

International Management Studies
Hrsg.: Birgitta Wolff

Christopher Schlägel

Country-Specific Effects of Reputation

A Cross-Country Comparison
of Online Auction Markets



RESEARCH

Christopher Schlägel

Country-Specific Effects of Reputation

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International Management Studies

Herausgegeben von
Professorin Dr. Birgitta Wolff

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Christopher Schlägel

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A Cross-Country Comparison
of Online Auction Markets

With a foreword by Prof. Dr. Birgitta Wolff



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Foreword

Electronic market platforms such as eBay or the Amazon marketplace enable sellers to offer products and services to national as well as to international buyers. They provide consumers with the opportunity to search and compare products and services basically worldwide. While transactions in electronic markets reduce market entry barriers for sellers and the search costs for potential buyers, the temporal and spatial separation of anonymous transaction partners gives rise to opportunistic behavior. Sellers might end up not delivering correctly; customers might end up not paying. Such behavior would absolutely undermine the effectiveness of electronic markets. In order to reduce the likelihood of such behavior, platform providers have installed certain “anti-opportunism” devices. For instance, payment can be secured through third parties such as PayPal, or a seller’s reliability can be judged based on information on his previous record. International electronic market platforms, however, use the same reputation mechanisms and systems to address these challenges in different countries in spite of those countries’ different institutional environments. The focus of Christopher Schlägel’s book is to investigate the influence of different institutional environments on the relation between the sellers’ reputation and the economic outcomes in electronic markets. He uses different methods and various data sets to investigate the challenges that arise in transactions in electronic markets. The results of the four studies included in the book show that both formal as well as informal institutional environments influence the relation between reputation and economic outcomes of online transactions. Sellers’ reputations become more important in countries with lower levels of trust and higher levels of uncertainty avoidance. Moreover, the results show that the attributes that determine a negative reputation vary across countries and have country-specific effects on the economic outcomes. Finally, the results also show that third parties have no influence on the trust building function of reputation. These insights have various implications for theory and practice. They can help the providers of electronic market platforms to customize their reputation mechanisms with respect to the revealed needs and preferences of the respective users. The book is mostly identical with Christopher Schlägel’s Ph.D. thesis. It contributes to the growing stream of research that investigates the influence of cross-country differences on transaction partners’ economic behavior in electronic markets. The results of his work have widely been presented at international conferences and were received with great interest. The thesis was impressive with respect to the results but also with respect to Christopher’s craftsmanship in the areas of data collection and analysis. Everybody involved in the creation of these studies has greatly benefited from this experience. Using its results in practice can contribute to further improve the effectiveness and efficiency of electronic markets and, thus, to make the earth a still flatter place.

Birgitta Wolff

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Having spent the past few years working on this dissertation, I must thank many people. I could never have finished it without the support and inspiration of my supervisors Birgitta Wolff and Abdolkarim Sadrieh. Both trained me to think about relevant details and see opportunities to extend and improve existing literature, which resulted in the papers that lay the foundation for this dissertation. Without their input, this thesis would never have been finished in the way it is. I also want to thank all my colleagues at the Otto-von-Guericke-University Magdeburg. Special words of thanks apply to Marjaana Gunkel, Franziska Krüger, Fan Wu, Karina Rückert, and Tim Hoppe, who provided ideas, inspiration and support. Furthermore, I would like to thank Ina Bader, Wencke Petersen, and Anita Wilke – their thorough comments and suggestions helped to improve my thesis in the final stages. Marco Rothaufe, Sandra Liebner, Alexander Schardt, Thiemo Fetzner, Pascal Stock, and Benjamin Hanstein provided extensive and extremely competent assistance in the data collection, for which I am very grateful. Other researchers with whom I had a chance to interact along these years also deserve special thanks, especially Robert Engle because of his advice in some of the research endeavors that I explored. I have learned a lot from him. I benefited from many discussions with other researchers during my research stays in Tucson and Hamden as well as during seminars, workshops, and conferences at various stages of the research process. For the financial support I would like to thank the VHB, DAAD, DFG, and the Schmalenbach-Gesellschaft für Betriebswirtschaftslehre. Their support was an enormous help in presenting the studies at international conferences and made it possible for me to spend a research period at the University of Arizona. Of course, I have also been inspired by lots of people outside of the academic world. I would specifically like to thank Stefan Henze, Kay Milde, and Marco Kiel for being great friends during the past, the present, as well as in the future. To conclude, I would like to thank the most important people in my life. My dear family, you have always motivated me to do whatever I wanted to do. You raised me to the person I am today, by being there whenever I needed you. Finally, Esther, thank you for the wonderful person you are. During the latest years, you spent too much time by yourself, because I had to work. Without your love, friendship, moral support, encouragement, understanding, and patience along all these years, I could not have written this dissertation.

Christopher Schlägel

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List of Abbreviations

CD	Compact Disc
CH	Switzerland
FTC	Federal Trade Commission
GE	Germany
HUAI	High Uncertainty Avoidance
HTML	Hypertext Markup Language
H1a	Hypothesis 1a
H1b	Hypothesis 1b
H1c	Hypothesis 1c
H2a	Hypothesis 2a
H2b	Hypothesis 2b
H2c	Hypothesis 2c
H2a*	Hypothesis 2a*
H2b*	Hypothesis 2b*
H2c*	Hypothesis 2c*
H3a	Hypothesis 3a
H3b	Hypothesis 3b
H3c	Hypothesis 3c
ICCC	Internet Crime Complaint Center
ID	Identity
KR	Korea
LUAI	Low Uncertainty Avoidance
NCL	National Consumer League
NIE	New Institutional Economics
NL	Netherlands
OLS	Ordinary Least Squares
s.d.	Standard deviation
TW	Taiwan
UK	United Kingdom
U.S.	United States
VIFs	Variance Inflation Factors
2SLS	Two-Stage Least Square

List of Variables

α_i	Private value of the good
b	Selling price
E	Utility
ε	Weight of product information
i	Bidder
κ	Cohen's kappa
k	Populations
l	Related information of seller's past transactions
M	Reputation characteristics of the seller
n	Bidder n
n	Number of observations
n_i	Sample size
N	Number of bidders
O	Observable auction characteristics
O_1	Number of units identified by coder 1
O_2	Number of units identified by coder 2
p	Proportions
p	Probability level
P	Observed proportion of agreement
p^S	Probability of a successful transaction
R^2	Coefficient of determination
r	Pearson/Spearman Correlation Coefficient
r	Critical value
U	Guetzkow's U
v	Private value of the good
v_2	Private value of the second-highest bidder
ω	Weight of auction information
x	Observable seller reputation information
χ^2	Chi-square
y	Observable product information
z	Observable auction information
λ	Weight of seller reputation information
δ	Importance of product information
φ	Importance of auction information

1 Country-Specific Effects of Reputation in Online Auctions – An Introduction

“Our names are labels, plainly printed on the bottled essence of our past behavior.”

Logan P. Smith (1931)

On eBay’s website, the eBay Marketplace is described as an online platform for the sale of goods and services through auctions and fixed-prices, offered by individuals and small businesses on a local, national, and international level (eBay, 2009a). Since its foundation in 1995, eBay consistently pursued an internationalization strategy to gain access to foreign markets and is now directly or indirectly active in 39 countries. In 2008, with more than 84 million active buyers and sellers worldwide and a total value of sold items of \$59.3 billion with 46% from operations in the United States (hereafter U.S.) and 54% from international business operations, eBay was the largest international online auction market (eBay, 2009b).

The temporal and geographical separation of anonymous transaction partners in online auction markets, such as eBay, results in a separation of payment and transaction. Information asymmetries and one-sided specific pre-investments of buyers in form of initial trust and payment in advance may give rise to opportunistic behaviour on the sellers’ side such as delivering an item with substandard product quality or not delivering an item at all. Akerlof (1970) demonstrated in his seminal work that in the presence of asymmetrical information, low quality goods can drive out high quality goods, which therefore will result in a market of lemons and potential market failure.

Along with eBay’s national and international success from 1997 to 2001, the number of online auction fraud complaints increased tremendously and remained on a constant and high level thereafter (Snyder, 1999; National Consumers League, 2009). While eBay reports a relatively stable rate of fraudulent sales of less than 0.01%, empirical studies show that eBay’s fraud rate significantly exceeds the self-reported numbers (eBay, 2009c; Gavish & Tucci, 2006; Gregg & Scott, 2006, 2008; Jin & Kato, 2006). These findings reflect the annual statistics of several institutions in the U.S., in which online auction fraud is consistently among the top three single categories of Internet-related complaints in the U.S. since 1997 (National Consumers League, 2009; Federal Trade Commission, 2009; Internet Crime Complaint Center, 2009). In order to increase the confidence of potential users, foster the development of trust, and promote successful transactions, in February 1996 eBay introduced the Feedback Forum, a reputation system that collects and aggregates positive, negative, and neutral feedbacks along with brief comments from all past transaction partners of each eBay member.

Reputation mechanisms, such as eBay's Feedback Forum, give researchers the opportunity to empirically test the effect of a seller's reputation on the buyer's behavior. More than 50 empirical studies (September 2009), directly or indirectly, have analyzed this particular effect in online auction markets. However, there is a lack of comparative cross-country studies. The majority of empirical studies focused on the U.S. For this reason, it is unclear to which degree the findings of these single-country studies carry over to other countries (Snijders & Zijdenman, 2004; Baker & Song, 2007). In order to understand how cross-country differences in the cultural and legal framework influence the effect of reputation on bidder behavior, research in the field of online auction markets must implicate cross-cultural comparisons (Dellarocas & Resnick, 2003) as well as comparisons of online auction participants' response to existing rules and regulations (Pinker, Seidmann, & Vakrat, 2003).

The thesis focuses on the theoretical and methodological basis, provided by the New Institutional Economics (hereafter NIE) for analyzing the effect of reputation on online auction outcomes in different countries, because the NIE embraces a set of theories that are linked by common assumptions and concepts, which provide a well-suited foundation for the analysis of electronic markets (Picot, Bortenlänger, & Röhl, 1997). The institutional framework differs across countries because of differences in cultural norms and values as well as differences in laws and regulations.¹ These differences have an influence on preferences, perceptions, and actual behavior of individuals mainly influenced by one institutional framework.² Although eBay's 30 local marketplaces are located in North America, the Asian-Pacific region, and Europe, the same reputation system is used in most of the countries.³ Individuals that participate in online auctions are influenced by different institutional frameworks in different countries. However, in reputation systems, such as eBay's Feedback Forum, the same design and reputation mechanism are applied in the majority of the international markets. The main objective of this thesis is to investigate the influence of national institutional frameworks on the relation between reputation and auction outcomes in online auction marketplaces. Based on this objective, three research questions are examined:

1. What are the determinants of the economic outcomes in online auctions in different institutional frameworks?
2. Do institutional frameworks influence the relation between seller reputation and the economic outcomes in online auctions?

¹ See North (1990), p. 36, (1995), and Wolff (2005), pp. 111-113.

² See Williamson (1996), p. 326.

³ eBay operates local marketplaces in Argentina, Australia, Austria, Belgium, Brazil, Canada, China, France, Germany, Hong Kong, India, Ireland, Italy, Korea, Malaysia, Mexico, Netherlands, New Zealand, Philippines, Poland, Singapore, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Kingdom, the U.S., and Vietnam (September 2009) (eBay, 2009a).

3. What are the reasons for negative feedback and how do these reasons and their effects on economic outcomes in online auctions differ across institutional frameworks?

This thesis answers these questions in four steps: First, the thesis provides a meta-analysis of single-country studies and an extensive literature review of cross-country studies that have empirically tested reputation effects in online auctions. Second, as a confirmation of previous studies, the effects of seller reputation on three economic outcomes, namely the probability of sale, the number of bidders, and the auction price, are empirically tested in three empirical studies. To assess the influence of cross-country differences on bidder behavior, reputation effects on auction outcomes are compared across countries. Third, the thesis investigates the reasons and effects of negative feedback ratings and compares negative feedback comments and their effects on auction outcomes between countries. Content analysis of negative feedback comments is used to improve the understanding of the attributes that lead to negative ratings and their effect on bidder behavior in future transactions. The results of the meta-analysis show that seller reputation influences the economic outcomes in online auction markets. More reputable sellers achieve a higher probability of sale, attract a higher number of bidders, and receive higher auction prices. The results of all three empirical studies show that that seller reputation affects auction outcomes and that this effect varies across countries. The results of the second study show cross-country differences in the reasons for negative feedbacks as well as differences in their effect on the number of bidders and the auction price. The findings of the third study suggest that reputation has a stronger effect in countries with high uncertainty avoidance and low degrees of trust, compared to countries with low uncertainty avoidance and high levels of trust. The results of the third study also show that third party insurance does not have an effect on the moderating role of uncertainty avoidance and trust. The findings of the meta-analysis and the empirical studies contribute to the growing literature on country-specific effects of reputation and have practical consequences for online auction markets, third party escrow services, and transaction partners. Figure 1 outlines the structure of the thesis.

Figure 1: Structure of the Thesis

Chapter 1	Country-Specific Effects of Reputation in Online Auctions - An Introduction
Chapter 2	Online Auction Markets, Reputation Effects, and Institutional Frameworks - A Literature Review and Conceptual Development The Relations between Uncertainty, Trust, and Reputation The Influence of Institutional Frameworks on Reputation Effects Country-Specific Reasons for Negative Feedback Ratings Research Hypotheses and Exploratory Research Questions
Chapter 3	Comparing Reputation Effects between Countries - The Research Method Sample and Data Collection Variables and Measures Quantitative Data Analysis Qualitative Data Analysis
Chapter 4	Country-Specific Effects of Reputation - Analysis and Results of Study 1 The Effects of Reputation on Auction Outcomes in Germany, the United Kingdom, and the United States
Chapter 5	The Effects of Buyer Complaint Categories on Auction Outcomes - Analysis and Results of Study 2 Categories of Negative Feedback Comments and their Effect on Auction Outcomes in Germany, the United Kingdom, and the United States
Chapter 6	Uncertainty Avoidance, Third Party Insurance, and Reputation Effects - Analysis and Results of Study 3 The Effects of Reputation and Third Party Insurance on Auction Outcomes in France, Germany, the United Kingdom, and the United States
Chapter 7	Summary, Limitations, Further Research Directions, and Conclusion

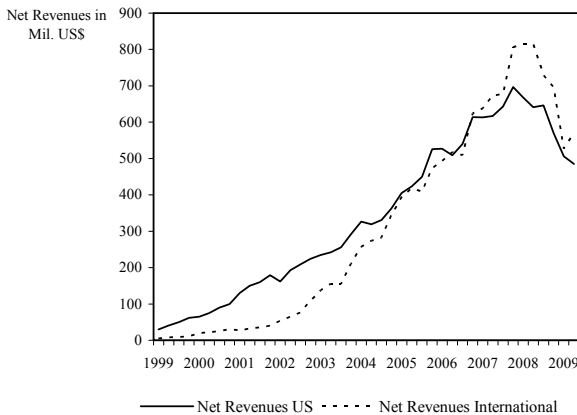
Chapter 2 presents the theoretical background and a conceptual model of the influence of institutional frameworks on bidder behaviour in online auction markets, starting with a brief introduction to the eBay online auction market, explaining the inherent uncertainties of online auction markets. Then, the chapter discusses the relation of uncertainty, trust, and reputation

in online auction markets, including the development of a conceptual model and a meta-analysis of previous empirical research. The conceptual model and the meta-analysis lay the theoretical and empirical foundation for the first set of hypotheses. Next, the influence of different institutional frameworks on bidders' preferences and the resulting effect on auction outcomes is discussed, resulting in the second set of hypotheses. Finally, the attributes that lead to negative feedback comments are discussed from a theoretical and empirical point of view, directing to a set of exploratory research questions. Chapter 3 discusses the methodological framework and research design for the quantitative and qualitative analysis. The different samples, the process of data collection, as well as the various quantitative variables and measures are described. Furthermore, the chapter provides a detailed explanation of the quantitative and the qualitative analyses used in the three chapters. The results of the first study, testing the first and second set of hypotheses, are presented in Chapter 4. In the first study, two homogeneous item samples and two heterogeneous item samples with different price levels are used to examine the country-specific effect of seller reputation in Germany, the UK, and the U.S. Chapter 5 presents the analysis and results of the second study, testing both sets of hypotheses and investigating the exploratory research questions. In the second study, quantitative and qualitative reputation indicators are used to identify and categorize the reasons for negative feedback ratings in Germany, the UK, and the U.S. Furthermore, the categories and their effect on auction outcomes are compared across the three countries. The analysis and results of the third study in which both sets of hypotheses are examined are presented in Chapter 6. In the third study, a homogeneous item is used to test the effect of seller reputation on auction outcomes in France, Germany, the UK, and the U.S. Chapter 7 concludes the thesis by summarizing the major findings, discussing the limitations, and suggesting further research directions.

2 Online Auction Markets, Reputation Effects, and Institutional Frameworks – A Literature Review and Conceptual Development

Auctions are one of the oldest economic forms to determine transaction prices and can be described as “... a market institution with an explicit set of rules determining resource allocation and prices on the basis of bids from the market participants.”⁴ In the last fifteen years, along with the development of the Internet and the world wide web, online auctions have become a key mechanism to coordinate economic activity in electronic commerce. Beginning in 1995, online auction markets, such as eBay, used Internet-based auctions as an exchange mechanism and renewed the popularity of auctions.⁵ Compared to traditional auctions, online auctions overcome many of the limitations associated with conventional auction markets and markets in general and, therefore, enjoy a much broader audience due to their accessibility, lowering barriers to enter the auction market for sellers and potential buyers. In electronic markets, both, sellers and buyers, are unconstrained by time and physical location. As shown in Figure 2, especially in the last five years, eBay’s international marketplaces contributed to the company’s growth.

Figure 2: eBay's U.S. and International Growth



Source: Own illustration, data is compiled from eBay (2009g).

For researchers, online auction markets offer opportunities to empirically test economic theory (Lucking-Reiley, 2000; Kauffmann & Wood, 2003). The results of online auction sales are publicly accessible in the Internet and, therefore, it is possible to collect large amounts of

⁴ McAfee & McMillan (1987), p. 701. For a detailed overview of the history of auctions see, e.g., Learmount (1985).

⁵ For a detailed overview of the development of Internet auctions see Lucking-Reiley (2000).

data in a fraction of the time and costs that it takes to gather data using traditional research methods. While Internet auction markets offer several fruitful areas for research, this thesis will be confined to an examination of the effects of seller reputation on auction outcomes. A large number of studies address reputation effects in one country, especially in the U.S. Despite the global character of the Internet and eBay's international presence, little research has been done on cross-country differences in bidders' valuation of seller reputation in online auctions. Moreover, reputation mechanisms, such as eBay's Feedback Forum, enable buyers not only to rate their transaction partner with a feedback but also to provide an explanation for the feedback within a textual comment. However, only a small number of empirical studies have examined the underlying reasons for feedback. In order to identify research opportunities, the following sections will provide detailed reviews of single-country and cross-country studies that empirically analyze the effects of reputation on auction outcomes as well as studies that examine and categorize the attributes that lead to negative feedback ratings. On the basis of the literature reviewed, a conceptual model will be developed by relating theoretical concepts to institutional frameworks' influence on the relation between bidder behavior and online auction outcomes. Based on the literature review and the conceptual model, several hypotheses and exploratory research questions are developed.

2.1 The Relations between Uncertainty, Trust, and Reputation in Online Auctions

In order to develop a theoretical background that explains in which way institutional frameworks influence the effects of reputation on online auction outcomes, in the three succeeding sections the relations of uncertainty, reputation, and trust in online auctions are identified and discussed. In the first subsection, the eBay marketplace and the online auction process are briefly described. In the second subsection, the inherent challenges of online auction markets are discussed from a NIE perspective. A meta-analysis of studies examining the effect of seller reputation on auction outcomes is presented in the third subsection.

2.1.1 Online Auction Markets – The Example of eBay

In the eBay marketplace, basically the same market design is used in all 30 localized marketplaces.⁶ Therefore, the following description of eBay's marketplace applies, apart from minor differences across countries, to all marketplaces.⁷ According to eBay's "Getting Started Tutorial", individuals that want to participate as an eBay member and use the marketplace as a consumer have to follow four major steps: the registration, the search for the item, the bidding, and the payment (eBay, 2009e). In order to sell and buy on eBay, individuals are re-

⁶ eBay made several modifications compared to other markets in the reputation system of the Chinese market.

⁷ The description of eBay's market and reputation system refers to the design at the time the data were collected.

quired to register. First, people have to provide their basic contact information, so that eBay can verify the member's identity, which remains private information to the member and eBay. Second, individuals, who must be 18 years of age to register on eBay, need to accept eBay's terms and conditions in the User Agreement, specifying the relationship between the members and eBay. In the third step, the user has to choose an eBay identity (the eBay User ID), which is the name other eBay members will associate this particular user with. Users can choose the automatically generated User ID or create an own name. Finally, eBay sends an email confirmation message in which the user has to confirm his or her eBay registration. Once registered, members can search for items or click through eBay's categories in order to find the item the member is interested in. After the user has submitted his or her search, a results page displays the number of items found and a list of all the items that match the search keywords and criteria. The user is now able to click on the title of any item to see the details for that specific listing on the Item Page. This page contains information on the listing (e.g., the start price and the current bid), the item (e.g., the item description, the shipping, payment, and return details), and on the seller (e.g., the seller feedback rating). The listing information on the Item Page includes the current bid, the "place a bid" section, the time remaining in the listing, the number of bids, the current high bidder, shipping costs, and seller information. The Item Page also includes the description of the item and can include one or more pictures. Sellers can also include payment and shipping information in the item description. This information can also be found in the "shipping, payment details, and return policy" section. Beside the listing information and item description, the Item Page also includes payment information and any additional payment and shipping instructions that the seller listed, such as insurance, return policy, and shipping charges. In the bidding section the user can place the bid. If a user chooses to bid on an item, the user will enter the maximum amount he or she is willing to spend. The eBay system will bid incrementally on the user's behalf, based on pre-set bid increments, up to the user's maximum bid. A bid is binding once a user has placed it. In case that the user is the winning bidder, the user may begin the payment process to complete the purchase. As the majority of sellers only offer the possibility of payment in advance, the seller will ship the item, after having received the payment (Diekmann & Wyder, 2002). Finally, eBay encourages bidders to leave feedback about the seller after having received the item. As eBay states "... it's all about the relationship between the buyer and seller that makes the transaction run smoothly..." and further that "... it's important that you leave feedback about the other party after a completed transaction as all eBay members' reputations are built on the basis of this feedback."⁸ The eBay feedback represents a member's reputation on the marketplace and is organized by a rating system of positive, neutral, and negative feedback ratings. In eBay's Feedback Forum, both, buyers and sellers, have the chance to rate each other after transactions are completed.⁹ Each rating is related to a specific auction and is noted as a number.

⁸ eBay (2009f), p. 11.

⁹ In May 2008, eBay changed the Feedback Forum so that sellers have no option to negatively rate a buyer.

While a positive feedback from a trading partner refers to one positive point (+1), a negative comment translates into one negative point (-1), and a neutral comment translates into one neutral point (0), so that the neutral feedbacks are shown in a seller's profile but are not included in the feedback score. After a transaction, each user can affect another member's score just once. Users can see how other eBay buyers and sellers rated a member on previous transactions through several reputation indicators as well as textual comments, which are related to each feedback rating. The Item Page includes basic information about the seller and in particular first information about a seller's eBay Feedback rating. Next to an eBay member's User ID the Feedback Score, Feedback Percentage, and a Feedback Star are shown. The Feedback Score is the number in parentheses next to a member's user ID. The higher the Feedback Score, the more positive ratings a member has received. Next to the Feedback Score a graphical symbol in the form of a star represents a visualization of the Feedback Score. A Feedback Score of at least 10 earns a member a yellow star and as a member's Feedback Score increases, the member's star will change color accordingly. The detailed seller information, including all available reputation information and comments left by other members, is accessible on a user's Feedback Profile page. In addition to the Feedback Score, this page includes recent feedback ratings, which are related to the total number of positive, neutral, and negative feedback ratings the member has received during the last month, the last six months, and last twelve months.

2.1.2 Uncertainty in Online Auction Markets

Since institutions, such as the National Consumer League, began to record and report consumer complaints concerning online auction fraud, online auctions have been identified as one of the major Internet fraud categories in the U.S. Table 1 presents Internet auction fraud statistics for the U.S.

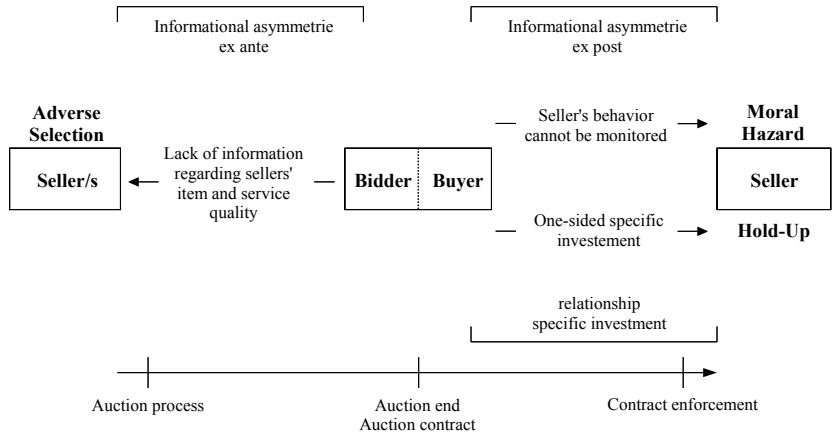
Table 1: Internet Auction Fraud in the U.S.

Year	Internet Auction Fraud Complaints		All Internet Fraud Complaints		Internet Auction as Percent of all Internet Fraud Complaints			Rank Among Fraud Categories		
	FTC	ICCC	FTC	ICCC	FTC	ICCC	NCL	FTC	ICCC	NCL
2008	17,294	70,197	234,413	275,284	7.4	25.5	-	13	2	-
2007	24,376	73,858	221,226	206,884	11.1	35.7	13.0	7	1	3
2006	32,832	93,164	205,269	207,492	16.1	44.9	44.9	5	1	1
2005	82,402	145,146	197,085	231,493	41.8	62.7	42.0	1	1	1
2004	98,653	147,703	210,850	207,449	46.8	71.2	51.0	1	1	1
2003	83,161	75,954	176,754	124,515	47.1	61.0	89.0	1	1	1
2002	51,003	34,604	110,206	75,064	46.3	46.1	90.0	1	1	1
2001	24,289	21,576	56,235	50,412	43.2	42.8	70.0	1	1	1
2000	14,387	-	34,525	16,838	41.7	-	78.0	1	-	1
1999							87.0			1
1998							68.0			1
1997							-			3

Note: Data is compiled from Federal Trade Commission (2009) (FTC), Internet Crime Complaint Center (2009) (ICCC), and National Consumer League (2009) (NCL). The three institutions started to collect data in different years: years without a report are left blank and "-" indicates not reported values. In the fall of 2003 eBay removed the link from its site to NCL.

Online auction fraud can be attributed to different reasons. Online auction markets are characterized by anonymous transaction partners who are geographically dispersed, who do not interact repeatedly in most cases, and who have limited communication channels to coordinate the transaction (Resnick & Zeckhauser, 2002). As a consequence, sellers may behave opportunistically in the pre- and post-purchase phase through product quality misrepresentation and non-delivery of goods and services (Gavish & Tucci, 2006). Interested bidders face information asymmetries in evaluating products or services as well as sellers' characteristics prior to purchase, which describes the problem of adverse selection due to the relation between uncertainty and quality in the sense of Akerlof (1970). Moreover, once bidders place a bid, they make a pre-contractual commitment through the initial trust in the seller (McKnight, Choudhury, & Kacmar, 2003). In online auction markets, in most product categories bidders face more than one auction, offering a comparable item. Bidders can either bid on a single auction or bid on several different auctions of comparable items. The second case includes the probability that the bidder wins more than one auction. Consequently, less than 25 % of all bidders place a bid in a competing auction of an equal item as long as the first auction in which the bidders placed a bid is not closed (Anwar, McMillan & Zheng, 2006). Once a bidder wins the bidding for a seller's item, the bidder faces information asymmetries in observing the seller's behavior, which describes the moral hazard problem (Holmström, 1979). Moreover, as online auction transactions are characterized by a separation of payment and delivery, bidders invest relationship-specific assets in the form of initial trust and, in the majority of auctions, in the form of payment in advance. These one-sided specific investments give rise to the hold-up problem on the seller side in the sense of Hart (1995). Figure 3 depicts the sources of uncertainty in online auction transactions.

Figure 3: Sources of Uncertainty in Online Auctions



Source: Modified from Wolff (2005), p. 116.

Adverse selection, moral hazard, partner hold-up, and country hold-up are commonly used in research on behavioral and environmental risk. In online auction transactions, in particular adverse selection, moral hazard, and the hold-up problem are sources of uncertainty, as depicted in Figure 3. Online auction transactions are rather characterized by environmental uncertainty and behavioral uncertainty in the sense of Williamson (1985, p. 58) than by behavioral and environmental risks. The distinction between risk and uncertainty is generally interpreted as whether or not transaction partners can be assumed to act as if they have subjective probabilities. As shown in Section 2.1.1, in online auction markets, bidders have to acquire and process information about seller's reputation in order to evaluate a seller's performance in the past. In line with the seminal work of Simon (1957) and for the purposes of this thesis it is assumed that bidders' act within bounded rationality in the sense of limited cognitive and information processing capabilities.¹⁰ Online auction markets include very high amounts of information about seller characteristics. At any given time, there are millions of auction listings across thousands of categories on eBay's marketplace. Even if the number of auctions is reduced to a particular item, the amount of information is still high. If a bidder would like to bid on an auction of a Nintendo Wii video game console in any given day in November 2008, the bidder would have the choice between more than 10,000 auctions on eBay's U.S. marketplace. Bidders are limited in their capabilities to be selective in information perception as well as in information processing, or as North (1990) puts it "... uncertainties in human interaction ... arise as a consequence of both the problems to be solved and the

¹⁰ See Simon (1957), p. 198.

problem-solving software possessed by the individual.”¹¹ In what follows, therefore, it will be assumed that in online auction markets rather uncertainty than risk is at work. While environmental uncertainty is exogenously imposed on the transaction, behavioral uncertainty arises within the transaction itself because of the potential for seller’s opportunistic behavior. Behavioral uncertainty, therefore, refers to the difficulty of monitoring the actual behavior of the seller.

The NIE is diverse in terms of the definition of uncertainty and the behavior under uncertainty. Dequech (2006) established three distinctions of different approaches to uncertainty in the NIE. The first distinction is that between procedural and substantive uncertainty as proposed by Dosi and Egidi (1991). Procedural uncertainty results from limitations on the cognitive and processing capabilities of agents, given the information available. Substantive uncertainty results from the lack of information which would be necessary to make decisions with certain outcomes. The second distinction has been proposed by Dequech (1997) between weak and strong uncertainty. While strong certainty is characterized by unknown events and unknown consequences of particular actions, weak uncertainty is characterized by imperfect information about the occurrence of known events and consequences of particular actions. According to Dequech (2006), strong and weak uncertainties refer to strong and weak types of substantive uncertainty. The third distinction, proposed by Dequech (2000), arises between ambiguity and fundamental uncertainty, being two types of strong uncertainty. Ambiguity is characterized by possible predetermined events that are known by the decision maker, which, however, is missing information about the occurrence of these events. Fundamental uncertainty is characterized by possible non-predetermined events that are unknown by the decision maker.

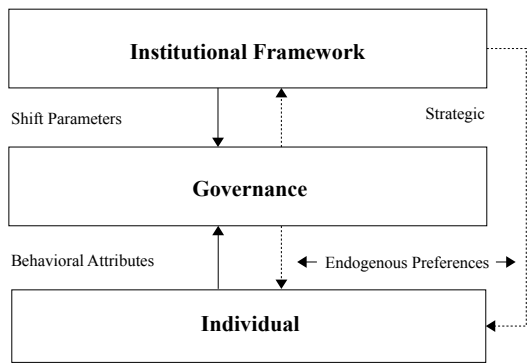
2.1.3 Trust and Reputation in Online Auction Markets

Despite the perceived uncertainty involved in online auction markets, buyers and sellers worldwide trade more than \$1,900 worth of goods each second (eBay, 2009a). To explain the development of transactions enabling trust in online auction markets, the relation between trust and reputation is explained in three steps. First, Williamson’s (1996) layer scheme is shortly introduced as the general theoretical basis. Second, following North (1995) and Wolff (2005), the layer scheme is extend within different parts of the institutional framework. Moreover, the various direct and indirect relations between the online auction transaction partners, the marketplace, and the institutional framework are explained in detail. Finally, closely following the e-commerce trust model suggested by McKnight and Chervany (2001), a conceptual model of the relations between reputation and trust in online auction markets within the three layer scheme is developed. Figure 4 presents Williamson’s (1996) layer

¹¹ North (1990), p. 25.

scheme which consists of three levels that are interrelated with each other through direct influences (solid arrows) and indirect influences (dashed arrows).

Figure 4: Williamson’s Three Layer Scheme

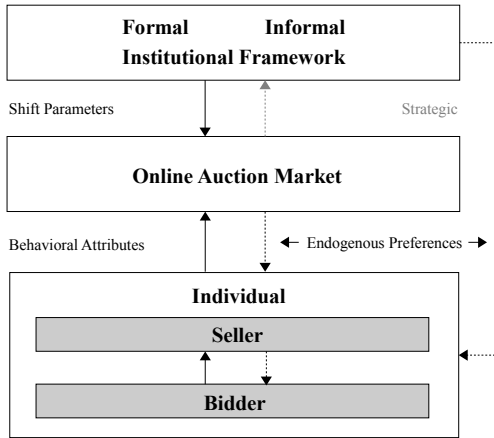


Source: Modified from Williamson (1996), p. 326.

The institutional framework level refers to “... the rules of the game” within which organizations and individuals operate.¹² The second level is the governance level, representing the organizations. The level of the individual refers to individual actors’ behavioural attributes, which are constrained by the institutional framework. While the institutional framework and the individual level directly affect the governance level, the governance level only indirectly affects the institutional framework and the individual level. The institutional framework indirectly affects the individual level and determines the behavioural attributes and endogenous preferences of individuals. Williamson’s (1996) three layer scheme suggests that the functioning of the governance level needs to be analyzed against the background of the institutional framework since this will have an influence on the actions of individuals and on the governance level itself. In Figure 5 Williamson’s (1996) three layer scheme is applied and modified to explain the various relations between transaction partners, the online auction marketplace, and the institutional framework.

¹² Williamson (1996), p. 327.

Figure 5: The Relations in Online Auction Markets



Source: Modified from Williamson (1996), p. 326 and Wolff (2005), p. 111.

Following North (1990, p. 36) and Wolff (2005), the institutional framework consists of a country's cultural norms and values (informal institutions) as well as a country's set of laws, rules, and regulations (formal institutions). The online auction marketplace, which hosts the auctions of sellers that offer their items for sale and in particular the applied reputation system, represents the organization at the governance level. Online auction marketplaces are venue providers rather than auctioneers. Sellers and bidders, using the online auction marketplace for their transactions, are individual actors. In the modified three layer scheme seven relations between the three layers describe online auction markets:

1. The institutional framework indirectly influences sellers and bidders.
2. The institutional framework directly influences the online auction marketplace.
3. The online auction marketplace indirectly influences the institutional framework.
4. The online auction marketplace indirectly influences sellers and bidders.
5. Sellers and bidders directly influence the online auction marketplace.
6. Sellers indirectly influence bidders.
7. Bidders directly influence sellers.

In the following, six of these relations are described in detail. The focus of the thesis is the behavioral outcome of bidders' value assessment of sellers' reputation and the effect of the institutional framework on this process through the influence on individuals' behavioral attributes and endogenous preferences. Thus, the indirect influence of online auction marketplaces on the institutional level through non-market strategies, indicated as "strategic" in the three layer scheme, will not be discussed.

