In Justice we Trust: Predicting User Acceptance of e-Customer Services

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ABSRACT: High quality customer service is an integral part of any successful enterprise, but providing it can be a challenge for online merchants, especially when customers are complaining about each other. This study examines how justice and trust affect user acceptance of e-Customer Services by conducting an online experiment involving 380 participants. The results suggest that trust in the e-customer service fully mediates the effects of trust in the service representative and procedural justice, on intentions to reuse the e-customer service. Furthermore, the effect of distributive justice on trust in the e-customer service was fully mediated by trust in the e-service representative. Finally, the effect of informational justice on user intentions to reuse the e-customer service was partially mediated by trust in the service representative and trust in the e-customer service. Theoretical and practical implications are further discussed.

High quality customer service has been recognized in the academic and practitioner literatures as a fundamental component of company performance. Effective customer service operations can enhance customer loyalty [26], facilitate customer trust in e-vendors [57], and increase repurchase likelihood [55]. Given the prevalence of online communications, an increasing number of customer-service interactions are conducted via electronic media [7]. For example, Sony provides in-house e-customer support via its

website, through which customers can chat with service representatives, address technical problems, resolve commercial disputes, and receive product information.

Although many factors can affect the acceptance of e-customer services, trust is a central multi-faceted concept in this context. In e-customer service interactions, users may form trust perceptions regarding the e-service, the service representative, or other involved parties. Thus, there are at least two trust relationships that need to be taken into account: (1) trust between users and the e-customer service, and (2) interpersonal trust between the involved parties. These trust relationships are believed to affect user decisions to use e-customer services for several reasons. First, because a service provider may engage in harmful opportunistic behaviors (e.g., refuse to give refunds) users need to trust the service provider itself in order to use its services. Second, based on the trust-transfer principle [60], users may also use trust in the human customer-representative as a basis upon which they form trust perceptions regarding the service provider that he or she represents. That is, users can "transfer" trust from the entity with which they interact directly (the customer support representative) to a lesser-known entity (the online merchant / e-customer service provider). Similarly, for cases in which users interact with one another directly (e.g., in eBay dispute cases), customers may use trust perceptions regarding the service provider as a basis upon which they form trust in the other party.

Many studies have demonstrated the importance of trust in an online service provider as a predictor of behavioral outcomes [e.g., 29], or the role of interpersonal trust assessments in e-collaboration [e.g., 51]. The results, however, have not been integrated to form a cohesive theory with regards to information systems that are the subject of trust assessments, and also intermediate trust between the involved parties. Contexts with both

e-services and human representatives are becoming increasingly common (e.g., online legal advice, online distance education) [63]. Thus, the abovementioned theoretical integration is needed to advance our understanding of the nature and roles of various trust cognitions.

Because trust is an important concept in the e-customer service context, it is also useful to understand some of its key antecedents. Justice (i.e., a set of fairness perceptions) has been established as key predictor of trust [18]. The association between these two concepts stems from the notion that individuals who receive fair treatment from a person, organization or information system are more likely to trust this entity [12]. For this study, we suggest that customers who encounter a fair procedure as facilitated by the e-service, fair interpersonal treatment, and fair information regarding the process and outcome, are likely to develop higher trust in the service provider and the human service representative. Customers who are treated fairly are also likely to develop higher behavioral intentions to reuse the e-customer service in the future [37].

Given the lack of empirical research on the interplay between justice and trust and their effects on behavioral outcomes in the IS context, this study draws on multiple theories to examine a model that captures the roles of justice dimensions in predicting various cognitions of trust, which in turn, affect behavioral outcomes. The contributions of this study include: (1) introducing a broader configuration of the justice concept to IS research, (2) understanding key antecedents of trust cognitions, and (3) validating a justice-trust technology acceptance model in the e-customer service context.

This paper is structured as follows. First, a literature review on relevant justice and trust research streams is provided. Second, a theoretical model explicating the

relationships between trust, justice and behavioral intentions is presented. Next, the research methods applied for validating the model are described. Fourth, data analysis and results are outlined. Finally, discussion, conclusions, implications, and future research directions are provided.

Conceptual Background

Forms of trust in e-customer support transactions

Trust is a cognition that serves the basic need of individuals to predict, understand, and control their environment [30]. Most definitions of trust share the notion that the essence of trust is an expectation from trustees to behave in a certain way when there is some uncertainty regarding these actions [39]. Accordingly, trust is conceptualized as a cognition about the trustee, that stems from the belief that the action of the trustee "may be relied upon, without explicit guarantee to achieve a goal in a risky situation" [24].

In e-Customer Service transactions there are several potential trustees and corresponding trust relations. First, the e-service itself can be the subject of trust because users may be concerned about the integrity, competence and benevolence of the service provider. Second, e-Customer Services can use various communication facilities to mediate the interpersonal trust between all of the involved human-parties. The humans in this context can include users (two in C2C complaint cases) and service representatives.

Forms of Justice in e-customer support transactions

Justice is a set of perceptions of fairness within an examined social system [18]. Many situations require individuals to form perceptions of justice as one compares the processes and outcomes to acceptable norms. Justice is an important concept to investigate in managerial settings because it positively affects many desirable perceptions

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and behaviors (e.g., intention to stay with a company), and negatively affects undesirable behaviors (e.g., stealing from your employer) [16]. In the e-customer support context, it is expected that the process and outcome of the transaction, as facilitated by the e-service and its representatives, form the basis for perceptions of justice. That is, users answer the question "was it fair?" along various justice dimensions.

The dimensionality of justice is a debatable issue in the current literature. While justice was initially conceptualized as having two dimensions (distributive and procedural), recent studies demonstrate that justice has four dimensions (distributive, procedural, informational, and interpersonal) [18]. The four justice dimensions can be important in the e-customer support context, and therefore are described below.

Distributive Justice

Distributive justice refers to the evaluation of the fairness of economic and socio-emotional outcomes [21]. Distributive justice assessments are based on a comparison of one's own outcome with these of others, rather than on the absolute value of the outcome [20]. Distributive justice is promoted when outcomes are coherent with implicit norms for distribution, such as equality or equity [17].

Perceptions of outcome fairness are developed differently in dissimilar scenarios and are based on three principles [22, 58]. First, the equity principle posits that outcomes should be distributed based on individuals' contributions [1]. Thus, individuals who contribute more should receive a larger reward. The second principle promotes equality of distributions [22]. In certain scenarios, outcomes should be distributed equally between all members of the social group. The third allocation principle argues that distribution should be positively biased towards those with the greatest need [58].

