buying scenarios. All participants viewed the product information page, a page that reviewed the seller, an order entry page, and a final summary or invoice of the staged purchase. Participants were randomly assigned to one of the following three types of scenarios, to increase the variation within the model and either introduce or exclude ambivalence: **(1) Normal**: the entire buying process proceeded without any abnormal cues or errors; **(2) Distrusting**: the entire buying process contained numerous errors and anomalous cues (e.g., extremely high product price, excessively and numerous negative customer reviews, a change in the look-and-feel of the website during the order entry, and incorrect product information); **(3) Ambivalence**: the entire buying process contained roughly one third of the number of errors and anomalous cues as the distrusting condition in an effort to evoke some distrusting beliefs and trusting beliefs.

Prior to actual data collection, the anomalous cues and errors were first tested with two pilot tests. The first pilot ascertained the expected buying process that a consumer would experience when purchasing a product online from a vendor. Forty graduate students with extensive professional experience from a private Northeastern US university were invited to participate in the pilot study; 20 volunteered (response rate=50%). They further identified cues and signals that would provide reasons for them to distrust an on-line seller. These cues and signals were then used to form the scenarios described above, which were first tested in complete buying scenarios.

Having established the expected and unexpected features of the online buying process with the initial pilot study, a second pilot study was performed in order to test our scenarios. We invited 74 undergraduate students to test our created scenarios, and 44 volunteered to participate (response rate=59.5%). Based on the analysis of the data, and responses to subsequent open-ended questions, minor corrections were made to the scenarios in preparation for the main study.

A total of 521 participants for the main study were recruited from both introductory psychology and information systems courses at a large public Eastern university in the US. Review of the data identified eight cases with unusable or missing data, which were subsequently deleted from the dataset. The sample size used to test the model for this study is therefore 513. The sample consisted of 280 males (55.7%) and 223 females (44.3%); with the average age being 20.9 years (SD = 3.2 years). Additionally, the average education level of the participants was 2.1 years of college (SD = 1.3 years).

Participants were told to imagine that they were buyers of a particular product (i.e., battery pack) and that a given search provided the following scenario. They were asked to review the indicated screenshots and to respond to several questions concerning their attitudes and intentions that they would have, if they had been performing such a purchase. The sequence of events included viewing product pages, customer reviews, an order summary, billing information, and shipping information, as described below.

The main product page for the item that he or she was purchasing contained an item picture, price, and description, as they normally appear online. An initial view of the page was presented, and then additional zoomed-in portions of the page were presented to assure that subjects became familiar with the product description, price, and seller information.

Customer reviews and ratings were also displayed along with several comments from previous customers, such as those commonly found on Amazon.com. Like the product information page, portions of the customer ratings were zoomed-in to increase the likelihood of subjects being familiar with those portions of that page. Participants were then shown a buyer's information page that requested personal and shipping information, a page where buyers would enter credit card and billing information, and a product confirmation page that summarized the order along with price, shipping and billing information.

After participants reviewed their scenarios, they completed instruments to measure the constructs in our model. These included trusting intentions (Compeau & Higgins 1995; McKnight et al. 2002), trusting beliefs (McKnight et al. 2002), distrusting beliefs (McKnight & Choudhury 2006; McKnight et al. 2002), disposition to trust beliefs (McKnight et al. 2002), disposition to distrust beliefs (McKnight et al. 2003), ambivalence (Priester et al. 2007), and suspicion (McCornack & Levine 1990).

4 ANALYSIS AND RESULTS

Extensive pre-analysis and data validation were conducted according to the latest standards for four purposes: (1) to establish the factorial validity of the reflective and formative measures through convergent and discriminant validity, (2) to establish that multicollinearity was not a problem with any of the measures, (3) to establish strong reliabilities, and (4) to check for common-method bias.

To establish reliability of the reflective constructs we applied the two most conservative criteria: both the composite reliability and the Cronbach's alpha coefficients should be ≥ 0.7 . All reliability statistics exceeded this threshold. Overall, we concluded that our data exhibits strong factorial validity of the reflective constructs, strong reliabilities, and lack mono-method bias. In summary, the results of our validation procedures show that our model data meets or exceeds the rigorous validation standards expected in IS research and particularly for PLS analysis.

We used partial least squares (PLS), using SmartPLS version 2.0 (Ringle et al. 2005) for model analysis because PLS is especially adept at validation of mixed models of formative and reflective indicators. To do so, we generated a bootstrap with 500 resamples. Figure 2 depicts the results of this analysis. The variance explained is indicated inside each construct. The path coefficients, or betas (β s), are indicated on the paths between two constructs, along with their direction and significance.