The behavioral attributes and endogenous preferences of sellers and bidders are indirectly affected by the formal and informal institutional framework. Endogenous preferences can be defined as the "... reasons for behavior" and "the attributes of individuals that (along with their beliefs and capacities) account for the actions they take in a given situation."¹³ From the NIE perspective, Dequech (2002, 2006) identifies three types of influences of the institutional framework on endogenous preferences and the resulting individual economic behavior. The first influence is associated with institutions' restrictive function and constraint of behavioral attributes. In online auction markets, transaction partners' behavior is constrained by the formal and informal institutions of the institutional framework. While formal institutions are enforced through laws and regulations, informal institutions are enforced in three ways:

1. Internally enforced societal codes of conduct;
2. Socially sanctioned norms of behavior;
3. Extensions and modifications of formal institutions.¹⁴

In online auction markets, informal and formal institutions constrain the behavior of online auction participants. The second institutional influence is that of institutions' cognitive function which refers to the information that institutions provide to the individual and the way the information is selected and perceived by the individual. Institutions' restrictive and cognitive functions are interrelated because restrictions inform individuals about the institutional constraints. Dequech (2006, p. 118) points out that, if restrictions limit "... the behaviour of several people, they help each person to imagine the possible behavior of the others." Transaction partners in online auction markets are influenced by the information provided by the institutional framework. For example, the information that the fraudulent behavior of sellers was punished through the enforcement of formal laws and regulations or through enforced informal social sanctions in past transactions affects sellers and bidders preferences in future transactions. The third influence is the motivational function associated with institutions "... through their influence on the ends that people pursue."¹⁵ In online auction markets this refers to sellers' and bidders' perception of the consequences that are related to the individual behavior within the constraints of the formal and informal institutional framework.

Institutional frameworks have a direct influence on online auction marketplaces. The formal and informal "rules of the game" directly influence "the play of the game".¹⁶ Online auction markets' business operations are structured and constrained by the laws and regulations as well as societal norms and values within a country. If, e.g., laws and regulations regarding firms' general terms and conditions are changed, this change directly affects the online auction market, which has to adjust the general terms and conditions accordingly. Besides the indirect influence of the institutional framework on sellers and bidders, online auction market-

¹³ Bowles (1998), p. 78.

¹⁴ See North (1990), p. 40.

¹⁵ Dequech (2006), p. 118.

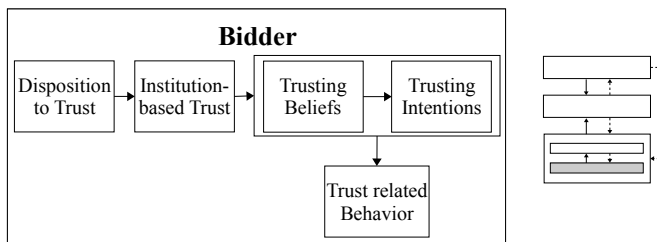
¹⁶ Williamson (1996), p. 327.

places also indirectly influence the individual level. As a venue provider, online auction markets affect sellers' and bidders' endogenous preferences through the design of the market (e.g., the design of the auction mechanism, the bidding format, and the reputation system), the general terms and conditions, as well as marketing campaigns. Sellers and bidders directly influence the online auction marketplace through their behavior. For example, if the online auction marketplace increases the prices for each auction held on the market, the reactions of sellers and bidders will directly affect the marketplace's business operations. If the majority of sellers and bidders do not accept higher costs and instead use another online marketplace for trading, the reaction will directly affect the marketplace's profits. Beside the direct and indirect relations between the three levels in the three layer scheme, sellers and bidders are also interrelated. On the one side, sellers indirectly influence bidders' endogenous preferences through the information about themselves (e.g., information on eBay's "about me" webpage), the item (e.g., pictures and description), and auction characteristics (e.g., auction format, duration, start prices, buy-it-now option). On the other side, bidders directly influence the seller through their behavior in the auction. If, e.g., a seller sets a start price in an auction above the market price for this particular item, bidders might not place a bid for this item. Even though the auction does not result in a sale, the seller has to pay a commission to the marketplace. The reaction of prospective bidders (place no bid in this particular auction) in this way will directly affect the outcome of the seller.

As described in the beginning of this chapter, online auction markets are characterized by information asymmetries and one-sided specific investments. Although trust is an essential component in any economic transaction (Arrow, 1974), it is essential in online auction markets in order to overcome information asymmetries as well as to minimize one-sided specific investments to promote transactions. In general, trust can be defined as "... the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party."¹⁷ Following the electronic commerce trust model suggested by McKnight and Chervany (2001), Figure 6 visualizes bidders' development of trust, showing a detail of the individual level of the three layer scheme presented in the figure before.

¹⁷ Mayer, Davis, & Schoorman (1995), p. 712.

Figure 6: The Development of Trust



Source: Modified from McKnight and Chervany (2001), p. 44.

McKnight & Chervany (2001) point out that the trust involved in electronic commerce transactions can be viewed as a multidimensional construct. Moreover, McKnight and Chervany (2001) suggest that in electronic commerce four dimensions of trust result in individuals' actual behavior: the disposition to trust, institution based trust, trusting beliefs, and trusting intentions. In novel situations and situations that include strangers, individuals rely on their general disposition to trust, which can be defined as "... the extent to which one displays a consistent tendency to be willing to depend on others in general across a broad spectrum of situations and persons."¹⁸ The institutional framework indirectly influences an individual's disposition to trust as a generalized reaction to experiences with other individuals and through the process of socialization (Rotter, 1971). In electronic commerce transactions, buyers' intent to purchase an item is influenced by familiarity with the seller and its processes and trust in the seller (Gefen, 2000). Resnick and Zeckhauser (2002) found that in their eBay data sample 89.0 % of all seller-buyer pairs conducted just one transaction and 98.9 % conducted no more than four transactions, indicating that potential and actual bidders rely on their general disposition to trust. A bidder's disposition to trust affects the trust in the specific seller of the auction on which the bidder placed a bid. Moreover, the disposition to trust affects an individual's institution-based trust. Institution-based trust can be described as the trust in favorable conditions, such as the legal and regulatory environment, which foster a positive situational outcome.¹⁹ In online auctions, in which transaction partners are anonymous, the way bidders perceive and belief in the legal and regulatory protections of the formal institutional framework influences bidders' interpersonal trust in a particular seller. The disposition to trust and institution-based trust influence bidders' seller-related trust, which consists of trusting beliefs and trusting intentions. Trusting beliefs refer to the expectations that the transaction partner is reliable and will refrain from behaving opportunistically.²⁰ In online auctions, trusting beliefs are related to a bidder's belief that the seller has characteristics which are beneficial to the

¹⁸ McKnight & Chervany (2001), p. 45.

¹⁹ See McKnight & Chervany (2001), p. 45.

²⁰ See Ripperger (1998), p. 95.

bidder, wanting the seller to be able and willing to act in his or her interest as well as to be able and willing of delivering the item as promised. In contrast to institution-based trust, which is situation-specific, trusting beliefs are seller-specific. Bidders' intention to trust is related to bidders' willingness to depend on, or intending to depend on, a specific seller even though bidders cannot monitor and control the seller. Trusting intentions also involve bidders' willingness to have, compared to traditional markets, less or no control over the seller. Trusting beliefs result in the intention to trust and behave in a certain way. Therefore, a bidder's behavior is a function of trusting beliefs and expectations as well as trusting intentions, which are relevant to the behavior. Trusting beliefs and expectations are influenced by information acquired in the past and the specific situation.²¹ In online auction markets, bidders are influenced by sellers' reputation ratings, which are based on transactions in the past. A Seller's reputation refers to the aggregated number of past cooperative and non-cooperative transactions. In a bidder's evaluation of a seller's reputation rating the information available about a seller's past behavior is used as a predictor of the seller's future behavior. Prospective bidders are more likely to engage in a trusting behavior with a seller who enjoys a good reputation, indicating a history of past cooperative behavior.

Reputation can be an influential element in shaping current expectations and orientations towards other individuals. Lewicki, Tomlinson, and Gillespie (2006) argue that the consistent qualities of a reputation assure that once individuals have assigned an overall quality, they tend to make other judgments about this party that are consistent with this overall view. Thus, individuals generalize to assume that the other individual, who is trustworthy, is also predictable or that an individual who is known for being untrustworthy is also unpredictable. The inherent information of an individual's reputation is processed through the interpretative lens of endogenous preferences of other individuals', who evaluate the individual's reputation and trustworthiness. Thus, an individual's reputation will be interpreted differently by different other individuals, which consequently implies that not every individual will attach the same significance to a particular reputation information (Good, 1988). In management and business economics, diverse streams of research have focused on reputation. Applying Wilson's (1985) definition, reputation is a concept where a characteristic is ascribed to an individual, organization, or institution by another individual, organization, or institution. In traditional brick-and-mortar markets, trust between buyers and sellers is established and sustained, based on reputation, and built through face-to-face communication and repeated interactions. In this environment, reputation can be defined as a commonly held set of customers' opinions about a seller, based on past experiences in the transaction as well as post-transaction phase (Doney & Cannon, 1997). From a theoretical perspective it can be assumed that, if a history of past interactions is available, transaction partners with a history of collaborative behavior might realize higher long-term payoffs by signaling their trustworthy nature (Kreps, Milgrom, Roberts,

²¹ See Ripperger (1998), p. 95.

& Wilson, 1982). Thus, reputation effects generate cooperation in environments of imperfect and asymmetric information (Kreps & Wilson, 1982; Milgrom & Roberts, 1982). As transaction partners might establish a positive or negative reputation, reputation is both, a source of information as well as a mechanism to sanction, since the reputation of past transactions as well as the probability and importance of future transactions form “the shadow of the future”.²²

In online auction markets, transaction partners cannot rely on traditional mechanisms to develop a reputation because of the transaction partner’s spatial separation. In order to overcome the barriers to an efficient online auction market, auction platform providers implement reputation systems, which are an online adaptation of the traditional word-of-mouth, and enable transaction partners to rate each other, developing a reputation based on the individual past behavior (Kollock, 1999; Dellarocas, 2006). Instead of the temporal embeddedness in traditional offline transactions, where reputation is established by repeated interactions of buyers and sellers, in online auctions, network embeddedness is present where reputation is build through the interaction with different transaction partners (Gautschi, 2002). As a result, in the setting of one-shot interactions “the shadow of the past” from interacting with other partners substitutes “the shadow of the future” from repeated interactions with the same partner. In doing so, reputation reduces uncertainty about a sellers’ behavior in the future and determines the degree of trust that bidders tend to have in a specific seller (Kollock, 1999).

Klein and Leffler (1981), Shapiro (1983), and Allen (1984) among others, theoretically analyzed the strategy of investing resources in developing a reputation in the setting of sellers of high quality goods that want to distinguish their products from those of lower quality. These theoretical models have typically proposed a positive relationship between the reputation of a seller and the price, since the seller’s reputation is, to a large extend, a signal for quality and the seller’s behavioral characteristics in future transactions in the tradition of Spence (1973). In Internet auction markets, reputation systems, such as eBay’s Feedback Forum, encourage both parties of each transaction to rate each other and then systematically collect and report information about past interactions of buyers and sellers to potential transaction partners (Resnick, Zeckhauser, Swanson, & Lockwood, 2006).

In order to model the effect of reputation, a second-price auction in a private values setting is used that closely follows Houser and Wooders (2006) and a modification of their model by Offenberg (2006). A single seller offers one indivisible unit of a good for auction, with the seller’s costs normalized to zero and n risk neutral bidders being interested in buying the good. Bidder i ’s ($i = 1, \dots, n$) privately known value of the good is denoted by v_i with $v_i > 0$. In most countries it is common practice that auction winners pay in advance of delivery. As a

²² Axelrod (1984), p. 126.

result, sellers may behave opportunistically and default on the auction contract by not delivering the good once they have received the payment. The probability that a seller successfully completes the transaction and delivers the good is described by $p^S \in [0,1]$. It is assumed that all bidders evaluate this probability according to the following equation of M commonly known reputation characteristics of the seller:

$$p^S = \sum_1^M \lambda_l x_l, \text{ where } \sum_1^M \lambda_l = 1.$$

The observable reputation of the seller, such as the seller's overall number of positive and negative feedbacks, which are available in the auction, is represented by $x = (x_1, x_2, \dots, x_M)$, being a positive real vector, with $x \in [0,1]$. It is assumed that the characteristics are a true signal, meaning that the reputation information represents a seller's past behaviour and, therefore, should represent the probability that the seller behaves in the same way in future transactions. Bidders weigh the seller's characteristics according to the vector $\lambda = (\lambda_1, \lambda_2, \dots, \lambda_M)$, where each λ_k is related to the information content in x_k . The information of past transactions provided by the reputation system allows bidders to base their decisions and value assessment on, e.g., a single, several, or all past transactions of a seller. Each of the seller's past transactions and the related information is represented by l . If a bidder weights negative feedback more heavily than positive feedback, a seller's last ten positive feedback ratings provide less information, compared to the eleventh feedback rating which is negative. In this way, different past transactions provide a different amount of information. The same applies to the different reputation variables. While the reputation variables that provide a higher amount of information are weighted more heavily, observations that provide weaker signals receive a smaller weight in the calculation of p^S . Seller characteristics, information of all past transactions, and values of λ are assumed to be commonly known across all bidders. Since all factors of p^S are common across all bidders, p^S is also common across bidders. Furthermore, it is assumed that all bidders evaluate the value v_i of a product according to the following:

$$v_i = \alpha_i (\delta \sum_1^N \varepsilon_l y_l + \varphi \sum_1^O \omega_l z_l), \text{ where } \sum_1^N \varepsilon_l = 1, \sum_1^O \omega_l = 1, \text{ and } \delta + \varphi = 1.$$

First, bidder i 's privately known value of the good is determined by α_i , $\alpha_i \in [0,1]$. Value draws are assumed to be independent and identically distributed. Second, $y = (y_1, y_2, \dots, y_N)$ is a positive real vector of N observable product information characteristics available in the auction and restricted to values between zero and 1. Each y corresponds to the information signal from particular product information, such as the amount of product description or the number of pictures included. Bidders weigh the available information according to the vector $\varepsilon = (\varepsilon_1, \varepsilon_2, \dots, \varepsilon_N)$. Each weighted term ε_k is related to the information content in y_k . Third, $z = (z_1, z_2, \dots, z_O)$ is a positive real vector of O observable auction characteristics and restricted to values between 0 and 1. Each z corresponds to the signal from a particular observable auction

characteristic such as the start price, reserve price, or the acceptance of an online payment service such as PayPal. Bidders weigh the available auction characteristics according to the vector $\omega = (\omega_1, \omega_2, \dots, \omega_N)$. Each weighted term ω_k is related to the information content in z_k . Finally, all bidders weigh the importance of product information according to the term δ and auction characteristics according to the term φ . If bidder i wins the auction and pays the selling price b with probability p^S , the seller will deliver the good and the bidder i will realize the payoff $(v_i - b)$. With probability $(1 - p^S)$ the seller does not deliver any good. In that case, bidder i 's payoff is normalized to $-b$. Therefore, the expected profit from winning the auction is:

$$E = p^S v_i - b.$$

The utility of all non-winning bidders is zero. In online auctions bidders can also behave opportunistically. Bidders, e.g., can default on payment in a transaction. Consequently, online auction markets allow sellers to exclude bidders with a bad reputation from their auctions. As the selection of bidders is time consuming, sellers state in the auction description that they will not accept bidders without a reputation or with a bad reputation. According to the author's knowledge, no empirical evidence suggests that a significant number of sellers select their bidders. Therefore, the reputation of bidders is ignored in this model.

As shown by Houser and Wooders (2006) in equilibrium, it is a weakly dominant strategy that all bidders offer a bid as their highest proxy bid according to their expected value of winning the auction, i.e., $b_i = p^S v_i$. In eBay auctions, an automatic bidding system named "proxy bidding" is applied. On eBay's website bidders are advised to bid the maximum amount they are willing to bid. This amount is kept confidential from other bidders and the seller. The bid is compared to those of other bidders and the system places bids as high as necessary to maintain the high bid position. The system bids as high as the maximum amount. If the highest bidder offers a bid above his valuation and wins the auction, the bidder will realize a negative expected payoff, as the selling price exceeds the expected value. If the bidder is setting a bid under his/her valuation and loses the auction, the bidder will realize a payoff of zero. In a second-price auction, the bidder who submits the highest auction bid wins the auction and pays the offer submitted by the second highest bidder. So, the selling price is given by $b = p^S v_2$ with v_2 denoting the value of the second-highest bidder.

The model shows that more reputable sellers achieve higher prices in online auction markets. During the last decade a number of studies have empirically examined reputation effects in online auction markets. The next section provides a meta-analysis of empirical studies examining the relation between seller reputation and online auction outcomes, namely the probability of sale, the number of bidders and bids, and the auction price.

2.1.4 The Effects of Reputation on Online Auction Outcomes – A Meta-Analysis

The results of a meta-analysis of 58 studies are presented in the following section. First, the method and procedure of the meta-analysis is described. Then, the section is organized by online auction outcome variables and the results of the meta-analysis for the probability of sale, the number of bidders, the number of bids, and the auction price are presented. To the author's knowledge, eight literature reviews, directly or indirectly, address the relation between seller reputation and online auction outcomes (Bajari & Hortaçsu, 2004; Baker & Song, 2007; Cui, Lai, & Liu, 2008; Dellarocas, 2006; Liu, Chen, Wei, & Hui, 2007; Ockenfels, Reiley, & Sadrieh, 2006; Resnick et al., 2006; Wood, 2004). Online auctions can be classified as business-to-business, business-to-consumer, and consumer-to-consumer auctions (Bapna, Goes, & Gupta, 2001). This meta-analysis will be confined to an examination of business-to-consumer and consumer-to-consumer auctions because the main interest of this thesis is the behavior of individual bidders. A literature review has been conducted, covering peer-reviewed articles and monographs in English and in German. To identify the studies for the meta-analysis, a structured approach was applied (Webster & Watson, 2002). First, the references in the literature reviews cited above were searched and the process repeated until no new studies were found. Second, systematic searches of major online databases (e.g., ABI Inform Global, EBSCO, JSTOR, Proquest, Science Direct, Scopus) from 1995 to 2009 were conducted. As reputation effects in online auctions are an interdisciplinary research field (economics, information systems, management, psychology, and sociology) and publications are likely to be kept in the databases of only one discipline, different databases of various disciplines were searched. In a third step, a random and unsystematic search was made, using Google and Google scholar (Cooper, 1998).

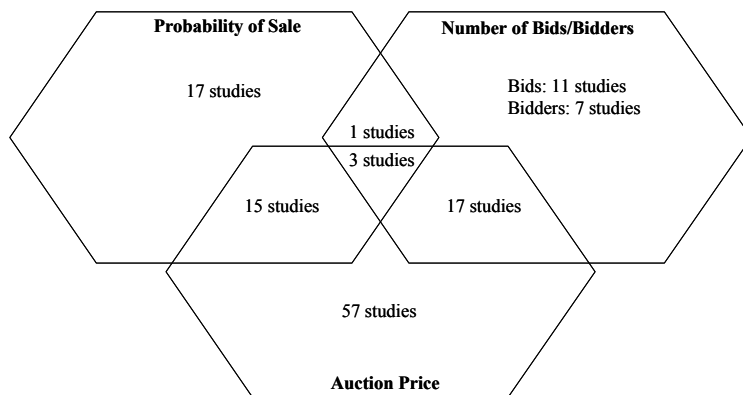
The meta-analysis presents an integration and summary of the body of literature that has emerged in examining the effect of quantitative reputation indicators on auction outcomes. All publications were analyzed in terms of methodology and results. Inclusion in the review set required presence of:

- 1) A dependent variable measuring an online auction outcome
 - Probability of sale: Whether or not a auction results in a sale
 - Number of bidders: The total number of different bidders that placed a bid
 - Number of bids: The total number of bids placed for an item
 - Auction price: The second-highest bid in an auction that resulted in a sale
- 2) At least one independent variable measuring seller reputation
 - Negative feedback ratings: The number of negative feedbacks in past transactions
 - Positive feedback ratings: The number of positive feedbacks in past transactions
 - Neutral feedback ratings: The number of neutral feedbacks in past transactions
 - Ratios of negative, positive, and neutral feedback ratings

To integrate the results from the studies for each auction outcome, a summary of the research literature is provided, followed by a statistical meta-analysis of the respective results. The meta-analysis was conducted to synthesize the existing studies' results. In the meta-analysis the results from the reviewed studies are systematically combined and integrated. Two methods are used in the meta-analysis. First, counts of relationships establish the general shape of the literature in terms of what has been studied extensively and what has not. The second approach uses binomial sign tests to identify significant positive or negative relations between explanatory variables and online auction outcomes. The conventional vote-counting procedure has several limitations, therefore, a combination of vote-counting and the sign test is used (Hedges & Olkin, 1985). The vote-counting procedure involves identifying the sign of each empirical relationship relating an independent variable to the various online auction outcomes. For each identified study, each individual result is cataloged in terms of its independent variable, dependent variable, and the sign of the relation between them. The results of the studies are examined to categorize the relationship between the independent variable and the dependent variable, being either significantly positive, significantly negative, or with no significant result in either direction. The number of studies falling into each of these three categories is summated. Counts of the signed relationships are then totaled. The counting methodology requires only a qualitative assessment of relations. Its main disadvantage is that the outcome is also qualitative. The existence of a relation is established but its size cannot be estimated. Next, the sign test is used to compare the number of studies with findings in one direction with the number of studies with findings in the other direction. The sign test provides limited insights because it does neither incorporate sample sizes, nor does it provide an effect size estimate. Though, the sign test is used because the studies are diverse in their number of observations and several studies do not provide enough information to compute an effect size estimate but do provide information about the direction and statistical significance of effects (Borenstein, Hedges, Higgins, & Rothstein, 2009). The 58 identified studies included 71 data sets and appeared in 40 journals, five conference proceedings, and five books.²³ Study sources are shown in Appendix Part 1. In addition to the refereed publications being included in the review, more than 30 unpublished studies were found. 98% (57 of 58) of all studies reviewed covered auction prices as one of the independent variables. About 26% (15 of 58) of the literature reviewed both the probability of sale and the auction price as independent variables. While about 10% (6 of 58) of all studies used the number of bidders and auction price as independent variables, about 19% (11 of 58) of all studies covered the number of bids and auction price as independent variables. About 5% (3 of 58) used three auction outcomes as independent variables. Figure 7 presents a summary of the literature review.

²³ The number of studies is current as of August 2009.

Figure 7: Empirical Studies on Online Auction Outcomes



The first auction outcome examined in the meta-analysis is the probability of sale. As presented in Table 2, about 29% (17 of 58) of the literature reviewed have covered the effect of reputation on the probability of sale.

Table 2: The Effects of Reputation on the Probability of Sale

Study	Country	Sample
1 Andrews & Benzing (2007)	U.S.	eBay, cars (437)
2 Berger & Schmitt (2005)	GE	eBay, CDs (246), cellular phones (279), digital cameras (192)
3 Bland, Black, & Lawrimore (2005)	U.S.	eBay, calculators (509)
4 Dewan & Hsu (2004)	U.S.	eBay, stamps (6351)
5 Diekmann, Jann, & Wyder (2007)	CH	Ricardo.ch, cellular phones (167)
6 Dimoka & Pavlou (2006)	U.S.	eBay, cars (350000)
7 Duan, Gu, & Whinston (2006)	U.S.	eBay, stamps (3015)
8 Eaton (2005)	U.S.	eBay, electric guitars (360)
9 Eaton (2007)	U.S.	eBay, electric guitars (208)
10 Gilkeson & Reynolds (2003)	U.S.	eBay, silver flatware (2628)
11 Hou (2007c)	U.S.	eBay, Morgan Silver Dollar (1083)
12 Jin & Kato (2006)	U.S.	eBay, baseball trading cards (1124)
13 Li, Srinivasan, & Sun (2006)	U.S.	eBay, painting, silver plate (total 592)
14 Livingston (2005)	U.S.	eBay, golf clubs (861)
15 Resnick & Zeckhauser (2002)	U.S.	eBay, Beanie Babies Teddies (180)
16 Simonsohn & Ariely (2008)	U.S.	eBay, movie DVDs (8056)
17 Zhang (2006)	U.S.	eBay, iPod (1276)

Note: The studies are presented in alphabetical order. Sample sizes are presented in parentheses. “CH” denotes Switzerland.

While two of the 17 studies used data collected outside the U.S., one study used non-eBay data. The studies’ sample sizes vary between 167 and 350,000. Moreover, the studies utilize a

diverse set of products, including both homogeneous (unused) and heterogeneous (used) items. Table 3 presents a summary of signed relationships between the independent variables and the probability of sale. The independent variables are alphabetically ordered. To prevent single studies from dominating results, it was required that an independent variable appears in at least 3 different studies for it to be reported. Appendix Part 1 reports counts for all relations, including all independent variables used in the studies. Several studies tested more than one data set, using different products and product categories. The vote-counting includes all data sets that were collected by each study. To apply a conservative procedure, the sign test includes all significant positive and negative effects as well as all non-significant effects. The same procedure was applied for the meta-analysis of the number of bidders, the number of bids, and of the auction price, which are presented later in this section.

Table 3: Determinants of the Probability of Sale

Independent Variable	Study	No. of studies	No. of data sets	+	-	ns	Sign test
Buy it now	Dimoka & Pavlou (2006); Li, Srinivasan, & Sun (2009); Zhang (2006)	3	3	2	1	0	ns
Credit card	Bland, Black, & Lawrimore (2005); Eaton (2005); Gilkeson & Reynolds (2003); Livingston (2005)	4	5	0	1	4	ns
Dealer	Andrews & Benzing (2007); Jin & Kato (2006); Simonsohn & Ariely (2008); Duan, Gu, & Whinston (2006)	4	4	1	1	2	ns
Duration	Dewan & Hsu (2004); Diekmann, Jann, & Wyder (2007); Dimoka & Pavlou (2006); Duan, Gu, & Whinston (2006); Gilkeson & Reynolds (2003); Hou (2007c); Livingston (2005); Zhang (2006)	8	8	4	1	3	ns
Feedback rating	Andrews & Benzing (2007); Dewan & Hsu (2004); Diekmann, Jann, & Wyder (2007); Duan, Gu, & Whinston (2006); Eaton (2005); Eaton (2007); Gilkeson & Reynolds (2003); Li, Srinivasan, & Sun (2009); Simonsohn & Ariely (2008)	9	9	5	2	2	ns
Negative rating	Berger & Schmitt (2005); Eaton (2005); Eaton (2007); Hou (2007c); Resnick & Zeckhauser (2002); Zhang (2006)	6	7	0	6	1	- [†]
New	Hou (2007c); Livingston (2005); Simonsohn & Ariely (2008); Zhang (2006)	4	3	1	2	0	ns
PayPal	Berger & Schmitt (2005); Eaton (2005); Eaton (2007); Li, Srinivasan, & Sun (2009); Zhang (2006)	5	5	2	0	3	ns
Picture	Andrews & Benzing (2007); Bland, Black, & Lawrimore (2005); Eaton (2005); Eaton (2007); Jin & Kato (2006); Li, Srinivasan, & Sun (2009)	6	7	3	1	3	ns
Positive rating	Andrews & Benzing (2007); Berger & Schmitt (2005); Dimoka & Pavlou (2006); Hou (2007c); Livingston (2005); Resnick & Zeckhauser (2002); Zhang (2006)	7	8	7	0	1	+*
Reserve price	Bland, Black, & Lawrimore (2005); Dewan & Hsu (2004); Dimoka & Pavlou (2006); Gilkeson & Reynolds (2003); Li, Srinivasan, & Sun (2009); Livingston (2005); Zhang (2006)	7	8	2	6	0	ns
Shipping costs	Diekmann, Jann, & Wyder (2007); Gilkeson & Reynolds (2003); Simonsohn & Ariely (2008); Zhang (2006);	4	4	2	2	0	ns
Start price	Dewan & Hsu (2004); Diekmann, Jann, & Wyder (2007); Hou (2007c); Li, Srinivasan, & Sun (2009); Zhang (2006); Berger & Schmitt (2005); Bland, Black, & Lawrimore (2005); Dimoka & Pavlou (2006); Duan, Gu, & Whinston (2006); Gilkeson & Reynolds (2003)	10	12	4	7	1	ns
Weekend	Dewan & Hsu (2004); Dimoka & Pavlou (2006); Duan, Gu, & Whinston (2006); Hou (2007c); Livingston (2005)	5	5	3	1	1	ns

Note: Variables are in alphabetical order. “+” denotes a positive effect, “-” denotes a negative effect, and “ns” denotes an effect that was not significant. [†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Across the 14 independent variables that were tested in at least three studies, the variable positive rating has significantly more positive relations to the probability of sale and the variable negative rating has significantly more negative relations. For all other variables the sign test shows no significant results. The application of a less conservative binominal test in which non-significant counts are not included did not change these findings. The second auction outcome examined in the meta-analysis is the number of bidders. As presented in Table 4, about 12% (7 of 58) of the literature reviewed covered the effect of reputation on the number of bidders.

Table 4: The Effects of Reputation on the Number of Bidders

Study	Country	Sample
1 Anderson, Friedman, Milam, & Singh (2008)	U.S.	eBay, PDAs (1008)
2 Bajari & Hortaçsu (2003)	U.S.	eBay, coins (407)
3 Bland & Barret (2004)	U.S.	eBay, calculators (661)
4 Bland, Black, & Lawrimore (2005)	U.S.	eBay, calculators (509)
5 Hou (2007c)	U.S.	eBay, Morgan Silver Dollars (1074)
6 Li, Srinivasan, & Sun (2009)	U.S.	eBay, painting, silver plate (total 592)
7 Park & Bradlow (2005)	KR	eBay, notebooks (2618)

Note: The studies are presented in alphabetical order. Sample sizes are presented in parentheses. "KR" denotes South Korea.

Only one of the seven studies collected data sets in a non-U.S. country. The studies' sample sizes vary between 407 and 2,618. Again, the studies utilize samples of both homogeneous (unused) and heterogeneous (used) products. Table 5 presents a summary of signed relationships between the independent variables and the number of bidders. Across the ten most frequently studied relations, the variable start price has significantly more negative relations to the number of bidders. When a less conservative sign test was applied, including only significant positive and negative effects, one more variable showed a significant influence. The variable reserve price has significantly more negative relations to the number of bidders. The results of the studies reviewed find no significant effect of seller reputation on the number of bidders. The third auction outcome analyzed in the meta-analysis is the number of bids.

Table 5: Determinants of the Number of Bidders

Independent Variable	Study	No. of studies	No. of data sets	+	-	ns	Sign test
Buy it now	Anderson, Friedman, Milam, & Singh (2008); Li, Srinivasan, & Sun (2009); Park & Bradlow (2005)	3	3	0	3	0	ns
Damaged	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Bland & Barret (2004)	3	3	0	1	2	ns
Duration	Anderson, Friedman, Milam, & Singh (2008); Bland & Barret (2004); Hou (2007c); Park & Bradlow (2005)	4	4	2	1	1	ns
Feedback rating	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Li, Srinivasan, & Sun (2009)	3	3	2	0	1	ns
Negative rating	Bajari & Hortaçsu (2003); Bland & Barret (2004); Hou (2007c); Park & Bradlow (2005)	4	4	0	1	3	ns
New	Anderson, Friedman, Milam, & Singh (2008); Bland & Barret (2004); Hou (2007c)	3	3	2	0	1	ns
Picture	Anderson, Friedman, Milam, & Singh (2008); Bland, Black, & Lawrimore (2005); Li, Srinivasan, & Sun (2009); Park & Bradlow (2005)	4	5	3	1	1	ns
Positive rating	Park & Bradlow (2005); Bland & Barret (2004); Hou (2007c)	3	3	1	0	2	ns
Reserve price	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Bland, Black, & Lawrimore (2005); Li, Srinivasan, & Sun (2009)	4	5	0	4	1	ns
Start price	Anderson, Friedman, Milam, & Singh (2008); Bland, Black, & Lawrimore (2005); Hou (2007c); Li, Srinivasan, & Sun (2009); Park & Bradlow (2005)	4	6	0	6	0	-*

Note: Variables are in alphabetical order. “+” denotes a positive effect, “-” denotes a negative effect, and “ns” denotes an effect that was not significant. $\dagger p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$.

As presented in Table 6, about 19 % (11 of 58) of the literature reviewed covered the effect of reputation on the number of bids.

Table 6: The Effects of Reputation on the Number of Bids

Study	Country	Sample
1 Anderson, Friedman, Milam, & Singh (2008)	U.S.	eBay, PDAs (1008)
2 Baker & Song (2008)	U.S.	eBay, DVDs (404), MP3 player (366)
3 Erlenkämper (2005)	GE	eBay, electronics (602), event tickets (415)
4 Flanagan (2007)	U.S.	eBay, digital cameras (6477)
5 Fuchs, Höpken, Eybl, & Ulrich (2008)	GE	eBay, accommodation packages (814)
6 Highfill & O’Brien (2007)	U.S.	eBay, art items (302)
7 McDonald & Slawson (2002)	U.S.	eBay, Barbie dolls (460)
8 Ottaway, Bruneau, & Evans (2003)	U.S.	eBay, coins (128)
9 Park & Bradlow (2005)	KR	eBay, notebooks (2618)
10 Resnick, Zeckhauser, Swanson, & Lockwood (2006)	U.S.	eBay, postcards (198)
11 Simonsohn & Ariely (2008)	U.S.	eBay, DVDs (8333)

Note: The studies are presented in alphabetical order. Sample sizes are presented in parentheses. “KR” denotes South Korea.

Only three of the eleven studies collected data sets in non-U.S. countries. The studies' sample sizes vary between 128 and 8,333. Table 7 presents a summary of signed relationships between the independent variables and the number of bids.

Table 7: Determinants of the Number of Bids

Independent Variable	Study	No. of studies	No. of data sets	+	-	ns	Sign test
Buy it now	Anderson, Friedman, Milam, & Singh (2008); Baker & Song (2008); Highfill & O'Brien (2007); Park & Bradlow (2005)	4	5	2	0	3	ns
Duration	Anderson, Friedman, Milam, & Singh (2008); Baker & Song (2008); Erenkämper (2005); Highfill & O'Brien (2007); Park & Bradlow (2005)	5	7	4	0	3	ns
Feedback rating	Highfill & O'Brien (2007); Flanagan (2007); Fuchs, Höpken, Eybl, & Ulrich (2008); McDonald & Slawson (2002); Ottaway, Bruneau, & Evans (2003); Resnick, Zeckhauser, Swanson, & Lockwood (2006); Simonsohn & Ariely (2008)	7	7	5	0	2	ns
Negative rating	Baker & Song (2008); Erenkämper (2005); Park & Bradlow (2005)	3	4	0	1	3	ns
Picture	Baker & Song (2008); Erenkämper (2005); Anderson, Friedman, Milam, & Singh (2008); Ottaway, Bruneau, & Evans (2003); Park & Bradlow (2005)	5	4	0	0	4	ns
Positive rating	Baker & Song (2008); Park & Bradlow (2005)	2	3	2	0	1	ns
Shipping costs	Baker & Song (2008); Erenkämper (2005); Highfill & O'Brien (2007); Simonsohn & Ariely (2008)	4	6	1	3	2	ns
Start price	Anderson, Friedman, Milam, & Singh (2008); Erenkämper (2005); Fuchs, Höpken, Eybl, & Ulrich (2008); Highfill & O'Brien (2007); McDonald & Slawson (2002); Park & Bradlow (2005)	6	7	1	6	0	-*

Note: Variables are in alphabetical order. "+" denotes a positive effect, "-" denotes a negative effect, and "ns" denotes an effect that was not significant. [†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Across the 8 aggregate variables, the variable start price has significantly more negative relations to the number of bids. When a less conservative sign test was applied, including only significant positive and negative effects, two more variables showed significant influence. The variables feedback rating and duration have significantly more positive relations to the number of bids. As every bidder has to place at least one bid to participate in an auction, the number of bidders is a part of the number of bids. Therefore, the sign test was applied to the combined results of these studies that included the number of bidders and those studies that included the number of bids. The variables reserve price and start price have significantly more negative relations. Finally, the fourth auction outcome, which is the auction price, is examined in the meta-analysis. As presented in Table 8, about 98% (57 of 58) of the literature reviewed covered the effect of seller reputation on auction prices.