Applying these principles, it has been demonstrated that distributive justice influences various behaviors across many contexts (e.g., post-complaint behavior [11]).

Procedural Justice

Procedural justice refers to perceptions of fairness with regards to processes and procedures used to make decisions concerning outcomes [14]. This type of justice is fostered when the procedures used to arrive at the outcome match accepted norms. Just decision processes should: (1) be consistent across individuals and over time, (2) omit self interest of the decision maker, (3) use accurate information for decision making, (4) enable correcting wrong decisions, (5) represent the needs and values of all parties, and (6) meet the ethical and moral vales of the social system [46]. In addition, the ability to voice one's opinions through the decision process and potentially influence the outcome is argued to have a strong effect on perceptions of procedural justice [47]. Research on procedural justice has been conducted across a broad range of contexts (e.g., allocation of IS resources [40]). These studies demonstrate the viability of this construct in explaining attitudinal and behavioral outcomes in many situations.

Informational and Interpersonal Justice

A third type of justice, namely interactional justice, refers to the interpersonal treatment individuals receive throughout a process [9]. Four criteria underlie an individual's perception of interactional justice: justification for decisions, truthfulness, respect, and propriety (i.e. use of proper language and style). Thus, interactional justice is promoted by using clear rationales for decisions, the respectful treatment of individuals, integrity, and sensitivity to others [17]. Interactional justice is important because fairer treatment

may lead to an improved acceptance of unfavorable outcomes [45]. Hence, the predictive validity of interactional justice has been demonstrated across various situations.

Interactional justice, however, is argued to encapsulate two distinct concepts: interpersonal justice and informational justice. While interpersonal justice captures the degree to which people are treated with politeness, dignity and respect by decision makers, informational justice concerns the explanations provided to convey the reasoning behind processes and outcomes [33]. These explanations can enhance perceptions of justice when they are based on legitimate reasoning [25] and when they form beliefs of a lack of hidden motives [10].

Research Model

The proposed theoretical model of User Adoption of e-Customer Services draws on findings from trust, technology adoption, and justice research. The purpose of this model (See Figure 1) is to explain individual adoption of e-Customer Services.

Trust Hypotheses

Trust in web-based services can help consumers overcome perceptions of risk and uncertainty. This cognition is especially important when interacting with a relatively unknown website with which users do not have meaningful relationships. Accordingly, trust in an e-vendor has been shown affect the intended use of the e-vendor [31] and other trust related behaviors [50]. Therefore, the following hypothesis is suggested:

H1: Trust in the e-Customer Service provider will have a positive direct effect on users' behavioral intentions to reuse the e-Customer Service.

Trust-transfer is a cognitive process in which trust in an unknown entity is built through trust cognitions regarding known entities [60]. Based on the trust-transfer

principle, it is believed that trust in the service representative can be used as the basis upon which individuals form trust in the e-service provider he or she represents. That is, a trustworthy service representative can strengthen users' trust cognitions attributed to the service provider. This notion has received empirical support. For example, in offline transactions, it has been shown that perceptions regarding a salesperson form the basis for perceptions about the company [23]. Hence, the following hypothesis is suggested:

H2a: Users' trust in the human service representative will have a positive direct effect on users' trust in the e-Customer Service provider.

Second, recall that e-Customer Services can cater to C2C complaint cases, in which other parties are involved, in typically one-time transactions. The other party is usually anonymous, but has to be affiliated with the e-service provider to use its services. It is reasonable to assume that this affiliation helps facilitating trust in the other party, especially when other trust-building cues are not readily available. That is, trust in the service provider might induce more trust in the other party through trust transfer. This notion has received some support in the literature. For example, it has been demonstrated that trust in an e-intermediary can be used as the basis upon which users form trust in the community of users [52]. Thus, we propose the following hypothesis:

H2b: Users' trust in the e-Customer Service provider will have a positive direct effect on users' trust in the other party.

Justice Effects on Behavioral Intentions

Fairness may be attributed to web-based services because justice judgments are responses to events (stimuli) in a social context [34]. In the case of e-Customer Services, online media can define the resolution procedure, and affect the complaint-handling outcome.

Thus, e-Customer Services provide various justice-relevant stimuli which are used by individuals to form justice judgments about the e-Customer Service and interactions.

According to the fairness paradigm, various perceptions and behaviors are partially guided by beliefs regarding the justice associated with processes and outcomes, especially in decision making and conflict contexts. Hence, the concept of justice has been widely and successfully employed to explain individual reactions to a variety of conflict situations [11]. Because e-Customer Support transactions provide many justice stimuli in a conflict situation, it is reasonable to believe that justice perceptions will exert a direct effect on a user's intention to reuse an e-service. Furthermore, because users expect fair treatment from the e-Customer Service and its representatives, an unfair treatment may be perceived as a psychological contract violation [56]. Such violations can affect future transaction intentions [53].

To capture a wide range of relevant justice perceptions, this study employs the four-dimensional view of justice [17]. All four dimensions are projected to affect usage intentions. A fairer outcome, a fairer procedure and a fairer interpersonal treatment should lead to a stronger intention to re-use the service. Unfair outcomes, procedures and treatment violate the norms, and infringe the implied understanding between users and e-service providers. These expected effects have received some empirical support. For example, intentions to reuse an auction service have been shown to be directly affected by all four justice dimensions [37]. Accordingly, the following hypotheses are proposed:

H3a: Procedural justice will have a positive direct effect on users' behavioral intentions to reuse an e-Customer Service.

H3b: Distributive justice will have a positive direct effect on users' behavioral intentions to reuse an e-Customer Service.

H3c: Interpersonal justice will have a positive direct effect on users' behavioral intentions to reuse an e-Customer Service.

H3d: Informational justice will have a positive direct effect on users' behavioral intentions to reuse an e-Customer Service.

Justice Effects on Trust

Justice perceptions can be used as the basis upon which users form trust cognitions. Fair treatment may signal the trustworthiness of an entity by strengthening individuals' beliefs in the integrity and benevolence of the trustee. In contrast, injustice may signal that the potential trustee is malevolent or has a hidden agenda. Furthermore, unfair treatment may be perceived as a violation of the psychosocial contract between users and the e-service provider. This violation can diminish ones' beliefs that the service provider and its representatives will behave as expected, are well-meaning, and have the expected integrity. Such violations may affect users' trust in the service provider [53].

