

Tortoise or Hare? A Study of the Speed to Resolution in On-Line Disputes

Jeanne Brett  
Kellogg School of Management, Northwestern University  
Evanston, Illinois 60208  
jmbrett@kellogg.northwestern.edu  
Phone: (847) 491-8075, Fax: (847) 467-5700

Mara Olekalns  
Melbourne Business School  
Melbourne, Australia  
m.olekalns@mbs.unimelb.edu.au  
Telephone: (+61 3) 9349 8146

Cameron Anderson  
Stern School of Business, New York University  
44 West 4th Street, Room 7-59  
New York, NY 10012  
c.anderson@stern.nyu.edu  
Tel: (212) 998-0223

Nathan Goates and Ray Friedman  
Owen Graduate School of Management, Vanderbilt University  
Nashville, TN 37203  
Nathan.Goates@Owen.Vanderbilt.Edu  
Phone: 615 322-5031, Fax: 615 343-7177  
Ray.Friedman@Owen.Vanderbilt.Edu  
Phone: 615 322-3992, Fax: 615 343-7177

Cara Cherry Lisco  
SquareTrade  
50 First Street, Suite 600, San Francisco, California 94105  
cara@squaretrade.com  
Phone: 415-541-1017

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## Tortoise or Hare? A Study of the Speed to Resolution in On-Line Disputes

This study models the time it takes to resolve a dispute in an on-line setting. It uses Cox regression and 582 eBay-generated disputes to test hypotheses derived from the social functionalist theory of emotions (Morris & Keltner, 2000). The data show that the opening communications between filer and respondent frame the dispute for either rapid or delayed resolution. The results provide evidence for the social functionalist theoretical view as well as rather surprising insights with immediate applicability to disputants and the third party practitioners who wish to help them resolve their disputes by identifying what elements of opening moves accelerate or delay resolution.

**KEY WORDS:** dispute resolution, online, emotion

Note: the first author is not a student

IACM Areas: Research theory and practice, Communication, Third party intervention

In this study we model the time it takes to resolve disputes in an online dispute resolution system. A dispute is a rejected claim (Felstiner, Able & Sarat, 1981). In our view a dispute may have a substantive element, e.g., “you owe me \$25 dollars for the product I sent you,” but it always has an emotional element deriving from the perceived injustice motivating the claim and or the perceived threat inherent in receiving a claim. The claim, “you were supposed to send me \$25” implies that the recipient of the claim is dishonest, behaving counter normatively, and as a result not respected by the claimant. The rejection, “I don’t owe you,” sends a comparable implicit message that the claimant was not deserving, and the claim was illegitimate. Parties to disputes frequently initiate negotiations with emotional fireworks, making the emotional element explicit. But even when emotion-tinged communications between the disputants are more subtle, the emotional element of disrespect is an element of the claim and its rejection.

Our theoretical lens is a social functional view of emotions (Morris & Keltner, 2000), which suggests that the emotional fireworks associated with particular events, as opposed to general affective states, organize social interactions by communicating social intentions and desired courses of action, and by evoking complementary emotions in others (Morris & Keltner, 2000). The expression of emotions and other party’s response help people make sense of their social environments. Actions and reactions convey information about a disputants’ needs and goals and may also implicitly reflect their expectations about the costs and benefits of emotional expression. A social functional view emphasizes the function of emotional expressions. We rely on the social functional perspective to help us theorize about the implicit messages that emotionally tinged

communications between claimant and respondent may signal about the speed with which the parties are motivated to resolve their dispute.

Our question about the time to dispute resolution is theoretically interesting, because it is obvious that in social life some disputes settle quickly, while other disputes become ensnared in escalating conflict spirals (Rubin, Pruitt, & Kim, 1994) and may never settle at all (Schelling, 1960). Why is this? What is the temporal pattern of dispute resolution? Our study addresses two important theoretical questions: What is the shape of the function accounting for the rate at which disputes settle (that is, do disputes generally settle more quickly at earlier or later periods)? What factors displace that function leading to acceleration of or delays in dispute resolution (that is, do some factors push back the time it takes to resolve disputes for both early and late resolving disputes)?

Our research question is practically important, too. Disputing takes time and emotional energy, as does the process of trying to negotiate the resolution of disputes. Increasing the efficiency of dispute resolution means less time spent managing the emotional toll of disputing, less time spent in developing strategy for dispute resolution negotiations, and more time for other activities either financial or leisure. Identifying factors that delay or accelerate dispute resolution may allow disputants to control the process and thereby increase the speed of resolution. Alternatively, disputants may be able to categorize disputes on the basis of their likely duration and make decisions when a claim is made or rejected that will help them avoid escalation of commitment.

The disputes in our study come from SquareTrade's database of disputes between eBay buyers and sellers. SquareTrade is an online provider of mediation services. eBay customers can reach SquareTrade's site to file a claim through a number of links from

eBay's website that customers would find when trying to resolve a problem with a transaction. SquareTrade's computers automatically open a negotiation site when a claim is filed and contact the respondent (the party against whom the claim has been made). Parties may settle themselves using SquareTrade's negotiation site or they may request assistance from a SquareTrade mediator. A unique element of SquareTrade's mandate is that only a SquareTrade mediator as part of a settlement agreed to by disputants can direct eBay to remove negative feedback that parties may have posted about each other on eBay's site. (eBay developed a reputation index in an effort to provide a basis for confidence and trust in eBay transactions. Each party to an eBay transaction is asked to evaluate the other party within ninety days of the transaction, providing positive, neutral, or negative feedback. These ratings accumulate across transactions and are available for anyone who uses eBay to see.) Posting negative feedback can be a source of conflict itself. A party in the emotional heat of disappointment when a commitment is perceived to be unfulfilled may post negative feedback. Alternatively, that negative feedback may be posted purposefully to increase the costs to the respondent of the rejected claim.