5 DISCUSSION

Overall, we find complete support for most of our newly proposed theoretical model. Further we analysed the partial effects exhibited by each of these predictors on distrusting beliefs by running the model in three stages, beginning with only one antecedent and adding another antecedent with each stage. The first stage used the disposition to distrust as the only predictor of distrusting beliefs; the disposition to distrust accounts for 8.9% of the variance in distrusting beliefs. Adding suspicion to the model resulted in an increase of the variance of distrusting beliefs to 32.0%—a 360% increase. This represents a medium effect size ($f^2=0.254$) that was highly significant at $F_{(1,528)}=133.55$, $p<0.001$. In the final stage, we added situational abnormality, which increased the explained variance of distrusting beliefs to 58.7%—representing another 83% increase in explained variance. This represents a large effect size ($f^2=0.352$) that was also highly significant at $F_{(1,527)}=184.35$, $p<0.001$.

We also validated the findings from previous research that the dispositions to trust and distrust are significant predictors of trusting and distrusting beliefs respectively (H4). We show that ambivalence is instantiated within the common online buyer-seller relationship. Further, we show that ambivalence and trusting and distrusting beliefs are significant predictors of trusting intentions (H5)—with distrusting beliefs being the strongest predictor of trusting intentions.

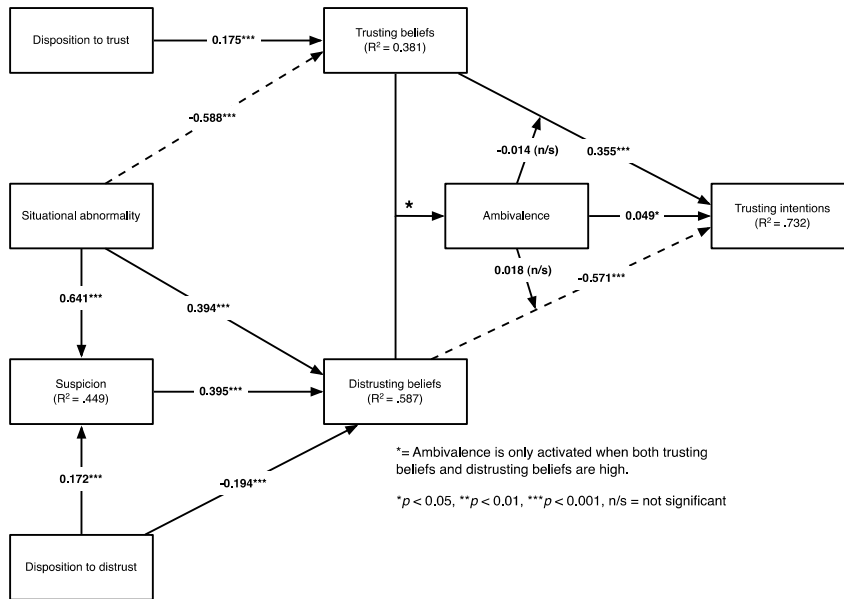


Figure 2. Summary of Model Results

We then tested the effects of these relationships in a three-stage model. In the first stage, trusting beliefs was used as the only predictor of trusting intentions, which accounted for 17.8% of the variation in trusting intentions. Adding distrusting beliefs to the model, the accounted variance in trusting intentions jumped to 66.4%—an increase of 273%. This represents a large effect size ($f^2=0.591$) that was highly significant at $F_{(1,528)}=310.28, p<0.001$. In the final stage, we added ambivalence, which increased the explained variance of trusting intentions to 73.0%—a 9.9% further increase in explained variance. This represents a medium effect size ($f^2=0.196$) that was also highly significant at $F_{(1,527)}=102.92, p<0.001$.

Finally, we tested competing hypotheses regarding the role of ambivalence in the online truster-trustee relationship and we find that the direct effect of ambivalence on trusting intentions is significant (H6b). In contrast, the competing proposed moderations on the relationships with trusting and distrusting beliefs with trusting intentions were both insignificant (H6a)—contrary to research on ambivalence by Priester et al. (2007), but in accordance with the work of Jonas et al. (1997). Our results also support these conclusions and show a moderate effect of ambivalence on the trusting intentions towards the object in this study.

5.1 Contributions to Theory

First, we propose and find that both situational abnormalities and suspicion serve as significant antecedents of distrusting beliefs. These findings greatly extend the extant knowledge of the nomological network of distrust. Suspicion had been proposed as the main antecedent of distrust, but that proposition had remained untested empirically until this study. We demonstrate that the contextual cues provided by abnormalities are more powerful than the unchanging personality trait of the disposition to distrust. Further, anomalous cues in the truster-trustee relationship serve to engender suspicion, which is a strong predictor of distrust. One of the major issues confronting research on distrust is the lack of novel antecedents, which would further distinguish distrust from trust. By extending the nomological network of distrust, researchers now have novel antecedents of distrust that focus on distrust specifically—rather than those that minimize distrust or act as the usual antecedents of trust.