Trust can be affected by all justice dimensions. A fair outcome, procedure and interpersonal treatment can be perceived as a fulfillment of the psychological contract between users and the e-Service provider, and signal the trustworthiness of the involved entities. Indeed, it has been shown, mostly in organizational contexts, that trust is affected by procedural justice [43], distributive justice [2], and interactional justice [6]. The prevalent view in the literature is that procedural justice perceptions affect individuals' evaluation of the overall social system involved in the decision process, whereas distributive justice perceptions typically influence person-referenced outcomes

[16, 18]. Similarly, informational and interpersonal justice perceptions are argued to be better predictors of agent-referenced outcomes than of social system-referenced outcomes [18]. Accordingly, the latter three perceptions are mostly attributed to specific sources of information or interpersonal treatment, such as a salesperson or a manager. In contrast, procedural justice is mostly attributed to the overall system (e.g., a company).

Several justice-trust relationships can be hypothesized based on the abovementioned attribution schema. First, procedural justice is believed to influence trust in the e-Customer Service, as the latter encapsulates the overall social system involved in the complaint resolution process. Second, the service representative is the main source for interpersonal treatment, information on the process and decisions, and the outcome. Thus, the following hypotheses are proposed:

H4a: Procedural justice will have a positive direct effect on trust in an e-Customer Service.

H4b: Distributive justice will have a positive direct effect on trust in the service representative.

H4c: Interpersonal justice will have a positive direct effect on trust in the service representative.

H4d: Informational justice will have a positive direct effect on trust in the service representative.

Research Design

Data for this study was collected through an online questionnaire administered in the context of an e-Customer Service experiment, in which justice and user reputation were manipulated.

The IT artifact

An external e-Service catering to C2C marketplace complaints was chosen for this study for several reasons. First, the issue of trust is important in C2C marketplaces [52]. Second, trust in an unknown service would be based on the current experience of users and the manipulations, rather than on previously established relationships or reputation. Finally, this type of service is becoming increasingly common. For example, SquareTrade has provided e-customer services for millions of eBay users [59].

Accordingly, a website providing instant-messaging based e-Customer Service was created. This service enabled two disputants to interact with one another and with a mediator (i.e., a neutral professional that assists the parties to reach a resolution) in a set of private chat-rooms. The website ("e-Mediate") content and structure followed that of existing service providers to increase realism and external validity (see sample screen shots in Appendix A).

The survey instrument

The four dimensions of justice were measured using an adaptation of Colquitt's scale [17]. For capturing dyadic trust between a user and the service representative and between the users themselves, this study used the McAllister et al. interpersonal trust scale [49]. The Koufaris and Hampton-Sosa [44] scale was utilized for capturing trust in the e-Customer service. For capturing behavioral intention to reuse an information system (BI) the three BI indicators from Chau and Hu [15] were merged with the two items used by Venkatesh and Davis [64]. The survey also captured users' gender, age, and e-Customer service self-efficacy (CSE). The later concept was measured using the scale by Compeau and Higgins [19]. In addition, users were asked to self-report their frequency of

using instant-messaging and their e-auction experience for descriptive purposes (see Appendix B for the survey).

Experimental task & manipulations

SquareTrade was asked to provide three prototypical eBay complaint cases. A panel of five Internet users was consulted with regards to the understandability, interestingness, resolution difficulty and potential fairness issues of these cases. Based on their comments, a case in which a buyer purchased a small tuba on eBay and received a baritone instead was selected and operationalized (see Appendix C for a detailed case description).

A 2x3 factorial design was implemented, with two levels of reputation of the other party (low, high), and three levels of fairness of the service (fair, biased towards the complainer, and biased towards the respondent). The operationalization of the reputation of the other party manipulation was carried out by adding initial-reputation information to the case descriptions, such that half of the cases presented the other party as having a low rating on eBay, and the other half presented the other party as having a high rating. Reputation was manipulated because it can be a strong predictor of interpersonal trust [61]. Procedural and interpersonal justice perceptions were manipulated through the instructions provided for the mediators in the training session. Some mediators were asked to be fair, some to be biased towards the seller, and some to be biased towards the buyer. The mediator training also provided prospective mediators with prototypical sentences they may use for being fair or biased. For example, biased mediators would state explicitly that they strongly believe the buyer / seller is right and they would stick to this argument throughout the complaint resolution process.

To examine the impact of the "reputation" manipulation on interpersonal trust cognitions, a one-way ANOVA was conducted. The mean trust in the other party in the low-reputation treatment group (3.74) was significantly lower ($p < 0.0001$) than the mean in the high-reputation condition (4.97). To assess the influence of the "fairness" manipulation, the data was first split into two groups based on role (complainant and respondent), because the fairness treatments should have different effects on complainants and respondents. ANOVA procedures revealed that complainants reported the highest levels of procedural and interpersonal justice in the "biased towards the complainant" condition, followed by lower levels of justice in the "fair" condition. The lowest levels of justice were reported by buyers in the "biased towards the respondent" condition ($p < 0.05$ and 0.001 correspondingly). The exact opposite pattern was reported by respondents (e.g., the highest levels of justice in the "biased towards the respondent" condition) ($p < 0.01$ for both comparisons). Overall, the reputation and fairness manipulations were successful.

Procedures

Eight mediators were hired and received training in offline and online mediation. Students in an introductory IS course signed up for 20 minute sessions that were randomly assigned to experimental conditions. These sessions ran over a period of two weeks. Each online session was associated with two pseudonyms that the subjects used as their online identities. The role descriptions (complainer or respondent) were provided to the relevant individuals before the beginning of the experiment. The outcome of each session ranged from no-agreement to agreements that involved full or partial refunds,

apologies etc. After completing the experiment, subjects were invited to voluntarily complete the survey. A draw for small monetary prizes was used to motivate the students.

Population

The experiment involved 510 individuals, but only 395 subjects submitted a survey (total response rate of 78%). From these responses, 380 were usable (net response rate of 75%). A full factorial MANOVA model, comparing means across role, submission time, and their interaction, resulted in corresponding p-values for Wilk's Lambdas of 0.40, 0.65, and 0.54. Thus, it was reasonable to aggregate data across roles and submission periods.

