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Does Online Reputation Matter? An Empirical Investigation of Reputation and Trust in Online Auction Markets

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Abstract

Trust is an essential component of buyer-seller relationships, especially for online transactions. Appropriate feedback mechanisms help buyers build trust towards reputable sellers. Drawing from sociology and economics, we show that buyers pay a price premium to transact with reputable sellers, especially for expensive products. To empirically examine the relationship between feedback and price premiums, we collected data for 19 products from 702 completed online auctions from the auction site of ebay.com (www.ebay.com). Results showed a significant correlation between feedback and price premiums for all products. This correlation became increasingly significant for more expensive products. This paper contributes to a better understanding of the value of reputation and trust in EC.

Introduction

Trust is the catalyst in most buyer-seller transactions, especially when two situational factors are present: uncertainty (risk), and incomplete product information (information asymmetry). Therefore, trust is essential for understanding most economic exchanges (Hirsch, 1978).

Electronic commerce (EC) is a new form of exchange where online transactions occur among entities that have never met before. As in traditional exchanges, trust has been considered crucial in the online transaction process (Ba et al. 1999), perhaps more given the impersonal nature of the online environment and the difficulty to assess product quality prior to purchase (Fung and Lee, 1999). Therefore, many online services are geared toward providing information on reputation, such as Bizrate and ebay's Feedback Forum. However, so far no empirical evidence shows whether such services are worthwhile. Although empirical research has established that a good reputation enables higher prices for a product (Langdon and Smith, 1998), it is still unclear whether this relationship is straightforward in the online environment. Furthermore, most studies have focused on a product's past quality as the origin of reputation (Rao and Bergen, 1992; Shapiro, 1983), rather than on sellers' reputation based on good practices.

This study examines the extent to which buyers use reputational indicators to form trust perceptions. Using data from online auctions, we attempt to answer the following questions: What is the effect of reputation on price premiums? What is the moderating effect of product expensiveness on the relationship between reputation and

price premiums? Product expensiveness refers to the average price for an identical product. We chose online auctions because buyers are able to manipulate prices. Trust is analyzed at the interpersonal level of the buyer towards a seller; therefore, our unit of analysis is the individual buyer.

Conceptual Development

Following Gambetta (1988), trust is defined as the subjective probability with which buyers assess that a seller will perform a particular transaction according to their confident expectations. Three sources of trust can be distinguished in the business world (Williamson, 1991): familiarity or interpersonal contact, values or institutions, and calculativeness or reputation. Familiarity is not present in most electronic transactions, while institutional rules are not well developed (Fung and Lee, 1999). Therefore, the most prevalent source of trust in this context is *reputation*, which arises from an assessment of the costs and benefits to the seller of cheating in a certain transaction (Williamson, 1991). A buyer trusts sellers with good reputation since they are more unlikely to damage their reputation to exploit a single transaction. According to Williamson (1985: 74), given a standardized good, rating services provide incentives to sellers to behave responsibly.

The relationship between trust and price premiums is analyzed using sociology and economics. Trust is viewed as an interpersonal relationship toward an ultimate net good when information asymmetry exists (Gambetta, 1988). Reputation has an economic value (Hill 1990) and has been regarded as a major antecedent of trust (Hawes et al., 1989). Therefore, since trust cannot be readily observed, reputation is employed as a proxy for trust. Based on these, trust is viewed as a risk-reduction mechanism, allowing sellers to receive price premiums for reducing transaction-specific risk.

Online feedback mechanisms allow buyers to publicize their transaction experiences with sellers by posting comments and rating the quality of the service provided. We consider these mechanisms as social institutions designed to reduce uncertainty and induce trust. Appropriate feedback mechanisms can induce trust based on reputation. Feedback can provide incentives for cooperative conduct, reduce of opportunism, and signal good reputation. Buyers use feedback from other parties to build trust (Scott and Derlega, 1983). In new electronic marketplaces where parties do not know each other,

reputation is clearly important in building trust (Fung and Lee, 1999). Therefore, we posit that feedback gives a sufficient indication of buyers' trust.

Reputation makes sense only in an uncertain world; hence, reputation is a market signaling activity (Shapiro, 1983). In any economic transaction, buyers are principals and sellers are agents (Williamson, 1985) since there is some delegation of authority. Since buyers do not have perfect information, the problem of "information asymmetry" arises (Akerlof, 1970), which induces opportunistic behavior. In this context, opportunism refers to the incomplete disclosure of information, contract default, and failure to acknowledge warranties (Williamson, 1985). Facing uncertainty, buyers seek signals to reduce opportunism (Williamson, 1985). From an economic perspective, feedback is a signal that induces trust. While there are other reputational indications available, feedback is probably the most accessible and credible; hence, trust is an interpretation of this signal.

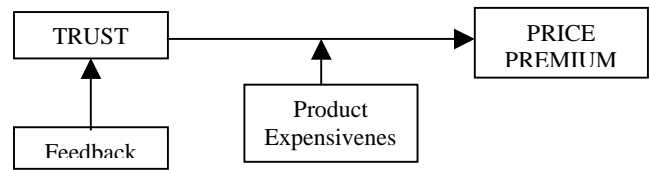
In economics, price premiums are the results of high prices that lead to above-average profits (Klein and Leffler, 1981). A major reason for price premiums is sellers' reputation. Sociology suggests that buyers build trust presuming that sellers will not jeopardize their reputation to exploit them. From an economics point of view, buyers receive feedback as a signal, building trust. Moreover, feedback mechanisms provide incentives for cooperative conduct, also promoting buyers' trust. Therefore, the theoretical argument suggests that buyers compensate sellers with price premiums to insure safe transactions. Competition among buyers for trustworthy sellers results in price premiums since buyers are forced to pay such premiums. Conversely, buyers demand compensation for accepting additional risk when they transact with less reputable sellers.