To our knowledge ours is the first study to model the time that it takes for disputes to be resolved. In a prior study using some of the data we are using again here, our focus was on the emotion of anger, and the causal relationships between disputants leading to resolution (authors, in press). In contrast, in this study of the timing of resolution, we look more broadly at both positive and negative emotions. In yet another departure from the independent variables used to predict the likelihood of resolution in the previous study, in this study of the timing of resolution we considered whether how disputants explicitly or implicitly talk about or frame the dispute accelerates or decreases

the rate of resolution. The longitudinal focus of this study's dependent variable and the breadth of the independent variables used in modeling contribute to a deeper understanding of the dynamics of resolving disputes than has been available in previous studies.

In addition, in this study we include a sample of disputes that the parties essentially resolved themselves, only using the SquareTrade mediation site to report to a mediator that they had reached an agreement part of which was to remove the negative feedback posted by one, the other, or both disputants. We partition the data into two samples. In Sample 1 we analyze the rate of resolution of disputes for which the parties entered the SquareTrade system to get a mediator to help them resolve their dispute (Mediation Sample). In Sample 2 we analyze the rate of resolution of disputes for which the parties entered the SquareTrade system to have negative feedback removed (Feedback Sample).

We model rate of resolution with data from the filer and respondent, not the mediator. Our data are what was available to the mediator from the first exchange between filer and respondent in the context of mediation. Parties knowing this exchange will be seen by the mediator may be posturing to try to influence the mediation outcome. Thus, this characteristic of the data allows us to study emotion and discussion of the dispute not in the heat of making and rejecting a claim, but in its aftermath when parties are willing to engage in a resolution process. The study therefore reflects the opening moves when parties agree to try to resolve their dispute through mediation.

### Theoretical Background and Hypotheses

Why do some disputes resolve rapidly, others more slowly, and still others not at all? Our approach is to model the rate of dispute resolution and to determine whether that rate is influenced by characteristics of the dispute, by filer and respondent's roles and reputations, by filer and respondent's emotions, and by how filer and respondent talk about or frame the dispute for resolution. We are particularly interested in how filer and respondent talk about or frame their dispute, because if the social functionalist view of emotion is correct, then we should be able to predict how quickly the dispute will settle based on the social intentions and desired courses of action that filer and respondent communicate to each other.

#### Resolution Rate

The event that we are interested in modeling occurs when a dispute resolves, that is, changes from the state of being unresolved to the state of being a resolved. Time in a hazard rate model is the interval between the beginning of an observation period (in our study when the respondent responds) and the occurrence of an event (in our study the mediator declares the parties have resolved the dispute and closes the mediation site). This period is the fundamental datum of the modeling procedure (Harrison & Hulin, 1989).<sup>1</sup>

Different theories of the rate at which disputes resolve lead to differentially shaped hazard functions. In continuous time the hazard rate – the rate at which cases drop out of a sample, by (in this study) being resolved - is a conditional, instantaneous *rate* that can range from zero to positive infinity (Harrison & Hulin, 1989, 305). If dispute resolution occurs randomly over time, the hazard rate would be constant and the

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<sup>1</sup> A potential source of confusion in hazard rate modeling is that independent variables are called covariates (Tabachnick & Fidell, 2001).

slope of the hazard rate would be zero. In our study one theory of the hazard rate might be that resolutions should come quickly once mediation is requested, because disputants who are willing to commit the dispute to a mediator and pay the nominal fee of \$15 to do so are anxious to resolve their dispute. An alternative theory of the hazard rate might be based on opposite reasoning. The very fact of going to mediation might delay settlement. This reasoning about the potential shape of the hazard led us to hypothesize that the function would be somewhat different in the Mediation and in the Feedback Samples.. Parties in the Feedback Sample were in mediation to get a mediator to notify eBay to remove negative feedback. In contrast, we expected the parties in the Mediation Sample who entered mediation with one or more unresolved issues would complete the process more slowly.

H1: The survivor function of the Feedback Sample will be steeper and displaced to the left relative to the survivor function of the Mediation Sample, showing that resolution is quicker in the Feedback Sample compared to the Mediation Sample.

#### Predicting the Shape of the Hazard Function

The independent variables that we chose to model the rate of resolution of disputes include both relatively objective, descriptive, easily observable information about the dispute and disputants and the relatively subjective social framing of the dispute by the disputants.

Feedback is an issue. Feedback was always an issue in the Feedback Sample and so as a constant it could have no effect on the hazard function. However, when feedback was an issue in the Mediation Sample (it was not always) we expected that the rate of resolution to be faster. This is because negative feedback appears on a party's publicly

visible eBay record. Parties interested in buying or selling on eBay may be discouraged by negative feedback from entering into transactions with those with poor reputations. Negative feedback is a not-so-subtle social functional indicator that the party is not to be trusted. Therefore, we hypothesized that the presence of negative feedback should increase the speed the speed of dispute resolution.

H2: In the Mediation Sample when feedback is an issue, the rate of settlement will be faster.

Dispute characteristics other than feedback do not lend themselves to rate of resolution predictions. For example, the amount of money involved in the disputes we studied ranged from 0 to 40,000 dollars. Yet, there is no clear theoretical reason to suppose that high dollar disputes would settle more rapidly or less rapidly than low dollar disputes.