The sample included 150 women (40%), 229 men (60%). It consisted of 47% complainants and 53% respondents. Most subjects (81%) managed to reach a settlement. The vast majority of participants (93%) belonged to the young-adult segment (18-26), with an average age of 21. Many participants had used e-auctions before (60%) with an average of 3 times, and use instant-messaging (IM) applications on a daily basis (83%). The majority of participants were fairly confident in their ability to utilize a new e-Customer service for resolving a similar complaint (mean CSE = 7.96). An initial assessment of the potential control variables (age, gender, and CSE) revealed that age and gender were not correlated with behavioral intentions. Thus, CSE was the only control variable used in the subsequent SEM analysis.

Data Analysis & Results

Several steps were taken prior to testing the structural model. First, the measures' reliabilities and descriptive statistics were calculated for the whole sample (n=380). These indicators (construct reliabilities are reported on the diagonal) are outlined in Table 1. All constructs have Cronbach's alphas that exceed the commonly used threshold of 0.8

and item-to-total correlations statistics that exceed the recommended cut-off point of 0.35 [27].

Table 1: Descriptive statistics, construct reliabilities, and correlations (N=380) [1]

	Mean	Standard Deviation	Range of Item-total corrleations	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Procedural Justice	5.22	1.07	0.57 - 0.69	0.87								
(2) Distributive Justice	5.32	1.36	0.71 - 0.83	0.69 ***	0.90							
(3) Informational Justice	5.76	1.12	0.60 - 0.77	0.47 ***	0.44 ***	0.87						
(4) Interpersonal Justice	6.38	0.97	0.72 - 0.92	0.45 ***	0.35 ***	0.61 ***	0.94					
(5) Trust in the Service Rep.	4.96	1.56	0.84 - 0.89	0.62 ***	0.53 ***	0.60 ***	0.43 ***	0.94				
(6) Trust in the e-Service Provider	5.36	1.20	0.71 - 0.89	0.60 ***	0.44 ***	0.47 ***	0.41 ***	0.60 ***	0.93			
(7) Trust in the Other Party	4.36	1.50	0.85 - 0.92	0.39 ***	0.40 ***	0.20 ***	0.15 **	0.32 ***	0.46 ***	0.95		
(8) Behavioral Intention	4.43	1.60	0.88 - 0.90	0.47 ***	0.37 ***	0.42 ***	0.25 ***	0.55 ***	0.59 ***	0.34 ***	0.96	
(9) e-Customer Service specific CSE	7.96	1.52	0.57 - 0.77	0.39 ***	0.31 ***	0.18 ***	0.17 **	0.24 ***	0.38 ***	0.19 ***	0.28 ***	0.93

$* p < 0.05$ $** p < 0.01$ $*** p < 0.001$

[1] Construct reliabilities are indicated on the diagonal

Second, the dyadic nature of the dataset was examined. Recall that data for this study was collected from individual users who were nested within dyads (complainants and respondents). However, the hypotheses in this study deal only with individual-level effects. Given the social interaction between parties, and their exposure to similar treatments, there is some risk that responses from buyers may be correlated with responses from the matching sellers. For example, the exposure to similar justice treatment may yield intra-class correlations between the justice evaluations of matching buyers and sellers. Thus, the dyadic affiliation of individuals poses a threat to the observation-independence assumption taken by SEM techniques. This can inflate the significance tests and threaten the validity of the findings [42]. For assessing intra-class correlations, matching records were identified based on user IDs. Some responses (110)

did not have a matching response and were removed from this analysis. The rest (270) were matched (i.e., both complainer and respondent from the same case have completed the survey), and a corresponding dataset of 135 dyadic responses was created.

The observed correlational pattern between dyad members revealed significant correlations between (1) procedural justice of sellers and buyers (r = 0.17, $p < 0.05$), (2) distributive justice of sellers and buyers (r = 0.31, $p < 0.001$), (3) trust in the e-service provider as reported by sellers and buyers (r = 0.27, $p < 0.01$), and (4) trust in the other party as reported by sellers and buyers (r = 0.37, $p < 0.01$). Such interdependency may be explained by the fact that distributive justice of buyers and sellers was affected by the outcome of the interaction. The largest correlation between buyers and seller is with regards to trust in one another. Because both parties were exposed to similar reputation manipulations (either low or high), they report a similar level of trust in one another.

To avoid biases due to the dyadic nature of the data, the data was split randomly. For this, either the buyer or the seller from each dyad was drawn and recorded into one of two random datasets. In addition, responses with no matching partner were evenly distributed between these two datasets. This process has yielded two random datasets of 190 responses each. The records in each dataset are independent from one another because they pertain to different dyads. The random-split approach is advantageous because it avoids the potential risk associated with using dyadic and at the same time provides an opportunity for model-re-specification using one dataset, and testing the re-specified model using the second dataset. MANOVA applied to both datasets revealed that there are no omnibus differences between them (*p*-value for Wilk's Lambda = 0.907). Thus, the datasets can be used interchangeably in the subsequent analyses.

Model Estimation

The research model was tested using the SEM facilities of AMOS [4]. As the first step of the Anderson and Gerbing [3] procedure, a CFA model was specified and estimated using the first dataset. This model included nine latent variables which were allowed to freely correlate with one another. The fit statistics for this model were acceptable (see Table 2) and satisfied Hu and Bentler's [36] combined rule for good model fit (i.e. RMSEA < 0.06 and SRMR < 0.08). Furthermore, condition-9 tests [41, pp. 28-29] indicate that all loadings are significant at the 0.001 level. Because the CFA model has a satisfactory fit, a structural model was specified based on the suggested hypotheses. The fit statistics for this structural model were adequate (see Table 2). The model, path coefficients and significance levels are depicted in Figure 1.