Table 8: The Effects of Reputation on Auction Prices

Study	Country	Sample
1 Anderson, Friedman, Milam, & Singh (2008)	U.S.	eBay, PDAs (1008)
2 Andrews & Benzing (2007)	U.S.	eBay, cars (147)
3 Ariely & Simonson (2003)	U.S.	eBay, football tickets (275)
4 Ba & Pavlou (2002)	U.S.	eBay, music CDs, software, electronics (total 682)
5 Bajari & Hortaçsu (2003)	U.S.	eBay, coins (407)
6 Baker & Song (2008)	U.S.	eBay, DVDs (404), MP3 player (366)
7 Berger & Schmitt (2005)	GE	eBay, CDs (246), cellular phones (279), digital cameras (192)
8 Bland & Barret (2004)	U.S.	eBay, calculators (661)
9 Brint (2003)	UK	eBay, gold coins (358), Wisden books (226), Esso coins (98)
10 Bruce, Haruvy, & Rao (2004)	U.S.	eBay, books (82), DVDs (273), laptops (33), PCs (82)
11 Chan, Kadiyali, & Park (2007)	KR	eBay, notebooks (2322)
12 Dewally & Ederington (2006)	U.S.	eBay, comic books (3664)
13 Dewan & Hsu (2004)	U.S.	eBay, stamps (6351)
14 Diekmann & Wyder (2002); Diekmann, Jann, & Wyder (2007)	CH	Ricardo.ch, cellular phones (167)
15 Dimoka & Pavlou (2006)	U.S.	eBay, cars (350000)
16 Durham, Roelofs, & Standifird (2004)	U.S.	eBay, American Eagle Silver Dollars (219)
17 Eaton (2005)	U.S.	eBay, electric guitars (360)
18 Eaton (2007)	U.S.	eBay, electric guitars (208)
19 Erlenkämper (2005)	GE	eBay, electronics (602), event tickets (415)
20 Flanagin (2007)	U.S.	eBay, digital cameras (6477)
21 Fuchs, Höpken, Eybl, & Ulrich (2008)	GE	eBay, accommodation packages (234)
22 Gilkeson & Reynolds (2003)	U.S.	eBay, silver flatware (1842)
23 Grund & Gürtler (2008)	GE	eBay, movie DVDs (313)
24 Highfill & O'Brien (2007)	U.S.	eBay, art items (302)
25 Highfill & O'Brien (2008)	U.S.	eBay, baseball cards (472)
26 Hou (2007a)	U.S.	eBay, CPUs (509)
27 Hou (2007b)	U.S.	eBay, CPUs (509), Morgan Silver Dollars (1074)
28 Hou (2007c)	U.S.	eBay, Morgan Silver Dollars (1074)
29 Houser & Wooders (2006)	U.S.	eBay, CPUs (95)
30 Jin & Kato (2006)	U.S.	eBay, trading cards (778)
31 Kauffmann & Wood (2006)	U.S.	eBay, coins (750)
32 Lawson (2002)	U.S.	eBay, pottery (221)
33 Lee, Im, & Lee (2006)	U.S.	eBay, printer (260), monitors (171)
34 Li, Srinivasan, & Sun (2006)	U.S.	eBay, painting, silver plate (total 592)
35 Livingston (2005)	U.S.	eBay, golf clubs (615)
36 Lucking-Reiley, Bryan, Prasad, & Reeves (2007)	U.S.	eBay, coins (461)

Table 8: The Effects of Reputation on Auction Prices (cont'd)

Study	Country	Sample
37 McDonald & Slawson (2002)	U.S.	eBay, Barbie dolls (460)
38 Melnik & Alm (2002)	U.S.	eBay, gold coins (450)
39 Melnik & Alm (2005)	U.S.	eBay, silver coins (3828)
40 Mink & Seifert (2006)	DE	eBay, perfume (1274)
41 Ockenfels (2003)	U.S.	Half.com, CDs (255)
42 Ottaway, Bruneau, & Evans (2003)	U.S.	eBay, coins (128)
43 Park & Bradlow (2005)	KR	eBay, notebooks (2618)
44 Pavlou & Dimoka (2006)	U.S.	eBay, iPod, DVDs, CDs, palm pilot, digital camera, camcorder, DVD player, monitor (total 420)
45 Resnick & Zeckhauser (2002)	U.S.	eBay, Beanie Babies (151)
46 Resnick, Zeckhauser, Swanson, & Lockwood (2006)	U.S.	eBay, postcards (198)
47 Sena, Heath, & Webb (2005)	U.S.	eBay, DVDs (172), watches (117)
48 Sena & Braun (2006)	U.S.	eBay, cars (126)
49 Simonsohn & Ariely (2008)	U.S.	eBay, DVDs (8056)
50 Song & Baker (2007)	U.S.	eBay, DVDs (378), MP3 player (412)
51 Standifird (2001)	U.S.	eBay, PDAs (102)
52 Standifird & Weinstein (2007)	U.S.	eBay, Morgan Silver Dollars (761)
53 Sun & Liu (2009)	TW	Yahoo! Kimo auctions, Apple iPod (466)
54 Wan & Teo (2005)	U.S.	eBay, Lincoln Cents (851), Buffalo Nickels (379)
55 Zeithammer (2006)	U.S.	eBay, DVDs (3113), MP3 players low price (1654), MP3 players high price (2451)
56 Zhang (2006)	U.S.	eBay, iPod (1768)
57 Zhou, Dresner, & Windle (2009)	U.S.	eBay, digital cameras (1025)

Note: The studies are presented in alphabetical order. Sample sizes are presented in parentheses. "CH" denotes Switzerland. "KR" denotes South Korea. "TW" denotes Taiwan.

Only 10 of the 57 studies collected data outside the U.S. Three studies collected a non-eBay data set. The studies' sample sizes vary between 82 and 350,000. Moreover, the studies utilize a diverse set of products, including both homogeneous (unused) and heterogeneous (used) items. Table 9 presents a summary of signed relationships between the independent variables and the auction price.

Table 9: Determinants of Auction Prices

Independent Variable	Study	No. of studies	No. of data sets	+	-	ns	Sign test
Accessories	Anderson, Friedman, Milam, & Singh (2008); Diekmann & Wyder (2002); Zhang (2006); Zhou, Dresner, & Windle (2009)	4	4	3	0	1	ns
Buy-it-now	Anderson, Friedman, Milam, & Singh (2008); Chan, Kadiyali, & Park (2007); Baker & Song (2008); Dimoka & Pavlou (2006); Durham, Roelofs, & Standifird (2004); Highfill & O'Brien (2008); Li, Srinivasan, & Sun (2009); Mink & Seifert (2006); Park & Bradlow (2005); Standifird & Weinstein (2007); Song & Baker (2007)	11	12	5	1	6	ns
Buyer experience	Dewan & Hsu (2004); Durham, Roelofs, & Standifird (2004); Erlenkämper (2005); Gilkeson & Reynolds (2003); Lawson (2002); McDonald & Slawson (2002); Sena & Braun (2006); Simonsohn & Ariely (2008)	8	9	1	3	5	ns
Certification	Dewally & Ederington (2006); Eaton (2005); Hou (2007b); Hou (2007c); Melnik & Alm (2005)	5	5	4	1	0	ns
Competition	Berger & Schmitt (2005); Brint (2003); Chan, Kadiyali, & Park (2007); Erlenkämper (2005); Kauffmann & Wood (2006); Livingston (2005); Sun & Liu (2009); Zeithammer (2006)	8	17	4	7	6	ns
Credit card	Bland & Barret (2004); Eaton (2005); Gilkeson & Reynolds (2003); Houser & Wooders (2006); Kauffmann & Wood (2006); Livingston (2005); Melnik & Alm (2002); Melnik & Alm (2005); Zhou, Dresner, & Windle (2009)	9	9	2	0	7	ns
Damage	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Gilkeson & Reynolds (2003)	3	3	0	3	0	ns
Dealer	Andrews & Benzing (2007); Jin & Kato (2006); Sena & Braun (2006); Simonsohn & Ariely (2008)	4	4	2	0	2	ns
Description	Anderson, Friedman, Milam, & Singh (2008); Erlenkämper (2005); Kauffmann & Wood (2006); Sena, Heath & Webb (2005)	4	5	4	1	0	ns
Duration	Anderson, Friedman, Milam, & Singh (2008); Ariely & Simonson (2003); Baker & Song (2008); Brint (2003); Dewan & Hsu (2004); Diekmann & Wyder (2002); Gilkeson & Reynolds (2003); Highfill & O'Brien (2007); Hou (2007a); Hou (2007b); Hou (2007c); Kauffmann & Wood (2006); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Melnik & Alm (2002); Mink & Seifert (2006); Park & Bradlow (2005); Song & Baker (2007); Standifird (2001); Sun & Liu (2009); Wan & Teo (2005); Zhang (2006); Zhou, Dresner, & Windle (2009)	22	26	9	5	12	ns

Table 9: Determinants of Auction Prices (cont'd)

Independent Variable	Study	No. of studies	No. of data sets	+	-	ns	Sign test
Feedback rating	Andrews & Benzing (2007); Ariely & Simonson (2003); Bajari & Hortaçsu (2003); Brint (2003); Bruce, Haruvy, & Rao (2004); Chan, Kadiyali, & Park (2007); Dewally & Ederington (2006); Dewan & Hsu (2004); Diekmann & Wyder (2002); Durham, Roelofs, & Standifird (2004); Eaton (2005); Flanagan (2007); Gilkeson & Reynolds (2003); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Houser & Wooders (2006); Jin & Kato (2005); Kauffmann & Wood (2006); Lawson (2002); Li, Srinivasan, & Sun (2009); McDonald & Slawson (2002); Melnik & Alm (2002); Melnik & Alm (2005); Mink & Seifert (2006); Ottaway, Bruneau, & Evans (2003); Ockenfels (2003); Pavlou & Dimoka (2006); Resnick, Zeckhauser, Swanson, & Lockwood (2006); Sena & Braun (2006); Sena, Heath, & Webb (2005); Simonsohn & Ariely (2008); Sun & Liu (2009); Wan & Teo (2005); Zeithammer (2006); Zhou, Dresner, & Windle (2009)	35	41	22	1	18	ns
Feedback ratio	Anderson, Friedman, Milam, & Singh (2008); Grund & Gürtler (2008); Kauffmann & Wood (2006); Lee, Im, & Lee (2006); McDonald & Slawson (2002)	5	5	0	2	3	ns
Guarantee	Hou (2007b); Lawson (2002); Li, Srinivasan, & Sun (2009)	3	4	1	1	2	ns
Market price	Brint (2003); Dewan & Hsu (2004); Erlenkämper (2005); Highfill & O'Brien (2008); Hou (2007a); Hou (2007b); Houser & Wooders (2006); Lawson (2002); Livingston (2005); Melnik & Alm (2005); Ottaway, Bruneau, & Evans (2003); Sena & Braun (2006)	12	15	11	1	3	+ [†]
Negative rating	Anderson, Friedman, Milam, & Singh (2008); Ba & Pavlou (2002); Bajari & Hortaçsu (2003); Baker & Song (2008); Berger & Schmitt (2005); Bland & Barret (2004); Chan, Kadiyali, & Park (2007); Dewally & Ederington (2006); Durham, Roelofs, & Standifird (2004); Eaton (2005); Erlenkämper (2005); Grund & Gürtler (2008); Hou (2007a); Hou (2007c); Houser & Wooders (2006); Jin & Kato (2006); Lawson (2002); Lee, Im, & Lee (2006); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Melnik & Alm (2002); Melnik & Alm (2005); Park & Bradlow (2005); Pavlou & Dimoka (2006); Resnick & Zeckhauser (2002); Song & Baker (2007); Standifird (2001); Standifird & Weinstein (2007); Sun & Liu (2009); Zhang (2006); Zhou, Dresner, & Windle (2009)	30	53	1	25	27	ns
New item	Anderson, Friedman, Milam, & Singh (2008); Bland & Barret (2004); Hou (2007a); Hou (2007b); Hou (2007c); Livingston (2005); Simonsohn & Ariely (2008); Zeithammer (2006)	8	9	8	0	1	+*

Table 9: Determinants of Auction Prices (cont'd)

Independent Variable	Study	No. of studies	No. of data sets	+	-	ns	Sign test
Number of bidders	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Hou (2007b); Hou (2007c); Kauffmann & Wood (2006); Wan & Teo (2005)	6	8	6	1	1	ns
Number of bids	Anderson, Friedman, Milam, & Singh (2008); Ariely & Simonson (2003); Berger & Schmitt (2005); Chan, Kadiyali, & Park (2007); Dewan & Hsu (2004); Diekmann & Wyder (2002); Dimoka & Pavlou (2006); Erlenkämper (2005); Fuchs, Höpken, Eybl, & Ulrich (2008); Gilkeson & Reynolds (2003); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Hou (2007a); Lawson (2002); McDonald & Slawson (2002); Pavlou & Dimoka (2006); Sena & Braun (2006); Song & Baker (2007); Standifird (2001); Sun & Liu (2009); Zhang (2006)	21	24	15	1	8	ns
Number of pictures	Andrews & Benzing (2007); Baker & Song (2008); Eaton (2005); Erlenkämper (2005); Li, Srinivasan, & Sun (2009); Sena & Braun (2006); Song & Baker (2007)	7	10	5	3	2	ns
PayPal	Berger & Schmitt (2005); Eaton (2005); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Li, Srinivasan, & Sun (2009); Melnik & Alm (2002); Standifird & Weinstein (2007); Zhang (2006)	8	10	2	3	5	ns
Picture	Anderson, Friedman, Milam, & Singh (2008); Kauffmann & Wood (2006); Melnik & Alm (2002); Melnik & Alm (2005); Ottaway, Bruneau, & Evans (2003); Park & Bradlow (2005); Standifird & Weinstein (2007); Zeithammer (2006)	8	8	4	0	4	ns
Positive rating	Andrews & Benzing (2007); Ba & Pavlou (2002); Baker & Song (2008); Berger & Schmitt (2005); Bland & Barret (2004); Chan, Kadiyali, & Park (2007); Dimoka & Pavlou (2006); Hou (2007a); Hou (2007b); Hou (2007c); Livingston (2005); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Park & Bradlow (2005); Pavlou & Dimoka (2006); Resnick & Zeckhauser (2002); Song & Baker (2007); Standifird (2001); Standifird & Weinstein (2007); Zhang (2006); Zhou, Dresner, & Windle (2009)	20	43	33	0	10	***
Reserve price	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Bland & Barret (2004); Brint (2003); Dewally & Ederington (2006); Dewan & Hsu (2004); Dimoka & Pavlou (2006); Gilkeson & Reynolds (2003); Hou (2007a); Hou (2007b); Li, Srinivasan, & Sun (2009); Livingston (2005); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Standifird (2001); Standifird & Weinstein (2007); Zhang (2006)	16	18	8	3	7	ns

Table 9: Determinants of Auction Prices (cont'd)

Independent Variable	Study	No. of studies	No. of data sets	+	-	ns	Sign Test
Shipping costs	Baker & Song (2008); Diekmann & Wyder (2002); Durham, Roelofs, & Standifird (2004); Gilkeson & Reynolds (2003); Grund & Gürtler (2008); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Hou (2007a); Melnik & Alm (2002); Mink & Seifert (2006); Simonsohn & Ariely (2008); Song & Baker (2007); Standifird & Weinstein (2007); Zhang (2006)	14	18	1	12	5	ns
Start price	Anderson, Friedman, Milam, & Singh (2008); Ariely & Simonson (2003); Bajari & Hortaçsu (2003); Baker & Song (2008); Berger & Schmitt (2005); Bland & Barret (2004); Brint (2003); Dewan & Hsu (2004); Diekmann & Wyder (2002); Dimoka & Pavlou (2006); Erlenkämper (2005); Fuchs, Höpken, Eybl, & Ulrich (2008); Gilkeson & Reynolds (2003); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Hou (2007a); Hou (2007b); Hou (2007c); Kauffmann & Wood (2006); Li, Srinivasan, & Sun (2009); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Mink & Seifert (2006); Park & Bradlow (2005); Simonsohn & Ariely (2008); Song & Baker (2007); Standifird (2001); Sun & Liu (2009); Wan & Teo (2005); Zhang (2006)	29	37	29	1	7	***
Used item	Bland & Barret (2004); Bruce, Haruvy, & Rao (2004); Houser & Wooders (2006); Livingston (2005); Zhou, Dresner, & Windle (2009)	5	8	0	5	3	ns
Warranty	Andrews & Benzing (2007); Dewally & Ederington (2006); Dimoka & Pavlou (2006); Zhou, Dresner, & Windle (2009)	4	4	2	0	2	ns
Weekend	Bland & Barret (2004); Dewan & Hsu (2004); Grund & Gürtler (2008); Dimoka & Pavlou (2006); Hou (2007a); Hou (2007b); Hou (2007c); Kauffmann & Wood (2006); Livingston (2005); Melnik & Alm (2002); Standifird (2001); Sun & Liu (2009); Wan & Teo (2005)	13	14	3	4	7	ns

Note: Variables are in alphabetical order. "+" denotes a positive effect, "-" denotes a negative effect, and "ns" denotes an effect that was not significant. [†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Across the 28 independent variables four variables have significantly more positive relations to the auction price and no variable has significantly more negative relations. Findings from the studied relations include:

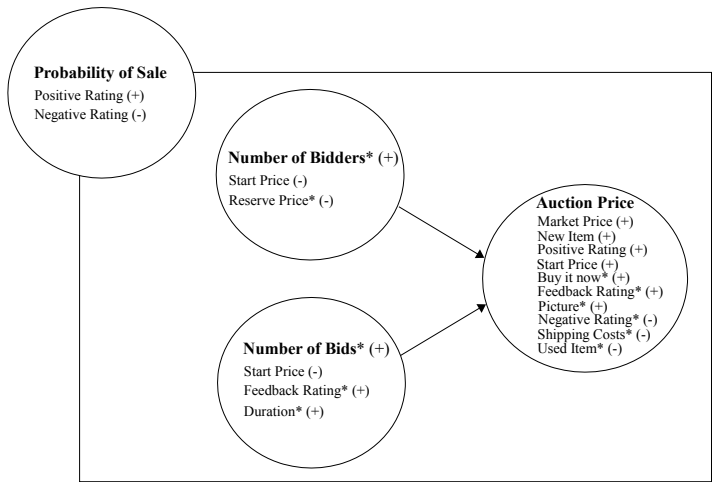
- *Market price* was addressed in 12 studies/15 data sets, 11 tests showed a positive effect
- *New item* was addressed in 8 studies/9 data sets, 8 tests showed a positive effect
- *Positive rating* was addressed in 20 studies/43 data sets, 33 tests showed a positive effect
- *Start price* was addressed in 29 studies/37 data sets, 29 tests showed a positive effect

When a less conservative sign test was applied, including only significant positive and negative effects, eight more variables showed significant influence:

- *Buy it now* was addressed in 11 studies/12 data sets, 5 tests showed a positive effect
- *Feedback rating* was addressed in 35 studies/41 data sets, 22 tests showed a positive effect
- *Number of bidders* was addressed in 6 studies/8 data sets, 6 tests showed a positive effect
- *Number of bids* was addressed in 21 studies/24 data sets, 15 tests showed a positive effect
- *Pictures* was addressed in 8 studies/8 data sets, 4 tests showed a positive effect
- *Negative ratings* was addressed in 30 studies/53 data sets, 25 tests showed a positive effect
- *Shipping costs* was addressed in 14 studies/18 data sets, 12 tests showed a positive effect
- *Used item* was addressed in 5 studies/8 data sets, 5 tests showed a positive effect

Figure 8 shows a pictorial summary of the results of the meta-analysis for all four auction outcomes.

Figure 8: Summary of Meta-Analysis Results



Note: Independent variables labeled with “*” are significant when applying the less conservative test procedure.

The results of the meta-analysis show that seller reputation affects the probability of sale and the auction price in particular. Positive and negative ratings affect the probability of sale. Auction outcomes for all auctions that resulted in a sale include the number of bids, the number of bidders, and the auction price. The results show that higher start prices have a negative effect on the number of bidders and the number of bids. Furthermore, the results show that the number of bidders and the number of bids positively affect the auction price. In this way, the

independent variables that have an effect on the number of bidders and the number of bids also indirectly affect the auction price. Auction prices are determined by the condition of the item (used vs. unused), the market price, whether or not a picture was posted, and the shipping and handling charges. Auctions are positively influenced by buy-it-now prices and start prices. This finding suggests that both have an anchoring effect and function as a reference price. Overall, this meta-analysis of single-country studies, examining the relation between seller reputation and online auction outcomes, provides empirical support for the effect of reputation on bidders' behavior in online auction markets.

2.1.5 Reputation Effects in Online Auctions – Summary and Hypotheses

Taking all theoretical aspects and empirical findings outlined above into consideration, more reputable sellers signal a higher chance of a successful transaction in the future through their reputation of cooperative behavior in the past. Potential bidders integrate this information into the valuation of the item being auctioned, which then increases their willingness to bid and pay for an item, and therefore, results in a higher probability of sale, a higher number of bidders, and finally in higher auction prices. Thus, theory and empirical evidence suggest the following set of hypotheses:

Hypothesis 1a. More (less) reputable sellers will achieve a higher (lower) probability of sale.

Hypothesis 1b. More (less) reputable sellers will attract a higher (lower) number of bidders.

Hypothesis 1c. More (less) reputable sellers will achieve higher (lower) prices.

2.2 The Influence of Institutional Frameworks on Reputation Effects in Online Auctions

With online auction marketplaces in 30 countries, eBay has a global customer base of more than 83 million active registered individuals (eBay, 2009a). Following the arguments outlined in Section 2.1.3, countries' institutional frameworks influence individuals' preferences. The countries in which eBay operates national marketplaces in North America, Europe, and the Asian-Pacific region are diverse in their institutional frameworks. As a result, individuals' preferences in the countries are influenced by different national institutional frameworks. From a theoretical perspective, the differences in individuals' preferences influence individu-

als' economic decisions that result in country-specific economic outcomes (Guiso, Sapienza, & Zingales, 2006).

Several theoretical approaches in the literature of NIE turn to a more non-individualistic view to draw insight on the influence of institutions on cognition. In his seminal work, North (1990) argues that informal institutions represent norms and values that "... come from socially transmitted information and are part of the heritage that we call culture" and that "... culture defines the way individuals process and utilize information."²⁴ In a similar way Denzau and North (1994) suggest that "mental models" are culturally shared and have influences on the way individuals learn from experience as well as on the way they communicate.²⁵ In Denzau's and North's approach, institutions influence individuals' perceptions by shared mental models that are passed from one generation to the next. Hutchins (1995) and Knight (1997) argue along these lines and add that beside culture the particular situation also influences the process of individuals' cognitions. Moreover, Knight (1997) suggests that it is important to understand the process of cognition to understand the relation between institutions and culture. Streit, Mummert, and Kiwit (1997) suggest that individuals have "cognitive models" of their environment and these cognitive models influence the way in which information is perceived.²⁶ Institutions have an influence on individuals' perceptions through cognitive models which, in return, are influenced by the process of socialization.²⁷ From an institutional perspective, therefore, individuals' economic behavior is embedded in their particular institutional framework, influencing individuals' preferences and cognitions (Dequech, 2003; Hutchins, 1995; Williamson, 1996). The institutional framework consists of formal and informal institutions.²⁸ The formal institutions refer to laws, regulations, and policies of a country. The informal institutions refer to cultural beliefs, norms, and values that are shared by most individuals in a society. As described above, from a theoretical perspective, formal and informal institutions influence individual cognitions, preferences, and behaviors through the process of socialization. Given the different formal and informal institutional settings in different countries, individuals socialized by one institutional framework, process cognitions related to uncertainty in online markets differently than individuals socialized by another institutional framework (Weber & Hsee, 1998). Trust and Reputation are context-dependent (O'Donovan, Evrim, Smyth, McLeod, & Nixon, 2006; Mui, Halberstadt, & Mohtashemi, 2002). The national culture and the national legal framework are contextual factors that affect the perception of reputation and the formation of consumers' trust. Bidders in different national online auction markets are influenced by different contextual factors. The next two sections describe

²⁴ North (1990), pp. 37, 42.

²⁵ Denzau & North (1994), p. 4.

²⁶ See Streit, Mummert, & Kiwit (1997), pp. 688-689.

²⁷ See Streit, Mummert, & Kiwit (1997), p. 688.

²⁸ See North (1990), p. 36, and Wolff (2005), p. 111-113.

the formal and informal institutional factors that influence bidders in the countries that are examined in the empirical studies.

2.2.1 The Formal Institutional Framework

The following section provides an overview of the respective national laws and regulations that apply to transaction partners in online auctions in France, Germany, the UK, and the U.S. at the time the data samples used in the empirical studies were collected (2006 and 2007). To evaluate and compare the different national regulatory frameworks, first, the legal classification of online auctions in the various countries is described. Second, it is examined which laws are applicable to disputes between buyers and sellers in the various countries. Finally, the results for the different countries are compared and consequences of similarities and differences are discussed.

France

Although the EU has implemented minimum standards through the Distance Contracts (Selling) Directive, EU member states, such as France, are encouraged to legislate consumer protection in electronic commerce which is more stringent than minimally required by the EU. The EU's policy of permitting member states to independently grant electronic commerce consumers more rights balances the EU's simplified minimum standard approach. The question whether an eBay transaction is an auction in the traditional sense or a contract through the means of an Internet auction has important consequences for consumer protection. The European Commission directive itself does not offer any guidance on the interpretation of the term auction. It only contains a general exemption for "contracts concluded at an auction" (Art. 3(1) of the Directive) and allows member states to "introduce or maintain [...] more stringent provisions compatible with the treaty, to ensure a higher level of consumer protection" (Art. 14 of the Directive). In France, the Voluntary Public Auctions and Auction Brokerage Act creates article L 321-3 of the Commercial Code and distinguishes between traditional public auctions and online auctions. While public auctions are excluded from the Distance Contracts (Selling) Directive, eBay type auctions are included. Therefore, online auction consumers are protected through the Code de Commerce. In particular article L121 specifies consumer's rights in detail. One of the main challenges for consumers is to evaluate whether or not the seller is a professional seller or a private seller. As different laws apply to business sellers compared to private sellers and consumers are more protected when dealing with business sellers, consumers have the burden to prove that the seller is a business seller. Given the anonymity on eBay's marketplace, it is difficult for consumers to make a determination of seller's legal classification.

Germany

As a member of the EU Germany implemented the Distance Contracts (Selling) Directive of the European Commission as well. As in France, in Germany it has important consequences for consumer protection whether laws that regulate traditional auctions also regulate eBay auctions. German regulations offer limited consumer protection in traditional auctions. Section 312d(4) No. 5 of the German Civil Code (*Bürgerliches Gesetzbuch*, hereafter BGB) provides that “subject to any provision to the contrary, the right of revocation does not apply to distance selling contracts [...] that are concluded by way of auction (§ 156).” Section 156 BGB, to which Section 312d (4) BGB refers, is only applicable to traditional auctions where an auctioneer actually declares acceptance of the highest bid. According to the German Federal Court of Justice (*Bundesgerichtshof*, hereafter BGH), distance selling contracts that are concluded by means of an Internet auction, do not refer to the scheme of Section 156 BGB (Spindler, 2005). Under German administrative law such traditional auctions require individual authorization. As a result, under German law eBay transactions are not regarded as auctions within the meaning of Section 156 BGB. The BGH qualifies the highest bid within the prescribed period of time as the contractual acceptance of the seller’s binding offer that is automatically concluded after the end of the auction without the requirement of any acceptance of the bid declared by the auctioneer. Therefore, commercial sellers on eBay’s German site are subject to the rules imposed by the European Union Directive on Distance Selling which gives consumers, shopping for goods and services by telephone, mail order, fax, television, the internet, and other types of distance communication, rights to clear information and grants a cancellation period. In Germany, it is enforced in the form of the Remote-Purchase Law (*Fernabsatzrecht*), including the customer’s right to return goods without reason within two weeks. The Remote Purchase Law applies to sales by commercial sellers on eBay. The ruling does not apply to sales between businesses or between private sellers and private buyers. There is great uncertainty about the criteria for sellers to be qualified as businesses sellers or private sellers (Spindler, 2005). Section 14 BGB, which defines the term “business”, requires a continuous and non-gratuitous activity. Thus, a large number of Internet auction sellers could be qualified as business sellers. As a result, bidders face the problem to identify whether or not sellers fulfill these criteria. Crucial for this issue is the burden of proof in a civil proceeding. As the fact that the other party is a business person is favorable to the consumer, it is up to the consumer to prove this fact. Many eBay members sell regularly rather than sporadically. Those sellers may lose their legal classification as private sellers and will in fact be sellers who are not aware of their change in status and will not consider themselves to be business sellers (Wiig, 2007). As a result, it is hardly conceivable for bidders whether their transaction partner is a private seller or a business seller. If the seller is a business seller Sections 312 and 355 BGB apply, including the right of revocation. In the case of a defective good Sections 437 and 474 BGB apply. Section 437 BGB contains a catalogue of remedies, available to any purchaser of a defective item, and defines the legal consequences of a seller’s

breach of obligations to deliver items in conformity with the contract. Section 437 No. 1 BGB provides the right to cure, which is the primary remedy. In case this right cannot be exercised, the purchaser either has a right of reduction of the price or rescission of the contract (Section 437 No. 2 BGB). Additionally, the buyer usually has the right to claim for damages or futile expenditure (Section 437 No. 3 BGB). Private sellers can make use of a limitation of liability clause in the item description to avoid liability in terms of Section 437 BGB. If the seller is using the same limitation of liability clause in several auctions, the clause can be seen as General Business Terms (*Allgemeine Geschäftsbedingungen*) that, in most cases, do not fulfill Section 309 No. 7 BGB as a general limitation of liability clause and therefore do not apply. Table 10 presents an overview of the different liability periods.

Table 10: Liability Periods in Germany

	With limitation of liability clause		Without limitation of liability clause	
	new item	used item	new item	used item
	Standardized clause	Auction specific clause		
Private seller	Min. 1 year	0 - 2 years	2 years	2 years
Business seller	2 years	Min. 1 year	2 years	2 years

United Kingdom

As a member of the EU the UK implemented the Consumer Distance Contracts (Selling) Directive as well. Since there is no definition what constitutes an auction in the traditional sense in the UK, it is not determined whether online auctions are to be considered as traditional auctions. Moreover, no position regarding the status of online auctions has been adopted by means of case law. As a result, the legal status of marketplaces such as eBay remains uncertain in the UK. As the Unfair Contract Terms Act 1977 states that on a sale by auction the buyer is not to be regarded as a consumer, the traditional English law of auctions does not afford specific protection to consumers (Riefa, 2008). Therefore, it has important consequences whether eBay auctions are traditional auctions. While consumer protection is not available to buyers in traditional auctions, it is available to buyers in Internet auctions by means of the Unfair Contract Terms Act 1977 and the Consumer Protection (Distance Selling) Regulations 2000. The Consumer Protection (Distance Selling) Regulations 2000 as well as the Electronic Commerce (EC Directive) Regulations 2002 provide the legal framework applicable to electronic commerce in the UK. Consumer Protection (Distance Selling) Regulations 2000 are only applicable to businesses selling goods or services to consumers. In eBay transactions where consumers are trading with consumers these regulations do not apply and consumer protection is based on laws designed for traditional transactions (Gu, 2007). In the UK, business sellers and private sellers are differentiated by means of three criteria, namely principally, regularity, and profit (Riefa, 2008). All three criteria are not clearly defined and, therefore, the legal classification of business sellers and private sellers is on a case-by-case basis (Riefa, 2008). As a

result, prospective bidders may not always know with certainty the legal status of the online auction seller. Compared to France and Germany, bidders in the UK bidding on an item in an eBay auction have to uncover the true legal nature of the transaction through the evaluation of the seller's legal classification.

United States

In the U.S., a distinction between traditional auctions and eBay type online auctions is made on state level. Many states require a license to deal as an auctioneer but some states have adopted legislation to exclude online auctions from this obligation (Riefa, 2008). Intermediaries such as eBay fall under the classification of an auction mediation company and are excluded from the scope of traditional auctions. As different legislations occur in different states, consumers in the U.S. face a higher amount of uncertainty, compared to France and Germany. In several cases Article 2 of the Uniform Commercial Code was applied to contracts in online auctions. In Article 2, warranties provide the protective covering for transactions. The promise that the item sold will be as promised and described is underlying any warranty. The warranty is the consumer's protection that the buyer is assured of when the transaction is made. The buyer's protection is premised on the buyer's information that the seller has a certain level of knowledge and expertise, which are the foundational elements of Article 2's warranties. Knowledge and expertise are not necessarily present in all online auction transactions. As in France, Germany, and the UK, the distinction between business sellers and private sellers, which sell items to consumers in online auction marketplaces, have serious consequences for consumer protection. In the case of a business seller, the buyer can be assured that the seller has expertise in, and knowledge of, the item sold (Wiig, 2007). Therefore, a buyer has certain expectations with regard to the transaction that go beyond any representations the seller makes with respect to the item for auction. The seller would be classified as a merchant and therefore gives the implied warranty of merchantability, which provides the protective covering for such a transaction (Wiig, 2007). The implied warranty within a sales contract is an implicit promise that the item meets certain minimum-quality standards. In case of a dispute, the buyer has the added protection of the implied warranty and the fullness of Article 2's protections. If the seller is a private seller, the buyer has little assurance, other than what is described in the auction listing regarding the item. Therefore, a prospective bidder would have limited justifiable expectations with regard to the transaction beyond what was described. In this case, the seller would not be classified as a merchant and the implied warranty is therefore inapplicable. In an eBay auction, business and private sellers generally use a picture of the item for auction along with a description. The information a seller provides in this way amounts to an express warranty. If the item for auction does not meet these express representations, the express warranty will thus breach and the buyer has a remedy. If the buyer is dealing with a private seller, only the express warranty will be available as a consumer protection. In cases of dispute, the buyer is subject to the doctrine of *caveat emptor* (limited

liability). In summary, whether an implied or express warranty applies depends on the legal classification of the seller. Therefore, Article 2 warranties, which are originally devised for face-to-face transactions, do not in any transaction offer sufficient consumer protection.

Comparing the legal framework of the four countries, two main similarities are observable. First, at the time of the data collection eBay had no liability or a limited liability for the content of the auctions conducted on the marketplace in all four countries. As a result, in cases of dispute, consumers are not protected through the liability of the marketplace for the information hosted on its site. The second similarity in all four countries is that consumers have the burden to evaluate whether a seller is a professional business seller or an unprofessional private seller. Online auction marketplaces have evolved from consumer-to-consumer transactions, where individuals would buy and sell items, and where consumer protection law is not applicable to markets where entrepreneurs and firms sell their products to consumers and other businesses. Given the anonymity on eBay's marketplace and sellers that do not signal their legal classification either on purpose or because of a lack of knowledge concerning their legal status, it is difficult for consumers to make a determination as to whether or not the potential transaction partner is a business seller or a private seller.

Several differences between the countries can be found in the laws and regulations that are applying to online auctions. First, comparing the laws and regulations of the three EU members France, Germany, and the UK with those applied in the U.S., it can be found that the EU electronic commerce consumer policy differs from that of the U.S. The EU's flexible approach relies heavily on directives and regulations. Although the EU has implemented minimum standards, member states are encouraged to legislate consumer protection in electronic commerce that is more stringent than the EU's simplified minimum standard approach. The result is that EU states have applied their domestic laws to the area of online commerce. The U.S. electronic commerce consumer policy favors business efficiency, flexibility, and practicalities (Cólon-Fung, 2007). As a result, the U.S. consumer protection laws are ill-equipped to handle disputes in online consumers-to-consumer transactions. As a consequence of different domestic laws in France, Germany, and the UK, differences in the level of consumer protection are observable as well. The right of revocation in Germany seems to be a strong protection of the consumer. However, the spatial separation and the anonymity of transaction partners on eBay make the evaluation of the type of transaction (auction of a used item vs. unused item) and the type of seller (business seller vs. private seller) rather difficult. The legal framework in the UK and the U.S. do not provide prospective bidders and buyers with assistance. In the UK and the U.S., consumers' rights are left to chance until the contract is concluded. As a result, buyers that are victims of fraud have to rely on the insurance mechanisms offered by eBay's Buyer Protection, eBay's payment system PayPal, or by their credit card company (Riefa, 2008). PayPal protection only applies to sales where goods are not delivered

or goods are significantly not as described, compared to the auction description. Furthermore, several conditions that apply to the seller, buyer, and the type of auction listing need to be fulfilled to be covered by PayPal. To benefit from protection, e.g., the seller needs to have a verified, premier, or business account and a feedback score of at least 50, and at least 98% positive feedbacks. The consumer must ensure to follow the PayPal dispute resolution process by filing a dispute within 45 days of the date of the payment. This can be difficult, as many fraudulent or unreliable sellers will stay in touch for this period of time and consumers will realize that the sale was fraudulent only after the 45 days have expired.

Another difference is the reaction of consumers to disputes. Using a survey of a representative sample of online consumers (2,500 individuals per country) in Germany and the UK, Mentrup, Robinson, and Gareis (2007) investigated what kind of action consumers would take in case they feel unfairly treated by a seller in an online transaction. Their results show that the most preferred form of action varies between Germany and the UK. This applies in particular to the options of consulting a lawyer (Germany: 38%, UK: 6%), compared to the options of online dispute resolution (Germany: 9%, UK: 26%) and contacting the marketplace (Germany: 24%, UK: 36%). A survey of 1,119 online auction consumers in the U.S. shows that only 2% consulted a lawyer. Furthermore, 42% reported the incident directly to eBay authorities, 31% used eBay's Dispute Console, and 23% used the PayPal complaint form (Consumer Reports WebWatch, 2008).