Filer is a buyer. The roles of the filer and respondent, however, suggested resolution rate theorizing. Buyers and sellers on eBay do not have symmetric experiences. Many eBay sellers use the site as a virtual store. They are frequent and experienced eBay participants. In contrast, eBay buyers may use the site regularly but they are typically not volume buyers. Therefore, we anticipated that sellers would be more motivated to resolve disputes than buyers, because they should be more sensitive to the costs of an ongoing dispute than buyers. Disputing takes time and energy away from their selling activities.

The ease in satisfying a claim may also not be symmetric for buyers and sellers. For example, a seller has the capability of making the buyer whole by offering an

alternative product or a refund. A buyer may not have the same flexibility or the same motivation to satisfy the seller.

H3: The rate of dispute resolution will be faster when the filer is a buyer than when the filer is a seller.

Because our social functional theoretical perspective focuses us on the circumstances surrounding the specific dispute, we made no predictions based on filer and respondent's reputations. Poor eBay reputations suggest that the buyer or seller has not been a satisfactory business partner in the past; yet, despite access to negative reputation data about each other, the parties in disputes we studied had entered into a transaction. Our social functionalist perspective implies that events that provide a backdrop for the current dispute are less likely to affect disputing behavior than events immediately associated with the dispute. For this reason, we tested the impact of filer and respondent's reputation on speed of dispute resolution, but we made no hypotheses about such a relationship.

Filer and Respondent's Emotions. Our social functional perspective on emotions led us to develop hypotheses about how emotional states originating within dispute resolution negotiations affect resolution rate. Explaining the social function of emotions requires explaining how the emotional expression leads to acceleration or deceleration of the rate of dispute resolution. Although social functionalists are interested in the differential effects of specific emotions, for example, the effects of anger versus anxiety, given the lack of prior research on rate of dispute resolution, much less emotions and rate

of dispute resolution, we generated hypotheses about the effect of positive emotions and negative emotions on resolution rate.<sup>2</sup>

Positive emotions may accelerate dispute resolution. In negotiation, words within the positive emotional lexicon (Pennebaker, Francis, & Booth, 2001) such as amused, assured, calm, cheerful, comfort, enjoy, enthusiasm, excited, grateful, happy, hope, interest, proud, and pleasure reveal the disputant's positive affective orientation toward the other party, convey that the disputant is worthy of negotiating with, and trigger cooperative relations (Morris & Keltner, 2000). Particular words important in negotiations like the expression of interest in the other should provide information about the speaker's sincerity, convey respect, and evoke complementary emotions in the other party. The message of sincerity and respect resolves the social status issue of disrespect that was communicated when parties made and rejected the claim. Although the substantive issue in dispute may not be resolved the affective one is. And affectively positive negotiators are more likely to reach agreements (Carnevale & Isen, 1986). The expression of positive emotions therefore should accelerate dispute resolution.

H4a: The rate of dispute resolution will be faster when disputants' communicate positive emotions.

However, conveying positive emotions in the context of dispute resolution negotiations where a negative event has already occurred may also signal weakness and so encourage disputants to prolong negotiations to claim additional value. If one party is

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<sup>2</sup> There is a small but growing body of empirical research on the effects of emotion in non-dispute oriented negotiations (e.g., Allred, Mallozzi, Matsui, Raia, 1997; Carnevale & Isen, 1986; Van Kleef, De Dreu, & Manstead, 2001). However, this empirical work has largely not examined the effects of different discrete positive or negative emotions.

weak the perceived gain from holding out may be greater than the cost of prolonging negotiations slowing down dispute resolution.

H4b: The rate of dispute resolution will be slower when disputants' communicate positive emotions.

Negative emotions incorporate feelings of anger, anxiety, and sadness. Words within the negative emotional lexicon (Pennebaker et al., 2001) like agitated, angry, apprehensive, despise, disgusted, frustrated, furious, and hate convey information that a disputant is feeling negative affect about the other party. The complementary emotional response may be fear or guilt which might then encourage a rapid resolution because the costs of maintaining such a level of negative emotion may make parties more willing to resolve their dispute. This is certainly the rational reason for conveying negative emotions and the social functional purpose of a threat, e.g., if you don't, then I will. However, in the context of eBay dispute resolution negotiations the more likely response is reciprocal negative emotion (authors, in press). This is because in this context, the verbal communication is not a threat; the damage already has been done according to the claimant. Instead the verbal communication is an emotional reaction to that damage. Such a response conveys disrespect which only exacerbates the substantive issue in dispute by essentially adding an emotional issue. For these reasons, we expect that the expression of negative emotions will prolong dispute resolution.

H5: The rate of dispute resolution will be slower when disputants' communicate negative emotions.

Filer and Respondent's Framing of the Dispute. Disputants can look backward and focus on blame or they can look forward and focus on how to resolve their dispute.

Focusing on blame probably only serves to increase negative emotions, but making explicit suggestions for resolution frames the dispute in a forward looking manner. It signals, if not exactly cooperation (the proposal may be entirely one-sided), then a willingness to resolve the dispute quickly based on the norm of reciprocity (Gouldner, 1960) should initiate a reciprocal response in the same forward looking resolution frame. It also signals respect, that is, your claim is worthy of a serious settlement proposal and therefore you yourself are respected.

H6: The rate of dispute resolution will be faster when disputants make explicit suggestions for resolution.