Table 2: Fit indices for the estimated models using "Dataset1" and "Dataset2"

|	χ^2	df	p-val	χ^2/df	SRMR	IFI	TLI	CFI	RMSEA	90% C.I.
Dataset 1										
CFA (nine constructs)	1578.3	1022	0.000	1.544	0.060	0.935	0.928	0.935	0.054	0.048 - 0.059
Full Model	1614.3	1034	0.000	1.561	0.072	0.933	0.926	0.932	0.054	0.049 - 0.060
CFA (seven constructs)	766.46	494	0.000	1.552	0.050	0.955	0.948	0.955	0.054	0.046 - 0.061
Parsimonious Model	809.59	505	0.000	1.603	0.068	0.95	0.944	0.949	0.056	0.049 - 0.064
Dataset 2 (hold-out sample)										
CFA (seven constructs)	756.61	494	0.000	1.532	0.055	0.954	0.948	0.954	0.053	0.045 - 0.060
Parsimonious Model	800.00	505	0.000	1.584	0.069	0.949	0.943	0.948	0.056	0.048 - 0.063
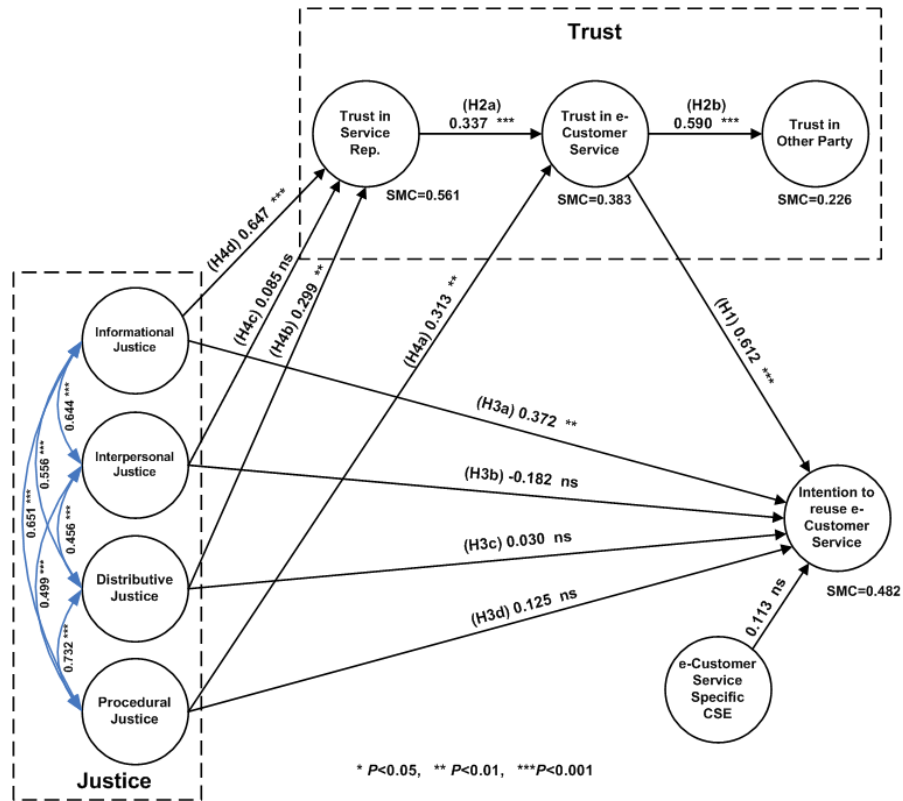
Figure 1: Standardized parameter estimates for the full Justice-Trust model of user adoption of e-Customer Services (Using Dataset 1)

Several observations can be made based on the findings. First, H1 posited that trust in the e-Customer service provider positively affects user intention to reuse it. This hypothesis was supported ($\beta = 0.612$, $p < 0.001$). Second, H2a posited that trust in the service representative will help users form trust perceptions regarding the e-Customer Service provider. In addition, H2b posited that trust in the service provider will be used as the basis upon which users form trust regarding the other party in future complaint cases. These trust-transfer hypotheses were supported. Trust in the e-Customer Service provider is predicted by trust in the service representative ($\beta = 0.337$, $p < 0.001$), and predicts trust in the other party ($\beta = 0.590$, $p < 0.001$). Third, while it was hypothesized that all four dimensions of justice directly affect users' intentions to reutilize an e-Customer Service, it was found that only informational justice directly affects this

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behavioral intention ($\beta = 0.372$, $p < 0.01$). Fourth, the hypothesized effects of justice perceptions on trust perceptions were partially supported. Procedural justice influenced trust in the e-Customer Service provider ($\beta = 0.313$, $p < 0.01$). Thus, H4a is supported. Furthermore, while distributive justice and informational justice predicted user trust in the service representative ($\beta = 0.299$, $p < 0.01$ and $\beta = 0.647$, $p < 0.001$ respectively), interpersonal justice failed to do so. Thus, H4b and H4d are supported, but H4c is not.

Re-Specified Model Estimation

Figure 1 demonstrates that two constructs do not predict other factors in this model. First, e-Customer Service specific CSE did not affect behavioral intentions (BI). That is, when other variables are included as predictors of BI, the variance of CSE is captured by them, and has no effect on the outcome variable. Second, interpersonal justice failed to predict trust in the service representative as well as BI. This may be a result of the low variance of this variable as demonstrated in Table 1.

The fact that two exogenous variables do not predict endogenous variables makes this model non-parsimonious. To improve the parsimony of the model, these two constructs were removed. While this step reduces the degrees of freedom in the model, it creates a more concise depiction of the way users make the investigated usage decision. The estimation process followed a similar approach to the one used for the full model. First, a CFA model was specified and estimated using "Dataset 1". This time, the CFA model included only seven latent variables. The fit statistics for this model were satisfactory (see Table 2), and all condition-9 tests were significant. For the second step, a structural model was specified based on a parsimonious version of the research model. The fit

statistics for this structural model are presented, in comparison to these of the full structural model in Table 2.