Research shows that the costs of legal action often clearly exceed the economic damage to consumers and that the judicial enforcement of consumer rights is time-consuming. Using a sample of 400 online auction consumers in the UK, Edwards and Theunissen (2006) examined why some consumers with problematic transactions, choose not to participate in any dispute resolution process. Their results show that 25% of users with problems did not to use any dispute resolution mechanism, such as eBay's complaint forum. Of these users 51.9% resolved their disputes by contacting the other party directly without the help of eBay, around 20% thought that the costs for the resolution of the dispute were higher than the value of the item in question, and around 20% answered that they did not know that such processes existed. Only a very few chose to turn to legal advice or to institutions outside eBay such as police, credit card companies, or courts. In a sample of U.S. auctions, Resnick et al. (2006) show that the median selling price for an item on eBay was less than U.S. \$15. This excludes litigation as a viable option of contract enforcement for most items sold on eBay, as the costs of litigation would normally exceed the price of an item.

Compared to defrauded consumers in traditional markets, defrauded online auction participants face a lack of meaningful consumer protection as a consequence of missing specific and appropriate laws and regulations as well as the lack of effective enforcement of existing laws

and regulation (Albert, 2002; Gu, 2007). Given the relatively low monetary value of an item in an average online auction and the enforcement costs and time associated with pursuing a fraud claim, defrauded online auction participants have an incentive not to force the issue (Albert, 2002; González, 2003). Thereby, two main elements that constitute to an effective legal framework, namely legal certainty and access to justice, are to some extent limited in the existing national legal and regulatory frameworks, related to online auction transactions. When disputes arise in online auction markets, the application of laws is no simple operation and defrauded online auction participants have no easy access to redress mechanisms that provide a timely resolution at reasonable costs (Calliess, 2006).

While the rules and regulations on eBay's marketplace are the same in all countries, except for minor differences, the national legal frameworks differ rather substantially (González, 2003). In this way, potential bidders' uncertainty is not only related to the potential opportunistic behavior on the seller side, but also to the existing local legislation and the legal challenges that arise because of disputes in online auction transactions (González, 2003; Pavlou & Dimoka, 2006; Calkins, 2001). The legal framework influences levels of trust and reputation required in a transaction (Cheung & Lee, 2001; Bigley & Pearce, 1998; Fukuyama, 1995). The uncertainty about the legal enforcement in the existing regulatory framework, related to disputes on online auctions, varies across countries. Individuals need different levels of trust and trust premises. Online auction markets disclaim full legal liability and responsibility for fraudulent behavior, occurring on their sites (Albert, 2002; Calkins, 2001; Gu, 2007), and offer alternative dispute resolution mechanisms instead (Gu, 2006; Edwards & Theunissen, 2006). Both, the perceived effectiveness of the legal framework (Dequech, 2004; Dequech, 2006; Berggren & Jordahl, 2006) and the effectiveness of online dispute resolution (Rule & Friedberg, 2005), are positively associated with consumer trust and a reduction of fundamental uncertainty. This section provided an overview of the laws and regulations that affect bidders' preferences in online auctions. The next section describes the influence of cultural norms and values on bidders' preferences.

2.2.2 The Informal Institutional Framework

Cultural norms and values are the informal part of the national institutional framework (North, 1990, 1995). There are several definitions that provide to the understanding of culture. The following explanations will refer to Hofstede's (1991) definition. According to Hofstede (1991, p. 51), culture can be defined as the "... collective programming of the mind, which distinguishes the members of one category of people from another." Culture is acquired through the process of socialization by family, friends, school, religion, workplace, media, mentors, and many other sources. In this process, individuals' preferences are shaped, e.g., by culture's dominant values, collective activities, and role models. Therefore, culture is a con-

struct that is inherited rather than voluntarily accumulated by an individual.²⁹ Cultural values can be defined as "... broad tendencies to prefer a certain state of affairs over others."³⁰ Compared to the formal institutional framework, cultural norms and values change slowly but continuously.³¹ The variations of cultural norms and values across countries influence trust in several ways and should therefore be included in studies that are related to trust in electronic commerce (Gefen, Benbasat, & Pavlou, 2008; Gefen & Heart, 2006; Shankar, Urban, & Sultan, 2002). In electronic commerce, buyers perceive risk differently in different countries (Greenberg, Wong-On-Wing, & Lui, 2008). In the process of deciding whether and which seller a buyer should trust, the general degree of trust varies across countries (Doney, Cannon, & Mullen, 1998). Further, national culture influences the establishment of trust in online buyer-seller relationships (Lee & Turban, 2001; Jarvenpaa & Tractinsky, 1999; Mahmood, Bagchi, & Ford, 2004; Teo & Liu, 2007). In particular, cultural differences affect trust establishment through reputation, because the way in which trust is built, based on reputation, depends on cultural norms and values, resulting in variations across different countries (Grabner-Kräuter & Kaluscha, 2003; Jarvenpaa & Tractinsky, 1999; Yamagishi & Yamagishi, 1994). Therefore, from a theoretical perspective, culture may affect the formation of trust through reputation systems in online auction markets (Chong, 2003; Chong, Yang, & Wong, 2003).

In the last three decades, a number of studies identified and operationalized culture (e.g., Kluckhohn & Strodtbeck, 1961; Hall, 1976; Hofstede, 1980; Trompenaars, 1993; Schwartz, 1994; House et al., 2004). Studies in a variety of management research fields using these cultural dimensions have shown that national cultural values are related to national differences in individual's behaviors.³² Referring to the number of citations, Hofstede's (1980, 1991, and 2001) study has had the greatest impact in the last three decades (Smith, 2006). Based on a multi-country sample on work-related values, Hofstede (1991, 2001) proposes that cultures are comparable on five dimensions, common to all countries under study: individualism/collectivism, uncertainty avoidance, power distance, masculinity, and long term orientation.

Three empirical studies utilize one of Hofstede's (1991, 2001) cultural dimensions to predict the influence of intercultural value differences on bidder behavior in online auction markets. In particular, the dimension of uncertainty avoidance is used to predict cross-cultural differences in online auction bidders' behavior (Vishwanath, 2003; Robinson, 2006; Zhu, Leboulangier, & Li, 2009). The degree of uncertainty avoidance describes the extent to which a society tries to avoid uncertain situations by establishing more formal rules (Hofstede, 1991, 2001). The degree to which uncertainty is generally acceptable within a culture can differ

²⁹ See Becker (1996), p. 16.

³⁰ Hofstede (1980), p. 19.

³¹ See Williamson (2000), p. 597.

³² For an overview see, e.g., Kirkman, Lowe, and Gibson (2006) as well as Leidner and Kayworth (2006).

strongly among countries (Hofstede, 1991, 2001). Individuals from countries with a high degree of uncertainty avoidance have less tolerance and acceptance of uncertain situations and have a strong need for rules and regulations. Individuals from countries with a low degree of uncertainty avoidance have a greater tolerance and acceptance of uncertain situations and have less need for rules and regulations.

Hofstede's results have been criticized for various reasons: First, Hofstede's study assumes that individuals within a nation are as homogeneous as a whole. As most nations are groups of ethnic units, nations are not a proper unit of analysis as cultures are not necessarily bounded by national borders (Steel & Taras, 2009). Second, Hofstede's study assumes that culture is stable over time and therefore rather an environmental determinant than an environmental effect (Shenkar, 2001). Third, Hofstede's sample is limited to a single multinational corporation. Therefore, the results are not generalizable to all individuals within a culture (Javidan et al., 2006). Finally, Hofstede's study reduces culture to a four or five dimension conceptualization (McSweeney, 2002). In spite of criticism, a large number of empirical studies have favored Hofstede's dimensions and incorporated a single, several, or all dimensions as explanatory variables in their research framework (Steele & Taras, 2009). To explain the influence of cultural values on the effects of reputation in online auctions and to use a broader theoretical framework than Hofstede's uncertainty avoidance dimension, the approaches of Schwartz (1994), House et al. (2004), and Inglehart (1997) are shortly described in the following. All three studies include cultural dimensions or constructs related to Hofstede's uncertainty avoidance dimension. Comparable to Hofstede, Schwartz's (1994) human values approach measures the values of individuals in a sample, inferring cultural characteristics, based on the aggregation of these individual values. Schwartz identifies universal values and proposes seven national cultural domains, namely: intellectual autonomy, affective autonomy, conservatism, egalitarianism, hierarchy, harmony, and mastery. Steenkamp (2001) uses cluster analysis to compare the dimensions identified by Schwartz (1994) and Hofstede (2001). He finds high loadings for Hofstede's uncertainty avoidance dimension (.79) and Schwartz's harmony dimension (.57) and combines both dimensions in a country rating for a generalized uncertainty avoidance national-cultural dimension. According to Schwartz (1994), harmony represents an emphasis on accepting the world as it is and maintaining harmony is one way to handle uncertainty.

The Global Leadership and Organizational Behavior Effectiveness (GLOBE) Research Program is a cross-cultural research project, representing all major cultural regions in the world (House et al., 2004). The GLOBE study was conducted in 62 countries or regions. Survey questionnaires were developed and collected from more than 17,000 middle managers in 951 organizations. The main objectives of the GLOBE study are to examine the inter-relationships between societal culture, organizational culture, and organizational leadership. The GLOBE study

identified nine core dimensions of culture, namely performance orientation, future orientation, assertiveness, power distance, human orientation, institutional collectivism, in-group collectivism, uncertainty avoidance, and gender egalitarianism. In the GLOBE study, uncertainty avoidance is defined as "... the extent to which members of an organization or society strive to avoid uncertainty by reliance on social norms, rituals, and bureaucratic practices to alleviate the unpredictability of future events."³³ Besides the presented cultural values studies, also other related literature compared national values. Inglehart (1997) collected cross-country survey data, the World Values Survey, to investigate the relation between economic development and social and political change. These surveys provide time-series data from 1981-1984, 1990-1993, and 1995-1997. One of the variables measured in the World Values Survey is interpersonal trust. Inglehart and Baker (2000) show that trust is significantly correlated to religion as well as the political and economic system. Among others, religions as well as political and economic systems are determinants of cultural values. Therefore, culture not only affects the amount of uncertainty avoidance but also the level of interpersonal trust. The question used by Inglehart (1997) to assess the level of trust in a society is: "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?"³⁴ The trust score is the percentage of respondents in each nation replying "Most people can be trusted". As some society groups are oversampled in some countries in Inglehart's (1997) study, Knack and Keefer (1997) used a weight variable in computing country-level means of the trust score. Table 11 presents an overview of the results for the various uncertainty avoidance as well as trust measures for France, Germany, the UK, and the U.S.

Table 11: Uncertainty Avoidance and Interpersonal Trust

	Hofstede (2001) Uncertainty Avoidance Values	Steenkamp (2001) Uncertainty Avoidance Ratings	House et al. (2004) Uncertainty Avoidance Practice	Inglehart (1997) Interpersonal Trust Score	Knack & Keefer (1997) Trust Score
France	86	64	4.66	27	24.8
Germany	65	14	5.16 (East) 5.22 (West)	26 (East) 38 (West)	29.8
UK	35	-61	4.70	44	44.4
U.S.	46	-76	4.15	50	45.4
World Average	64	0	4.16	34	35.8

Note: The UK was not included in Steenkamp's (2001) study. The rating for the UK is the mean for the UK's respective cultural cluster, which includes the U.S., Australia, and New Zealand.

The uncertainty avoidance values for Hofstede's (2001) study show that Germany and France are above the world average. Moreover, both countries show a higher degree of uncertainty avoidance, compared to the UK and the U.S., both being below the world average. Steenkamp's (2001) generalized uncertainty avoidance dimension combines Schwartz's (1994) harmony dimension and Hofstede's (2001) uncertainty avoidance dimension. France's and

³³ House et al. (2002), p. 5.

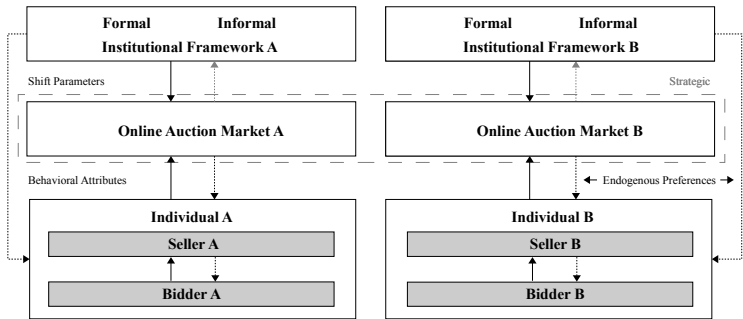
³⁴ See Inglehart (1997), p. 359.

Germany’s uncertainty avoidance rating is above the rating for the UK and the U.S. House et al.’s (2004) results show that the degree of uncertainty avoidance practice is higher in Germany, compared to the UK and the U.S. The degree of uncertainty avoidance practice is higher in France, compared to the U.S. The results of Inglehart (1997) as well as Knack and Keefer (1997) show that France and Germany are below the world average trust score and are lower than the UK and the U.S. trust score. In summary, the overview shows that all three presented studies show an equal variation in the degree of uncertainty avoidance for the four countries. While France and Germany have a high degree of uncertainty avoidance, the UK and the U.S. have a low degree of uncertainty avoidance. The results of Inglehart (1997) as well as Knack and Keefer (1997) show that the level of interpersonal trust is higher in the UK and the U.S., compared to France and Germany. In conclusion, this section explained the influence of informal institutions on individuals’ preferences and behavior in online auction markets. Moreover, the section provided an overview of particularly relevant studies, measuring cross-country similarities and differences in cultural norms and values. The results of these studies demonstrate that the three countries under study in Chapter 4 and 5 as well as the four countries under study in Chapter 6 vary substantially in the degree of uncertainty avoidance and interpersonal trust.

2.2.3 The Influence of Institutional Frameworks on Online Auction Transactions

The following section utilizes the extension of Williamson’s (1996) scheme presented in Section 2.1.2 as well as the extension of Williamson’s scheme to the analysis of challenges in international management by Wolff (2005) to develop a conceptual model of the influence of differences in institutional frameworks on online auction transaction partners. Figure 9 shows the extended model.

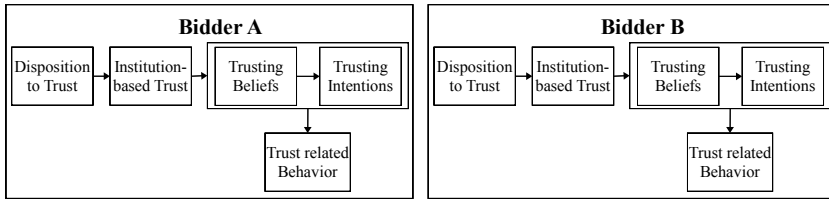
Figure 9: Trust, Reputation, and the Influence of Institutional Frameworks



Source: Modified from Wolff (2005), p. 113.

The figure depicts the countries A and B and their respective institutional frameworks. It is assumed that the formal and informal institutions of the two institutional frameworks differ substantially. In other words, the two institutional frameworks differ in their laws and regulations as well as in their cultural norms and values. Furthermore, it is assumed that an online auction provider operates the national online auction markets with the same market design and reputation system in both countries. The transaction partners in both countries are influenced by their respective institutional framework. This means, that the endogenous preferences and behavioral attributes of bidders' are influenced by the different formal and informal institutions of the respective institutional framework. Although, it is assumed that bidders and sellers bid and sell on their local marketplace and do not transact on the foreign market. Bidders, which are interested in an item for auction, face the hazards of information asymmetries and one-sided specific investments in both markets. The way the reputation systems provide information about sellers' behavior in past transactions to prospective bidders is the same in the marketplaces. As shown before, from both a theoretical and an empirical perspective, the information provided about sellers' reputation affects bidders' behavior in online auction markets. While auctions of more reputable sellers result in a higher probability of sale, attract a higher number of bidders, and achieve a higher auction price, auctions of less reputable sellers result in a lower probability of sale, attract a lower number of bidders, and achieve a lower auction prices. These effects of reputation on online auction outcomes might be influenced by cross-country differences in bidders' preferences and behavior, evoked by differences in formal and informal institutions. Bidders influenced, e.g., by less strict laws and a culture with high uncertainty avoidance and low interpersonal trust (e.g., institutional framework A), might value sellers' reputation and the item for auction differently compared to bidders influenced, e.g., by strict laws as well as a culture with low uncertainty avoidance and high interpersonal trust (e.g., institutional framework B). To reduce the possibility of opportunistic behavior on the sellers' side, bidders in country A will rather bid on auctions of sellers with a reputation of cooperative behavior in the past than on auctions of less reputable sellers. Bidders in country B may also want to bid on auctions of more reputable sellers but might assign a lower value to the sellers' reputation, compared to bidders in country A. While bidders in both countries might prefer and value auctions of more reputable sellers, resulting in a higher probability of sale, a higher number of bidders, and in a higher auction price, the effect on all three auction outcomes might be stronger in country A, compared to country B. To explain this effect in detail, Figure 10 depicts the development of trust in different national institutional frameworks.

Figure 10: The Influence of Institutional Frameworks on the Development of Trust



Source: Modified from McKnight and Chervany (2001), p. 44.

Socialized by their national formal and informal institutions, bidders have a country-specific disposition to trust. The disposition to trust refers to the extent to which individuals show a consistent tendency to be willing to depend on other individuals across situations and individuals in general (McKnight & Chervany, 2001). The disposition to trust varies across countries because individuals in different countries have made different experiences with other individuals in the past. Based on these experiences, their respective outcomes, and the influence of the social environment, individuals develop a general propensity to depend on others. In situations in which the other is unknown, the disposition to trust affects interpersonal trust (McKnight & Chervany, 2001). In most online auction transactions bidders and sellers had no prior interaction and are unfamiliar with each other (Resnick & Zeckhauser, 2002). As a result, bidders' disposition to trust affects bidders' trusting expectations and trusting intentions. The low disposition to trust directly affects the institution-based trust. In online auction transactions institution-based trust refers to the bidders' perception whether or not favorable institutional conditions are in place, such as an appropriate regulatory framework. Therefore, bidders' low disposition to trust is associated with bidders' need of favorable institutional conditions. If prospective bidders perceive the effectiveness of the existing laws and their enforcement as not favorable, the information provided through the reputation system will substitute these more formal institutions. In summary, a low disposition to trust and low institution-based trust affect bidders' trusting beliefs, resulting in bidders' higher expectations regarding sellers' reputation. As a result, bidders with a low disposition to trust and/or low institution-based trust will assign a higher value to auctions of more reputable sellers. As a result, auctions of more reputable sellers achieve a higher probability of sale, attract a higher number of bidders, and result in higher auction price. Applied to the model presented in Section 2.1.3, this would necessitate the relaxation of several assumptions. Given that the established equilibrium conditions still hold, it might be more reasonable to relax the assumption that all bidders weigh the observed information the same ($\lambda_i = \lambda \forall i \in 1, \dots, n$) and, instead, to allow the weights of observed reputation, product information, and auction characteristics to vary across bidders. Moreover, it may be reasonable to allow the importance of product informa-

tion and auction characteristics to vary across bidders. The probability that a seller delivers the good becomes:

$$p_i^S = \sum_1^M \lambda_{il} x_l, \text{ where } \sum_1^M \lambda_{il} = 1.$$

The bidder's evaluation of the value of a product in an auction becomes:

$$v_i = \alpha_i \left(\delta_i \sum_1^N \varepsilon_{il} y_l + \varphi_i \sum_1^O \omega_{il} z_l \right), \text{ where } \sum_1^N \varepsilon_{il} = 1, \sum_1^O \omega_{il} = 1, \text{ and } \delta_i + \varphi_i = 1.$$

Allowing the bidders to weigh seller characteristics, product information, and auction characteristics differently as well as to weigh the importance of product information and auction characteristics according to perception, directly affects p^S and v_i . While the probability of a successful transaction becomes a private value equal to p_i^S , the private value of the good does not only depend on the α draw but also on the valuation of the importance of the item information and auction characteristics in general and on the weighing of each single characteristic as well. Allowing p^S to vary across bidders in addition to allowing v_i to vary beyond the α draw presents an approach to include individual preferences in bidders' behavior. The previous sections described how formal and informal institutional frameworks influence bidders' preferences in online auction markets. The next section provides a literature review of studies that examined cross-country differences and similarities in the effect of reputation on online auction outcomes.

2.2.4 Reputation Effects in Different Institutional Frameworks – A Literature Review

Despite the global character of the Internet and eBay's international presence, relatively little research has been done on cross-country differences in bidders' valuation of seller reputation in online auctions. Most empirical studies on the relationship between reputation and online auction outcomes were conducted in the U.S. and therefore generally observe the behavior of North American bidders. Cross-cultural and cross-country research has suggested that findings of single-country studies and the resulting theories cannot be transported to different national frameworks, since single-country studies do not consider cross-country differences as influencing factors (Adler, 1983a, 1983b). Snijders and Zijdemans (2004) point out that "... the emphasis of researchers on eBay.com is logical, since it is by far the largest auction site, but given our results some caution as to whether these results carry over to other sites is in order."³⁵ According to the author's knowledge only seven studies directly or indirectly compare the effects of reputation on auction outcomes across countries. Table 12 presents a summary of the samples, dependent variables, and main results of these studies.

³⁵ Snijders & Zijdemans (2004), p.183.

Table 12: Cross-Country Comparisons of the Effect of Reputation on Auction Outcomes

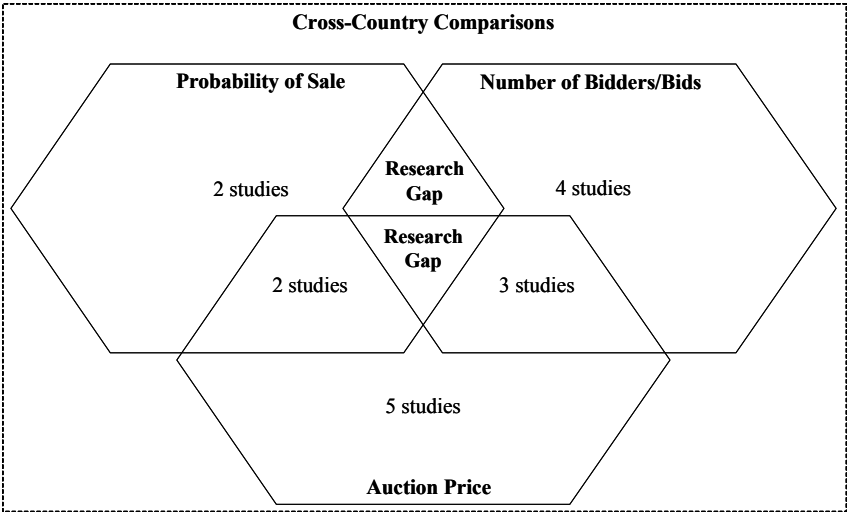
Study	Sample	Dependent Variable(s)	Results
1 Hou (2007d)	eBay, LCD monitors, China (246), U.S. (742)	Auction price	- More reputable sellers achieve higher prices in both countries and less reputable sellers achieve lower prices in both countries - The effect of negative feedback is stronger in China compared to the U.S.
2 Peng & Jan (2007)	eBay, iPod, Belgium (259), France (253), Hong Kong (229), Singapore (323)	Probability of sale	- Auctions of more reputable sellers result in a higher probability of sale in Hong Kong and Singapore
3 Robinson (2006)	eBay, Fine art, France (100), U.S. (100)	Number of bidders, Auction price	- French bidders pay more attention to negative feedback than bidders from the U.S.
4 Snijders & Zijdemann (2004)	eBay, Ricardo.nl, epier.com, Guitars, music, software, electronics, iPod, Netherlands, U.S. (total 1152)	Probability of sale, Auction price	- More reputable sellers achieve higher prices - The effect is stronger in the U.S. - Auctions of less reputable sellers result in a lower probability of sale
5 Vishwanath (2003)	eBay, Laptop category, Germany (50), Japan (50), U.S. (50)	Number of bidders, Auction price	- Information has no effect on the number of bidders and the selling price in the U.S. - Information has a positive effect on the number of bidders and the auction price in Japan and Germany
6 Vishwanath (2004)	eBay, Apple iBook, Canada (50), France (50), Germany (50)	Number of bidders	- Auctions of more reputable sellers attract a higher number of bidders in France and Germany
7 Zhu, Leboulanger, & Li (2009)	eBay, iPod Nano, China (38), France (101), U.S. (244)	Number of bids, Auction price	- Positive reputation has a positive effect on prices in the U.S. - Auctions of more experienced sellers attract a higher number of bids in France and a lower number of bids in the U.S. - More experienced sellers achieve lower prices in China

Note: Sample sizes are given in parentheses.

Hou (2007d) examines the determinants of online auction prices of LCD monitors in China and the U.S. The results show that in China and in the U.S. positive reputation has a significant positive effect and negative reputation has a significant negative effect on prices. Vishwanath (2003) performed an exploratory study of laptop auctions on local eBay websites in Germany, Japan, and the U.S. in order to examine country-specific information effects of pictures, descriptions, and reserve prices on the number of bidders. While in the high trust culture (U.S.) bidders participate in online auctions irrespective of the sellers' reputation, in low trust cultures (Germany and Japan), seller ratings have a significant effect on the number of bidders. In a second explorative study, Vishwanath (2004) looked closer at the country-

specific effects of seller ratings on the number of bidders in eBay auctions of Apple iBooks in Canada, France, and Germany. He found support for the research question whether seller ratings significantly influence the number of bidders that are attracted to an auction within and across countries. While in France and Germany seller ratings moderately influence the number of bidders, in Canada no effect can be found. In contrast to Germany and Canada, bidders in France do not bid on auctions of less reputable sellers. Overall, the findings of the seven studies suggest that a positive reputation has a positive effect on auction outcomes whereas a negative reputation has a negative effect in most countries. Figure 11 presents a summary of the literature reviewed.

Figure 11: Summary of Empirical Cross-Country Studies



While five studies examine the effect of seller reputation on auction prices, only two studies investigate the effect of reputation on the probability of sale. Further, none of the studies examines all three auction outcomes in order to compare the effects on the different stages of potential and actual bidders' item valuation. One shortcoming of the literature reviewed is that none of the studies statistically compares the effect size of reputation across countries. In other words, if the same effect directions occurred in different countries, it was not statistically tested whether the effects varied significantly across countries.

2.2.5 Institutional Frameworks and Reputation Effects – Summary and Hypotheses

The theoretical and empirical findings on the moderating effect of different institutional frameworks on the relation between seller reputation and online auction outcomes presented in the last sections function as a conceptual starting point to explore why bidders, who are mainly influenced by one institutional framework, have different preferences, expectations, and perceptions about reputation and information in online auctions than bidders, who are socialized by another institutional framework. Altogether, both, the formal and the informal framework, have an effect on bidders' perceived uncertainty in online auctions. Thus, potential and actual bidders' item valuations are influenced by "the shadow of the past" in the form of reputation mechanism, "the shadow of the law" (Katsh, Rifkin, & Gaitenby, 2000; Katsh, 2007) given through the national legal framework and the "shadow of the national culture" constituted by a society's cultural norms and values. If formal and informal institutional frameworks influence bidders' endogenous preferences, then institutional frameworks influence the effect of reputation on bidders' willingness to place a bid and the amount of the bid. As a result, the auction outcomes will differ for buyers in different countries. For the first study (Chapter 4) and the second study (Chapter 5), which both include data from Germany, the UK, and the U.S., this suggests the following set of hypotheses:

Hypothesis 2a. More (less) reputable sellers achieve a higher (lower) probability of sale in Germany compared to the UK and the U.S.

Hypothesis 2b. More (less) reputable sellers attract higher (lower) numbers of bidders in Germany compared to the UK and the U.S.

Hypothesis 2c. More (less) reputable sellers receive higher (lower) prices in Germany compared to the UK and the U.S.

For the third study (Chapter 6), which includes data from France, Germany, the UK, and the U.S., this suggests the following set of hypotheses:

Hypothesis 2a. More (less) reputable sellers achieve a higher (lower) probability of sale in countries with higher levels of uncertainty avoidance and lower levels of trust compared to countries with lower levels of uncertainty avoidance and higher levels of trust.*

Hypothesis 2b. More (less) reputable sellers attract a higher (lower) number of bidders in countries with higher levels of uncertainty avoidance and lower levels of trust compared to countries with low levels of uncertainty avoidance and high levels of trust.*

Hypothesis 2c. More (less) reputable sellers receive higher (lower) prices in countries with higher levels of uncertainty avoidance and lower levels of trust compared to countries with lower levels of uncertainty avoidance and higher levels of trust.*

2.3 Country-Specific Reasons for Negative Feedback Ratings

In eBay's Feedback Forum, buyers are encouraged to comment on the reputation rating they assigned to a seller after a transaction. Previous empirical studies of quantitative reputation indicators suggest that these qualitative feedback comments might have an effect on future bidders' behavior (Ba & Pavlou, 2002; Cabral & Hortaçsu, 2004). In online auctions, buyers communicate their dissatisfaction with the transaction via the reputation system through negative and neutral feedback comments to potential bidders. So, a buyer's feedback comment represents a complaint that may include the reason why the transaction was not matching the buyer's expectations. Therefore, negative and neutral feedback comments are a form of consumer complaint behavior. In general, consumer complaint behavior can be defined as "... a set of all behavioral and non-behavioral responses which involve communicating something negative regarding a purchase episode and is triggered by perceived dissatisfaction with that episode."³⁶ The perceived dissatisfaction of buyers in past transactions is distributed through the textual feedback comments, which is related to each past transaction and numeric feedback rating. The way sellers' reputation is perceived by prospective bidders might not only depend on these quantitative negative feedback measures but also on the qualitative content, including the reasons for the negative feedback in the past transaction. Given the influence of institutional frameworks on bidders and sellers, the reasons for negative feedback may vary across countries. Moreover, different negative feedback comment categories may have varying effects on auction outcomes in different countries. The following sections provide an overview of the literature and a conceptual model of the influence of institutional frameworks on the reasons for negative feedbacks in online auction markets.

2.3.1 Categories of Negative Feedback Ratings – A Literature Review

In order to provide an overview of the literature that investigated and categorized the content of textual feedback comments, the same approach was applied as described in Section 2.1.4. According to the author's knowledge, in total 11 studies directly or indirectly analyzed the content of feedback comments in online auction markets. All studies focus on a single country and analyze textual feedbacks of transaction conducted in the U.S. Table 13 presents a summary of the literature on feedback comment categories.

³⁶ Hong & Lee (2005), p. 91.

Table 13: The Effect of Feedback Comments

Study	Sample	Categories	Results
1 Finch (2007)	U.S.; eBay; 4000 positive, neutral, and negative feedbacks; items: four eBay categories (consumer electronics; computers and electronics; coins, gold coins)	Service content only, product content only, both service and product content (if both were present), non-specific	- Customers use different statements in their feedback comments for different products that are related to different risk levels
2 Ghose, Ipeiritis, & Sundararajan (2005)	U.S.; Amazon; >12000 feedbacks; item: software	Product, transaction, shipping, service, packaging, condition, response, item not received	- Various categories and single parts of text comments have an effect on prices
3 Gregg & Scott (2006)	U.S.; eBay; 6571 negative feedbacks; items: various items	Non-delivery, misrepresentation, triangulation, black market goods, fee stacking, skill bidding, multiple bidding	- Auction fraud accounts for 69% of negative feedback
4 Gregg & Scott (2008)	U.S.; eBay; 2003: 6571, 2005: 867, negative feedbacks; items: various items	Item complaint (no payment information, no item, no item and relist, non-delivery, late, shipping costs, poorly packaged, wrong address shipping); General complaint (description, quality, wrong item, missing item, unexpected item, defective item, damaged item, black market); Refund complaint (no refund, partial refund, refund after third party complaint); Communication complaint (slow/no response, rude response/negative feedback, fee stacking, miscommunication)	- Categories are stable over a period of three years - Most complaints are related to serious disputes - Communication and fraud (e.g. non-delivery and misrepresentation) related comments have the highest frequency
5 Lin, Li, & Huang (2007)	U.S.; eBay; 216 negative feedbacks; items: consumer electronics, clothes, antiques, toys etc.	Merchandise, service, overall	- Complaints were mainly related to merchandise problems rather than fraud - 30% of complaints are related to seller services - 40% of complaints were resolvable

Table 13: The Effect of Feedback Comments (cont'd)

Author	Sample	Categories	Results
6 MacInnes (2005)	U.S.; eBay; 129 negative feedbacks; items: vacation package, camcorder, cutter, electronic keyboard, card game, drill	Quality, slow shipping, seller withdrawal, failed to ship, fraud, poor communication, misunderstanding, non-paying bidder	- Most disputes are related to quality, communication, and non-paying bidders - Sellers with serious complaints have lower reputation ratings compared to sellers with less serious complaints
7 O' Donovan, Smith, Evrin, McLeod, & Nixon (2006)	U.S.; eBay; 1000; items: Egyptian antiques	Item, person, costs, shipping, response, packaging, payment, transaction	- Based on textual comments personalized and feature-based trust is distinguished
8 Pavlou & Dimoka (2006)	U.S.; eBay; >10000 positive and negative feedbacks; items: iPod, DVD, CD, Palm Pilot, digital camera, camcorder, DVD player, monitor	Outstanding benevolence, abysmal benevolence, outstanding credibility, abysmal credibility, ordinary	- Comments related to outstanding benevolence (abysmal benevolence) had a positive (negative effect on benevolence) - Comments related to outstanding credibility (abysmal credibility) had a positive (negative) effect on credibility
9 Pavlou & Gefen (2005)	U.S.; eBay; >10,000 feedbacks; items: iPod, DVD, CD, Palm Pilot, digital camera, camcorder, DVD player, monitor	Fraud, misrepresentation, contract default, delivery delay, product guarantees, payment policy	- Feedback comments as determinants of psychological contract violation
10 Qu, Zhang, & Li (2008)	U.S.; Yahoo; 1,001 feedbacks; item: digital cameras	Order quality, on-time delivery, product price, service effectiveness, product quality, ease of purchase, tracking, service accessibility, delivery accuracy, shipping cost, product availability, post-transaction spam, return product, shipping options	- Categories related to the post-transaction services have the strongest effect on reputation ratings
11 Resnick & Zeckhauser (2002)	U.S.; eBay; 173 neutral and negative feedbacks; items: various items	Poor condition, backed out of transaction, no item received, communication, slow shipping, positive feedback	- Misrepresentation and slow shipping rather resulted in a neutral than a negative feedback - Non-delivery resulted in a negative feedback

The studies closest in content to the current approach are Gregg and Scott (2008) as well as MacInnes (2005). Both studies examined data of neutral and negative feedback comments in the U.S. and developed different categories in order to assess the reasons for complaints in online auctions. In total, eight studies focus on the categorization of negative and/or neutral feedback comments. The categories that are identified primarily in these studies are (in alphabetical order): communication, failed to ship, fraud, packaging, quality, shipping costs, ship-

ping time, and seller withdrawal. This indicates that most of the complaints are related to seller and product uncertainty.

As presented in Section 2.2.1, the effect of these negative feedbacks on auction outcomes is relatively well researched. However, none of the reviewed studies examines the effect of the various feedback categories on auction outcomes. As the categories represent the essence of the content of textual feedback comments, being part of the quantitative feedback rating, the different categories show a more detailed picture of negative feedback ratings. Research opportunities are also available in extending the single-country findings to comparative studies across different countries. Each of the studies reviewed focused on a single-country setting. Therefore it is of interest to compare the frequencies of the various feedback categories across cultures as well as to compare the effect of the different categories on auction outcomes across cultures.

2.3.2 The Influence of Institutional Frameworks on Negative Feedback Categories

In order to understand the influence of cultural differences on buyer satisfaction and types of attributions that lead to negative textual feedback comments, the line of arguments follows Reimann, Lunemann, and Chase (2008), integrating expectancy disconfirmation theory (Oliver, 1980) and the concept of tolerance zones (Johnston, 1995; Kettinger & Lee, 2005). In the expectancy disconfirmation theory, customer satisfaction formation is a process in which customers first form an initial expectation of a specific service or product prior to purchase and then form perceptions about the service's actual performance. Third, customers compare the pre-purchase expectations with the post-purchase perceptions of performance and determine the extent to which their expectations are confirmed. Churchill and Surprenant (1982) enhance Oliver's (1980) initial model in which customer satisfaction is determined by customer expectation and disconfirmation and propose perceived performance as a direct antecedent of customer satisfaction. Moreover, Churchill and Surprenant (1982) include effects of customer expectations and perceived performance on disconfirmation and effects of customer expectations on perceived performance. Customer expectations can be defined as customer beliefs about a service that serves as a reference point (Zeithaml, Leonard, & Parasuraman, 1993). Customer perceptions are subjective assessments of actual service experiences (Oliver, 1981). Perceived service quality is the discrepancy between customer's perceptions and expectations (Parasuraman, Zeithaml, & Berry, 1988). Customer satisfaction is related to the specific transaction and is directly affected by the perceived service quality (Parasuraman, Zeithaml, & Berry, 1994).