The exception to Hypothesis 6 may arise when the respondent makes an explicit suggestion for settlement. A respondent proposal for settlement signals a counter proposal, that the respondent is pushing back and thus not so willing to settle. It may also be that respondents' settlement proposals indicate that they think that they can settle for less with a little push back. Or, perhaps, some respondents suffering from the winner's curse make proposals thinking that the dispute resolution negotiations were too easy and value was left on the table. Regardless, the respondent pushing back with a counter settlement proposal signals ongoing disrespect: "your proposal is not yet worthy of my agreement."

H7: The rate of dispute resolution will be slower when the respondent makes an explicit suggestion for resolution.

In addition to explicit suggestions for settlement, disputants' negotiations may reveal more implicit, less direct evidence of their thinking about resolution. In this study we modeled four categories of verbal communications that were more indirect than

explicit proposals for settlement. We had not analyzed these variables in our prior research on settlement, but here with our focus on rate of resolution, we thought more subtle cues might affect the rate of resolution by signaling willingness (or unwillingness) to settle quickly. These indirect factors included displays of status (telling the other disputant what he or she should do), displays of toughness (threats to get attention), and displays of causal explanation (offering an excuse or apology).

Displays of status involve the use of language such as *should*, *ought*, that may convey somewhat obliquely that the other disputant is not deemed capable of figuring out what he/she should propose to resolve the dispute. It is possible that the recipient of such a display accepts his/her role in the status hierarchy and makes concessions to convey that acceptance. If this were true, displays of status should accelerate dispute resolution. We think it is more likely that displays of status will slow down dispute resolution. People do not like to think of themselves as low status or as incapable of contributing to the resolution process. The extensive research on procedural justice, for example, shows that disputants prefer to be active participants in the process, not passive recipients of directives (Colquitt, Conlon, Wesson, Porter, & Ng, 2001).

H8: The rate of dispute resolution will be slower when the filer engages in displays of status.

Displays of toughness involve the use of language such as *conflict*, *control*, *block*, *withhold*, *repress* that convey somewhat obliquely how concerned the disputant is. When the filer frames the dispute with a display of toughness, the filer is sending a message of “pay attention” that is somewhat different from conveying negative emotions, where the message might be “I’m furious”. Framing the dispute with a display of toughness seems

to do two things. First, it keeps the focus on resolution. The message is: this is important; I'm not going to be easy; you are going to have to come up with a good proposal to satisfy me. Still displays of toughness should be less likely to stimulate a strong negative emotional response than displays of anger. The social function of the display is settlement oriented, if indirect. Framing a dispute with a display of toughness should get the other party's attention making that party more active in dispute resolution and so accelerate dispute resolution.

H9: The rate of dispute resolution will be faster when the filer engages in a display of toughness.

However, a respondent displaying toughness is likely to delay the resolution of the dispute. The respondent's display of toughness signals that the respondent is not going to settle easily, that the respondent is resisting what the filer is proposing for settlement.

H10: The rate of dispute resolution will be slower when the respondent engages in a display of toughness.

Displays of causal explanation involve offering an account or apology (Schlenker, 1980). Accounts provide excuses or justifications that reduce one's responsibility for the event or the apparent severity of the event's consequences (Schlenker, 1980). Apologies are confessions of responsibility which include expressions of remorse (Tedeschi & Norman, 1985). Such displays are major tactics for extricating one's self from social predicaments (Snyder, 1985). When forthcoming from a respondent such displays signal the person recognizes that some social norms have been violated and in doing so reaffirms the validity of those norms (Scott & Lyman, 1968). Such displays may also

signal regret which may be reciprocated with forgiveness and sufficient trust to facilitate negotiations. Therefore we expect that because displays of causal explanation signal respect and so reduce or remove that emotional aspect of the dispute, that such displays will increase the rate of dispute resolution.

H11: The rate of dispute resolution will be faster when the respondent engages in a display of causal explanation.

## Methods

### Disputes

We studied 582 eBay-generated disputes that were filed on the SquareTrade site, responded to, and a mediator was requested. We determined a start time for collecting data with the help of SquareTrade. SquareTrade has proprietary information about the ebb and flow of eBay disputes over the calendar year and directed us to a period of medium volume. We collected data on all cases that had been filed for mediation with SquareTrade and that SquareTrade closed during this period. The result was data on 585 cases. A case could be “closed” because it was resolved, or because the respondent or the filer after initial willingness to mediate stopped replying, or because the parties agreed that they could not agree and terminated mediation. As a result of this data collection strategy we have good variance on time to settle. Although there are other time limitations in SquareTrade’s process such as the time allotted a respondent to respond to the initial complaint, once mediation is commenced SquareTrade does not limit the time that mediators may spend trying to help parties resolve disputes. All the disputes came into our data set because they had been filed for mediation and responded to.

We defined resolution with two data points: resolution and time. Resolution was defined in the same way as our prior study (authors, in press). A dispute was coded as resolved if both parties explicitly accepted a resolution. The SquareTrade resolution process requires that the mediator write up the final agreement and that each disputant sign off on it. A dispute remained unresolved if one or both parties stopped participating in the mediation, or the mediator declared an impasse, or there was no settlement at the close of our observation period. Time was coded as the number of days from the respondent's response to resolution, or termination of mediation without resolution.