As can be seen, the parsimonious model fits the data well, although it should be noted that both the full and the parsimonious models present acceptable fit. The RMSEA of the full model is slightly lower, but this difference is not significant, because the confidence intervals of the RMSEA overlap. However, other fit indices (e.g., IFI, TLI, CFI and SRMR) favor the parsimonious model. Thus, based on parsimony considerations the trimmed model is selected for further analysis. Parameter estimates in the parsimonious model (using "Dataset 1") are depicted in Figure 2 (coefficients on the bottom, NOT in brackets).
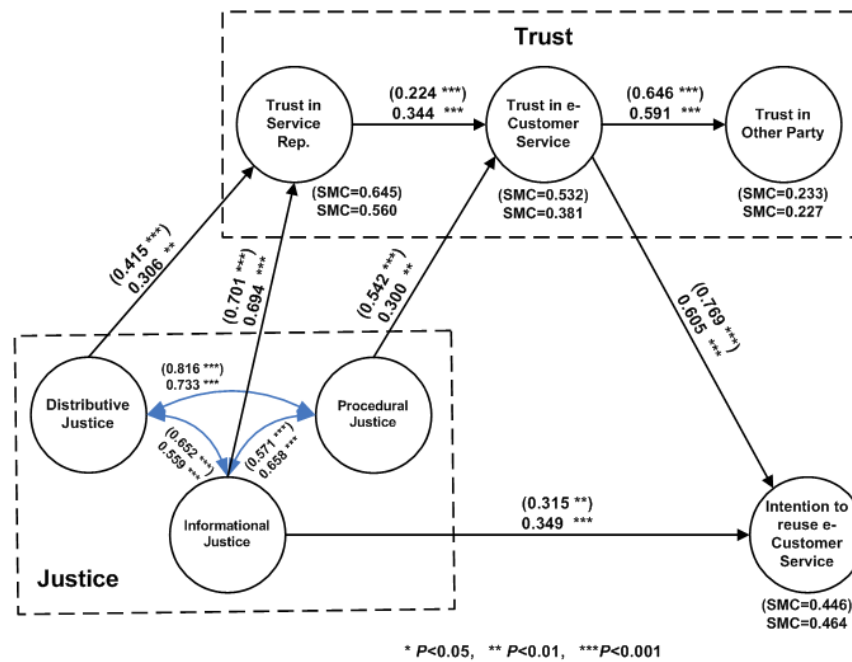
Figure 2: Standardized parameter estimates for the parsimonious structural model using dataset 1 (bottom) and dataset 2 (top, in brackets)

To validate the re-specified model (i.e., the parsimonious model), it was also estimated with the hold-out sample ("Dataset 2"). Again, this assessment followed the two-step approach. First, a CFA model including the seven latent variables of the re-

specified model was estimated using "Dataset 2". The fit statistics for this model were adequate and very similar to these obtained in the CFA using "Dataset 1" (see Table 2). This increases the confidence in the validity of the model and its associated measures. In the second step, the structural model was estimated using "Dataset 2". The fit indices generated in this analysis were satisfactory and very similar to these of the structural parsimonious model estimated with "Dataset 1" (see Table 2). The structural coefficients are depicted in Figure 2 (above the Dataset 1 coefficients, in brackets).

To further establish the validity of the proposed parsimonious model, its omnibus invariance across the two samples was tested using the multi-group analysis facilities of AMOS. For this, a set of models constraining one set of parameters at a time to be equal across the samples was constructed, following the guidelines provided by Byrne [13][1]. The findings, as per Table 3, suggest that there are no omnibus differences between the models, because adding equality constraints did not significantly worsen the fit.

Table 3: Model comparisons for invariance testing

	χ^2	df	p-val	χ^2/df	$\chi2$ difference	df difference	p-val of difference	IFI	TLI	CFI	RMSEA
Unconstrained Model	1609.6	1010	0.000	1.594	NA	NA	NA	0.949	0.943	0.949	0.040
Model constraining measurment weights	1645.0	1037	0.000	1.586	35.4	27	0.129	0.948	0.944	0.948	0.039
Model constraining measurment & structural weights	1655.0	1044	0.000	1.585	9.9	7	0.192	0.948	0.944	0.948	0.039

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[1] First, an unconstrained model for both samples was estimated. Second, a model imposing equality of measurement weights was estimated. Finally, a model constraining the measurement weights and structural weights to be equal across samples was estimated. Each model was compared to the previous model to see if it significantly worsens the fit through a chi-square difference test.

Discussion & Conclusions

Discussion

Trust in the e-service provider is a focal concept in the e-customer service context. It is built in part through fairness assessments, and interpersonal trust cognitions. In turn, it meaningfully affects user intentions to reuse these services and trust in the other parties to future complaint cases. Fairness is also important in this context, because it affects trust cognitions and user intentions to reuse an e-Customer Service. Trust fully mediates the effect of procedural and distributive fairness assessment on behavioral outcomes, and partially mediates the effect of informational justice on behavioral outcomes.

The findings of this study provide strong support for the effect of trust on user acceptance of e-Customer Services. Thus, e-Customer Service users who had developed higher trust in the service provider, for a variety of reasons (e.g., propensity to trust, positive online shopping experience, justice perceptions, etc.), presented significantly higher behavioral intentions to reuse the service than users with lower trust in the service provider. This finding is in line with studies that report similar magnitudes of correlations between trust and behavioral intentions to reuse an e-service [8, 31].

The study also supports the trust-transfer hypotheses. First, users who interact with service representatives via online media use their interpersonal trust assessments regarding these individuals, to form trust perceptions regarding the intermediary (i.e. the e-Service) with which they are associated. Second, in complaint cases in which two parties are involved, users build trust in the other party, in part, through his or her association with a trusted service provider.

This study also demonstrates that fair procedural treatment leads individuals to develop higher trust cognitions regarding the e-Customer Service provider. The ability of e-Customer Service providers to demonstrate procedural fairness (e.g., letting individuals express themselves and influence the outcome) can help them gain customers' trust. The effect of procedural justice observed in this study is somewhat greater than that observed in previous studies [see 16]. This suggests that e-Customer Service users rely strongly on judgments regarding procedures when forming trust perceptions towards the service provider, because other sources of trust are not readily available (e.g., information on the reputation of the service provider). Thus, the key sources for building trust in the service provider were the system (i.e., the website) [54] and the process. Future investigation may test similar propositions with regards to the influences of the availability of trust-sources on the strength of the justice-trust effects on e-Customer Service acceptance.

Furthermore, the findings suggest that interpersonal trust in a human service representative interacting via online media is formed through distributive and informational justice assessments. Individuals who believed their outcome was justified, aligned with their expectation, and reflective of their efforts, developed higher trust in the service representatives. Also, individuals who believed that the service representative was candid in communicating with them, satisfactorily explained the process, and communicated with them in timely manner, developed higher trust in him or her. The magnitude of these relationships is, again, somewhat higher than what has been observed in previous investigations [see 18]. This may be explained through the abovementioned trust-sourcing proposition (i.e., the reliance on fairness is higher when other sources of trust are not readily available).