H1: Sellers with better feedback gain higher price premiums compared to sellers with worse feedback.

Expectations of opportunistic behavior reduce trust. A greater possibility for opportunism derives from a product's expensiveness since buyers become more exposed, while sellers have more incentives to cheat. Given the higher risk inherent in the exchange of expensive products, risk-averse buyers would seek more trustworthy sellers. If risk is high, trust becomes a precondition for sales (Wedow, 1979). Therefore, trust becomes increasingly important in risky transactions.

H2: There is a stronger correlation between feedback and price premiums for more expensive products.

The diagram below shows the relationship between trust and price premiums and the moderating effect of product expensiveness.



Methodology

A field study was undertaken to examine the relationship between feedback and price premiums. Data were collected from the Feedback Forum of the auction site of ebay.com (www.ebay.com), which allows buyers to rate transactions with sellers as positive, negative, or neutral. We collected data from 702 completed auctions for 19 different products, which were examined to be identical across auctions. These products belonged to six popular EC categories as shown in Table 1. Collected data included the final auction price, and the information from the Feedback Forum of each seller, showing the number of positive and negative ratings. Regression analysis was performed for each product. The independent variable was the logarithm of the number of positive minus negative ratings. The logarithmic transformation was used to normalize the density distribution of the feedback variable and reduce heteroscedasticity. The dependent variable was the normalized price premium developed by subtracting the mean price from the final price of each product divided by its standard deviation. Furthermore, regression analysis was performed between product expensiveness and the regression coefficient (b₁) of feedback and price premium from Table 1. Product expensiveness was created by the average price of each product across all completed auctions.

Results

Table 1 presents the regression results between feedback and price premiums for all products. Moreover, the results of regression analysis between expensiveness and the regression coefficient (b₁) are shown in Table 2.

H1 predicted that better feedback is correlated with price premiums. Results showed that there is a significant relationship between feedback and price premiums for all products (p<.05). Therefore, feedback plays a significant role in determining price premiums. H2 predicted that the correlation between feedback and price premiums becomes more pronounced for more expensive products. Regression analysis shows a significant association (p=.000) between product expensiveness and the regression coefficient b₁ of feedback and price premiums.

Table 1. Regression Analysis for H1 Testing

Dependent Variable: Price Premium						
Independent Variable: Feedback						
Product	Mean (STD)	N	F	p	R ²	b ₁
OVERALL	232(301)	702	163	.000	.18	.43
DVD 1	252(18)	32	19.3	.001	.39	.62
DVD 2	320(23)	31	18.9	.001	.40	.63
Sony Camera	807(45)	29	58.0	.000	.67	.82
Camcorder	1140(85)	20	110	.000	.86	.93
Dion CD	8.5(1.2)	57	5.5	.022	.09	.30
Santana CD	9.5(1.9)	54	4.4	.042	.08	.28
Windows	181(28)	56	10.5	.002	.16	.40
Photoshop	354(69)	54	26.0	.000	.33	.58
Quicken	42(5)	31	8.0	.009	.22	.40
Win Server	1413(210)	14	15.0	.000	.56	.75
Laser Printer	285(33)	25	7.4	.012	.24	.49
Organizer	263(23)	35	7.3	.011	.18	.43
Inkjet Printer	228(23)	20	9.6	.006	.35	.59
Web Camera	101(9)	18	11.9	.003	.43	.65
Scanner/Fax	236(24)	24	5.1	.034	.18	.43
Modem 56K	17(5)	52	14.0	.000	.21	.46
Memory Chip	423(56)	32	55.7	.000	.42	.65
Gran Turismo	29(3)	67	17.5	.000	.21	.46
Pokemon	40(7)	47	8.7	.005	.16	.40

Discussion and Conclusion

This paper investigates the extent to which buyers use feedback to build trust and generate price premiums. There is a significant relationship between feedback and price premiums, which becomes more pronounced with higher transaction-specific risk (product expensiveness). Moreover, products from certain categories give different moderating effects. Search goods are goods whose quality can be fully assessed prior to purchase, while experience goods are those whose quality is assessed only after purchase (Nelson, 1970). Since the reputation effect is likely to be particularly important for experience goods, (Langdon and Smith, 1996), our future research will attempt to empirically investigate product type and its moderating effects on the relationship between feedback and price premiums.

Table 2. ANOVA for Hypothesis 2 Testing

Dependent Variable: Regression Coefficient (b ₁)						
Independent Variable: Expensiveness (x1000USD)						
N	DF	Constant	Slope	F	p-value	R ²
19	17	.431	.348	29.3	.000	.63

In this paper, we assumed that feedback is an antecedent of trust. However, we should empirically examine this assumption by measuring trust-based feedback. This will show that online feedback mechanisms induce trust and strengthen the results of this study, proving that trust indeed generates price premiums.

Trust can significantly reduce transaction costs and facilitate exchanges with mutual gain. Many transaction costs could be significantly reduced through feedback

mechanisms that discourage opportunistic behavior. Online feedback mechanisms are similar in nature to the suitable mechanism of trust presented by Lahno (1995), which shows that only cooperative conduct pays in the long run. Therefore, rational sellers will tend to act trustworthy reducing transaction costs and promoting mutual gains for both buyers and sellers. The ultimate objective is to promote a safe online environment with no information asymmetry where transactions take place without excessive risk and redundant transaction costs.

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