#### Predictor Variables

We collected data from the disputants' initial filing for mediation. SquareTrade's site automatically dates transactions. The filing and response screens also collect closed ended data on whether the filer was a buyer or a seller, the amount of the transaction, and whether negative feedback was an issue. We used data from the eBay site to create a reputation variable for each disputant that was the ratio of negative and neutral feedback to positive feedback. We coded our data set, making a name code key so that we could collect reputation data from eBay reputation and merge it with our SquareTrade data. Once the reputation data were collected, one investigator replaced names with codes, merged the data sets and sent the name-code key to SquareTrade. The data are therefore anonymous to us.

The open-ended and text box elements of SquareTrade's filing and response screens provided data to code the emotion and framing variables. We used two different coding techniques. First, we ran the text data through the Linguistic Inquiry Word Count (LIWC) (Pennebaker et al., 2001). LIWC reports the percentage of words that expressed

positive emotion, negative emotion, and the display variables of status, toughness, causal explanation, and hesitancy. For example, in one case a participant stated “Assuming he does as promised, I would be delighted to remove the negative feedback,” which received a “positive emotion” score of 7% (1 positive emotion word, “delighted” out of 14 words total). In another case, a participant stated “UPS is responsible for the item being damaged,” which received a “causal explanation” score of 12.5% (1 causal word, “responsible,” out of 8 words total). Second, we trained two paid research assistants with no knowledge of the hypotheses to code the open-ended text for evidence of an explicit suggestion for resolving the dispute (e.g., I will give her a full refund if she takes the bad feedback off.”). Cohen's kappa, which measures inter-rater reliability, was 0.73.

Our event was resolution. Our analysis took into account both the occurrence (and nonoccurrence) of the event, as well as the timing of the event. Our multivariate model estimated the rate of dispute resolution and modeled the effects of hypothesized variables in terms of their significant impact in accelerating or slowing the resolution rate. We used a Cox regression (Cox, 1972). Our first data analysis step was to determine the presence or absence of outliers on the independent variables. Our second data analysis step was to determine whether or not the proportional hazard assumption was met with the Mediation and Feedback Samples. If it is not, there is an interaction between time and the sample covariate (Tabachnik & Fidell, 2001), and our plan was to then model the Mediation and Feedback Samples separately.

## Results

The analysis indicated the presence of outliers on our predictor variables, so we used a lg10 transformation. An reanalysis of distributions indicated that the logarithmic

transformation of these variables brought distributions into acceptable limits. We also checked for multivariate outliers using the Mahalanobis distance analysis (Tabachnik & Fidell, 2001). This analysis identified 15 cases that we eliminated from the study as multivariate outliers.<sup>3</sup> This reduced our analysis sample to 568 cases.

The first important result of our analysis of the speed of dispute resolution is that the timing of dispute settlement was not random. (See overall chi square values in Table 1.) The strength of the association between sample and settlement was  $R^2 = .39$  and the interaction between time and sample added an additional significant 2% bringing the overall association to .41. The results in Table 1 show that the Mediation and Feedback Samples were significantly different both with respect to the speed of resolution ( $\text{Chi}^2(1,568) = 283; p < .001$ ) and the pattern of resolution over time ( $\text{Chi}^2(1,568) = 6.35; p < .01$ ). Sample designation significantly affected both the rate of resolution, that is, the height of the functions and the pattern. The significant interaction indicates that the shape of the functions were different. Figures 1a and 1b show the survival and hazard functions for the two samples. As Hypothesis 1 predicted the rate that disputes were resolved was slower for the Mediation Sample than the Feedback Sample. (Sample B = -2.287 (.19),  $p \leq .01$   $\exp(B) = .102$ ). As can be seen in Figure 1a, fifty percent of the Feedback sample cases were settled in 15 days or less, whereas it took 40 days or less to settle that same proportion of Mediation Sample cases. The interaction between time and sample was also significant ( $B = .212(.09)$ ,  $p \leq .02$   $\exp(B) = 1.23$ ). This indicates that the shape of the hazard function was different for the two samples. Figure 1b shows that the hazard function was much flatter for the Mediation than the Feedback sample. Because

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<sup>3</sup> Detailed analysis available from the authors.

this interaction term was significant, we separated the two samples to model the speed of resolution with the covariates.

### Mediation Sample Results

The omnibus test for the Mediation Sample (Table 1b) shows that we were able to model the speed of dispute resolution with the hypothesized covariates. The relative association between settlement and the covariates was  $R^2 = .16$ . Adding the interactions between log of time and each of the hypothesized covariates did not add significantly to the prediction (row 2 in Table 1b). This means that the model did not violate the proportional assumption of Cox regression. In addition respondents' reputations and dollar amount of the dispute did not add significantly to the prediction (row 3 in Table 1b). Of the 362 cases in the Mediation Sample, 167 (46%) were ultimately resolved, 188 (51.9%) censored, which means they did not resolve and were closed by SquareTrade, and 7 cases were dropped because of missing data.

The covariates that predicted the speed of resolution in the Mediation Sample were the role of the filer, whether feedback was an issue, and the framing of the dispute in the filer and respondent's communications. Table 3 shows the regression coefficients for the covariates. Because resolution was coded 1, a positive coefficient means that the covariate event increased the likelihood of resolving and a negative coefficient means the covariate event decreased the likelihood of resolving.

The results for the Mediation Sample confirm Hypothesis 2. When feedback was an issue, the dispute settled almost twice as rapidly as when it was not. The filer's role as a buyer (respondent's role as the seller) also accelerated dispute resolution confirming Hypothesis 3. Disputes in which the respondent was a seller settled 74 percent faster than

those in which the respondent was a buyer. Hypotheses 4a and 4b were competing hypotheses proposing that the expression of positive emotion could accelerate or delay dispute resolution. Neither hypothesis was supported. Neither displays of positive emotion by the filer nor by the respondent affected the rate of resolution. Interestingly, the expression of negative emotion on the part of filer or respondent also did not affect the speed of dispute resolution in the overall model. Hypothesis 5 was not confirmed.