When translated to a seller's service in online auction transactions, e.g., a buyer expects an item won in an auction to be delivered in a certain amount of time (seller service expectation).

The actual delivery time can be considered as a buyer's perception of a seller's service. As a result, a faster delivery of the item would be perceived as a high seller service quality, while a slower delivery would be perceived as low seller service quality. In online auction markets, buyers' perceived service quality can be described as buyers' overall evaluations of the extent to which their seller service expectations are confirmed by the perceived seller service performance. Buyers' satisfaction is directly affected by the perceived seller service quality. Empirical findings support this theoretical explanation of the satisfaction formation process of online auction buyers. Using a sample of 619 successful bidders in the Taiwanese Yahoo! Kimo Auction marketplace, Yen and Lu (2008a) investigate the effect of electronic service quality dimensions on buyer satisfaction. Their results show that fulfillment, contact, and responsiveness have a positive effect on disconfirmation. Moreover, disconfirmation has a positive effect on buyers' satisfaction with the seller. In a second study, Yen and Lu (2008b) use a sample of 303 successful Yahoo! Kimo Auction bidders to examine the effect of seller and auctioneer related characteristics on buyer satisfaction. Their results show that seller reputation and seller service quality have a positive effect on disconfirmation. Again, the results show that disconfirmation positively affects buyers' satisfaction with the seller. Jones and Leonard (2007) use a sample of 83 U.S. undergraduate students to examine the effect of seller service quality dimensions on buyer satisfaction in electronic consumer-to-consumer transactions. Their results show that the service quality dimensions of reliability and responsiveness have a positive effect on buyers' satisfaction with the seller. These empirical findings suggest that buyers' perceptions of seller service quality affect buyers' satisfaction.

Consumers' zone of tolerance is a helpful concept to understand the link between customers' perceived service quality and customers' degree of satisfaction (Johnston, 1995; Kettinger & Lee, 2005). The zone of tolerance can be described as the range of service performance (desired, adequate, and perceived service quality) that a customer considers satisfactory (Kettinger & Lee, 2005). While a service quality below a customer's zone of tolerance will result in high dissatisfaction, service quality above the presumed zone of tolerance will satisfy a customer. In online auction markets, a seller service quality below a buyer's zone of tolerance will result in dissatisfaction with the seller and a seller service quality above the presumed zone of tolerance will satisfy a buyer. Zones of tolerance are useful to understand variability in buyers' service expectations and buyers' perceptions as well as buyers' satisfaction. While for one buyer a seller's service quality is within the adequate zone of tolerance, for another buyer the same service quality is below the adequate zone of tolerance. In the case of negative textual feedback comments, a buyer's feedback is a reaction to a service defect which can be defined as a negative deviation of the perceived seller's service performance from a buyer's seller service expectations. All of the categories found in the studies presented in the literature review are related to electronic service quality dimensions such as communication, reliability, responsiveness, and delivery (Rowley, 2006). In particular, the studies' identify eight main

types of attributions that lead to negative feedbacks: communication, failed to ship, fraudulent behavior, item quality, packaging, seller withdrawal, shipping and handling charges, and shipping time. As no research has been carried out to investigate the direct relation between textual feedback comments and electronic service quality dimensions, it is, based on these empirical findings, assumed that negative feedback comments represent a buyer's expression of a low seller service quality. The international growth of online auction marketplaces puts strong emphasis on the importance of integrating national framework elements in online auction research (Snijders & Zijdemann, 2004; Baker & Song, 2007; Dellarocas & Resnick, 2003). In the field of traditional service delivery, empirical cross-country studies show that cultural values affect customers' service quality expectations, customer's perceived service quality, and customers' satisfaction (Donthu & Yoo, 1998; Furrer, Liu, & Sudharshan, 2000; Kueh & Voon, 2007; Liu, Furrer, & Sudharshan, 2001; Malai & Speece, 2005; Reimann, Lunemann, & Chase, 2008).

Following the line of thought of Reimann, Lunemann, and Chase (2008), buyers from countries with a high degree of uncertainty avoidance have a lower tolerance for ambiguity and any deviation from their expectations is not accepted as easily as it is by buyers who come from countries with a lower degree of uncertainty avoidance. Buyers coming from countries with a low degree of uncertainty avoidance have a higher tolerance for ambiguity and they are more flexible when seller service performance differs from their expectations. For example, if an online auction buyer with a high degree of uncertainty avoidance receives the item as described but in a package that does not sufficiently well protect the item, the zone of tolerance is so narrow that any deviation from the expected seller service (a package that protects the item) will lead to a perception of a low service quality and, in turn, dissatisfaction and a negative feedback. If a buyer with a low degree of uncertainty avoidance receives the item in a sub-standard package, the buyer will be more likely to accept the package as long as it does not affect the item. Even if the buyer's service expectations are not met (a package that protects the item), the buyer can still be satisfied. Following the zones of tolerance concept, buyers from countries with a higher degree of uncertainty avoidance have a narrower zone of tolerance, while buyers from countries with a lower degree of uncertainty avoidance have a wider zone of tolerance.

2.3.3 Institutional Frameworks and Negative Feedback Categories – Summary and Exploratory Research Questions

Besides bidders' evaluation of sellers' reputation, buyers' reasons for complaints are influenced by the formal and informal institutional framework as well. In online auctions, cultural norms and values as well as the regulatory framework influence buyers' behavior through related preferences and expectations. Thus, buyers in different countries have different transac-

tion related preferences and expectations. This leads to the following exploratory research questions:

Research Question 1: What are the reasons for negative feedbacks in online auction markets?

Research Question 2: Do reasons for negative feedback occur with different frequencies in different countries?

Research Question 3: Do all reasons for negative feedback have the same effect on online auction outcomes?

Research Question 4: Do reasons for negative feedback have the same effect on auction outcomes in different countries?

2.4 Summary of Hypotheses and Exploratory Research Questions

In order to test the hypotheses (H) and exploratory research questions (RQ) three empirical studies were conducted. The first study examines the effect of reputation on the number of bidders as well as the auction price and compares the reputation effects across Germany, the UK, and the U.S. The second study investigates the influence of reputation on the probability of sale, the number of bidders, and the auctions price and compares the reputation effects across Germany, the UK, and the U.S. Moreover, the second study explores the research questions related to the negative feedback comments and their effect on the number of bidders and the auction price in the three countries. The third study examines the effect of reputation on all three auction outcomes and compares the reputation effects between two country clusters, which include France and Germany (high uncertainty avoidance/low trust) as well as the UK and the U.S. (low uncertainty avoidance/high trust). The three studies are an attempt to validate and extend the literature reviewed in Sections 2.1.4, 2.2.4, and 2.3.1 and to provide empirical evidence for the conceptual model developed in the previous sections. Table 14 presents a summary of the hypotheses and research questions, their description, and the respective study in which they are tested.

Table 14: Hypotheses and Explorative Research Questions

H/RQ	Description	Study
H1a	The effect of seller reputation on the probability of sale	2, 3
H1b	The effect of seller reputation on the numbers of bidders	1, 2, 3
H1c	The effect of seller reputation on the auction price	1, 2, 3
H2a (*)	The effect of seller reputation on the probability of sale varies across countries (country clusters)	2, 3
H2b (*)	The effect of seller reputation on the numbers varies across countries (country clusters)	1, 2, 3
H2c (*)	The effect of seller reputation on the auction price varies across countries (country clusters)	1, 2, 3
RQ1	The reasons for negative feedback comments	2
RQ2	The reasons for negative feedbacks vary across countries	2
RQ3	The effect of negative feedback categories on online auction outcomes	2
RQ4	The effect of negative feedback categories on online auction outcomes varies across countries	2

The next section in detail describes the samples, variables, and methods used in the three studies.

3 Comparing Reputation Effects between Countries – The Research Method

This chapter introduces the methods used in the three empirical studies. The following sections discuss the research methods used to explore the different objectives of the three studies. The first section describes the samples and data collection procedures. The second section introduces the variables used in the respective studies. The third section gives a description of the quantitative analysis applied in all three studies. Finally, the qualitative analysis used in the second study is described in the fourth section. As three studies were conducted to test the hypotheses and exploratory research questions, the methodological procedure will be described separately for each study in the respective sections.

3.1 Samples and Data Collection

The following section describes the samples and the data collection procedures utilized in the three studies. In all three studies, the respective hypotheses and research questions are tested with data compiled from publicly available information of auctions held on the respective national eBay marketplace.

3.1.1 Samples and Data Collection – Study 1: Product Types

The hypotheses are tested with data on completed auctions of music Compact Discs (CDs), digital cameras, silver coins, and gold coins in Germany, the UK, and the U.S. during a four week period between February and March 2006. The three countries were chosen because the U.S. represents the largest eBay marketplace in North America and also worldwide, because Germany is currently eBay's largest eBay marketplace outside North America, and because eBay UK is the second largest marketplace in Europe. Thus, the three markets allow comparing items and product categories that are equally provided and demanded in all three markets. In 1995, eBay was founded in the U.S., while in Germany and the UK the marketplace was founded four years later, in 1999. Thus, the three countries allow controlling for potential differences between the more mature online auction market in the U.S. and the less mature markets in Germany and the UK. To compare differences between used and unused items as well as differences between items with average prices above and below eBay's Standard Purchase Protection Program four products were selected that reflect the item characteristics presented in Table 15.

Table 15: Item Characteristics – Study 1

	Homogeneous items	Heterogeneous items
Price below eBay's buyer protection	Unused items with a low price	Used items with a low price
Price above eBay's buyer protection	Unused items with a high price	Used items with a high price

The comparison of used and unused items is of interest because of the differences related to the item's quality. Differences in item quality are higher for used items (heterogeneous items) compared to unused items (homogeneous items). The increased uncertainty about the item quality might influence the effect of sellers' reputation on the auction outcomes in such a way that it results in a stronger positive effect for more reputable sellers and in a stronger negative effect for less reputable sellers. The eBay Standard Purchase Protection Program covers items bought on eBay for up to €200 in Germany, up to \$200 in the U.S., and up to £120 in the UK (minus country-specific processing costs), given that a buyer paid for an item and never received it or received an item different than what was described.³⁷ The inherent uncertainty in auctions of items above eBay's coverage is higher compared to auctions of items covered by eBay buyer protection. As a result, the effect of sellers' reputation on the auction outcomes might be stronger for auctions of items not covered by eBay's buyer protection compared to auctions of items not covered by eBay's buyer protection. Table 16 presents the samples broken down by country and item characteristics.

Table 16: Homogeneous and Heterogeneous Item Samples – Study 1

	<u>Germany</u>		<u>United Kingdom</u>		<u>United States</u>	
	homogeneous	heterogeneous	homogeneous	heterogeneous	homogeneous	heterogeneous
<200 €/£/\$	Amazon.de music Compact Disc Top Ten	Silver Coins	Amazon.co.uk music Compact Disc Top Ten	Silver Coins	Amazon.com music Compact Disc Top Ten	Silver Coins
n	893	192	909	116	532	5195
>200 €/£/\$	Amazon.de Digital Cameras Top Ten	Gold Coins	Amazon.co.uk Digital Cameras Top Ten	Gold Coins	Amazon.com Digital Cameras Top Ten	Gold Coins
n	125	91	86	67	1127	120

Music CDs, digital cameras, silver coins, and gold coins were selected for the data collection for the following reasons. First, for the CDs and digital camera samples it is possible to set criteria of item homogeneity – the goods are unused and sealed. Second, for the silver coin and gold coin samples it is possible to set criteria of item heterogeneity – the goods are used and unsealed. Finally, similar goods were used in a number of previous studies (e.g., Ba &

³⁷ The eBay Standard Purchase Protection Program was available in the U.S. until January 17th, 2007, until February 20th, 2008 in Germany, and is still available in the UK (September 2008).

Pavlou, 2002; Lucking-Reiley, Bryan, Prasad, & Reeves, 2007; Melnik & Alm, 2002; Melnik & Alm 2005; Snijders & Zijdemann, 2004). To achieve a sample size that fits the requirements of the statistical analysis, goods were selected so that at least five successfully completed auctions per day could be observed.

To test the effect of reputation on the auction outcomes for the homogeneous and heterogeneous items, without different supply (auctions offered on eBay's marketplace) and demand (bidders placing bids on auctions) in the different countries, the following sample selection criteria were applied. The music CDs and digital camera samples consist of a portfolio of ten different products respectively. Thus, the top ten of the best selling music CDs and digital cameras on Amazon's sales rank at the first day of data collection on the Amazon website in each respective country were used. In order to collect data of heterogeneous items, coins traded the most in each of the three countries were selected. The silver coin sample consists of Morgan Silver Dollars from 1921, 1983, and 1989, American Silver Eagle coins from 1987, 2002, and 2005, and Kennedy Half Dollars from 1964, 1967, and 1974. The gold coin sample consists of Kruegergold gold coins from 1979, 1981, 1982, and 1983.

In each country, the complete samples of auctions fulfilling following criteria were examined: In case of the CDs and digital camera samples, only data from auctions of new, unused, and sealed CDs and digital cameras were collected so that all items being auctioned were essentially homogenous. In this way, the observed price variations can be traced to a variation in the reputation and control variables, but not to a variation of the good being auctioned. Prices for entertainment and consumer electronics tend to fall over the long-term and bidders are likely to be well informed about retail prices in the online environment. Over the time period of the data collection, retail prices were stable and no unforeseen exogenous incidents occurred concerning the product or the manufacturer in the respective country. For both the silver coin and gold coin samples, only data from auctions of used coins were collected, providing that all items being auctioned are essentially heterogeneous. For both the homogeneous and the heterogeneous samples, goods that represent different price levels were selected. The average prices in the CDs sample and the silver coin sample are below the protection program limit. The average prices in the digital camera sample and the gold coin sample are above the protection program limit. In order to ensure the intra-country coherence of each country sample, only transactions of sellers and buyers from the same institutional framework were part of the study. Only auctions with seller and buyer located in the same sample country were included. All auctions having one of the transaction partners from another country than the other were not included in the samples. Data of "Power Auctions", "Buy it now" offers, and fixed-price offers were excluded as well.

The professional software BayWatch 3.0 was used to collect the data on eBay's auction websites. During the four-week period, two trained student research assistants and the author proceeded daily as follows: Using the software, eBay was searched for auctions of the four goods containing respective keywords that were set in advance.³⁸ Then, the software listed all current auctions containing these keywords. Some of the auctions were not relevant since they were e.g. auctions for digital cameras bundled with another item. The unit of observation was one single auction, so that each new auction of only one single CD, digital camera, silver coin, or gold coin was recorded.

3.1.2 Samples and Data Collection – Study 2: Negative Feedback Categories

To test the hypotheses and explorative research questions, data on sellers of Microsoft XBOX 360 Premium video game consoles were collected from the respective national eBay marketplace in Germany, the UK, and the U.S. The study includes a quantitative sample and a qualitative sample. The quantitative and the qualitative data samples were collected in two steps. In the first step, the quantitative sample was collected, including 2,509 auctions of the Microsoft XBOX 360 Premium video game console. In the second step, the qualitative sample was collected, including more than 11,000 textual negative feedback comments which the sellers of the video game consoles received in past transactions. All negative textual feedback comments of past transactions were collected for each seller. The quantitative sample had been collected during a four-week period between February and March 2006. The qualitative data had been collected in April 2006.

The three markets allow a comparison of auctions of an item that is equally supplied and demanded in all three markets. The XBOX 360 video game console is selected for the data collection for the following reasons: First, for the video game console, it is possible to set criteria of item homogeneity, namely that the item is unused and sealed. Second, in all three countries, the video game console scored first in the top ten of the best selling products on Amazon's sales rank at the first day of data collection. Finally, the data collection took place shortly after the market launch of the XBOX 360 in all three markets, guaranteeing a stable offline market price without any discount influences and high transaction rates on the auction platforms.

In each country, auctions fulfilling the following characteristics were examined. Only data of auctions of new, unused, and sealed video game consoles were collected so that all auctioned items are essentially homogenous. In this way, the observed price variations can be traced to a variation in the reputation and control variables and not to a variation of the auctioned item.

³⁸ The author deeply appreciates the help of Sandra Liebert and Marco Rothaufe.

Over the time period of the data collection, offline retail prices were stable and no unforeseen exogenous incidents occurred for the product or the manufacturer in the respective country. To ensure that cross-country transactions are not included in the sample, only auctions with seller and buyer located in the same country were included. As in the first study, data of “Power Auctions”, “Buy it now” offers, and fixed-price offers were excluded as well. Two quantitative datasets are used for each of the three countries to test the hypotheses. The first dataset includes all auctions that resulted in a sale (auction that received at least one bid) and all auctions that did not result in a sale (auctions that received no bid). The second main dataset only includes auctions that resulted in a sale. While the first dataset is utilized to estimate the probability of sale, the second dataset is used to estimate the number of bidders as well as the auction price. Table 17 shows an overview of the two datasets used in the second study.

Table 17: Overview of the Quantitative Datasets – Study 2

Dataset I			Dataset II		
Auctions that did not result in a sale and auctions that resulted in a sale			Auctions that resulted in a sale		
GE <i>n</i> = 130	UK <i>n</i> = 652	U.S. <i>n</i> = 2199	GE <i>n</i> = 100	UK <i>n</i> = 428	U.S. <i>n</i> = 1979

The quantitative data were collected with the professional software BayWatch 3.0. During the four-week period two trained student research assistants and the author proceeded daily as follows.³⁹ Using the software, eBay was searched for auctions of the video game console containing keywords that were set in advance. The software then listed all current auctions containing these keywords. Each new auction of only one single video game console was recorded. Thus, some auctions were sorted out because they were, e.g., auctions for consoles bundled with games or other items. All reputation information of the sellers of these specific completed and not completed auctions were collected on the day the auction closed. The data collection of the qualitative sample, which includes the negative feedback comments, is based on the quantitative data sample. All negative textual feedback comments of the sellers of these auctions were collected at the time the auction closed, using a combination of Bay-Watch 3.0 and a second program developed by the author and a student assistant that extracted the textual feedback comments from the sellers of the auctions.

3.1.3 Samples and Data Collection – Study 3: Country Clusters

In the third study, hypotheses are tested with data on Nintendo Wii video game console auctions held on the respective national eBay marketplace in France, Germany, the UK, and the U.S. The data sets were collected during a four-week period between February and March 2008. The French eBay marketplace was founded in October 2000, about one and a half year

³⁹ The author greatly appreciates the help of Sandra Liebert and Marco Rothaufe.

later than the German and the UK marketplace and five years later than the U.S. marketplace. Thus, the three EU countries have a comparable market maturity. Prior to the data collection, the respective national online auction markets was searched whether or not the item was equally supplied and demanded in the four countries. The video game console scored first in the top ten of the best selling products on Amazon's sales rank at the first day of data collection in all four countries. The data collection took place shortly after the market launch of the Nintendo Wii in all four markets, guaranteeing a stable offline market price without any discount influences. In each country, the complete sample of auctions fulfilling the following characteristics was included in the sample. Only data of auctions of new, unused, and sealed Nintendo Wii video game consoles were collected, so that all auctioned items are essentially homogenous. As in the first and the second study, in this way, the observed price variations can be traced to a variation in the reputation and control variables, but not to a variation of the auctioned item. As in the first and second study, only auctions with seller and buyer located in the same sample country were included. Moreover, all items offered as "Power Auction", "Buy-it-now", or at a fixed-price were excluded as well. The reputation information of the respective sellers of all completed and not completed auctions fulfilling the criteria were collected on the day the respective auction closed.

Two main datasets and two sub-datasets are used to test the hypotheses. The first main dataset includes all auctions that resulted in a sale (auctions that received at least one bid) and all auctions that did not result in a sale (auctions that received no bid). The second main dataset only includes auctions that resulted in a sale. While the first main dataset is utilized to estimate the probability of sale, the second dataset is utilized to estimate the number of bidders as well as the auction price. Each of the main datasets consists of the respective total database, including the databases of France and Germany (countries with a high degree of uncertainty avoidance: High uncertainty avoidance sample) as well as the databases of the UK and the U.S. (countries with a low degree of uncertainty avoidance: Low uncertainty avoidance sample). Table 18 summarizes the two main datasets, their descriptions, the included samples, and the respective number of observations.

Table 18: Overview of the Main Datasets – Study 3

Main Dataset I				Main Dataset II			
Auctions that did not result in a sale and all auctions that resulted in a sale <i>n</i> = 1702				Auctions that resulted in a sale <i>n</i> = 1311			
High Uncertainty Avoidance Sample <i>n</i> = 559		Low Uncertainty Avoidance Sample <i>n</i> = 1143		High Uncertainty Avoidance Sample <i>n</i> = 486		Low Uncertainty Avoidance Sample <i>n</i> = 825	
France <i>n</i> = 214	Germany <i>n</i> = 345	UK <i>n</i> = 502	U.S. <i>n</i> = 641	France <i>n</i> = 190	Germany <i>n</i> = 296	UK <i>n</i> = 325	U.S. <i>n</i> = 500

Each main dataset is divided into two sub-datasets. The first sub-dataset includes auctions in which sellers did not accept PayPal as a method of payment. The second sub-dataset includes auctions in which sellers accepted PayPal. Table 19 summarizes the sub-datasets of the main datasets and the respective observations.

Table 19: Overview of the Sub-Datasets – Study 3

Main Dataset I		Main Dataset II	
Sub-dataset I-I	Sub-dataset I-II	Sub-dataset II-I	Sub-dataset II-II
PayPal is not accepted <i>n</i> = 979	PayPal is accepted <i>n</i> = 723	PayPal is not accepted <i>n</i> = 849	PayPal is accepted <i>n</i> = 462

The data samples were collected using the professional software BayWatch 3.0. As in the first and the second study, two trained student research assistants and the author proceeded daily as follows. The four eBay marketplaces were searched for auctions of the Nintendo Wii video game console.⁴⁰ Several keywords that were set in advance were utilized to search the marketplaces. Then, the software listed all auctions containing these keywords. Each new auction of only one single Nintendo Wii video game console was included in the samples. As in the second study, auctions of video game consoles, e.g., bundled with games or other items were not included in the sample.

3.2 Variables and Measures in the Quantitative Analysis

In this section, the dependent and independent variables used in the three studies are described. The dependent and independent variables are selected on the basis of the literature reviews presented in the second chapter as well as the literature review by Baker and Song (2007), since there is little or no theoretical and substantive consensus for the selection of variables to be used in estimating the effect of seller reputation in online auction markets. Baker and Song (2007) identified three major categories of influences on auction outcomes: auctioneer-controlled factors, seller-controlled factors, and bidder-controlled factors. One of the main purposes of this thesis is to compare the effect of reputation across countries. Auctioneer-controlled factors include, e.g., the perceived ease of use and feedback mechanisms. In order to reduce external influences on the reputation effect the same online auction market, eBay's national marketplace, and the same auction mechanism are used in the respective countries in all three studies. Therefore, auctioneer-controlled factors are not considered as variables in the empirical test of the hypotheses and research questions. Bidder-controlled factors contain, e.g., bidder experience, the number of bidders, and the number of bids. Seller-controlled factors refer, e.g., to sellers' reputation rating, start price, reserve price, auction end time, auction duration, item description, number of pictures, and shipping costs. Baker and

⁴⁰ The author greatly appreciates the help of Thiemo Fetzner and Alexander Schardt.

Song (2007) find that most studies use the probability of sale, the number of bids, the number of bidders, and the auction price as auction outcome measures. In online auctions, the number of bids depends to a large extent on the number of bidders. During the auction bidders can increase the bid at any given time. Each time a bidder places an increased bid it is recorded as a new bid. As a result, the number of bids might be higher than the number of bidders. While both the number of bidders and the number of bids measure bidders' interest in an auction, the number of bids includes influences resulting from, e.g., bidding competition. For these reasons, the number of bidders is used in the following three studies as a dependent and independent variable. The number of bidders is used as a dependent variable to test the determinants of auction attractiveness in terms of the number of bidders that are attracted to an auction and it is used as an independent variable to test the effect of bidders' demand on the auction price. In the first study, the number of bidders and the auction price are used as the dependent variables. In the second and in the third study, the probability of sale, the number of bidders, and the auction price are used as the dependent variables. As presented in the second chapter, several seller-controlled and bidder-controlled factors have an influence on auction outcomes. In the three studies, those seller-controlled and bidder-controlled variables are used to estimate the three auction outcomes that were examined most often in the literature reviewed in Chapter 2. The following sections introduce and describe the respective variables used in the three studies.

3.2.1 Variables and Measures – Study 1

In the first study, the dependent variables captured two of the three auction outcomes, namely the number of bidders and the auction price. The samples including those auctions that did not result in a sale were too low for the music Compact Discs sample, the digital camera sample, as well as the silver coin sample for Germany and the UK. All auctions of the gold coin sample resulted in a sale in all three countries. With a low number of observations of auctions that did not result in a sale, the regression analysis estimates are sensitive to the inclusion of variables, resulting in inconsistent coefficients in the between-country analysis. Therefore, in the first study, the probability of sale is not tested as a dependent variable.

The main independent variables are the four measures of sellers' reputation: negative, positive, and neutral feedback as well as the feedback score. Several control variables are included in the analysis to capture the impact of seller-controlled factors and bidder-controlled factors on bidders' behavior. Variables controlled by the seller include variables capturing the amount of information provided by a seller and the variables capturing the auction related options chosen by the seller. Information about the item is provided by the use of pictures and the textual description of the item. Sellers have several options to attract prospective bidders. These options include the appearance of a picture in eBay's picture showcase, the timing and

duration of an auction, the start price, the shipping costs, and the payment option. Table 20 presents descriptions for the dependent and independent variables used in the first study.

Table 20: Description of Variables – Study 1

Variable	Description
Dependent	
Bidders	Number of different bidders placing a bid in an auction
Price	Gross auction price (final selling price plus the costs of shipping and handling)
Independent	
Negative feedback	Number of accumulated negative feedback
Positive feedback	Number of accumulated positive feedback
Feedback score	Sum of all positive ratings minus negative ratings
Neutral feedback	Number of accumulated neutral feedback
Bidders (residual)	Residual of the number of different bidders placing a bid in an auction
Bold	Dummy variable whether a bold font is used in the auction title (1) or not (0)
Competition	Number of auctions of identical items ending on the same day
Description	Size of the product description measured in kilobyte
Duration	Number of days of running the auction (1, 3, 5, 7, or 10)
Gallery	Dummy variable whether the auction includes a gallery product picture (1) or not (0)
PayPal	Dummy variable whether the seller accepts PayPal (1) or not (0)
Picture	Dummy variable whether the auction includes at least one picture (1) or no picture (0)
Shipping costs	Shipping and handling charges
Start price	Dummy variable whether the seller set a start price higher than 1 Euro (Germany), 1 Pound (UK), or 1 Dollar (U.S.) (1) or not (0)
Time	Dummy variable whether the auction ended between 6 and 11 pm (1) or not (0)
Weekend	Dummy variable whether the auction end was on Saturday or Sunday (1) or not (0)

3.2.2 Variables and Measures – Study 2

In addition to the quantitative reputation variables used in the first study, in the second study the effect of the different feedback categories on auction results is tested. The categories are derived from buyers' textual comments given in addition to each numeric feedback rating. Therefore, the categories present a detailed break down of feedback ratings and the underlying reasons for buyers' complaints. The third study examines, in particular, the country-specific reasons of negative feedback comments and their effects on auction outcomes. Beside those dependent and independent variables used in the first study, in the second study, one additional dependent variable and four additional independent variables are used. Two of the variables measuring sellers' reputations (neutral feedback and feedback score) are not included because the negative feedback categories investigated in the second study refer to sellers' negative feedback. Table 21 shows descriptions of the additional variables used in the second study.

Table 21: Description of Additional Variables – Study 2

Variable	Description
Dependent	
Probability of sale	Whether the auction resulted in a sale (1) or not (0)
Independent	
Communication	Negative feedback related to sellers' communication
Fraud	Feedback category aggregation, including negative feedback related to sellers that failed to ship, sellers' fraudulent behavior, and seller withdrawal
Product	Feedback category aggregation, including negative feedback related to general complaints about the product, misrepresentation of the product, and quality
Shipping	Feedback category aggregation, including negative feedbacks related to poor packaging of the item, expensive shipping charges, and slow shipping

Note: The detailed negative feedback categories given in the descriptions are presented in alphabetical order.

Beside the number of bidders and the auction price, the probability of sale is the third dependent variable examined in the second study. The four additional independent variables include the aggregation of negative feedback categories referring to the same types of negative feedback. The aggregated communication category includes all negative comments referring to sellers' communication in the pre-transaction phase as well as the post-transaction phase. The aggregated fraud category includes all those negative feedback comments related to transactions in which the seller failed to ship the item, behaved in a fraudulent way, or withdrawal from the transaction. The aggregated product category includes those negative comments related to general complaints about the item, to the misrepresentation of the item, or to the item quality. The aggregated shipping category includes all negative comments referring to poor packaging of the item, to slow shipping, and to expensive shipping and handling costs. A more detailed description of the negative feedback categories is presented in Section 3.4, as the negative feedback categories are the main result of the quantitative analysis.

3.2.3 Variables and Measures – Study 3

The third study examines the effect of reputation on all three auction outcomes and compares the reputation effects across two country clusters (high uncertainty avoidance/low trust and low uncertainty avoidance/high trust). Additionally, reputation effects are tested and compared across country clusters on sub-sample datasets of auctions in which PayPal is either accepted or not accepted. Compared to the main samples, the number of observations is lower for the sub-samples. Moderated regression analysis, which is explained in detail in the next section, was used to compare the effect of reputation across country clusters. The smaller sub-sample datasets could have rendered statistical validity problems, including the ability to test many simultaneous interaction effects (Carte & Russell, 2003). For that reason, the number of independent variables was reduced in the third study. In order to allow the test of simultaneous interaction effects in the sub-samples the independent variables time and weekend were

not used in the third study. These two variables were selected because they showed the lowest number of significant effects in the first and the second study. The variable buyer experience, which was not included in the first and in the second study, is included as an additional independent variable. Table 22 shows the descriptions of the variables used in the third study.

Table 22: Description of Variables – Study 3

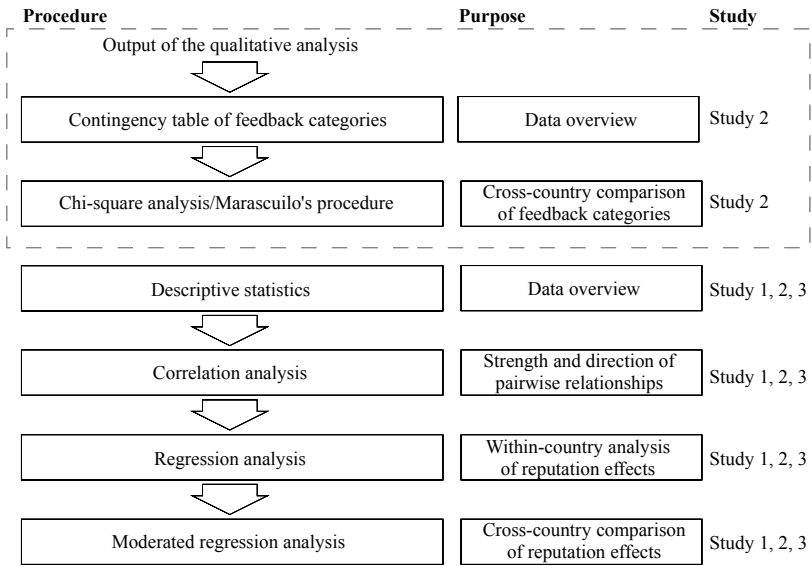
Variable	Description
Dependent	
Probability of sale	Whether the auction resulted in a sale (1) or not (0)
Bidders	Number of different bidders placing a bid in an auction
Price	Gross auction price (final selling price plus shipping and handling costs)
Independent	
Negative feedback	Number of accumulated negative feedback
Positive feedback	Number of accumulated positive feedback
Bidders (residual)	Residual of the number of different bidders placing a bid in an auction
Buyer experience	Number of accumulated past transactions
Bold	Dummy variable whether a bold font is used in the auction title (1) or not (0)
Competition	Number of auctions of identical items ending on the same day
Description	Size of the product description measured in kilobyte
Duration	Number of days of running the auction (1, 3, 5, 7, or 10)
Gallery	Dummy variable whether the auction includes a gallery product picture (1) or not (0)
PayPal	Dummy variable whether the seller accepts PayPal (1) or not (0)
Picture	Dummy variable whether the auction includes at least one picture (1) or no picture (0)
Shipping costs	Shipping and handling charges
Start price	Dummy variable whether the seller set a start price higher than 1 Euro (Germany), 1 Pound (UK), or 1 Dollar (U.S.) (1) or not (0)

The previous sections described the samples, the process of data collection, and the dependent and independent variables used in the statistical analysis. The quantitative analysis and the qualitative analysis are described in the next two sections.

3.3 The Quantitative Data Analysis

This section provides an overview of the statistical procedures used in the quantitative data analysis. Figure 12 depicts the quantitative data analysis process for all three studies.

Figure 12: The Quantitative Data Analysis Process



While the same procedures were applied in the first study and in the third study, in the second sample additional methods were used to analyze feedback comments. Those quantitative procedures used only in the second study are indicated in Figure 12 with a dashed line. In the second study, the output of the qualitative analysis, which is described in detail in the next section, is the basis of the quantitative analysis. To provide an overview of the data, a contingency table was used to show counts and percentages of the feedback categories. Then, the distributions of negative feedback categories were compared between the countries by chi-squared analysis. As the chi-square analysis tests the homogeneity of proportions, it allows to conclude whether or not the distributions are equal with respect to the proportion of the feedback categories. The chi-square analysis does not test which category or categories caused the difference. Therefore, Marascuilo's (1966) procedure was conducted to perform multiple comparisons between the categories to determine which negative feedback categories differ between countries. The Marascuilo procedure in three steps simultaneously tests the differences of all pairs of proportions, when there are several populations under investigation. It is assumed that there are samples of size n_i ($i = 1, 2, \dots, k$) from k populations. The first step of this procedure computes the differences $p_i - p_j$, (where i is not equal to j) among all $k(k-1)/2$ pairs of proportions p .

The absolute values of these differences are the test statistics. In the second step, a significance level is chosen and the corresponding critical values are computed:

$$r_{ij} = \sqrt{X^2_{\alpha; k-1}} \sqrt{\frac{p_i(1-p_i)}{n_i} + \frac{p_j(1-p_j)}{n_j}}$$

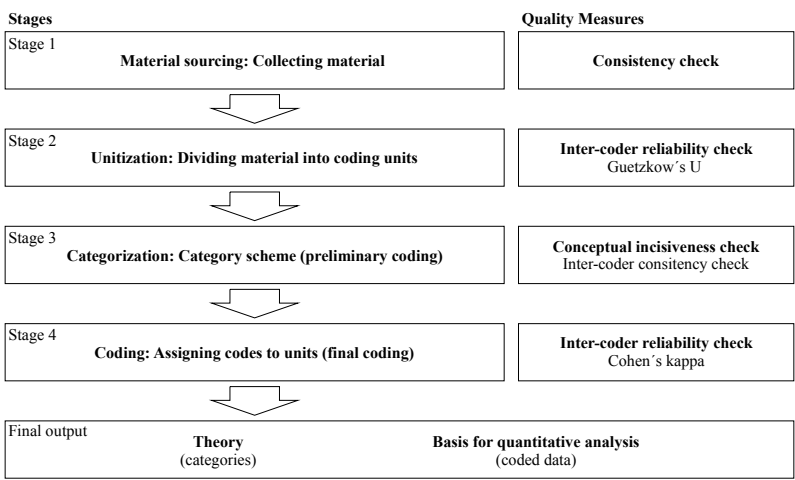
The second step was conducted for four significance levels ($p < .1$, $p < .05$, $p < .01$, and $p < .001$). In the third step, each of the $k(k-1)/2$ test statistics are compared against the corresponding critical r_{ij} values. Those pairs that have a test statistic that exceeds the critical value are significant at the respective significance level. The quantitative procedures used in all three studies are depicted in Figure 13 below those procedures used only in the second study. First, the means and standard deviations are provided for all countries as an overview of the different country samples. For all three studies, descriptive statistics are provided for the original data, while all interval measured variables were logarithmized before performing the correlation and regression analysis. This procedure was used in previous research (e.g., Ba & Pavlou, 2002; Diekmann & Wyder, 2002; Melnik & Alm, 2002; Reiley et al., 2007; Resnick & Zeckhauser, 2002) for two reasons: The weight of additional feedback is higher for sellers with a low number of feedbacks than for sellers with a high number of feedbacks and the variables approximately follow a lognormal distribution. As a result, the logarithmized variables have a normal distribution. In order to avoid the undefined logarithm of zero, one feedback is added to all reputation variables. Correlation analysis, the second quantitative procedure, was performed to test the strength and direction of the relation between pairs of variables. Third, regression analysis was performed to estimate the effect of seller reputation on auction outcome in the within-country analysis. Finally, moderated regression analysis was conducted to compare the effects of seller reputation between countries. Two variables are used in the moderated regression analysis in all three studies that can affect the explained variance added by the interaction terms. The auction price and the shipping costs were included in the data in the respective currency of each country. In order to center the prices between the sample countries all selling prices are converted from their local currency into Euro by using the purchasing power parity value of the respective dataset item. To be more precise, e.g., the mean selling price of all video game consoles in the UK divided by the mean selling price of all video game consoles in Germany results in the relative ratios indexed by the cost of living in terms of the video game console. The same procedure was used for the six items in the three samples. Afterwards each selling prize is converted into Euro with the ratio of the respective country. In this way the explained variance added did not depend on price differences in all three studies. In the second and third study, the basis for the quantitative procedures is the quantitative data collected from the online auction markets. As described above, quantitative data and qualitative data is used in the second study to investigate the explorative research questions. In order to use the qualitative data in the quantitative data analysis, a qualitative da-

ta analysis is necessary to transfer the words in the textual feedback comments into quantitative numbers. This process is described in the next section.