The findings across the two datasets suggest that procedural and distributive justice dimensions do not directly affect user intentions to reuse e-Customer Services. Rather, the effect of these assessments on behaviors is fully mediated through trust. It should be noted that prior studies on the effects of justice on behavioral outcomes and studies on the effects of trust on behavioral outcomes were mostly done in isolation. Thus, the inclusion of both factors concurrently in this study, as predictors of behavioral intentions to reuse an e-service, is unique. Previous studies that included trust as a mediator of the effect of justice on behaviors focused on work behavior outcomes [5]. Because our focus is on different contextual and behavioral outcomes, a direct comparison of our findings with those of the abovementioned study may be inappropriate. Nevertheless, the abovementioned study indicates that trust has the potential to fully and partially mediate the effects of justice assessments on behavioral outcomes. Our findings concur with this notion, and indicate that the previously-observed direct effects of justice on behaviors, in some contexts, may in fact be mediated through trust.

Alternatively, it could be argued that in the previously studied contexts justice does directly affect behaviors, but in the e-customer service context this effect is mediated through trust. This proposition has received some support in the customer service literature. Previous studies in service contexts found that procedural justice is unimportant compared to other justice dimensions [11, 37]. These studies indicate that interactional justice (specifically the informational component) is more salient in forming re-patronage decisions in such contexts. In the retail context, it has been found that distributive justice has no direct effect on re-patronage decision, but rather a fully mediated effect through satisfaction [62]. In these cases, individuals care less about the

process and outcome, and emphasize interactional treatment, which includes receiving fair information on the process and outcome.

The findings also suggest that interpersonal justice predicts neither trust in the service representative nor behavioral intentions. Inferences based on this finding are hard to make. On one hand, the non-significant effect may suggest that the e-customer services context may diverge from other contexts. Indeed, it has been proposed that in short service encounters, when the depth of the relationship with the service provider is shallow, distributive justice assessments are more important then interpersonal treatment an [35]. On the other hand, the non-significant effect of interpersonal justice may stem from the low variation in the construct (see Table 1). That is, the manipulations used in this study have failed to create enough variation to capture the effects of interpersonal justice, even though these effects may exist. The insufficient variation in interpersonal justice may be an example of what Johns calls "methodological constraint" of the type "restricted variance within units" [38]. This methodological constraint may be difficult to overcome in an experimental setting under typical ethical norms. This again, is a challenge warranting future research.

Finally, this study suggests that informational justice is a strong direct predictor of behavioral intentions. This finding is congruent with other studies on the effects of perceived informational justice, previously included in the concept of interactional justice, on customer outcomes such as re-patronage behavior [11, 37].

Implications

This study makes several theoretical contributions. First, it validates a justice-trust adoption model that explains a major portion of the variation in user intention to reuse an

e-customer service. This model extends the technology adoption literature by building on the fairness paradigm and conceptualizing justice, trust in an information system, and interpersonal trust in a human service representative as predictors of user behaviors.

Second, the four-dimensional justice construct, from the applied psychology literature, was incorporated as a predictor of trust assessments. This is an important contribution for two reasons. First, it enables us to better understand trust formation processes in computerized environments. Second, the fairness of information systems has been thus far overlooked. It is believed that fairness perceptions attributed to Internet services and information systems can explain various user interactions with these services or systems, especially in decision-making contexts. While similar effects have been extensively studied in the offline world, the impact of fairness on computer user behaviors are still unexplained. That is, the inclusion of the four-dimensional justice construct in this study can guide future research in the human-computer interaction discipline. For example, one may argue that fairness perceptions are instrumental in determining user adoption of decision support systems, intelligent agents, online voting applications, web-based exams, and so on.

Third, based on the trust-transfer principle, this study validated an interpersonal-trust antecedent of trust in an e-service, and an interpersonal trust outcome of trust in an e-service. First, the service representative is not external to the e-service and can affect user interaction with it, and especially trust formation. In addition, trust in an e-service can be used as the basis upon which users build trust in other affiliated users. At the same time, the factors capturing trust in the other involved parties are distinct from the trust in the web-service provider. This structural separation between these trust components was

validated, and may be used in future studies as well. Many other web-based services use human service representatives (e.g., online distance education) or allow users to interact with one another (e.g., e-auction websites). Thus, when studying such applications researchers may build on the trust-transfer relationships that were validated in this study.

This study also makes some practical contributions. First, it suggests that procedural, distributive and informational justice factors affect (either directly or indirectly) user acceptance of e-customer services. Thus, service providers and their service representatives should improve user perceptions of fairness. Several measures can be taken to this end. For example, to enhance informational justice perceptions, service providers need to provide information-rich explanations about what might happen and why. Such information may be provided via two channels: (1) the website, and (2) the service representative. The website may contain a lot of information, but it is typically static, and some of it may not be relevant for all users. In contrast, the service representatives can provide timely and relevant information, and they may reinforce some of the information provided on the website. Thus, e-service providers need to balance these two information channels, to ensure that users receive timely, instrumental, tailored, and relevant descriptions about the process and the outcome. Another example would be the use of richer media (e.g., videoconferencing) to facilitate better expressiveness, and ultimately higher procedural justice assessments.

Second, this study revealed two relevant trust cognitions that may be augmented by service providers. Interpersonal trust can be amplified using various factors, such as, past interactions (experience), and the reputation, ability, integrity, openness, and benevolence of the service representative [48]. Thus, e-customer service providers need to ensure their

services facilitate the exchange of relevant information concerning these factors, such that interpersonal trust may be built between users and service representatives. With regards to enhancing trust in the service provider, the provider needs to ensure fair processes and high interpersonal trust in the service representative.

Limitations and Additional Research

Several limitations of this study should be acknowledged. First, the sampling approach taken in this investigation has imposed a methodological constraint [38] on the variance of certain variables, such as age and culture, and limited the external validity. Thus, future investigations should use both field studies and experiments to test the proposed model with different systems, dealing with different types of customer complaints, and catering to different market segments. Second, while the replication of a re-specified model with an independent sample is widely recognized as an appropriate strategy [41, p. 21], the empirically driven modifications may have capitalized on chance, and thus may benefit from further investigation. Third, consistent with Mayer's notion of trust [48] we have examined overall trust cognitions that can be based on various beliefs regarding the trustees. While the formation of trust according to this conceptualization is dynamic (i.e., is based on experience with the e-service), we have examined it in a cross-sectional experiment. Even though this is a common practice in IS research [28, 31], there is room for further research using longitudinal studies [32], in which post-use justice perceptions at t=1 are used as the basis upon which pre-reuse trust is assessed at t=2. Lastly, it should be noted that other variables, such as satisfaction, may also mediate the relationship between justice and behavioral intentions [e.g., 62]. Thus, future investigations can extend the justice-trust model presented here to include additional relevant constructs.