Hypotheses 6 and 7 suggested that proposing terms for settlement would accelerate settlement. These hypotheses were not confirmed in the Mediation Sample, suggesting that sometimes proposing settlement terms speeds settlement and sometimes doing so delays settlement.

Hypothesis 8 proposed that when a filer engaged in a display of status, dispute resolution would be delayed. This hypothesis was confirmed. The sign of the coefficient was negative and the risk ratio indicated that engaging in such displays reduced the speed of resolution by about a third. Recall that a display of status was a communication that emphasized what the respondent should do.

Hypothesis 9 proposed that resolution would be faster if the filer displayed toughness. This hypothesis was confirmed. Controlling for the other covariates, including the filer's display of negative emotion, displaying toughness made settlement almost 4.5 times quicker. Hypothesis 10 regarding the respondent's display of toughness was not significant.

Hypothesis 11 was confirmed indicating what the respondent can do to speed resolution. When a respondent gave a causal explanation, the rate of resolution was increased 2.5 times.

We tested whether the amount in dispute or the parties' respective reputations affected the rate of resolution by running a model adding these three covariates as a second step. To do this we had to use a slightly smaller sample since we had 54 cases with missing data either on the reputation or amount in dispute. The step with dollars, and reputations was not significant, (see Table 1b, row 3). When we added the interaction term between filer's anger and respondent's reputation, it too did not add significantly to the prediction of rate of resolution.

#### Feedback Sample Results

In the Feedback Sample, three covariates predicted settlement rate: role of the filer, whether the filer suggested a solution and whether the respondent suggested a solution. Table 2c shows the omnibus test was significant. The relative association between settlement and the covariates was  $R^2 = .12$ . Adding the interaction terms between time and the covariates was not significant indicating Cox proportionality assumptions were not violated. Furthermore, adding the amount in dispute, and the reputations of filer and respondent did not add to the power of the model to predict the speed with which Feedback cases settled.

Of the 206 cases in this sample, 100% were ultimately resolved. No cases were dropped due to missing data. Table 4 reports the results for the covariates. The effect of the filer being a buyer was to speed up settlement by about 52% as predicted by Hypothesis 3. Furthermore, when the filer of these feedback only cases suggested a settlement, resolution was faster, such suggestions increased the speed of settlement by about 64%. However, if the respondent suggested a settlement, resolution was delayed while the mediator worked with filer and respondent to see if each would accept the

other's proposal. The respondent pushing back with a counter proposal decreased the speed of settlement by about 63%. Displays of negative emotion by the filer also had a tendency to decrease the speed of settlement in the feedback only sample.

### Discussion

This study of the opening moves of on-line dispute resolution provides substantial insight into the factors that accelerate and decelerate the rate of dispute resolution. The study contributes to the social functionalist view by confirming that characteristics of the dispute and opening communications when filing for mediation frame the dispute for either rapid or delayed resolution. It also provides important and occasionally surprising insight for disputants and the third party practitioners who wish to help them resolve their disputes by identifying what elements of opening moves accelerate or delay resolution.

### Summary of Findings

The rate of resolution varied depending on the issues involved. When disputants were able to negotiate a resolution of the dispute themselves and only needed to use the SquareTrade site for feedback removal, disputes were resolved rapidly. For these disputants the act of requesting mediation signaled that both parties were prepared to settle. However, when the disputants were going to mediation for assistance in resolving their dispute, the speed of settlement was slower. Although some of the mediation disputes settled relatively quickly, others took more time, and some did not settle within the allotted time frame.

Who filed the claim accounted for the speed of resolution across our two samples. When the filer was a buyer and the respondent was a seller disputes settled more rapidly. Seller-respondents apparently are substantially more motivated than buyer respondents

This reflects the asymmetry in buyer and sellers roles on eBay. Sellers in the Feedback Sample may have been particularly concerned about the effect of the negative reputation information posted against them. The data suggest that negative feedback was also a factor in motivating more rapid resolution in the Mediation Sample, possibly because parties were motivated to remove negative feedback as quickly as possible and negative feedback provided leverage for making trade-offs to reach agreement.

Making proposals for settlement had different effects on the speed of resolution depending on the sample and who was making those proposals. In the Feedback Sample filers making proposals for settlement increased the speed of dispute resolution, but respondents making proposals slowed down the process.

What was important in accounting for the speed with which disputes settled in the Mediation Sample was not so much displays of positive or negative emotions, but the more subtle framing of the dispute in terms of displays of status and toughness by the filer which slowed down resolution, and causal explanations made by the respondent, which speeded up resolution.

The expression of positive emotions neither increased nor delayed the resolution of disputes in our study. This finding is consistent with a study by Carnevale and Isen (1986) who did not find any benefit of positive emotion on the likelihood of settlement when negotiators were in a non face to face condition, as our disputants were.

Negative emotions also did not contribute significantly to the speed of dispute resolution. This result was surprising because in our previous modeling of settlement as opposed to speed of settlement the expression of anger reduced the likelihood of settlement (authors, in press).