3.4 The Qualitative Data Analysis

The textual feedback comment, which is related to each quantitative feedback, provides information about the attributes that led to the feedback rating. For this reason, the analysis of textual feedback comments provides a more detailed picture of feedback ratings. Closely following Srnka and Koeszegi (2007), a qualitative analysis is conducted, in which qualitative feedback comments are transformed into numerical data, which then is used for further quantitative analyses. This approach is in line with several prior studies that investigated feedback comments in online auctions (e.g., Gregg & Scott, 2006, 2008; MacInnes, 2005; Pavlou & Dimoka, 2006). The combination of quantitative and qualitative analytical processes unites the strengths of both approaches. In order to overcome the language differences between Germany (German) and both the UK and the U.S. (both English), all feedback comments are gathered and analyzed in the bidders national language, providing the highest validity, since language and communication itself reflect cultural determinants. The feedback comments are already in text format and no transcription is necessary. In Figure 13, the quantitative analysis process is presented.

Figure 13: The Qualitative Data Analysis Process



Source: Modified from Srnka and Koeszegi (2007), p. 35.

Unitization

After collecting the feedback comments, in the second step of the qualitative analysis, the process of unitization is conducted. The individual feedback comments are divided from units of analysis into units of meaning, which represent the coding units. The units of analysis, namely all negative and neutral feedback comments, are already in a coding unit format. The feedback comments are short word associations (80 characters) that allow individuals to state more than one reason for a negative feedback, representing the units of meaning (Buber, Gadner, & Richards, 2004). Consequently, one unit of analysis may include more than one unit of meaning. The unit of meaning can be described as a statement that compromise one idea communicated no matter if it is expressed in a sentence, a verb-object sequence, a single word, or a combination of signs (e.g., emoticons such as “:-(“ or punctuation marks (e.g., “?”, “...”). The negative feedback comments included on unit of meaning or two units of meaning. For example, the negative feedback comment “Very slow shipping and bad packaging” includes “Very slow shipping” as the first unit of meaning and “bad packaging” as the second unit of meaning. Therefore, the feedback comments have to be unitized for coding and further analysis. Given that the focus of the current study lies on the content, thought units were chosen as units of analysis. Each thought unit conveys one idea communicated by one transaction partner to the other. Since individuals tend to communicate multiple ideas within an eBay feedback comment, too much information would have been lost, if only one code had been assigned to an entire feedback comment. Therefore, in feedback comments, stating more than one reason for the rating, the second reason is handled independently in a second unit of meaning. In all three country samples of the study, not more than two different reasons occurred. Two student research assistants were instructed to independently unitize the text messages.⁴¹ After the unitizing, intercoder reliability-measures are calculated. Guetzkow’s (1950) U is calculated, which measures the reliability of the number of units identified by two independent coders, as follows:

$$U = (O_1 - O_2) / (O_1 + O_2).$$

O_1 represents the number of units identified by coder 1, and O_2 the number of units identified by coder 2. After the unitization, Guetzkow’s U equaled .0082, showing almost 100 % conformance in the number of units identified by the coders. Potential bidders that evaluate a sellers’ reputation profile are likely to read the full comment, which includes both, the first and the second unit of meaning. Thus, the counts for each category are summated in the frequency table presented in Chapter 5 to get an overall distribution of problematic feedback comments for each country.

⁴¹ The author greatly appreciates the help of Sandra Liebert and Marco Rothaufe.

Categorization

In the third step, the categorization, a categories scheme is developed that categorizes all negative feedback comments included in the sample. The categorization was carried out by the author and the same two trained student assistants. In order to benefit from both existing theory and the new information contained in the data as well as to capture all relevant content of the feedback comments, a deductive-inductive procedure was applied to develop categories fulfilling the reliability and validity criterion. In a first step, the coders started with the categories that were identified in the literature (deductive approach). Based on the current data samples, in a second step, the coders adapted the resulting category scheme in reiterative steps to the content of the negative feedback comments by adding newly developed categories (inductive step). In developing the category scheme there is a trade-off in reliability and validity. The more detailed a category scheme, the higher the validity and the lower the intercoder reliability and vice versa. In this analysis, a category scheme that is as precise as possible is used to maximize validity of the study results, to achieve a complete list of categories, and to avoid redundancies. In order to improve the reliability of the categories, coding rules were precisely defined and specified. All three country samples are used to develop the category scheme to avoid selection bias. Using the categories, the two coders independently assigned a single code to each unit. To evaluate the appropriateness of inductively derived categories and to determine the incisiveness of categories, an intercoder-consistency-matrix was applied after a preliminary coding round, checking intercoder reliability. Cohen's (1960) kappa was calculated as the subsequent check for coding consistency. The basic version of Cohen's kappa states:

$$\kappa = (\Sigma P_{ii} - \Sigma P_i \times P_i) / (1 - \Sigma P_i \times P_i).$$

ΣP_{ii} is the observed proportion of agreement, and $\Sigma P_i \times P_i$ reflects the chance of proportion of agreement. The coding correspondence of $\kappa = .72$ indicates a substantial agreement (.61 to .80) that satisfies the reliability condition of .70 (Landis & Koch, 1977). Table 23 shows the final coding scheme. Based on this scheme, the final main coding run for the respective categories was completed, where each coding unit was assigned to a category code as shown in the example in the table. The final scheme comprises twelve negative feedback categories.

Table 23: Buyer Complaint Categories, Descriptions, and Examples

Category	Description	Example
Bad packaging	Packaging of article is not appropriate or leads to damages to the article	<i>"Item received but was damaged in transit, bad packaging!!! Take better care!!!"</i>
Communication	Communication was not appropriate	<i>"never replied to emails ... just ignored everything ..."</i>
Expensive shipping	Shipping and handling costs are too high	<i>"check shipping costs as they are very high"</i>
Failed to ship	Article did not arrive at the buyer	<i>"Book was not even sent till 2 weeks after I ordered!"</i>
Feedback	Links to static feedback of the receiver as reason for the behavior	<i>"BAD EBAYER! LEFT ME A NEGATIVE FEEDBACK!"</i>
Fraud	Transaction partner claims a fraud situation	<i>"These guys are fraudulent."</i>
General complaint	Comment does not give a concrete complain	<i>"DO NOT USE!!! STAY AWAY!"</i>
Misrepresentation	Article presentation leads to an unexpected outcome	<i>"Fast delivery, thanks! Ad wasn't clear that games were used and it was obvious"</i>
Private profile	Text comments in the reputation profile are not shown	
Quality	General quality of the good sold is not as expected	<i>"Sold me a product that does not work!!! Junk!"</i>
Seller withdrawal	Seller refuses the auction or cancels the auction	<i>"Shady - had item for bid which was no longer available"</i>
Slow shipping	Buyer recognizes a unusually slow shipping	<i>"Very slow shipping"</i>

Note: Categories are presented in alphabetical order.

Coding

In the fourth step, the coding, category codes were assigned to text units based on the category scheme. In the coding process, the categorization was implemented by executing the defined coding rules based on the category scheme. This step was carried out by the two trained student research assistants who systematically assigned numbers to units based on the category scheme. Cohen's kappa was used as the subsequent check for coding consistency. An interpretative reliability coefficient of $\kappa = .75$ was calculated, indicating a substantial agreement that satisfies the reliability condition. Finally, the quality of the coding results was cross-validated with the studies presented in the literature review in Section 23.1. The categories (communication, failed to ship, fraud, packaging, quality, shipping costs, shipping time, and seller withdrawal) identified by prior studies were confirmed in all three country samples. The detailed results are presented in Chapter 5.

This chapter described the samples, the process of data collection, the variables, and the quantitative and qualitative data analyses used in the different studies. In the following chapters, the results of the three studies are presented. The results of the first study are presented in Chapter 4. Chapter 5 provides the results of the second study. The results of the third study are presented in Chapter 6.

4 Country-Specific Effects of Reputation – Analysis and Results of Study 1

The following chapter presents the analysis and results of the first study. The objectives of the study are threefold: First, the effect of seller reputation on the number of bidders and the auction price are examined. Second, the effect of seller reputation on the number of bidders and the auction price are compared between Germany, the UK, and the U.S. Finally, the results are compared across the four different item categories. A sample of 9,454 online auctions of two homogenous items (new unused music Compact Discs and new unused digital cameras) and two heterogeneous goods (used silver coins and used gold coins), collected on the respective eBay websites in Germany, the UK, and the U.S., was analyzed to test the hypotheses. As described in Section 3.1.1, because of the low number of auctions that did not end in a sale, Hypotheses 1a and 2a are not tested in the first study. The study proceeds as follows. The next section describes the data sets for the four items for the three countries and presents the results of the hypotheses tests. Regression analysis and moderated regression analysis is used to test the effect of seller reputation on auction outcomes and compare the reputation effects between countries. In the second section, the study's main findings as well as consequences for theory and practice are discussed.

4.1 Product Characteristics and Country-Specific Reputation Effects

As described in detail in Section 3.1.1, the first study includes four items with different item characteristics. The four item characteristics vary in their average price (below and above eBay's Standard Buyer Protection) and in their status being used or unused. Table 24 reports descriptive statistics for the Compact Discs sample. The number of bidders is about equal in all three countries. The prices are presented in the local currency of each country. For the total sample, both dependent variables and the shipping costs are equal to the German sample after conducting a transformation of each observation in the UK and the U.S., using the procedure explained in Section 3.3. The mean number of negative feedback, positive feedback, the feedback score, and the neutral feedback are higher for the U.S. sample, compared to the German and the UK samples. Together with the comparably high standard deviations for the U.S. sample, this finding indicates that several sellers in the U.S. conducted a high number of transactions in the past. The mean values for all four reputation variables are about equal for the German and the UK sample. Sellers offered PayPal as a payment method with different frequencies in the three countries. While for the German sample 14% of all sellers accepted PayPal payments, for the UK sample 90% and for the U.S. sample 97% of all sellers accepted PayPal payments. This finding indicates that third-party support is less often accepted in Germany, compared to the UK and the U.S.

Table 24: Descriptive Statistics – Compact Discs Sample

Variable	Mean				s.d.			
	GE	UK	U.S.	Total	GE	UK	U.S.	Total
Bidders	4.97	4.88	5.01		2.01	2.33	2.81	
Price	12.78	7.62	11.55		3.28	1.24	2.35	
Negative feedback	3.30	2.27	111.41	31.21	10.50	7.38	553.33	335.10
Positive feedback	837.38	806.92	10830.08	3097.53	1994.55	1715.70	49597.24	23866.82
Feedback score	834.80	804.65	10740.73	3071.53	1986.01	1711.22	49160.10	23639.69
Neutral feedback	2.75	1.89	50.63	13.33	10.46	5.18	265.08	128.28
Bold	0.01	0.01	0.01	0.01				
Competition	39.44	36.75	19.09	33.74	23.07	15.23	4.95	19.09
Description	9276.35	11356.24	14075.98	11197.53	5414.73	3164.57	6285.56	5260.08
Duration	6.26	6.05	5.55	6.02	2.69	2.40	2.03	2.45
Gallery	0.97	0.36	0.19	0.22				
PayPal	0.14	0.90	0.97	0.62				
Picture	0.90	0.35	0.17	0.52				
Shipping costs	2.25	1.83	3.02		0.74	1.36	1.41	
Start price	0.29	0.44	0.47	0.39				
Time	0.52	0.51	0.50	0.50				
Weekend	0.17	0.39	0.24	0.27				

Note: GE $n = 893$, UK $n = 909$, U.S. $n = 532$, Total $n = 2334$. Dummy variables are given in percent.

The correlation coefficients for the Compact Discs sample are presented in Appendix Part 2. For all three countries, the correlation between the number of bidders and the auction price is significant and positive (Germany $r = 0.52$, UK $r = 0.29$, U.S. $r = 0.21$). Moreover, for all three country samples the start price and the number of bidders are negatively correlated (Germany $r = -0.46$, UK $r = -0.69$, U.S. $r = -0.63$). For the German sample, all four reputation variables as well as PayPal acceptance correlate neither to the number of bidders nor to the auction price. For the UK sample, negative feedback ($r = -0.14$) as well as neutral feedback ($r = -0.16$) negatively correlate with the auction price. Furthermore, for the UK sample, PayPal acceptance positively correlates with the number of bidders ($r = 0.16$) and the auction price ($r = 0.16$). For the U.S. sample, neutral feedback is negatively correlated with the auction price ($r = -0.18$) and PayPal acceptance is positively correlated with the auction price ($r = 0.42$).

Table 25 presents the means and standard deviations for the digital cameras sample. The mean values for negative feedback, positive feedback, feedback score, and neutral feedback are higher for the German and the U.S. samples, compared to the UK sample. As for the Compact Discs sample, sellers offered PayPal as a payment method with different frequencies in the three countries. While for the German sample 6% of all sellers accepted PayPal payments, for the UK sample 97% and for the US sample 91% of all sellers accepted PayPal payments.

Table 25: Descriptive Statistics – Digital Cameras Sample

Variable	Mean				s.d.			
	GE	UK	U.S.	Total	GE	UK	U.S.	Total
Bidders	13.76	9.66	11.94		5.63	5.01	5.47	
Price	236.09	170.41	262.42		40.18	80.45	76.29	
Negative feedback	4.10	0.93	6.56	5.97	12.46	2.29	42.10	38.85
Positive feedback	1337.86	252.00	820.80	832.54	4232.93	484.37	3152.06	3176.46
Feedback score	1335.74	251.07	917.21	913.49	4219.60	483.06	4893.29	4677.24
Neutral feedback	4.63	0.94	6.84	6.25	18.48	2.07	33.71	31.49
Bold	0.06	0.20	0.06	0.07				
Competition	7.03	4.66	41.39	35.82	4.12	1.92	10.74	16.28
Description	30209.29	16301.91	30580.79	29628.31	46763.39	6730.10	27387.05	29147.83
Duration	5.19	5.64	3.75	4.00	2.72	2.92	2.36	2.50
Gallery	0.54	0.83	0.61	0.62				
PayPal	0.06	0.97	0.91	0.84				
Picture	0.96	0.94	0.81	0.83				
Shipping costs	7.86	23.48	17.66		2.64	45.72	8.67	
Start price	0.22	0.52	0.28	0.29				
Time	0.53	0.57	0.57	0.57				
Weekend	0.48	0.30	0.26	0.28				

Note: GE $n = 125$, UK $n = 86$, U.S. $n = 1127$, Total $n = 1338$. Dummy variables are given in percent.

The correlation coefficients for the digital camera samples are presented in Appendix Part 2. In all three countries, the start price is negatively correlated with the number of bidders (Germany $r = -0.66$, UK $r = -0.65$, U.S. $r = -0.64$). For the German sample, the four reputation variables and PayPal acceptance are correlated neither to the number of bidders nor to the auction price. For the UK sample, positive feedback ($r = 0.23$) and feedback score ($r = 0.23$) are positively correlated with the number of bidders. For the U.S. sample, negative feedback ($r = -0.18$) and neutral feedback ($r = -0.18$) are negatively correlated with the auction price.

Descriptive statistics for the silver coin sample are presented in Table 26. The mean values for negative feedback, positive feedback, and feedback score are higher for the U.S. sample, compared to the German and the UK sample. The mean value for neutral feedback is higher for the German and the U.S. sample, compared to the UK sample. Sellers offered PayPal as a payment method with different frequencies in the three countries. While for the German sample 20% of all sellers accepted PayPal payments, for the UK sample 91% and for the U.S. sample 92% of all sellers accepted PayPal payments.

Table 26: Descriptive Statistics – Silver Coin Sample

Variable	Mean				s.d.			
	GE	UK	U.S.	Total	GE	UK	U.S.	Total
Bidders	3.35	3.07	3.89		2.02	2.07	2.40	
Price	10.08	9.36	15.84		5.23	4.95	5.84	
Negative feedback	2.33	2.27	5.29	5.12	5.60	4.33	18.98	18.50
Positive feedback	1076.14	1009.99	1940.36	1890.60	1659.24	1351.12	4135.26	4039.63
Feedback score	1073.78	1007.72	1931.40	1882.00	1657.44	1348.56	4119.50	4024.29
Neutral feedback	3.64	1.72	3.54	3.51	6.94	3.45	12.08	11.82
Bold	0.02	0.02	0.01	0.01				
Competition	4.61	3.18	120.42	113.91	3.00	1.90	58.75	63.04
Description	5898.95	7555.36	8150.98	8059.85	4471.66	5237.98	6572.64	6498.08
Duration	7.17	7.56	5.71	5.80	2.09	1.95	1.96	2.00
Gallery	0.20	0.78	0.55	0.55				
PayPal	0.20	0.91	0.92	0.89				
Picture	0.92	0.97	0.85	0.85				
Shipping costs	2.33	2.15	2.60		1.25	2.60	1.66	
Start price	0.41	0.66	0.58	0.58				
Time	0.72	0.51	0.48	0.49				
Weekend	0.50	0.39	0.31	0.31				

Note: GE $n = 192$, UK $n = 116$, U.S. $n = 5195$, Total $n = 5503$. Dummy variables are given in percent.

The correlation tables for the silver coin samples are presented in Appendix Part 2. The silver coin sample shows a significant positive correlation between the number of bidders and the auction price for all three country samples (Germany $r = 0.57$, UK $r = 0.45$, U.S. $r = 0.33$). Moreover, for all three country samples, the start price is negatively correlated with the number of bidders (Germany $r = -0.21$, UK $r = -0.29$, U.S. $r = -0.58$) and positively correlated with the auction price (Germany $r = 0.24$, UK $r = 0.52$, U.S. $r = 0.28$). For the German sample, negative feedback ($r = -0.13$) and neutral feedback ($r = -0.25$) are negatively correlated with the number of bidders. For the UK sample, positive feedback ($r = 0.30$) and feedback score ($r = 0.30$) are positively correlated with the number of bidders. For the U.S. sample, negative feedback and neutral feedback are negatively correlated with the number of bidders. For the U.S. sample, positive feedback ($r = 0.13$) and feedback score ($r = 0.13$) are positively correlated with the auction price. For all three country samples, different variables correlate with the auction price. For the German sample, picture and the auction price are positively correlated ($r = 0.28$). For the UK sample, gallery and the auction price ($r = 0.43$) are positively correlated. For the U.S. sample, description and the auction price ($r = 0.56$) are positively correlated.

Table 27 presents the means and standard deviations for the gold coin sample. The mean values for all four reputation variables are higher for the U.S. sample, compared to the German and the UK sample. PayPal is accepted by 25% of the sellers in Germany, by 25% of the sellers in the UK, and by 83% of the sellers in the U.S.

Table 27: Descriptive Statistics – Gold Coin Sample

Variable	Mean				s.d.			
	GE	UK	U.S.	Total	GE	UK	U.S.	Total
Bidders	8.26	7.67	6.85		3.21	3.77	3.72	
Price	466.71	337.46	575.83		10.30	9.53	13.70	
Negative feedback	0.81	0.88	4.87	2.57	3.67	1.42	9.09	6.63
Positive feedback	266.32	283.37	1621.12	847.91	541.05	456.09	3001.18	2100.91
Feedback score	265.46	282.49	1616.25	845.33	539.15	455.45	2993.44	2095.40
Neutral feedback	0.32	0.51	1.46	0.86	1.15	1.22	2.98	2.22
Bold	0.09	0.01	0.12	0.08				
Competition	5.57	3.61	6.22	5.35	2.84	1.60	2.73	2.75
Description	5613.00	9185.28	5120.60	6246.21	3563.76	7125.46	5066.33	5465.10
Duration	5.01	5.81	6.08	5.67	2.26	1.65	1.92	2.03
Gallery	0.52	0.67	0.68	0.62				
PayPal	0.40	0.25	0.83	0.55				
Picture	0.98	1.00	0.79	0.90				
Shipping costs	6.26	4.89	6.82		2.11	0.72	6.02	
Start price	0.24	0.15	0.69	0.41				
Time	0.57	0.54	0.28	0.44				
Weekend	0.51	0.36	0.31	0.38				

Note: GE $n = 91$, UK $n = 67$, U.S. $n = 121$, Total $n = 279$. Dummy variables are given in percent.

As for the items presented before, the correlation tables for the gold coin samples are presented in Appendix Part 2. Contrary to the relations presented for the other three items, for the gold coin sample the number of bidders is positively correlated with the auction price only for the German sample ($r = 0.47$). For all three country samples, the start price is negatively correlated with the number of bidders (Germany $r = -0.61$, UK $r = -0.69$, U.S. $r = -0.65$). For the German sample, positive feedback ($r = 0.23$) and feedback score ($r = 0.23$) are positively correlated with the auction price. For the UK sample, positive feedback ($r = 0.38$) and feedback score ($r = 0.38$) are positively correlated with the auction price.

Overall, the results of the correlation analysis are mixed for the relation between the reputation variables and the two auction outcomes. While at least one reputation variable is correlated with the auction outcomes for ten of the twelve samples, none of the reputation variables is correlated with the auction outcomes for the German digital camera sample and the U.S. gold coin sample. In addition, in all four item samples and in all three countries, the start price is negatively correlated with the number of bidders. This finding reflects the results of the meta-analysis presented in Section 2.1.4. The meta-analysis showed that start prices negatively affect both the number of bidders and the number of bids. The results of the correlation analysis provide an indication of the relation between seller reputation and auction outcomes.

In the following the results of the hypotheses tests are presented in two steps. In the first step, the effect of seller reputation on the number of bidders and on the auction price was tested, using within-country regression analysis. In the second step, moderated regression analysis was conducted to compare reputation effects between countries. In all samples and in all

countries, feedback score was highly correlated with the overall positive feedback. Therefore, in the regression analysis, three different regressions were estimated for each product sample and country. In the first regression, the effect of negative and positive feedback was tested. In the second regression, the effect of feedback score was estimated. In the third regression, the effect of neutral feedback was examined. In addition to the correlation coefficients, Variance Inflation Factors (VIFs) were calculated to determine whether multicollinearity exists in the analyses. The VIFs showed that slightly high intercorrelation occurs for negative feedback and positive feedback. The significance levels of the results remain the same, whether or not negative and positive feedback were entered at the same time in the regression analysis. The VIFs of all samples in the three countries suggest no occurrence of multicollinearity, which therefore does not affect the model fit and hypotheses testing.

In order to test the effect of reputation on the number of bidders (Hypothesis 1b) and on the auction price (Hypothesis 1c) (while considering the potential effect of the number of bidders on the auction price) the number of bidders and the auction price are estimated simultaneously in a two-stage least squares (2SLS) regression analysis. This analysis accounts for any correlation between the number of bidders and the auction price. According to the author's knowledge, only a minority of previous studies used this analysis in order to avoid this problem (Hou, 2007c; Anderson, Friedman, Milam, & Singh, 2008; Gilkeson & Reynolds, 2003). An ordinary least squares (OLS) regression analysis with fixed-effects for sellers is used to estimate the effect of reputation, as the dependent variable is the number of bidders in the first stage and the auction price is the dependent variable in the second stage.

Hypothesis 1b asserts that auctions of more reputable sellers result in a higher number of bidders and auctions of less reputable sellers result in a lower number of bidders. Table 28 presents the results of the first stage of the 2SLS regression analysis, estimating the effect of negative and positive feedback on the number of bidders for the Compact Disc sample and the digital camera sample.

Table 28: Results of Regression Analysis – Number of Bidders (Unused Items)

Variables	Compact Discs			Digital Cameras		
	GE	UK	U.S.	GE	UK	U.S.
Negative feedback	-.001** (.020)	.001 (.020)	-.044 [†] (.026)	-.038 (.057)	.391** (.173)	.011 (.066)
Positive feedback	.018 (.014)	.036* (.015)	.047* (.024)	-.032 (.047)	-.099 (.092)	-.107 (.227)
Bold	-.294* (.120)	.187 (.183)	-1.980** (.572)	.176 (.182)	.034 (.197)	.059 (.090)
Competition	-.081** (.030)	.048 (.044)	-.156 (.102)	.014 (.106)	.131 (.186)	.007 (.062)
Description	.003 (.038)	-.185** (.054)	-.073 (.082)	-.103 [†] (.057)	.421 [†] (.237)	-.195** (.043)
Duration	.005 (.024)	.052 (.035)	.209** (.045)	.116 [†] (.067)	-.025 (.126)	.035 (.042)
Gallery	-.009 (.048)	.069* (.029)	.070 (.069)	-.087 (.090)	.413 [†] (.222)	.177** (.053)
PayPal	-.040 (.041)	.209** (.046)	.423** (.142)	.009 (.175)	.287 (.399)	.354** (.099)
Picture	.081 [†] (.046)	-.055 [†] (.030)	-.111 (.071)	.694** (.206)	-.479 (.401)	.028 (.069)
Shipping costs	-.274** (.060)	-.067 (.059)	-.227** (.053)	.142 (.106)	-.375 [†] (.219)	.033 (.027)
Start price	-.216** (.031)	-.450** (.028)	-.849** (.053)	-.626** (.125)	-.758* (.186)	-.618** (.059)
Time	-.009 (.028)	.011 (.028)	-.092 [†] (.052)	.119 (.086)	.365** (.165)	-.093* (.044)
Weekend	.000 (.048)	-.069 [†] (.036)	-.089 (.060)	-.150 (.114)	.196 (.176)	-.147** (.045)
Constant	2.510*** (.036)	3.416*** (.544)	2.383*** (.826)	3.105*** (.745)	-.470 (3.14)	4.639*** (1.217)
<i>F</i>	17.32 ***	19.05 ***	17.29 ***	3.50 ***	4.28 ***	11.39 ***
<i>R</i> ²	.31	.32	.43	.41	.64	.25
Adjusted <i>R</i> ²	.31	.31	.43	.31	.13	.14
<i>n</i>	893	909	532	125	86	1127

Note: Regression coefficients with standard errors in parentheses, all regressions include fixed-effects for sellers and dummies for the different music Compact Discs and digital cameras.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

For the German Compact Discs sample and the U.S. Compact Discs samples, negative feedback has a negative and significant effect on the number of bidders. Positive feedback has a positive effect on the number of bidders for the UK Compact Discs sample. For the UK digital camera sample, negative feedback has a positive and significant effect on the number of bidders. This result is contrary to the hypothesized relation. In general, the results for the control variables are rather mixed. PayPal has a positive and significant effect on the number of bidders for the UK and the U.S. Compact Discs sample. The start price has a negative and significant effect on the number of bidders for both items and for all three countries. Table 29 presents a summary of the results for feedback score and neutral feedback, predicting the

number of bidders for the homogeneous items. The regression coefficients of control variables are not presented in the table because they are similar to those presented in Table 28.

Table 29: Summary of Regression Results – Number of Bidders (Unused Items)

Variables	Compact Discs			Digital Cameras		
	GE	UK	U.S.	GE	UK	U.S.
Feedback score	.017 (.013)	.034* (.015)	.021 (.018)	-.049 (.048)	-.016 (.024)	.009 (.012)
Adjusted R^2	.28	.32	.43	.41	.96	.26
Neutral feedback	.032 [†] (.019)	.044* (.021)	-.034 (.022)	-.025 (.056)	-.058 (.052)	.032** (.017)
Adjusted R^2	.28	.32	.43	.40	.98	.49

Note: Regression coefficients with standard errors in parentheses, all regressions include fixed-effects for sellers and dummies for the different music Compact Discs and digital cameras.

[†] $p < .10$
 * $p < .05$
 ** $p < .01$
 *** $p < .001$

The feedback score has a positive and significant effect on the number of bidders for the UK Compact Discs sample. Neutral feedback has a positive and significant effect for the UK Compact Disc sample as well as the U.S. digital camera sample. Overall, in the examined countries, at least one of the reputation variables has a significant effect on the number of bidders for the two homogenous items. This provides partial support for Hypothesis 1b and suggests that auctions of more reputable sellers attract higher numbers of bidders and auctions of less reputable sellers attract lower numbers of bidders.

Table 30 presents the results of the first stage of the 2SLS regression analysis, testing the effect of negative feedback and positive feedback on the number of bidders for the silver coin and gold coin samples. Negative feedback has a negative and significant effect on the number of bidders for the German and the U.S. silver coin samples. Positive feedback has a positive and significant effect on the number of bidders for the UK gold coin sample. As for the homogeneous items, the control variables show rather mixed results for the heterogeneous items. Pictures presented in eBay's gallery have a positive and significant effect for the silver coin samples in all of the three countries. This finding suggests that auctions with a visual presentation in the auction listing attract a higher number of bidders. The start price has a negative and significant effect on the number of bidders for the silver and gold coin samples for all three countries, except for the UK gold coin sample.

Table 30: Results of Regression Analysis – Number of Bidders (Used Items)

Variables	Silver Coins			Gold Coins		
	GE	UK	U.S.	GE	UK	U.S.
Negative feedback	-.254** (.071)	-.031 (.114)	-.041** (.011)	.071 (.105)	-.041 (.178)	.069 (.099)
Positive feedback	-.004 (.043)	.043 (.100)	.008 (.011)	-.035 (.030)	.160 [†] (.084)	.019 (.070)
Bold	.087 (.329)	.088 (.596)	-.070 (.091)	-.103 (.189)	1.446* (.710)	.128 (.197)
Competition	-.050 (.087)	-.335 (.224)	-.028 (.035)	.064 (.106)	.024 (.222)	-.003 (.136)
Description	.045 (.091)	.033 (.146)	.017 (.01)	.028 (.096)	.484 (.276)	.106 (.130)
Duration	.019 (.106)	-.455 (.310)	.009 (.017)	.044 (.078)	-.165 (.228)	.017 (.173)
Gallery	.244* (.107)	.711** (.235)	.153** (.019)	.129 (.103)	-.117 (.221)	-.264 (.147)
PayPal	.009 (.120)	-.662* (.316)	-.011 (.032)	.107 (.097)	.000 (.000)	.367* (.181)
Picture	-.992** (.185)	-.551 (.453)	.042 [†] (.026)	.267 (.304)	-.747* (.214)	.114 (.182)
Shipping costs	-.169 (.105)	-.024 (.200)	-.083** (.015)	-.088 (.091)	.008 (.163)	-.053 (.059)
Start price	-.014 (.092)	-.506** (.189)	-.819** (.018)	-.389** (.106)	.153 (.172)	-.478** (.131)
Time	-.189 [†] (.102)	-.074 (.164)	-.029 [†] (.018)	.195* (.092)	-.056 (.238)	-.265 (.140)
Weekend	.089 (.098)	.216 (.170)	-.009 (.019)	-.145 (.102)	.250 (.369)	-.065 (.131)
Constant	2.320*** (.927)	2.946 [†] (1.648)	.897*** (.211)	2.063* (.951)	.962*** (.553)	1.352 (1.261)
<i>F</i>	10.23 ***	2.48 **	132.90 ***	2.26 *	3.07 **	2.84 ***
<i>R</i> ²	.53	.36	.35	.34	.44	.31
<i>Adjusted R</i> ²	.49	.36	.35	.32	.16	.31
<i>n</i>	192	116	5195	91	67	120

Note: Regression coefficients with standard errors in parentheses, all regressions include fixed-effects for sellers and dummies for the different silver coins and gold coins.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 31 presents a summary of the results for feedback score and neutral feedback, predicting the number of bidders for the heterogeneous items. The regression coefficients of the control variables are not presented in the table because they are similar to those presented in Table 30.

Table 31: Summary of Regression Result – Number of Bidders (Used Items)

Variables	Silver Coins			Gold Coins		
	GE	UK	U.S.	GE	UK	U.S.
Feedback score	-.069 (.041)	.049 (.098)	-.007 (.010)	-.028 (.028)	.180* (.079)	.049 (.055)
<i>Adjusted R²</i>	.50	.36	.35	.33	.48	.31
Neutral feedback	-.223** (.066)	-.056 (.122)	-.011 (.011)	.015 (.136)	.247 (.198)	.112 (.124)
<i>Adjusted R²</i>	.52	.36	.35	.32	.44	.31

Note: Regression coefficients with standard errors in parentheses, all regressions include fixed-effects for sellers and dummies for the different silver coins and gold coins.

† $p < .10$
 * $p < .05$
 ** $p < .01$
 *** $p < .001$

The feedback score has a positive and significant effect on the number of bidders for the UK gold coin sample. Neutral feedback has a negative and significant effect on the number of bidders for the German silver coin sample. In the examined countries, at least one of the reputation variables has a significant effect on the number of bidders for the silver coin sample. Seller reputation has no effect on the number of bidders for the German and the U.S. gold coin samples. Overall, these results provide partial support for Hypothesis 1b.

Hypothesis 2b suggests that institutional frameworks moderate the relationship between seller reputation and the number of bidders in such a way that this relationship is stronger for Germany than for the UK and the U.S. The proposed hypothesis is tested through hierarchical moderated regression analysis. The total database, including the dataset of all three countries, is examined to compare the effects of independent variables and control variables on the number of bidders between the three countries. The control variables are entered in Model 1. Model 2 includes the country dummies as well as the interaction terms between each control variable and the country dummies in order to compare the effects of the control variables on the number of bidders between countries. Since the German sample was considered as the base case, the country cluster dummy and the country cluster interactions are included for the UK and the U.S. In order to examine the incremental impact of the main independent variables, Model 3 includes the control variables and the main independent variables. Model 4 includes the country dummies and the interaction terms to estimate the differences in the effect of control variables and main independent variables across the three countries. Thus, a moderated four-stage hierarchical regression is used to examine the incremental change in explained variance as new variables and interaction terms are entered. Moderation effects are supported if the model containing the interaction terms represents a significant improvement of the explained variance over the model containing direct effects only (Baron & Kenny, 1986). In order to test the moderating effects of the country clusters on the control variables, the explained variance of Model 1 and Model 2 is compared. In order to test the moderating

effects on the main independent variables, the explained variance of Model 3 and Model 4 are compared. Finally, Models 2 and 4 are compared to test whether or not the main independent variables significantly improve the explained variance in the full-interaction model. The moderated regression applied in the Models 2 and 4 are considered to be a conservative method for examining interaction effects, because the interaction terms were tested for significance after all lower-order effects had been entered into the regression equation (Carte & Russell, 2003). The described procedure was conducted for all four item samples. As described in detail in Section 3.1.1, the four item samples respectively include various items, e.g., the Compact Discs sample includes Amazon's top ten of the best selling music Compact Discs. In the different countries, not all of the various items were auctioned. As a consequence, for each of the four item samples, the respective dummy variable for the missing item was dropped in the moderated regression analysis. Compared to the between-country analysis, the difference of items included in each country sample results in different regression coefficients in the within-country analysis. Tables 32 to 35 show the results of moderated hierarchical regression analysis for the Compact Discs sample, the digital camera sample, the silver coin sample, and the gold coin sample.