Conclusion

The justice-trust framework was validated with two independent datasets and was found to be invariant across samples. Thus, the proposed model is a parsimonious and accurate depiction of the way users develop behavioral intentions to reuse an e-Customer Service through trust and justice assessments. According to this model, trust in an e-service provider is formed through procedural fairness and interpersonal trust in the service representative. In turn, this trust cognition positively affects behavioral intentions to reuse the service in the future, and trust in the other party to a compliant case. The fairness of an online service representative helps individuals to form trust in the service he or she represents. Ultimately, trust in the e-service provider and justice assessments predict a major portion of the variation in user intentions to reuse an e-customer service. In conclusion, it is hoped that these findings will serve as a catalyst for action. Researchers, as well as e-customer service providers, online merchants, and trade commissions, should further examine the concepts of trust and justice in order to promote confidence in online marketplaces and advance e-commerce.

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Appendix A: Sample Screenshots

Appendix B: The Measurement Instrument

Procedural Justice - 7-point Likert scale (to a small extent/ to a large extent)	
PJ1	Have you been able to express your views and feelings during those procedures?
PJ2	Have you had influence over the outcome arrived at by those procedures?
PJ3	Have those procedures been applied consistently?
PJ4	Have those procedures been free of bias?
PJ5	Have those procedures been based on accurate information?
PJ6	Have you been able to appeal the outcome arrived at by those procedures?
PJ7	Have those procedures upheld ethical and moral standards?
Distributive Justice - 7-point Likert scale (to a small extent/ to a large extent)	
DJ1	Does your outcome reflect the effort you put into resolving the complaint?
DJ2	Is your outcome appropriate for the process you have completed?
DJ3	Is your outcome similar to your expectations of it?
DJ4	Is your outcome justified, given the case details?
Interpersonal Justice - 7-point Likert scale (to a small extent/ to a large extent)	
IPJ1	The service representative treated you in a polite manner?
IPJ2	The service representative treated you with dignity?
IPJ3	The service representative treated you with respect?
IPJ4	The service representative refrained from improper remarks or comments?
Informational Justice - 7-item Likert scale (to a small extent/ to a large extent)	
InfJ1	Has the service representative been candid in communications with you?
InfJ2	Has the service representative explained the procedure thoroughly?
InfJ3	Were the service representative explanations regarding the procedure reasonable?
InfJ4	Has the service representative communicated details in a timely manner?
InfJ5	Has the service representative seemed to tailor communications to individual's specific needs?
Trust in the Service Provider - 7-item Likert scale (strongly disagree/ strongly agree)	
TSP1	e-Mediate is trustworthy.
TSP2	I trust e-Mediate keeps my best interests in mind.
TSP3	e-Mediate will keep promises it makes to me.
TSP4	I believe in the information e-Mediate provides me.
TSP5	e-Mediate wants to be known as one that keeps promises and commitments.
Trust in the Service Representative - 7-item Likert scale (strongly disagree/ strongly agree)	
TSR1	I can count on the service representative.
TSR2	I can use the service representative's word as the basis for my decisions.
TSR3	The service representative can be counted on to come through when needed in a dispute.
TSR4	When I undergo a complaint resolution, I know I can count on this service representative for support.
Trust in the other party - 7-item Likert scale (strongly disagree/ strongly agree)	
TOP1	I can count on the other party.
TOP2	I can trust the other party's word throughout the complaint handling process.
TOP3	The other party can be trusted.
TOP4	When I undergo a complaint resolution with this other party, I know I can count on this person for cooperation.
Behavioral Intention to Reuse the e-Customer Services of e-Mediate - 7-item Likert scale (unlikely/likely)	
BI1	Assuming I had another online complaint, similar to this one, I intend to use e-Mediate
BI2	Given that I had another online complaint, similar to this one, I predict that I would use e-Mediate's services

BI3	I intend to use e-Mediate for online complaint resolution as often as needed
BI4	Whenever possible , I intend to use e-Mediate services for online complaint resolution
BI5	To the extent possible, I would use e-Mediate for online complaint resolution
e-Customer Service specific Computer Self Efficacy - 10-item Likert scale (Not at all confident/ Totally confident)	
CSE1	I could resolve a similar complaint case using the new e-customer service website, if there was no one around to tell me what to do.
CSE2	I could resolve a similar complaint case using the new e-customer service website, if I had never used a website like it before.
CSE3	I could resolve a similar complaint case using the new e-customer service website, if I had only the website manuals for reference.
CSE4	I could resolve a similar complaint case using the new e-customer service website, if I had seen someone else trying it before trying it myself.
CSE5	I could resolve a similar complaint case using the new e-customer service website, if I could call someone for help if I got stuck.
CSE6	I could resolve a similar complaint case using the new e-customer service website, if someone else helped me get started.
CSE7	I could resolve a similar complaint case using the new e-customer service website, if I had a lot of time to complete the assignment for which the website was provided.
CSE8	I could resolve a similar complaint e case using the new e-customer service website, if I had just the built-in help facility for assistance.
CSE9	I could resolve a similar complaint case using the new e-customer service website, if someone showed me how to do it first.
CSE10	I could resolve a similar complaint case using the new e-customer service website, if I had used similar websites before this one to do the same assignment.

Appendix C: The Complaint Case

Complainant (Buyer)

"You are Jo. You played the tuba as a senior in high school, three years ago. When you decided to resume this old hobby, you searched eBay to find an instrument. You bid $510 on a tuba and won -- only to find out that it was actually a baritone (i.e., a smaller, related music instrument with a different tonal range). The seller already received your payment. You immediately emailed him/her, requesting a full refund. S/he replied that the ad specifically said that s/he was selling a small tuba, and as such, refused to refund you. You decided to try to resolve the complaint via e-Mediate, an e-customer support service."

Respondent (Seller)

"You are Chris. A month ago you decided to sell a small tuba on eBay. Your asking price was $150. Therefore, you were really happy to find out that someone had bid $510 for it. You received the payment after two days and shipped the instrument. The next day, the buyer emailed you to say that you sent him/her a baritone (i.e., a smaller, related music instrument with a different tonal range), and s/he wants his/her money back. The ad you put online clearly says "small tuba". Therefore, you refuse to refund the buyer. Nevertheless, you decided to try to resolve the complaint via e-Mediate, an e-customer support service."