Another very interesting result in the Mediation Sample was that neither filer's nor respondent's suggestions for settlement had an impact on speed of resolution. The finding also suggests a different picture than that which we presented when modeling settlement alone (authors, in press). In our prior study offering ideas for settlement increased the probability that settlement would occur. Here offering ideas neither increased nor decreased the speed at which settlement occurred in the Mediation Sample. Putting together these two sets of results suggests that offering settlement solutions is an indicator of eventual settlement, but not an indicator of early settlement when disputants have not been able to negotiate a resolution of the dispute themselves.

#### Implications for Theory

Our social functional theoretical lens was particularly fruitful in identifying rather subtle factors, like filing forcefully, but not angrily, providing a causal explanation, and avoiding telling the other party what to do, that impacted the speed with which disputes were resolved. Our results indicate the value of the social functional perspective with its focus on the particulars of the dispute as it is framed in social interaction is a fruitful perspective to take at least when modeling the speed of dispute resolution. Our study does not rule out the importance of structural factors and general affective states. To be sure the role of the filer had a significant impact on resolution rate. However, our study does demonstrate the importance of the features of the parties' initial public social interaction.

#### Implications for Disputants and Third Parties

The major finding in this study is that disputants can affect the rate of the resolution of their disputes. Filers and respondents cannot control whether they are the

buyer or the seller in a disputing situation, which does make a difference in the speed with which disputes are resolved. However, both filers and respondents can affect the framing of their social interaction. One way to frame that interaction is to file negative feedback. This does escalate the dispute by adding yet another explicit issue to the substantive issue in dispute and the emotional issue of lack of respect that comes with having a claim filed against you or having your claim rejected. Nevertheless, filing negative feedback seems to provide the leverage to get parties to engage in rapid serious settlement talks.

The data also suggest filers should try to contain their angry outbursts. Although anger can block settlement (authors, in press), in disputes that settle the expression of negative emotion neither slows nor speeds resolution. Forceful filing was a more consistent predictor of rapid resolution than negative emotion. The filer's expression of negative emotions might speed resolution, but these data suggest it is just as likely to delay dispute resolution, perhaps because this explicit loss of respect now also has to be resolved along with other issues. Filers also should refrain from telling the respondent what the respondent ought to do. And, respondents should provide causal explanations.

The major implication for dispute resolution services providers is that disputes cannot be easily sorted into quick to settle versus long to settle categories on the basis of contextual factors. Rather a reading of the initial filing for emotion and framing provided a clear indication about how much time was going to be needed to resolve the dispute.

#### Limitations and Opportunities for Further Research

These data from the SquareTrade web site were highly appropriate for testing hypotheses derived from social functional theory about the social function of messages

contained in communications between disputants and the speed of dispute resolution..

The cases were all real disputes and the data were from the first public social interchange between the disputants. Thus, emotions and framing both important factors from the social functionalists' point of view were all very real.

Our results may not be wholly generalizable to face to face negotiations where social presence is stronger and communication is shorter and punctuated (Barsness & Bhappu, in press). Social presence seems to reduce the expression of extreme emotion (Barsness & Bhappu, in press). The punctuated nature of face to face social interaction may also have a negative effect on framing, or the reading of the signals of framing. Therefore both the effects of emotional expression and of framing on the speed of resolution may not be as strong in a face to face situation as was found here. We do not think, however, that the implications of our results are confined to the narrow world of SquareTrade disputes. With so much social interaction today taking place via the internet, electronically mediated dispute resolution negotiations may be as frequent and important as those that take place face to face. This study identifies framing as factors that affect the rate of the resolution of disputes being negotiated electronically.

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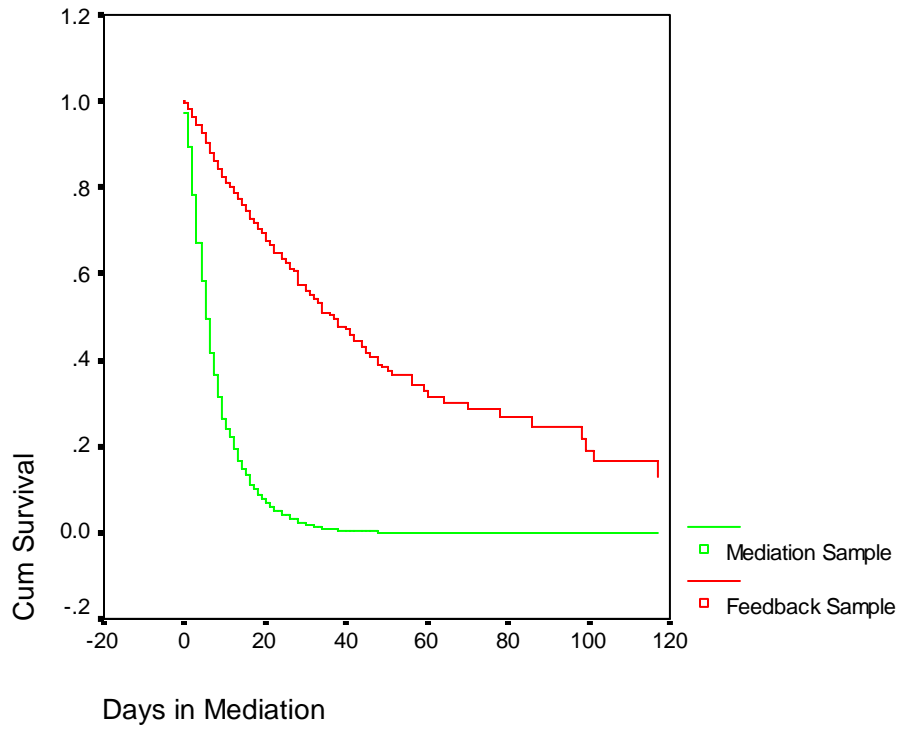


Figure 1a. Survival function for feedback and mediation samples.