Table 32: Results of Moderated Regression Analysis – Compact Disc Sample

Variables	Number of Bidders			
	(1)	(2)	(3)	(4)
Bold	-.184*	-.295*	-.181*	-.291*
UK x Bold		.478*		.476*
U.S. x Bold		-1.619**		-1.652***
Competition	-.003*	-.082*	-.001*	-.083*
UK x Competition		.133*		.130*
U.S. x Competition		-.094		-.077
Description	-.113 [†]	.017	-.118 [†]	.001
UK x Description		-.195**		-.188**
U.S. x Description		-.117		-.068
Duration	.086	.006	.085	.003
UK x Duration		.054		.052
U.S. x Duration		.212***		.210***
Gallery	.068	-.019	.068	-.014
UK x Gallery		.090		.085
U.S. x Gallery		.109		.093
PayPal	.151	-.026	.152	-.037
UK x PayPal		.223**		.241***
U.S. x PayPal		.507***		.456***
Picture	-.014*	.092 [†]	-.012*	.078
UK x Picture		-.151*		-.135*
U.S. x Picture		-.221**		-.191*
Shipping costs	-.214	-.281***	-.215	-.280***
UK x Shipping costs		.212*		.214*
U.S. x Shipping costs		.049		.056
Start price	-.488	-.218***	-.486	-.213***
UK x Start price		-.240***		-.237***
U.S. x Start price		-.622***		-.635***
Time	.009*	.004	.005*	-.008
UK x Time		.009		.019
U.S. x Time		-.088 [†]		-.085 [†]
Weekend	-.053**	.003	-.054**	.001
UK x Weekend		-.072		-.069
U.S. x Weekend		-.092		-.091
Negative feedback			-.013	-.001
UK x Negative feedback				.004
U.S. x Negative feedback				-.041
Positive feedback			.018 [†]	.034**
UK x Positive feedback				-.011
U.S. x Positive feedback				-.001
Constant	3.090***	2.287***	3.220***	2.281***
UK		1.174		1.24 [†]
U.S.		.046		.031
<i>F</i>	37.59 ***	21.92 ***	34.34 ***	20.28 ***
<i>R</i> ²	.25	.37	.25	.38
<i>Adjusted R</i> ²	.25	.37	.25	.38
$\Delta R^2 (M2 - M1; M4 - M3)$		.12 ***		.13 ***
$\Delta R^2 (M4 - M2)$				.01 **
<i>n</i>	2334	2334	2334	2334

Note: All regressions include fixed-effects for sellers and dummies for the different Compact Discs.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 33: Results of Moderated Regression Analysis – Digital Camera Sample

Variables	Number of Bidders			
	(1)	(2)	(3)	(4)
Bold	.195**	.200	.209**	.196
UK x Bold		-.027		-.169
U.S. x Bold		-.020		.001
Competition	.013	.049	.011	.051
UK x Competition		.070		.081
U.S. x Competition		-.048		-.047
Description	-.047 [†]	-.073	-.061	-.065
UK x Description		.488*		.489*
U.S. x Description		-.008		-.029
Duration	.086***	.098	.084***	.098
UK x Duration		-.111		-.115
U.S. x Duration		-.036		-.037
Gallery	.127***	-.101	.120***	-.099
UK x Gallery		.506*		.508*
U.S. x Gallery		.274*		.266*
PayPal	-.043	.064	-.027	.074
UK x PayPal		.161		.205
U.S. x PayPal		.168		.164
Picture	.060	.649*	.076 [†]	.635*
UK x Picture		-1.247***		-1.086***
U.S. x Picture		-.641*		-.612*
Shipping costs	.040*	.186	.036*	.183
UK x Shipping costs		-.423 [†]		-.554 [†]
U.S. x Shipping costs		-.151		-.149
Start price	-.589***	-.531***	-.576***	-.537***
UK x Start price		-.074		-.238
U.S. x Start price		-.024		-.004
Time	-.025	.069	-.024	.065
UK x Time		.200		.303
U.S. x Time		-.121		-.113
Weekend	-.098**	-.131	-.099**	-.136
UK x Weekend		.284		.341
U.S. x Weekend		.008		.014
Negative feedback			.035	-.016
UK x Negative feedback				.404*
U.S. x Negative feedback				.061
Positive feedback			.032 [†]	.029
UK x Positive feedback				-.115 [†]
U.S. x Positive feedback				-.004
Constant	2.826***	1.813*	2.796***	1.611*
UK		-2.765		-2.870
U.S.		1.436 [†]		1.522 [†]
<i>F</i>	20.97 ***	9.08 ***	19.83 ***	8.61 ***
<i>R</i> ²	.25	.30	.26	.31
Adjusted <i>R</i> ²	.24	.29	.25	.30
$\Delta R^2 (M2 - M1; M4 - M3)$		.05		.05
$\Delta R^2 (M4 - M2)$				.01 **
<i>n</i>	1338	1338	1338	1338

Note: All regressions include fixed-effects for sellers and dummies for the different digital cameras.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 34: Results of Moderated Regression Analysis – Silver Coin Sample

Variables	Number of Bidders			
	(1)	(2)	(3)	(4)
Bold	-.034	-.018	-.029	.037
UK x Bold		-.296		-.250
U.S. x Bold		-.051		-.103
Competition	.035*	.015	.037**	-.005
UK x Competition		-.682***		-.645**
U.S. x Competition		-.008		.012
Description	.016	.097	.020	.163
UK x Description		-.147		-.214
U.S. x Description		-.077		-.140
Duration	.014	.092	.013	.022
UK x Duration		-.189		-.391
U.S. x Duration		-.083		-.014
Gallery	.160***	.202	.162***	.200
UK x Gallery		.356		.404 [†]
U.S. x Gallery		-.051		-.048
PayPal	-.006	.011	-.019	.022
UK x PayPal		-.268		-.402
U.S. x PayPal		-.005		-.030
Picture	.045 [†]	-.803***	.028	-.841***
UK x Picture		.251		.336
U.S. x Picture		.866***		.887***
Shipping costs	-.076***	-.285*	-.079***	-.204 [†]
UK x Shipping costs		.317*		.223
U.S. x Shipping costs		.203 [†]		.120
Start price	-.787***	-.047	-.786***	-.002**
UK x Start price		-.460**		-.406*
U.S. x Start price		-.773***		-.822***
Time	-.024	-.197 [†]	-.034*	-.169
UK x Time		.207		.060
U.S. x Time		.173		.138
Weekend	-.006	.088	-.010	.042
UK x Weekend		.168		.265
U.S. x Weekend		-.099		-.056
Negative feedback			-.051***	-.211**
UK x Negative feedback				.253*
U.S. x Negative feedback				.169*
Positive feedback			.007	.030
UK x Positive feedback				.092
U.S. x Positive feedback				-.027
Constant	.741***	.656	.721***	.150
UK		1.843		2.147
U.S.		.122		.649
<i>F</i>	146.86 ***	69.25 ***	134.42 ***	61.88 ***
<i>R</i> ²	.34	.35	.34	.36
Adjusted <i>R</i> ²	.34	.35	.34	.36
$\Delta R^2 (M2 - M1; M4 - M3)$		.01 ***		.02 ***
$\Delta R^2 (M4 - M2)$				.01 ***
<i>n</i>	5503	5503	5503	5503

Note: All regressions include fixed-effects for sellers and dummies for the different silver coins.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 35: Results of Moderated Regression Analysis – Gold Coin Sample

Variables	Number of Bidders			
	(1)	(2)	(3)	(4)
Bold	.032	-.180	.084	-.251
UK x Bold		.780		1.010
U.S. x Bold		.208		.412
Competition	.130 [†]	.112	.099	.129
UK x Competition		-.067		-.080
U.S. x Competition		-.053		-.136
Description	.011	.013	-.021	.042
UK x Description		-.142		-.391
U.S. x Description		.129		.067
Duration	-.017	.033	-.029	.043
UK x Duration		.064		-.037
U.S. x Duration		.023		-.033
Gallery	-.051	.026	-.083	-.039
UK x Gallery		-.025		.028
U.S. x Gallery		-.243		-.209
PayPal	.058	.081	.049	.095
UK x PayPal		-.189		-.122
U.S. x PayPal		.302		.294
Picture	.058	.294	.140	.383
UK x Picture		dropped		dropped
U.S. x Picture		-.278		-.290
Shipping costs	-.016	-.036	-.021	-.051
UK x Shipping costs		-1.401 [†]		-1.902*
U.S. x Shipping costs		.000		-.006
Start price	-.563***	-.333*	-.592***	-.346*
UK x Start price		-.373		-.357
U.S. x Start price		-.106		-.101
Time	-.083	.162	-.078	.139
UK x Time		-.047		-.057
U.S. x Time		-.509**		-.416*
Weekend	-.094	-.072	-.077	-.088
UK x Weekend		.256		.293
U.S. x Weekend		-.005		.001
Negative feedback			.100	.072
UK x Negative feedback				.292
U.S. x Negative feedback				-.005
Positive feedback			.004	-.005
UK x Positive feedback				-.009
U.S. x Positive feedback				.051
Constant	2.280***	1.857	2.519	1.605
UK		3.574		3.148
U.S.		-.815		-.775
<i>F</i>	5.24 ***	3.27 ***	4.91 ***	2.95 ***
<i>R</i> ²	.22	.34	.23	.34
Adjusted <i>R</i> ²	.22	.34	.22	.32
$\Delta R^2 (M2 - M1; M4 - M3)$		.12 ***		.11 ***
$\Delta R^2 (M4 - M2)$				.00
<i>n</i>	278	278	278	278

Note: All regressions include fixed-effects for sellers and dummies for the different gold coins.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

The results for the Compact Discs sample are presented in Table 32. The results of Model 4 show that the interaction effects between negative feedback and the UK as well as between negative feedback and the U.S. are not significant. Moreover, the interaction effects between positive feedback and the UK as well as positive feedback and the U.S. are not significant. Therefore, for the Compact Disc sample, Hypothesis 2b is not supported. The results of the control variables and their interactions in Model 4 show that the interaction effects between PayPal and the UK as well as between PayPal and the U.S. are positive and significant. These results suggest that PayPal has a stronger positive effect for the UK and the U.S. sample, compared to the German sample. The interaction effects between picture and the UK as well as between picture and the U.S. are negative and significant. This result shows that pictures have a stronger positive effect for the German sample, compared to the UK and the U.S. samples. The interaction effect between the start price and the UK as well as between the start price and the U.S. are negative and significant. This result shows that the start price has a stronger negative effect for the UK and the U.S. samples, compared to the German sample.

Table 33 presents the results for the digital camera sample. The results of Model 4 show that the interaction effect between negative feedback and the UK is positive and significant ($\beta = 0.404$, $p < 0.05$). The interaction effect between positive feedback and the UK is negative and shows a tendency towards significance ($\beta = -0.115$, $p < 0.05$). Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.05$), indicating that the differences in the effects between the countries are significant. Compared to Model 2, the main independent variables and their respective interaction terms, included in Model 4, significantly increase the explained variance ($\Delta R^2 = 0.05$). These results provide partial support for Hypothesis 2b. This finding suggests that for the German sample, seller reputation has a stronger effect on the number of bidders, compared to the UK sample. The results of the control variables and their interactions in Model 4 show that the interaction between picture and the UK as well as between picture and the U.S. is negative and significant, suggesting that pictures have a stronger positive effect for the German sample, compared to the UK and the U.S. samples.

The results for the silver coin sample are presented in Table 34. The results of Model 4 show that the interaction effects between negative feedback and the UK ($\beta = 0.253$, $p < 0.05$) as well as between negative feedback and the U.S. ($\beta = 0.169$, $p < 0.05$) are positive and significant. Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.02$), indicating that the differences in the effects between the countries are significant. Compared to Model 2, the main independent variables and their respective interaction terms, included in Model 4, significantly increase the explained variance ($\Delta R^2 = 0.01$). This result provides support for Hypothesis 2b. This finding suggests that negative feedback has a stronger negative effect on the number of bidders for the German sample,

compared to the UK and the U.S. samples. The results of the control variables and their interactions in Model 4 show that the interaction between the start price and the UK as well as between the start price and the U.S. is negative and significant. This result shows that start prices have a stronger negative effect on the number of bidders for the UK and the U.S. samples, compared to the German sample.

Table 35 shows the results for the gold coin sample. The results of Model 4 show that the interaction effects between negative feedback and the UK as well as between negative feedback and the U.S. are not significant. Moreover, the interaction effects between positive feedback and the UK as well as positive feedback and the U.S. are not significant. Therefore, Hypothesis 2b is not supported for the gold coin sample.

In the following, the effect of seller reputation on the auction price is analyzed and compared between countries. The auction price is the dependent variable used in the second stage of the 2SLS regression analysis. Hypothesis 1c states that auctions of more reputable sellers result in higher prices and auctions of less reputable sellers result in lower prices. Table 36 presents the results for homogeneous items. For all three countries, negative feedback has a negative and significant effect on the auction price. Positive feedback has a positive and significant effect on the auction price for the U.S. sample. For the German digital camera sample, negative feedback has a negative significant effect on the auction price. Positive feedback has a positive and significant effect on the auction price for the Compact Discs samples in all three countries. Beside the effects of the main independent variables, several of the control variables affect the auction price. The number of bidders has a positive and significant effect on the auction price for the Compact Discs samples in all three countries. For the digital camera sample, the number of bidders has a positive and significant effect on the auction price for both the German and the U.S. data. These results suggest that higher numbers of bidders increase the auction price and those variables affecting the number of bidders indirectly determine the auction price through the number of bidders attracted to an auction. For the UK as well as for the U.S. Compact Disc samples, PayPal has a positive and significant effect on auction prices.

Table 36: Results of Regression Analysis – Auction Price (Unused Items)

Variables	Compact Discs			Digital Cameras		
	GE	UK	U.S.	GE	UK	U.S.
Negative feedback	-.014* (.006)	-.025*** (.007)	-.025*** (.009)	-.021* (.011)	-.025 (.026)	.001 (.010)
Positive feedback	.006 (.005)	.005 (.005)	.020* (.008)	.009* (.003)	.022† (.014)	.136** (.033)
Bidders (residual)	.121** (.011)	.093** (.011)	.153** (.015)	.024* (.010)	-.001 (.019)	.015** (.006)
Bold	-.019 (.040)	.030 (.06)	-.245 (.196)	.026 (.019)	.001 (.030)	.002 (.013)
Competition	-.070** (.010)	-.032* (.014)	.040 (.035)	-.004 (.011)	.004 (.028)	-.014 (.009)
Description	.014 (.013)	-.017 (.018)	-.005 (.028)	-.001 (.006)	-.000 (.036)	.003 (.006)
Duration	-.005 (.008)	.024* (.012)	.035* (.015)	-.006 (.008)	.029 (.019)	.004 (.006)
Gallery	.025 (.016)	.027** (.010)	.111** (.024)	-.014 (.010)	.048 (.033)	.031** (.008)
PayPal	-.000 (.014)	.064** (.015)	.414** (.049)	.009 (.018)	.126* (.060)	-.007 (.015)
Picture	.074** (.015)	-.004 (.010)	.010 (.024)	.023 (.022)	.065 (.060)	-.007 (.010)
Shipping costs	.093** (.020)	.200** (.019)	.212** (.018)	.010 (.010)	.075* (.033)	.018** (.004)
Start price	.015 (.010)	.010 (.009)	.041* (.018)	-.021 (.013)	.042 (.028)	.001 (.009)
Time	-.030** (.009)	-.001 (.009)	.022 (.018)	.010 (.009)	.018 (.025)	.001 (.006)
Weekend	-.034* (.016)	.021 (.012)	-.004 (.021)	.004 (.012)	-.042 (.027)	-.005 (.007)
Intercept	2.777*** (.122)	1.752*** (.178)	1.543*** (.283)	5.329*** (.079)	4.171*** (.384)	4.202*** (.179)
<i>F</i>	123.12 ***	24.07 ***	33.49 ***	90.98 ***	180.13 ***	494.52 ***
<i>R</i> ²	.77	.39	.60	.96	.99	.94
<i>Adjusted R</i> ²	.77	.39	.60	.95	.99	.57
<i>n</i>	893	909	532	125	86	1127

Note: Regression coefficients with standard errors in parentheses, all regressions include fixed-effects for sellers and dummies for the different Compact Discs and digital cameras.

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 37 presents a summary of the results for feedback score and neutral feedback, predicting the auction price for the homogeneous items. The regression coefficients of the control variables are not presented because they are similar to those shown in Table 36.

Table 37: Summary of Regression Results – Auction Price (Unused Items)

Variables	Compact Discs			Digital Cameras		
	GE	UK	U.S.	GE	UK	U.S.
Feedback score	-.003 (.006)	-.002 (.005)	.005 (.007)	.004 (.005)	-.017 (.013)	-.001 (.002)
<i>Adjusted R²</i>	.57	.38	.60	.96	.98	.94
Neutral feedback	.015 (.008)	-.025*** (.007)	-.007 (.009)	.002 (.006)	-.015 (.026)	-.006* (.003)
<i>Adjusted R²</i>	.57	.39	.60	.96	.98	.94

Note: Regression coefficients with standard errors in parentheses, all regressions include fixed-effects for sellers and dummies for the different Compact Discs and digital cameras.

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

The feedback score has no significant effect on the auction price for both homogeneous items. Neutral feedback has a negative and significant effect on the auction price for the UK Compact Disc sample as well as the U.S. digital camera sample. Overall, in the examined countries, for the two homogenous items, at least one of the four reputation variables has a significant effect on the auction price. This provides support for Hypothesis 1c.

Table 38 presents the results for heterogeneous goods. Negative feedback has a negative and significant effect on the auction price for the German silver coin sample. Positive feedback has a positive and significant effect on the auction price for the silver coin sample in all three countries. Negative feedback has a negative effect on the auction price for the U.S. gold coin sample. Contrary to the hypothesized relation, negative feedback has a positive effect on the auction price for the UK gold coin sample. Positive feedback has a positive and significant effect on the auction price for the German as well as the U.S. gold coin sample. Besides the results for the main independent variables, several of the control variables show the same effects across countries. In all three countries, the number of bidders has a positive effect on the auction price for the silver coin sample, showing that also for the silver coin sample the number of bidders increases the auction price. In all three countries, start price has a positive effect on the auction price for the silver coin sample.

Table 38: Results of Regression Analysis – Auction Price (Used Items)

Variables	Silver Coins			Gold Coins		
	GE	UK	U.S.	GE	UK	U.S.
Negative feedback	-.121** (.033)	.026 (.042)	.005 (.005)	-.004 (.005)	.022** (.007)	-.011** (.004)
Positive feedback	.092** (.020)	.103** (.037)	.033** (.005)	.003 [†] (.001)	-.001 (.003)	.010** (.003)
Bidders (residual)	.256** (.036)	.175** (.038)	.132** (.006)	.025** (.006)	-.000 (.006)	-.000 (.004)
Bold	-.168 (.154)	.183 (.218)	.138** (.037)	-.010 (.009)	-.042 (.029)	.007 (.008)
Competition	.035 (.041)	.091 (.082)	-.020 (.014)	-.000 (.005)	-.007 (.009)	.004 (.006)
Description	-.091* (.043)	.076 (.053)	.036** (.007)	.007 (.005)	.029* (.011)	-.002 (.005)
Duration	.099* (.050)	-.130 (.113)	.002 (.007)	-.002 (.004)	.005 (.009)	.010 (.007)
Gallery	.114* (.050)	.268** (.086)	.087** (.007)	.008 [†] (.004)	.008 (.009)	-.004 (.006)
PayPal	.112* (.056)	-.210 (.116)	.037** (.013)	.001 (.005)	.000 (.000)	.011 (.007)
Picture	-.094 (.087)	-.370* (.165)	.034** (.011)	.010 (.015)	-.011 (.009)	.003 (.007)
Shipping costs	.232** (.049)	.298** (.073)	.149** (.006)	-.008 [†] (.005)	.012 (.007)	.005** (.002)
Start price	.204** (.043)	.227** (.069)	.012 [†] (.007)	-.005 (.005)	.001 (.007)	-.001 (.005)
Time	-.080 [†] (.048)	-.142* (.060)	-.022** (.007)	.010* (.004)	-.009 (.009)	-.005 (.006)
Weekend	.043 (.046)	-.063 (.062)	-.002 (.008)	-.007 (.005)	.038* (.015)	.003 (.005)
Intercept	2.347*** (.434)	.176*** (.601)	.582*** (.084)	6.078*** (.045)	5.761*** (.131)	6.281*** (.052)
<i>F</i>	55.64 ***	29.16 ***	503.75 ***	3.32 **	4.79 ***	2.43 **
<i>R</i> ²	.87	.88	.68	.39	.55	.29
<i>Adjusted R</i> ²	.84	.84	.68	.32	.48	.12
<i>n</i>	192	116	5195	91	67	120

Note: Regression coefficients with standard errors in parentheses, all regressions include fixed-effects for sellers and dummies for the different silver coins and gold coins.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 39 presents a summary of the results for feedback score and neutral feedback, predicting the auction price for the heterogeneous items. The regression coefficients of the control variables are not presented because they are similar to those shown in Table 38.

Table 39: Summary of Regression Results – Auction Price (Used Items)

Variables	Silver Coins			Gold Coins		
	GE	UK	U.S.	GE	UK	U.S.
Feedback score	.061** (.019)	.111** (.036)	.034*** (.004)	.001 (.001)	.002 (.004)	.006* (.002)
<i>Adjusted R²</i>	.86	.87	.68	.39	.52	.24
Neutral feedback	-.052* (.021)	.113* (.046)	.036*** (.005)	.008 (.007)	-.002 (.008)	.004 (.005)
<i>Adjusted R²</i>	.85	.87	.68	.39	.52	.20

Note: Regression coefficients with standard errors in parentheses, all regressions include fixed-effects for sellers and dummies for the different silver coins and gold coins.

† $p < .10$
 * $p < .05$
 ** $p < .01$
 *** $p < .001$

The feedback score has a positive and significant effect on the auction price for the silver coin samples in all three countries. While neutral feedback has a negative effect on the auction price for the German silver coin sample, it has a positive effect on the auction price for the UK and the U.S. sample. The feedback score has a positive and significant effect on the auction price for the U.S. gold coin sample. The results for both feedback score and neutral feedback have to be interpreted in light of the correlation coefficients. The feedback score and positive feedback are strongly correlated in each of the three countries. As a result, both variables positively affect the auction price. Neutral feedback has a positive and significant effect on the auction price for the UK as well as the U.S. silver coin sample. The correlation results suggest that sellers with a high number of positive feedbacks are more likely to have neutral feedbacks as well. For the silver coin sample, the positive effect of neutral ratings, therefore, suggests that in the UK and the U.S., bidders evaluate sellers' reputation based rather on their positive feedback than on their neutral feedback. Overall, in the examined countries, for the two heterogeneous items, at least one of the reputation variables has a significant effect on the auction price. This provides support for Hypothesis 1c.

Hypothesis 2c states that auctions of more reputable sellers result in higher auction prices and auctions of less reputable sellers result in lower auction prices in Germany, compared to the UK and the U.S. Tables 40 to 43 show the results of moderated hierarchical regression analysis for the Compact Discs sample, the digital camera sample, the silver coin sample, and the gold coin sample.

Table 40: Results of Moderated Regression Analysis – Compact Disc Sample

Variables	Auction Price			
	(1)	(2)	(3)	(4)
Bidders (residual)	.132***	.120***	.133***	.120***
UK x Bidders (residual)		-.028		-.028
U.S. x Bidders (residual)		.034*		.033 [†]
Bold	-.025	-.014	-.021	-.014
UK x Bold		.033		.046
U.S. x Bold		-.263 [†]		-.240
Competition	-.023*	-.070***	-.023*	-.069***
UK x Competition		.035 [†]		.037 [†]
U.S. x Competition		.087***		.097**
Description	-.012	.012	-.006	.015
UK x Description		-.027		-.030
U.S. x Description		-.032		-.023
Duration	-.004	-.007	-.003	-.005
UK x Duration		.026		.029 [†]
U.S. x Duration		.036*		.034*
Gallery	.059***	.027	.055***	.023
UK x Gallery		.002		.003
U.S. x Gallery		.067**		.077**
PayPal	.064***	-.003	.064***	.001
UK x PayPal		.070**		.064**
U.S. x PayPal		.452***		.420***
Picture	.024*	.071***	.023*	.073***
UK x Picture		-.072***		-.076***
U.S. x Picture		-.082**		-.063**
Shipping costs	.129***	.089***	.132***	.091***
UK x Shipping costs		.114***		.109***
U.S. x Shipping costs		.108***		.111***
Start price	-.003	.015	-.004	.013
UK x Start price		-.005		-.004
U.S. x Start price		.029		.032 [†]
Time	.003	-.029**	.002	-.028**
UK x Time		.029*		.026 [†]
U.S. x Time		.070***		.058**
Weekend	.012	-.032 [†]	.010	-.032 [†]
UK x Weekend		.057*		.053*
U.S. x Weekend		.032		.030
Negative feedback			-.015**	-.013 [†]
UK x Negative feedback				-.012
U.S. x Negative feedback				-.010
Positive feedback			.002	.002
UK x Positive feedback				.003
U.S. x Positive feedback				.018**
Constant		2.403***		2.522***
UK		.348		.282
U.S.		-1.012**		-1.161***
<i>F</i>	46.44 ***	61.09 ***	43.04 ***	57.05 ***
<i>R</i> ²	.30	.64	.30	.64
<i>Adjusted R</i> ²	.30	.64	.30	.64
$\Delta R^2 (M2 - M1; M4 - M3)$		.34 ***		.34 ***
$\Delta R^2 (M4 - M2)$				.00
<i>n</i>	2334	2334	2334	2334

Note: All regressions include fixed-effects for sellers and dummies for the different Compact Discs.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 41: Results of Moderated Regression Analysis – Digital Camera Sample

Variables	Auction Price			
	(1)	(2)	(3)	(4)
Bidders (residual)	.016*	.023	.017*	.023
UK x Bidders (residual)		-.024		-.023
U.S. x Bidders (residual)		-.006		-.005
Bold	.024	.019	.021	.022
UK x Bold		-.034		-.025
U.S. x Bold		.000		-.006
Competition	-.025***	.005	-.024***	-.002
UK x Competition		-.010		.000
U.S. x Competition		-.013		-.006
Description	.008	.007	.010	.004
UK x Description		.000		-.005
U.S. x Description		-.019 [†]		-.014
Duration	-.011 [†]	-.001	-.009 [†]	.000
UK x Duration		.026		.032
U.S. x Duration		-.010		-.010
Gallery	.022**	-.009	.023**	-.008
UK x Gallery		.054		.051
U.S. x Gallery		.039*		.038*
PayPal	-.088***	.018	-.091***	.015
UK x PayPal		.112 [†]		.119 [†]
U.S. x PayPal		-.025		-.023
Picture	.040***	.010	.035***	.010
UK x Picture		.020		.046
U.S. x Picture		-.001		-.003
Shipping costs	.023***	.017	.024***	.013
UK x Shipping costs		.049		.071*
U.S. x Shipping costs		.010		.014
Start price	-.014	.001	-.017 [†]	-.013
UK x Start price		.016		.046
U.S. x Start price		.008		.021
Time	-.004	.007	-.006	.009
UK x Time		.026		.009
U.S. x Time		-.005		-.008
Weekend	-.007	.005	-.007	.007
UK x Weekend		-.048		-.055 [†]
U.S. x Weekend		-.006		-.008
Negative feedback			-.019**	-.011
UK x Negative feedback				-.017
U.S. x Negative feedback				.001
Positive feedback			-.001	.007
UK x Positive feedback				.011
U.S. x Positive feedback				-.006
Constant	4.178***	3.752***	4.176***	3.848***
UK		-.901 [†]		-.764
U.S.		.596**		.546**
<i>F</i>	384.05 ***		355.70 ***	369.63 ***
<i>R</i> ²	.86	.95	.86	.95
<i>Adjusted R</i> ²	.86	.95	.86	.95
$\Delta R^2 (M2 - M1; M4 - M3)$		.09		.09 ***
$\Delta R^2 (M4 - M2)$				.00
<i>n</i>	1338	1338	1338	1338

Note: All regressions include fixed-effects for sellers and dummies for the different digital cameras.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 42: Results of Moderated Regression Analysis – Silver Coin Sample

Variables	Auction Price			
	(1)	(2)	(3)	(4)
Bidders (residual)	.135***	.225*	.136***	.233***
UK x Bidders (residual)		-.069†		-.073
U.S. x Bidders (residual)		-.092*		-.101**
Bold	.142***	-.042	.142***	-.061
UK x Bold		.336		.332
U.S. x Bold		.176		.197
Competition	-.057***	.032*	-.062***	.028
UK x Competition		.090†		.086
U.S. x Competition		-.054*		-.050
Description	.044***	-.154*	.041***	-.107*
UK x Description		.283†		.228***
U.S. x Description		.195*		.144**
Duration	.012†	.122*	.012†	.089†
UK x Duration		-.183		-.182†
U.S. x Duration		-.121*		-.088†
Gallery	.090***	.134†	.089***	.127*
UK x Gallery		.129†		.147
U.S. x Gallery		-.046†		-.040
PayPal	-.001	.079†	-.004	.090
UK x PayPal		-.311		-.326**
U.S. x PayPal		-.043†		-.054
Picture	.023*	.130†	.033**	.022
UK x Picture		-.564		-.436*
U.S. x Picture		-.112†		.011
Shipping costs	.150***	.167*	.151***	.223***
UK x Shipping costs		.150†		.086
U.S. x Shipping costs		-.020*		-.074
Start price	.024**	.181*	.024**	.208***
UK x Start price		.013†		-.008
U.S. x Start price		-.169*		-.196***
Time	-.027***	-.111*	-.026***	-.097*
UK x Time		-.020†		-.042
U.S. x Time		.088*		.076
Weekend	.006	.083*	.009	.047
UK x Weekend		-.189†		-.142*
U.S. x Weekend		-.086*		-.049
Negative feedback			.001	-.129***
UK x Negative feedback				.132**
U.S. x Negative feedback				.135***
Positive feedback			.033	.047**
UK x Positive feedback				-.013
U.S. x Positive feedback				-.010
Constant	.326***	.842*	.0147*	.429
UK		-.886		-.664
U.S.		-.681		-.467
<i>F</i>	614.86 ***	217.62 ***	566.02 ***	202.64 ***
<i>R</i> ²	.68	.69	.68	.70
<i>Adjusted R</i> ²	.67	.69	.67	.70
$\Delta R^2 (M2 - M1; M4 - M3)$		.01		.02 ***
$\Delta R^2 (M4 - M2)$				.01 *
<i>n</i>	5503	5503	5503	5503

Note: All regressions include fixed-effects for sellers and dummies for the different silver coins.

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 43: Results of Moderated Regression Analysis – Gold Coin Sample

Variables	Auction Price			
	(1)	(2)	(3)	(4)
Bidders (residual)	.005	.025***	.005	.025***
UK x Bidders (residual)		-.024*		-.025**
U.S. x Bidders (residual)		-.025**		-.025**
Bold	.003	-.014	.006	-.015
UK x Bold		-.032		-.019
U.S. x Bold		.018		.021
Competition	.003	.000	.002	.001
UK x Competition		-.008		-.009
U.S. x Competition		.009		.007
Description	.006*	.010 [†]	.006*	.010 [†]
UK x Description		.003		-.016
U.S. x Description		-.018*		-.015*
Duration	.006 [†]	-.001	.004	-.002
UK x Duration		.034*		.024
U.S. x Duration		.016*		.017*
Gallery	.005	.007	.002	.004
UK x Gallery		-.002		.000
U.S. x Gallery		-.002		-.002
PayPal	.006 [†]	.000	.006 [†]	.002
UK x PayPal		.005		.009
U.S. x PayPal		.008		.009
Picture	.004	.011	.008	.012
UK x Picture		dropped		dropped
U.S. x Picture		-.017		-.017
Shipping costs	.005*	-.009 [†]	.005*	-.008
UK x Shipping costs		.009		-.042
U.S. x Shipping costs		.018**		.016**
Start price	-.003	-.006	-.004	-.008
UK x Start price		-.001		.003
U.S. x Start price		.004		.006
Time	.006 [†]	.009 [†]	.006 [†]	.009
UK x Time		.005		.005
U.S. x Time		-.013 [†]		-.012
Weekend	-.003	-.007	-.003	-.006
UK x Weekend		.008		.010
U.S. x Weekend		.009		.008
Negative feedback			-.002	-.001
UK x Negative feedback				.032*
U.S. x Negative feedback				-.001
Positive feedback			.004**	.003 [†]
UK x Positive feedback				-.004
U.S. x Positive feedback				.000
Constant	6.054***	6.058***	6.040***	6.053***
UK		-.099		.020
U.S.		.066		.046
F	2.66 ***	2.85 ***	2.99 ***	2.77 ***
R ²	.13	.37	.17	.39
Adjusted R ²	.11	.36	.15	.38
$\Delta R^2 (M2 - M1; M4 - M3)$		.24 ***		.22 ***
$\Delta R^2 (M4 - M2)$				.02 ***
n	278	278	278	278

Note: All regressions include fixed-effects for sellers and dummies for the different gold coins.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

The results for the Compact Disc sample are shown in Table 40. The results of Model 4 show that the interaction effects between negative feedback and the UK as well as between negative feedback and the U.S. are not significant. Furthermore, the interaction effects between positive feedback and the UK as well as between positive feedback and the U.S. are not significant. Therefore, in the Compact Discs sample, Hypothesis 2c is not supported. The results of the control variables show that the interaction effects between PayPal and the UK as well as between PayPal and the U.S. are positive and significant. The interaction effects between picture and the UK as well as between picture and the U.S. are negative and significant.

Table 41 presents the moderated regression results for the digital camera sample. The results of Model 4 show that the interaction effects between negative feedback and the UK as well as between negative feedback and the U.S. are not significant. Moreover, the interaction effects between positive feedback and the UK as well as positive feedback and the U.S. are not significant. In the digital camera sample, therefore, Hypothesis 2c is not supported.

The moderated regression results for the silver coin sample are given in Table 42. The results of Model 4 show that the interaction effects between negative feedback and the UK ($\beta = 0.132$, $p < 0.01$) as well as between negative feedback and the U.S. ($\beta = 0.135$, $p < 0.001$) are positive and significant. Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.02$), indicating that the differences in the effects between the countries are significant. Compared to Model 2, the main independent variables and their respective interaction terms included in Model 4, significantly increase the explained variance ($\Delta R^2 = 0.01$). Therefore, in the silver coin sample Hypothesis 2c is supported by negative feedback, indicating that for the German sample seller reputation has a stronger effect on the auction price, compared to the effect of reputation for the UK and the U.S. samples. The interaction between description and the UK as well as between description and the U.S. are positive and significant. The interaction effects between the number of bidders and the UK as well as between the number of bidders and the U.S. are negative and significant.

Table 43 shows the moderated regression results for the gold coin sample. The results of Model 4 show that the interaction effect between negative feedback and the UK is positive and significant ($\beta = 0.032$, $p < 0.05$). Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.22$), indicating that the differences in the effects between the countries are significant. Compared to Model 2, the main independent variables and their respective interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.02$). Therefore, in the gold coin sample, Hypothesis 2c is supported by negative feedback. This result indicates that for the German sample, seller reputation has a stronger effect on the auction price, compared to the UK and the U.S. sam-

ples. The results of the control variables in Model 4 show that the interaction effects between the number of bidders and the UK as well as between the number of bidders and the U.S. are negative and significant. This result suggests that the number of bidders positively affects the auction price and the effect is stronger for the German sample, compared to the UK and the U.S. samples. Variables that affect the number of bidders, thus, have a stronger indirect effect on the auction price for the German sample, compared to the UK and the U.S. samples. Summaries of the results for the four items and the three countries are given in Appendix Part 2.

4.2 Discussion and Consequences – Study 1

This first study contributes to the research literature on the relation between seller reputation and online auction outcomes and on the moderating influence of national institutional frameworks on this relation. The main findings of the within-country analysis in the preceding sections have shown that seller reputation affects the number of bidders and the auction price. The main findings of the between-country analysis have shown that the strength of the effects of seller reputation on the number of bidders and on the auction price differ across countries. The following section discusses the findings, examines how they relate to previous studies, and provides consequences for transaction partners and online auction markets. The key contribution of this study is the additional insight into the effects of seller reputation on auction outcomes by providing empirical evidence for differences in reputation effects across countries. Table 44 summarizes the results for the hypotheses tests for each sample. As shown on the left-hand side of Table 44, the findings suggest that auctions of more reputable sellers attract a higher number of bidders and auctions of less reputable bidders attract a lower number of bidders. In particular, seller reputation has an effect on the number of bidders for the Compact Disc and the silver coin samples, both covered under eBay's buyer protection. The results also show that the strength of the effect of negative seller reputation on the number of bidders differs between countries for the silver coin sample. As the coins included in this sample are used, the different coins have a different quality. Consequently, the uncertainty about the item quality is higher compared to the unused items (Compact Discs, digital cameras). Therefore, the overall inherent general uncertainty in online auction transactions is higher for the silver coin sample.