Second, we introduce and examine ambivalence in an e-commerce-based study. We meet Jarvenpaa and Majchrzak's (2010) call for current research on ambivalence and show how it can be applied to the juxtaposed trust-distrust relationships found in e-commerce. By extending ambivalence research to trust and distrust, we further provide support for the distinctive nature of trust and distrust, and explain a highly novel and compelling outcome of this dichotomy. This is the first known study in e-commerce that

has focused exclusively on the engenderment and effects of ambivalence.

Third, we extend ambivalence research and our understanding of online truster-trustee relationships by showing that contrary to traditional expectations in this literature, some elements of distrust could have positive effects on the relationship. By providing some distrust-based cues, the trustee might be able to cause the truster to recognize the non-routineness of the exchange and engage in systematic processing. If people become aware of the lack of routine and engage in a deeper evaluation of available cues and information, they will be able to increase confidence in their beliefs and attitudes which will more accurately reflect intentions and future behaviours.

Finally, we report new empirical evidence supporting the bidimensional view of trust and distrust. Given that portions of extant research still emphatically state that trust and distrust are part of one continuum, and a limited number of researchers claim that they are separate, our study provides further support that could conclude this debate in IS research. We further emphasize why such a distinction is necessary, given the dramatic effect that distrust has on intentions, which is almost twice the effect size as that of trust. As distrust has a more powerful effect on the truster-trustee relationships, it is more importance to pinpoint exactly how distrust is engendered in an effort to minimize its negative outcomes. Such research is even more important as extant research highlights that distrust is easy to engender and difficult to repair.

5.2 Contributions for Practice

First, our study highlights that relatively minor errors, defects, and design elements can drastically impact the perceptions of distrust in an online consumer. We altered such elements as the product information, customer reviews, spelling of the item and its picture, and the look-and-feel of the website. Combinations of these errors were able to induce higher levels of distrust than was felt when no such errors were present. Importantly, compared to the effects of trust, the effects of distrust produced a more powerful effect on the online user's intentions to make a purchase or disclose information— both of which are vital for e-commerce transactions. We propose that careful consideration be given to such minor elements as they serve as cues that the user gathers to infer the online vendor's trustworthiness. This highlights the critical nature of user-centred design and usability testing for websites to identify and avoid potential errors.

We report that website designs have a considerable amount of influence that might alter the user's perceptions of distrust. Previous research had long proposed that the only valid predictor of distrust was a person's innate trait towards a general distrust of others, including online vendors and their websites. However, this work highlights that such uncontrollable effects are small in comparison to the effects produce by errors perceived on the website, and the suspicion that such errors induce. When designing websites, special consideration should be given to ascertain the elements that could induce suspicion. We found that our manipulations produced significant effects on both suspicion and distrust.

Finally, design principles and industry standard have focused on what to include, and principles to follow that will improve and impact the perceptions of trust created towards the website. However, our results indicate the more powerful effect of distrust in online buyer-seller relationships, and thus the critical need to consider website elements that influence distrust, suspicion and situational abnormalities. Website designers could consider methods that would flag negative reviews so that firms can follow up and investigate, remove false reviews, or even provide responses. Designers might also work to more quickly identify and fix mismatched photos or product information.

5.3 Limitations and Future Research

First, our results show support for the direct effect of ambivalence on trusting intentions rather than the more traditionally-predicted moderation of the relationships of trust and distrust with trusting intentions. This finding is in contrast to the majority of ambivalence research, but is in alignment with the work of Jonas et al. (1997) on which we built our predictions. Like those of Jonas et al., our results are based on small, inexpensive, standardized products. Future research should explore whether this finding holds for

products or services that require higher levels of involvement or experience.

Second, our study reports the importance of suspicion in online buyer-seller relationships, which systematically differs from many other trust-related relationships. Namely, in these online relationships, buyers and sellers might never have met, might have no prior knowledge of each other, and might have no expectations of future interactions. However, this is not true in many offline relationships where contextual cues provided by the physical environment might provide an extensive amount of information for the buyer and seller. Further, many relationships are not as voluntary as those found in online relationships studied in this study. On the Internet, or such sites as Amazon.com, it is common to have multiple sellers in one location offering the same item. These sellers are summarized and differentiated online by displaying cost, detailed terms, location and customers' satisfaction ratings. This ease of substituting one seller for another seldom holds in offline settings where the two parties could have contractual or other limiting factors that require them to work together. Future research should explore whether these same findings and same model hold with different types of trust-based relationships other than e-commerce.

Finally, our results conclude with the intention to trust a fictitious third-party rather than examining actual behaviours. Although other studies have typically focused on the truster's intentions, the impact of trust and distrust on behaviours might be dissimilar from their effects on intentions. Further, the research on ambivalence has focused on the moderation of beliefs with behaviours, and not intentions. Thus, future research should explore whether these results and model hold for actual behaviours.

6 REFERENCES

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