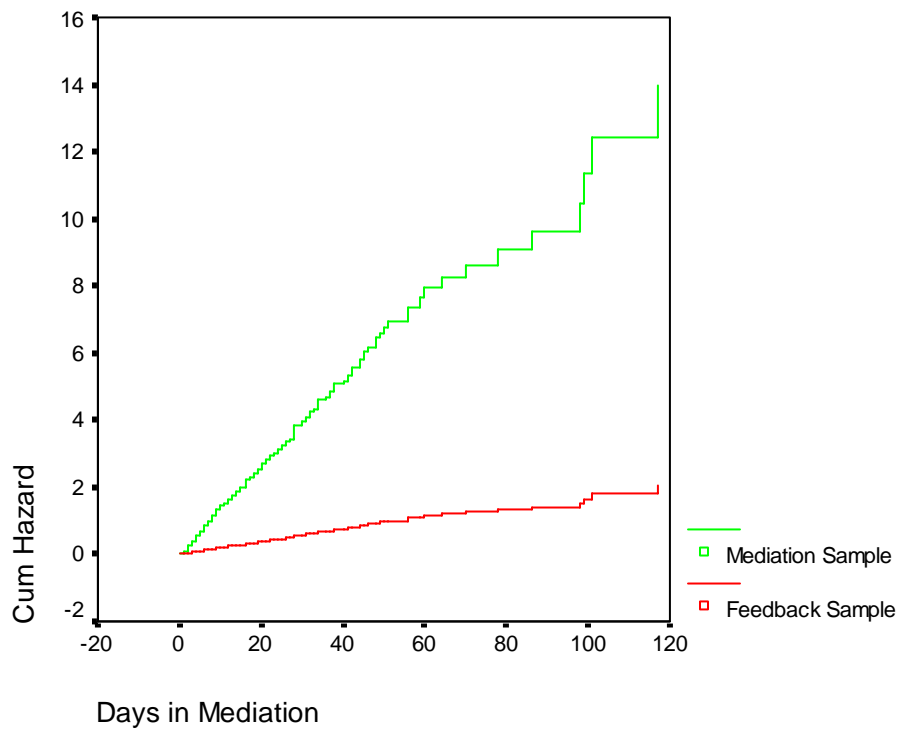


Figure 1b. Hazard function for feedback only and multiple issue disputes.

Table 1a. Omnibus Tests of Model Coefficients across Samples

-2 Log Likelihood	Overall (score)			Change from Previous Step		
	Chi-square	df	Sig.	Chi-square	df	Sig.
3945.39	362.055	1	.001	283.205	1	.001
3939.03	363.254	2	.001	6.353	1	.01

Table 1b. Omnibus Tests of Model Coefficients in the Mediation Sample

	-2 Log Likelihood	Overall (score)			Change from Previous Step		
		Chi-square	df	Sig.	Chi-square	df	Sig.
Model	1624.18	68.58	12	.001	63.21	12	.001
Interactions	1616.40	78.46	23	.001	7.78	11	.732
Reputations	1363.59	74,30	15	.001	5.52	3	.14

Table 1c Omnibus Tests of Model Coefficients in the Feedback Only Sample

	-2 Log Likelihood	Overall (score)			Change from Previous Step		
		Chi-square	df	Sig.	Chi-square	df	Sig.
Model	1790.83	26.40	11	.01	26.00	11	.01
Interactions	1774.32	45.16	22	.01	16.51	11	.12
Reputations	1394.40	30.59	14	.01	1.39	3	.71

Table 3a. Modeling the Rate of Resolution in the Mediation Sample

Variable	Parameter Estimate	SE	Wald ( $\chi^2_{(1)}$ , N=355)	Risk Ratio Exp(B)
Feedback is issue	.69**	.21	11.38	1.995
Filer is buyer	.55**	.19	8.09	1.735
F Positive emotions <sup>a</sup>	.05	.45	.010	1.056
R Positive emotions	.20	.30	.47	1.225
F Negative emotions	-.59	.41	2.12	.56
R Negative emotions	.12	.35	.123	1.131
F Solution	.27	.34	.62	1.305
R Solution	.28	.22	1.65	1.322
F Status	-.99*	.43	5.24	.372
F Tough	1.53**	.56	7.38	4.60
R Tough	-.433	.51	.713	.649
R Cause	.92*	.41	5.02	2.50

+  $p < .10$

\*  $p \leq .05$

\*\*  $p \leq .01$

<sup>a</sup> All variables beginning at this point were logs.

Table 4 Modeling the Rate of Resolution in the Feedback Sample

Variable	Parameter Estimate	SE	Wald ( $\chi^2_{(1)}$ , N=206)	Risk Ratio Exp(B)
Filer is buyer	.42**	.16	6.95	1.52
F Positive emotions <sup>a</sup>	-.44	.38	1.35	.643
R Positive emotions	-.09	.21	.18	.92
F Negative emotions	-.65+	.37	3.11	.520
R Negative emotions	.45	.32	1.94	1.56
F Solution	.49**	.19	6.579	1.645
R Solution	-.456**	.16	8.047	.634
F Status	-.009	.38	.001	.991
F Tough	-.06	.63	.010	1.066
R Tough	-.49	.69	.523	.609
R Cause	-.17	.38	.200	.845

\*  $p \leq .05$

\*\*  $p \leq .01$