Table 44: Summary of Hypotheses Tests – Study 1

Variables/ Samples	Number of Bidders				Auction Price			
	H1b			H2b Moderation	H1c			H2c Moderation
	GE	UK	U.S.		GE	UK	U.S.	
Compact Discs								
Negative feedback	-		-		-	-	-	
Positive feedback		+	+				+	
Feedback score		+						GE>U.S.
Neutral feedback						-		
Digital Cameras								
Negative feedback				GE<UK	-			
Positive feedback				GE>UK	+	+	+	
Feedback score								
Neutral feedback							-	
Silver Coins								
Negative feedback	-		-	GE<UK/U.S.	-			GE<UK/U.S.
Positive feedback					+	+	+	
Feedback score					+	+	+	GE>U.S.
Neutral feedback	-			GE<UK/U.S.	-			GE<UK/U.S.
Gold Coins								
Negative feedback				GE<UK			-	
Positive feedback		+			+		+	
Feedback score		+					+	
Neutral feedback								

Note: "-" denotes significant negative effects and "+" denotes significant positive effects that are in line with the proposed relations. Non-significant results are left blank. A summary of moderated regression results for feedback score, neutral feedback, and the UK and U.S. comparisons is presented in Appendix 2.

As described in Sections 2.2.1 and 2.2.2, the three countries under study, Germany, the UK, and the U.S., differ in their formal and informal institutions. Compared to the UK and the U.S., German bidders are characterized by a lower level of interpersonal trust, higher uncertainty avoidance, and the use of a lawyer rather than eBay's dispute resolution center to resolve a dispute. Prospective and actual bidders' evaluations of the item under auction are affected by the respective national institutional framework. Differences in the formal and informal institutions across countries, therefore, result in behavioral differences across countries. Bidders influenced by one institutional framework might behave differently in terms of the auction they are attracted to and in terms of the value bidders assigned to an item and a seller's reputation. The economic incentives to enforce the auction contract in the case of a dispute are lower for the silver coin sample, compared to items with higher monetary values and higher incentives to enforce the auction contract. Even though eBay's buyer protection covers the items included in the silver coin sample, eBay's dispute resolution procedure takes between 14 and 75 days for eBay Germany (eBay, 2009j), between 14 and 90 days for eBay UK (eBay, 2009k), and about ten days for eBay's dispute resolution provider SquareTrade in

the U.S. (eBay, 2009I). The dispute resolution procedure, therefore, would possibly be related to opportunity costs of time for the buyer. As a result, prospective bidders avoid auctions of sellers with a history of negative feedback ratings. German bidders are less attracted to auctions of less reputable bidders and this effect is stronger compared to UK and U.S. bidders. An equal finding emerged for the auction price results. As shown on the right-hand side of Table 44, the findings suggest that auctions of more reputable sellers result in higher auction prices and auctions of less reputable sellers result in lower auction prices. The results show that the strength of the effect of negative seller reputation on the price differs between countries for the silver coin sample, indicating that bidders assign a lower value to auctions of less reputable sellers. In summary, the findings suggest that the relation between negative seller reputation and the number of bidders as well as between negative seller reputation and the auction price are moderated by national institutional frameworks for used items with low average price. These results are in line with the findings of Hou (2007d), Vishwanath (2004) as well as Zhu, Leboulanger, and Li (2009) and contribute to these efforts by establishing a relation between different product characteristics and their influence on the effect of reputation on the various online auction outcomes. By examining these relations, this study begins to answer calls to include the influence of cross-country differences on the establishment of trust in electronic commerce (Gefen & Heart, 2006; Gefen, Benbasat, & Pavlou, 2008; Ye, Li, Kiang, & Wu, 2009).

The results of this study shed light on the influence of seller-controlled auction characteristics on auction outcomes and the cross-country differences in these effects. Some of the control variables have an effect on auction outcomes. Sellers that accepted eBay's payment service PayPal attracted a higher number of bidders and resulted in a higher auction price for none of the German samples, two of the UK samples, and three of the U.S. samples, respectively for each of the auction outcomes. The findings of the descriptive statistics and the regression analysis suggest that: While PayPal is accepted by sellers and rewarded by bidders for the UK and the US samples, PayPal is accepted less often by sellers and not rewarded by bidders for the German sample. An explanation for this finding is that payment methods differ across countries. Zhang and Li (2006) examined the payment methods for 260 U.S. eBay sellers and found that credit cards accounted for 72% of the payments, the majority of which being rendered via PayPal (61.5%) and eBay (8.85%). Moreover, their findings showed that payment in advance accounted for 12.7% of the transactions, while personal checks accounted for 10.8%. Erlenkämper (2005) examined a sample of 1,017 German eBay sellers and found that payment in advance accounted for 85% of payments, while PayPal and credit cards accounted for none of the payments. Even though there is no available data for payment methods for the UK, given the high number of sellers accepting PayPal in the UK and the U.S. in this study, the findings above suggest that buyers in the UK and the U.S. prefer PayPal and credit cards compared to payment in advance via bank transfer. Buyers that prefer to use their credit card

might have an incentive to give their credit card number just to PayPal instead of giving the credit card number to several sellers. The country-specific adoption of home-based online banking might influence the preferred payment methods as well. At the time of the data collection, home-based online banking was used by about 25% of U.S. households compared to about 40% of German and UK households (Deutsche Bank Research, 2006). So, buyers in the U.S. might use PayPal to pay online because they use no home-based online banking. The difference in the acceptance of PayPal might also be an alternative explanation for the differences in the effect of reputation. In the case the buyer does not receive the item, or the item is significantly different from its description in the seller's listing, PayPal Buyer Protection covers the transactions for up to the full auction price plus shipping and handling charges. As a result, seller reputation might be less important to buyers in the UK and the U.S. In the third study (Chapter 6), this alternative explanation for differences in reputation effects between countries is examined.

The results show that the number of bidders has a significant effect on the auction price for all four German samples, two of the UK samples, and three of the U.S. samples. Variables that affect the number of bidders thereby indirectly influence the auction price. Moreover, this finding indicates that the conducted 2SLS procedure is an adequate method for estimating the auction price while considering the potential effect of the number of bidders and the auction price. Only 3 of 17 previous studies accounted for potential multicollinearity among independent variables. The meta-analysis presented in section 2.1.4 shows that in particular the start price influences the number of bidders and the number of bids. In light of these findings it can be suggested that previous results for auction prices have been influenced by multicollinearity. The results of this study show that the start price a seller sets for an auction negatively affects the number of bidders attracted to an auction for three of the German samples, three of the UK samples, and all four U.S. samples. This finding suggests that a reverse anchoring effect, as described by Ku, Galinsky, and Murnighan (2006), was existing for auctions with a start price. These auctions resulted in a significantly lower number of bidders for all three countries. This result is in line with findings of six studies regarding the number of bidders and with seven studies regarding the number of bids, presented in the meta-analysis in Section 2.1.4, which observe that the start price negatively affects participation. In addition, the results of the between-country analysis show that start prices have a stronger negative effect for the German Compact Discs and silver coin samples, compared to the UK and the U.S. Compact Discs and silver coin samples. Overall, these findings suggest that first, the start price in particular negatively influences the number of bidders for items with a low monetary value and, second, that the strength of this reverse anchoring effect differs across countries. In contrast to the findings by 29 studies presented in the meta-analysis in Section 2.1.4, which show that the start price increases the auction price, the results of the present study show no clear effect direction for the German and the UK data. The results show that the start price positive-

ly affects the auction price for one of the German samples, one of the UK samples, and three of the U.S. samples. The results of the between-country analysis shows that start prices have a stronger positive effect for the German silver coin sample, compared to the UK and the U.S. silver coin samples, thus, suggesting that start prices have a stronger positive anchoring effect for the German sample, compared to the UK and the U.S. samples. An explanation for this finding is a difference in price-knowledge across the three countries as all silver coins included in the sample are U.S. coins. As a result, native speakers and in particular U.S. buyers might have comparably more price information.

The results of this study combined with conclusions from previous research on the determinants of online auction outcomes, offer practical consequences for online auction market providers, sellers, and bidders. The findings suggest that country-specific reputation systems may improve transaction efficiency in online auction markets. The eBay marketplaces in the different countries use the same reputation system. The findings of this study suggest that bidders in different countries include sellers' feedback ratings into their valuation of the item to a different degree in different countries. While previous research (Standifird, 2001; Lucking-Reiley et al., 2007) shows that negative feedback has a stronger effect on auction outcomes than positive feedbacks, the results of the current study show that the strength of the effect of negative feedback varies across countries. In Germany, bidders tend to pay even more attention, especially to negative feedbacks, compared to the UK and the U.S. Reputation systems that include the participation of prospective and successful bidders depend on bidders' preferences (Jøsang, Ismail, & Boyd, 2005). Reputation systems that are designed according to the country-specific preferences may include different reputation indicators that reflect the respective preferences. In addition to the feedback score as well as the total number of negative and positive ratings, online auction markets may show the ratios of negative and positive feedbacks for different periods of sellers past transactions (e.g., one month, six months, twelve months). Moreover, bidders in different countries might interpret eBay's neutral feedbacks in different ways. While, bidders in one country might interpret neutral ratings rather as negative feedbacks than as neutral feedbacks, bidders from another country might interpret neutral feedbacks as truly neutral feedbacks.

Furthermore, the findings suggest that country-specific item listings on eBay's marketplaces may improve the efficiency of the item search mechanism. Item listings that account for prospective bidders' preferences, e.g., to avoid less reputable sellers, reduce the inefficiencies caused by bidders' search costs (Bakos, 1997, 2001). The categorization of sellers in eBay's seller search options includes "specific sellers", "sellers with eBay stores", "my saved sellers", and "eBay Top-rated sellers". Listings based on a more detailed seller categorization, which includes, e.g., sellers without feedback ratings, sellers with positive feedback ratings above a defined threshold, or sellers with below a defined ratio of negative and positive feed-

back ratings, reduce prospective bidders search costs. Furthermore, inclusion of the information if item sellers received their feedback based on transactions as a buyer or a seller reduces bidders' search cost. At the time of data were collected, bidders were not able to search for a seller's transactions as a seller and a buyer. Currently, bidders can search a seller's detailed feedback profile for the seller's feedback as a seller and as a buyer but this information is not included in eBay's item search options. In line with Gregg and Scott (2006) the findings suggest that a more visible and separate presentation of negative and neutral feedbacks would improve bidders' access to those reputation indicators that have the strongest influence on their value assessment. At the time the data were collected it was not possible for bidders to search sellers feedback profile separately for negative, neutral, and positive feedback ratings in all three countries. Currently, bidders in Germany and the UK can search separately for a seller's negative, neutral, and positive transactions conducted in the last twelve months, while this feature is not available for bidders on eBay's U.S. marketplace.

5 The Effects of Buyer Complaint Categories on Auction Outcomes – Analysis and Results of Study 2

In eBay's Feedback Forum, buyers are encouraged not only to rate their transaction partner with a positive, neutral, or negative feedback, but also to provide an explanation for the feedback with a textual comment. As presented in the literature overview in Section 2.3.1, only a small number of empirical studies have examined the different underlying reasons of negative feedback. The purpose of this second study is to investigate the reasons and effects of buyers' negative feedback as well as to compare these reasons and effects between countries. Content analysis of a total of 2,554 eBay XBOX 360 video game console sellers in Germany, the UK, and the U.S. with more than 11,000 text comments of negative feedback ratings is used to identify the reasons for disputes in online auctions to improve the understanding of buyers' dissatisfaction and its effect on bidder behavior in future transactions.

The study proceeds as follows. The first section presents the descriptive statistics for all variables used in the sample. The second section reports the results of the within- and between-country analysis of the effects of quantitative reputation indicators on the three auction outcomes (Hypotheses 1a-c and 2a-c). The third section first presents the negative feedback categories, which are the result of the qualitative analysis. Then, the category frequencies are statistically compared between countries to identify cross-country similarities and differences in the reasons for negative feedback. Finally, the effects of negative feedback categories on the number of bidders and the auction price are examined in a within- and between-country analysis. In the fourth section the results and their consequences are discussed.

5.1 The Effect of Reputation on Auction Outcomes

Following the same procedure as in the first study, the descriptive statistics are provided for the original data and all continuous dependent and independent variables were logarithmized before performing the correlation and regression analysis. As described in Section 3.1.2 two samples were used to test the hypotheses and to explore the research questions. Main dataset I was used to test the relation between seller reputation and the probability of sale. Main dataset II was used to examine the relation between seller reputation and the number of bidders as well as between seller reputation and the auction price. Table 45 shows the means and standard deviations of main dataset I, which includes all auctions that received a bid and all auctions that did not received a bid.

Table 45: Descriptive Statistics – Main Dataset I

Variable	Mean				s.d.			
	GE	UK	U.S.	Total	GE	UK	U.S.	Total
Probability of sale	0.77	0.66	0.90	0.84				
Negative feedback	2.82	3.00	2.14	2.35	9.05	11.42	20.65	18.13
Positive feedback	274.30	343.95	295.77	305.37	722.78	1117.18	1625.66	1475.07
Bold	0.11	0.18	0.26	0.23				
Competition	16.75	26.35	37.89	34.44	16.65	12.75	18.04	16.81
Description	10104.44	9231.11	3999.13	5409.70	6077.77	6706.44	5629.96	5884.09
Duration	4.01	4.07	4.60	4.23	2.22	2.82	1.96	2.30
Gallery	0.61	0.72	0.72	0.71				
PayPal	0.28	0.76	0.93	0.87				
Picture	0.92	0.94	0.85	0.87				
Shipping costs	11.71	18.37	25.26		12.06	11.09	19.47	
Start price	0.26	0.42	0.55	0.50				
Time	0.44	0.50	0.06	0.17				
Weekend	0.37	0.36	0.37	0.37				

Note GE $n = 130$, UK $n = 652$, U.S. $n = 2199$. Dummy variables are given in percent.

The means for negative feedback are about equal in the three countries. The mean for positive feedback is higher for the UK sample, compared to the German and the U.S. samples. PayPal was accepted more often by sellers in the UK and the U.S. samples, compared to sellers in the German sample. The correlation coefficients for main dataset I are presented in Appendix Part 3. The correlation between the probability of sale and positive feedback is positive and significant for all three countries (Germany $r = 0.30$, UK $r = 0.15$, U.S. $r = 0.18$). While PayPal is positively correlated with the probability of sale for the UK ($r = 0.35$) and the U.S. ($r = 0.37$) samples, PayPal is negatively correlated with the probability of sale for the German sample ($r = -0.50$). Table 46 shows the means and standard deviations of main dataset II, which includes all auctions that received a bid. The means for negative feedback are higher for the German and the UK samples, compared to the U.S. sample. The mean for positive feedback is higher for the UK sample, compared to the German and the US samples. PayPal is accepted more often for the UK and the U.S. samples, compared to the German data. The correlation coefficients for main dataset II are presented in Appendix Part 3. Negative feedback is negatively correlated with the auction price for the German sample and the U.S. sample. Positive feedback is positively correlated with the number of bidders and the auction price for both the UK and the U.S. sample. PayPal is positively correlated with the auction price for both the UK and the U.S. sample. The start price is negatively correlated with the number of bidders for all three country samples. Variance Inflation Factors of the variables are calculated to determine if multicollinearity affects in the analyses. Except for the logistic regression analysis for the German sample the VIFs are below 10 and suggest that multicollinearity does not affect the regression estimates.

Table 46: Descriptive Statistics – Main Dataset II

Variable	Mean				s.d.			
	GE	UK	U.S.	Total	GE	UK	U.S.	Total
Bidders	15.50	13.54	11.20		6.53	8.71	6.29	
Price	391.09	338.26	524.57		27.706	35.15	39.00	
Negative feedback	3.14	3.87	2.22	2.53	9.56	13.81	21.69	20.19
Positive feedback	298.17	414.69	308.33	326.11	710.51	1266.94	1701.25	1606.00
Bold	0.08	0.24	0.27	0.26				
Competition	5.64	21.48	88.80	73.93	3.27	11.09	34.18	28.98
Description	11605.22	11669.49	13360.31	11657.34	5489.74	6404.98	7563.46	6237.42
Duration	3.88	3.29	2.85	2.96	2.28	2.30	2.18	2.20
Gallery	0.61	0.80	0.74	0.75				
PayPal	0.16	0.86	0.96	0.91				
Picture	0.97	0.95	0.87	0.88				
Shipping costs	8.27	21.26	33.09		3.59	9.22	17.49	
Start price	0.07	0.34	0.51	0.46				
Time	0.47	0.54	0.45	0.47				
Weekend	0.41	0.39	0.38	0.38				

Note: GE $n = 100$, UK $n = 428$, U.S. $n = 1979$. Dummy variables are given in percent.

Hypothesis 1a states a positive relation between more reputable sellers and the probability of sale as well as a negative relation between less reputable sellers and the probability of sale. Table 47 shows the results of logistic regression analysis, testing of Hypothesis 1a. The results show that negative feedback has a negative and significant effect on the probability of sale for the German dataset and a negative effect with a tendency towards significance for the U.S. dataset. Positive feedback has a positive and significant effect for both the German and the U.S. sample. Neither negative nor positive feedback significantly affects the probability of sale for the UK sample. These findings provide partial support for Hypothesis 1a. The results of the control variables show that several variables have a significant effect on the probability of sale. PayPal acceptance positively affects the probability of sale for the UK and the U.S. samples. For the German dataset competition, description, PayPal, and picture were dropped due to multicollinearity.

Table 47: Results of Regression Analysis – Probability of Sale

Variable	Probability of Sale		
	GE	UK	U.S.
Negative Feedback	-.197* (.667)	-.481 (.341)	-1.113 [†] (.620)
Positive Feedback	.366** (.275)	.126 (.170)	1.010** (.303)
Bold	-3.157 (1.592)	4.141*** (1.117)	3.322** (1.206)
Competition	dropped	-4.074*** (.573)	7.063*** (1.151)
Description	dropped	4.130*** (.577)	4.234*** (.742)
Duration	-2.824 (1.071)	-1.398*** (.312)	-2.692* (1.147)
Gallery	-2.313*** (1.191)	.838* (.455)	-6.046*** (1.368)
PayPal	dropped	1.564** (.493)	2.959** (.923)
Picture	dropped	-.942 (.914)	.428 (1.222)
Shipping Costs	-.623 (.475)	1.001*** (.191)	.713** (.224)
Start Price	-5.848*** (1.299)	-.584 (.450)	-5.764*** (1.375)
Time	-.254 (.919)	1.188** (.444)	-1.832*** (1.922)
Weekend	.384 (.832)	1.533** (.501)	3.445* (1.374)
Constant	1.103** (3.088)	-25.348*** (4.828)	-57.724*** (8.855)
χ^2	95.31	649.42	1335.18
Pseudo R^2	.68	.77	.93
n	130	652	2199

Note: Regression coefficients with standard errors in parentheses. All regressions include fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Following the same procedure as in the first study, 2SLS regression analysis is conducted to test the effect of reputation on the auction price, while considering the potential effect of the number of bidders on the auction price. Table 48 presents the results of the first stage of the 2SLS regression analysis, predicting the number of bidders.

Table 48: Results of Regression Analysis – Number of Bidders

Variable	Number of Bidders		
	GE	UK	U.S.
Negative feedback	-.085 [†] (.059)	-.047 (.051)	-.028 (.023)
Positive feedback	.009 (.032)	.133*** (.026)	.105*** (.010)
Bold	.044 (.160)	.137 (.089)	.048 (.033)
Competition	.059 (.063)	.047 (.066)	.036 (.037)
Description	.074 (.119)	.081 (.085)	.134*** (.035)
Duration	.263*** (.072)	.077 (.052)	.014 (.021)
Gallery	.181 [†] (.108)	.121 (.095)	.243*** (.034)
PayPal	-.077 (.148)	.145 (.107)	.177* (.076)
Picture	-.150 (.248)	.166 (.187)	-.059 (.043)
Shipping costs	-.066 (.067)	.014 (.038)	.003 (.010)
Start price	-.180 (.172)	-1.375*** (.079)	-.842*** (.029)
Time	-.090 (.087)	-.043 (.072)	-.006 (.140)
Weekend	.030 (.090)	-.167* (.080)	-.116*** (.031)
Constant	2.261* (1.123)	1.188 (.828)	1.199** (.373)
<i>F</i>	1.91 *	29.34 ***	93.74 ***
<i>R</i> ²	.30	.48	.37
<i>Adjusted R</i> ²	.20	.47	.37
<i>n</i>	100	428	1979

Note: Regression coefficients with standard errors in parentheses. All regressions include fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Hypothesis 1b asserts that auctions of more reputable sellers attract a higher number of bidders and that auctions of less reputable sellers attract a lower number of bidders. The results show that negative feedback has a negative effect on the number of bidders with a tendency towards significance for the German sample. Positive feedback has a positive and significant effect on the number of bidders for the UK and the U.S. samples. The results demonstrate that in the examined countries at least one of the reputation variables has a significant effect on the number of bidders. This provides partial support for Hypothesis 1b. The results of the control variables show that several variables affect the number of bidders. The start price has a negative and significant effect on the number of bidders for the UK and the U.S. samples. Table 49

presents the results of the second stage of the 2SLS regression analysis, predicting the auction price.

Table 49: Results of Regression Analysis – Auction Price

Variable	Auction Price		
	GE	UK	U.S.
Negative feedback	-.037*** (.008)	.009 (.007)	-.014*** (.002)
Positive feedback	.013** (.004)	.002 (.003)	.005*** (.001)
Bidders (residual)	.003 (.012)	.025*** (.007)	.018*** (.002)
Bold	.038 [†] (.022)	.018 (.011)	.002 (.003)
Competition	-.050*** (.009)	-.010 (.008)	-.004 (.004)
Description	.021 (.016)	.002 (.011)	.005 (.004)
Duration	.013 (.010)	-.005 (.007)	-.001 (.002)
Gallery	.018 (.015)	.022 [†] (.012)	.027*** (.004)
PayPal	.031 (.020)	.070*** (.014)	.022** (.008)
Picture	-.010 (.034)	-.039 (.024)	-.001 (.004)
Shipping costs	.027** (.009)	.018*** (.005)	.017*** (.001)
Start price	.021 (.023)	-.012 (.010)	-.001 (.003)
Time	-.024* (.012)	-.050*** (.009)	-.021*** (.003)
Weekend	.028* (.012)	.009 (.010)	-.015*** (.003)
Constant	5.739*** (.175)	5.751*** (.103)	6.145*** (.041)
<i>F</i>	4.30 ***	8.11 ***	38.25 ***
<i>R</i> ²	.41	.22	.21
<i>Adjusted R</i> ²	.32	.19	.21
<i>n</i>	100	429	1980

Note: Regression coefficients with standard errors in parentheses. All regressions include fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Hypothesis 1c states that auctions of more reputable sellers result in higher prices and that auctions of less reputable sellers result in lower prices. The results show that negative feedback has a negative and significant effect on the auction price for both the German and the U.S. sample. Positive feedback has a positive and significant effect on auction prices for the German and the U.S. samples. Neither positive nor negative feedback has a significant effect

for the UK data. These results provide partial support for Hypothesis 1c. The results of the control variables show that the number of bidders has a positive and significant effect on the auction price for the UK and the U.S. samples. PayPal has a positive and significant effect on the auction price for the UK and the U.S. samples.

As in the first study, hierarchical moderated regression analysis is used to determine cross-country differences in the effect of seller reputation on the probability of sale (Hypotheses 2a), the number of bidders (Hypotheses 2b), and the auction price (Hypotheses 2c). As in the first study, following the suggested procedure of Carte and Russell (2003) it is tested whether the addition of the main effects and the interaction effects significantly improves the model fit. In order to account for the different price levels in the three countries and to avoid their effect on the variance explained in the regression models, all selling prices are converted from their local currency into Euro by using the purchasing power parity value obtained from the mean auction price. Tables 50, 51, and 53 present the results of the hierarchical regression analysis.

Hypothesis 2a argues that auctions of more reputable sellers result in a higher probability of sale and auctions of less reputable sellers result in a lower probability of sale for the German dataset, compared to the UK dummy and the U.S. dummy. As presented in Table 50, the results of Model 4 show that the interaction effects between positive feedback and the UK is negative and has a tendency towards significance ($\beta = -0.359, p < 0.1$). Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.17$), indicating that the differences in the effects between the countries are significant. Compared to Model 2, the main independent variables and their respective interaction terms, included in Model 4, significantly increase the explained variance ($\Delta R^2 = 0.02$). This result suggests that the effect of positive feedback on the auction price is larger for the German sample, compared to the UK sample. This finding provides partial support for Hypothesis 2a. The results of the control variables show that several interaction effects between the independent variables (bold, gallery, shipping costs, and start price) and both the UK and the U.S. samples are positive and significant, indicating that the strength of the variables' effect on the probability of sale significantly varies across countries.

Table 50: Results of Moderated Regression Analysis – Probability of Sale

Variables	Probability of Sale			
	(1)	(2)	(3)	(4)
Bold	.997***	-2.936*	1.088***	-3.157*
UK x Bold		4.514**		4.971**
U.S. x Bold		3.479*		3.851*
Duration	-1.378***	-2.368*	-1.366***	-2.824**
UK x Duration		1.264		1.735
U.S. x Duration		.348		.751
Gallery	.542***	-2.097†	.522***	-2.313†
UK x Gallery		3.119**		3.388**
U.S. x Gallery		2.432*		2.621*
Shipping costs	.314***	-.397	.296***	-.623
UK x Shipping costs		1.170**		1.486**
U.S. x Shipping costs		.670†		.831†
Start price	-1.326***	-5.851***	-1.194***	-5.848***
UK x Start price		4.987***		4.957***
U.S. x Start price		4.009**		4.166**
Time	-1.935***	-.127	-1.980***	-.254
UK x Time		.567		.585
U.S. x Time		-4.566***		-4.646***
Weekend	.376**	.258	.346*	.384
UK x Weekend		.021		-.005
U.S. x Weekend		.288		.167
Negative feedback			-.036	-.197
UK x Negative feedback				.758
U.S. x Negative feedback				-.314
Positive feedback			.154***	.366*
UK x Positive feedback				-.359†
U.S. x Positive feedback				.013
Constant	3.240***	9.843**	2.674***	10.103**
UK		-10.644***		-11.442***
U.S.		-4.147		-5.263†
<i>Chi</i> ²	818.25 ***	1264.17 ***	840.19 ***	1314.63 ***
<i>Pseudo R</i> ²	.31	.48	.32	.50
Δ <i>Pseudo R</i> ² (<i>M2</i> – <i>M1</i> ; <i>M4</i> – <i>M3</i>)		.17 ***		.17 ***
Δ <i>Pseudo R</i> ² (<i>M4</i> – <i>M2</i>)				.02 *
<i>n</i>	2981	2981	2981	2981

Note: All regressions include fixed-effects for sellers.

- † $p < .10$
 * $p < .05$
 ** $p < .01$
 *** $p < .001$

Table 51: Results of Moderated Regression Analysis – Number of Bidders

Variables	Number of Bidders			
	(1)	(2)	(3)	(4)
Bold	.037	.051	.057 [†]	.021
UK x Bold		.061		.110
U.S. x Bold		-.028		.026
Competition	.073***	.070	.074***	.055
UK x Competition		-.027		-.017
U.S. x Competition		-.033		-.019
Description	.144***	.126	.124***	.153
UK x Description		-.029		-.067
U.S. x Description		.034		-.019
Duration	.024	.253*	.037 [†]	.262*
UK x Duration		-.181		-.188
U.S. x Duration		-.255*		-.248*
Gallery	.221***	.084	.208***	.079
UK x Gallery		.048		.032
U.S. x Gallery		.173		.164
PayPal	.209***	-.114	.191***	-.063
UK x PayPal		.287		.232
U.S. x PayPal		.305		.239
Picture	-.040	-.168	-.035	-.154
UK x Picture		.285		.322
U.S. x Picture		.107		.094
Shipping costs	.008	-.034	.007	-.047
UK x Shipping costs		.044		.059
U.S. x Shipping costs		.038		.050
Start price	-.931***	-.450 [†]	-.903***	-.454 [†]
UK x Start price		-.929**		-.903**
U.S. x Start price		-.420		-.385
Time	-.039	-.070	-.049	-.068
UK x Time		.032		.025
U.S. x Time		.062		.065
Weekend	-.115***	.033	-.124***	.029
UK x Weekend		-.190		-.188
U.S. x Weekend		-.139		-.145
Negative feedback			-.043*	-.054
UK x Negative feedback				.015
U.S. x Negative feedback				.027
Positive feedback			.106***	-.014
UK x Positive feedback				.109 [†]
U.S. x Positive feedback				.090 [†]
Constant	1.717***	1.841	1.077***	1.724
UK		.407		.496
U.S.		-.077		.106
<i>F</i>	138.33 ***	47.41 ***	118.87 ***	41.27 ***
<i>R</i> ²	.37	.40	.38	.41
<i>Adjusted R</i> ²	.37	.39	.38	.40
$\Delta R^2 (M2 - M1; M4 - M3)$		.03 ***		.03 ***
$\Delta R^2 (M4 - M2)$				.01
<i>n</i>	2507	2507	2507	2507

Note: All regressions include fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 52: Results of Moderated Regression Analysis – Auction Price

Variables	Auction Price			
	(1)	(2)	(3)	(4)
Bidders (residual)	.018***	.000	.018***	.002
UK x Bidders (residual)		.023		.021
U.S. x Bidders (residual)		.018		.017
Bold	.002	.045	.002	.041
UK x Bold		-.044		-.032
U.S. x Bold		-.044		-.040
Competition	-.013***	-.016	-.014***	-.048
UK x Competition		.007		.039
U.S. x Competition		.012		.043
Description	.006 [†]	.022	.006 [†]	.022
UK x Description		-.012		-.018
U.S. x Description		-.017		-.018
Duration	-.004 [†]	.024	-.003	.016
UK x Duration		-.035*		-.026 [†]
U.S. x Duration		-.027*		-.018
Gallery	.019***	.018	.019***	.019
UK x Gallery		-.006		-.011
U.S. x Gallery		.003		.008
PayPal	.027***	.016	.025***	.030
UK x PayPal		.061*		.041
U.S. x PayPal		.011		-.007
Picture	.000	.012	-.001	.007
UK x Picture		-.070		-.046
U.S. x Picture		-.010		-.009
Shipping costs	.017***	.029*	.016***	.027*
UK x Shipping costs		-.007		-.007
U.S. x Shipping costs		-.012		-.009
Start price	-.006*	-.013	-.005	.017
UK x Start price		.008		-.024
U.S. x Start price		.009		-.015
Time	-.036***	-.021	-.038***	-.025
UK x Time		-.022		-.018
U.S. x Time		.016		.002
Weekend	-.006*	.012	-.007*	.029 [†]
UK x Weekend		-.005		-.027
U.S. x Weekend		-.025		-.044**
Negative feedback			-.010***	-.037***
UK x Negative feedback				.042***
U.S. x Negative feedback				.024*
Positive feedback			.004***	.013*
UK x Positive feedback				-.010 [†]
U.S. x Positive feedback				-.009 [†]
Constant	5.893***	5.681***	5.885***	5.698***
UK		0.161		.033
U.S.		0.168		.454
<i>F</i>	40.60 ***	15.65 ***	37.15 ***	14.89 ***
<i>R</i> ²	.16	.19	.17	.21
<i>Adjusted R</i> ²	.16	.18	.17	.20
$\Delta R^2 (M2 - M1; M4 - M3)$		.02 ***		.03 ***
$\Delta R^2 (M4 - M2)$				.02 ***
<i>n</i>	2507	2507	2507	2507

Note: All regressions include fixed-effects for sellers.

[†] *p* < .10* *p* < .05** *p* < .01*** *p* < .001

Hypothesis 2b asserts that auctions of more reputable sellers attract a higher number of bidders for the German sample, compared to the UK and to the U.S. samples, and, vice versa, auctions of less reputable sellers attract a lower number of bidders for the German sample, compared to the UK and the U.S. sample. As presented in Table 51, contrary to the hypothesis the results of Model 4 show that the interaction effects between positive feedback and the UK and the U.S. are positive and have a tendency towards significance. Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.03$), indicating that the differences in the effects between the countries are significant. Compared to Model 2, the main independent variables and their respective interaction terms, included in Model 4, do not significantly increase the explained variance ($\Delta R^2 = 0.01$), indicating that the moderation is not significant. The results do not support Hypothesis 2b.

Hypothesis 2c states that auctions of more reputable sellers result in a higher auction price for the German sample, compared to the UK and the U.S. samples, and, vice versa, auctions of less reputable sellers result in a lower auction price for the German sample, compared to the UK and the U.S. samples. As presented in Table 52 the results of Model 4 show that the interaction effects between negative feedback and the UK ($\beta = 0.042, p < 0.01$) as well as between negative feedback and the U.S. ($\beta = 0.024, p < 0.01$) are positive and significant. This result suggests that the effect of sellers' negative reputation on the auction price is larger for the German sample, compared to the UK and the U.S. samples. Moreover, the results show that the interaction effects between positive feedback and the UK ($\beta = -0.010, p < 0.10$) as well as between positive feedback and the U.S. ($\beta = -0.009, p < 0.10$) are both negative and show a tendency towards significance. These results indicate that the effect of sellers' positive reputation is larger for the German sample, compared to the UK and the U.S. samples. Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.03$), indicating that the differences in the effects between the countries are significant. Compared to Model 2, the main independent variables and their respective interaction terms, included in Model 4 Model significantly increase the explained variance ($\Delta R^2 = 0.02$). Thus, Hypothesis 2c is supported. Overall, the results show that the strength of the reputation effect differs between the German sample and both the UK sample as well as the U.S. sample in particular for the influence of seller reputation on the auction price. In the next section, bidders' reasons for negative feedback ratings are categorized, the categories are compared between countries, and the effects of the categories are tested in order to obtain a more detailed insight into the relationship between seller reputation and auction outcomes.

5.2 Negative Feedback Categories and their Effect on Auction Outcomes

The following section extends the analysis of the previous section, first, by identifying the attributes that lead to negative feedback comments (Research Question 1). Then, these attributes are compared across countries (Research Question 2) and their within- and between-

country effects on auction outcomes are tested (Research Question 3 and 4). To investigate the first research question, a qualitative analysis of sellers’ negative feedback comments was conducted as described in Section 3.4. Table 53 presents the observed counts, column percents, expected counts, and the results of the pairwise comparison of the categorical data.

Table 53: Contingency Table and Pairwise Comparison of Buyer Feedback Categories

Category	Germany			UK			U.S.			GE/UK GE/US UK/US			
	OC	CP	EC	OC	CP	EC	OC	CP	EC	Total	<i>p</i>	<i>p</i>	<i>p</i>
Bad packaging	130	17.15	29	32	2.20	55	301	3.01	379	463	.01	.01	
Communication	117	15.44	144	184	12.67	277	2029	20.26	1909	2330			.05
Expensive shipping	17	2.24	43	66	4.55	82	604	6.03	563	687		.05	
Failed to ship	21	2.77	100	288	19.83	192	1308	13.06	1325	1617	.001	.01	
Feedback	0	0.00	13	19	1.31	24	184	1.84	166	203		.01	
Fraud	22	2.91	7	16	1.10	13	74	0.74	92	112			
General complaint	52	6.86	86	152	10.47	165	1184	11.82	1137	1388			
Misrepresentation	33	4.35	70	147	10.12	135	957	9.56	931	1137		.05	
Private profile	12	1.58	5	4	0.28	9	57	0.57	60	73			
Quality	293	38.65	162	374	25.76	310	1942	19.39	2137	2609	.05	.01	
Seller withdrawal	24	3.17	14	29	2.00	26	169	1.68	182	222			
Slow shipping	37	4.88	86	141	9.71	164	1206	12.04	1134	1384		.05	
Total	758			1452			10015			12225			

Note: OC indicates observed count, CP indicates column percent, and EC indicates expected count. Non-significant results are left blank.

The results for the first research question show that eleven categories for the German sample and twelve categories for both the UK and the U.S. samples classify the content of negative textual feedback comments. The main negative feedback categories are bad packaging, communication, and quality for the German sample. While communication, failed to ship, general complaint, misrepresentation, quality, and slow shipping are the main negative feedback categories for the UK sample, the main categories for the U.S. sample are communication, failed to ship, general complaint, misrepresentation, quality, and slow shipping. For the first research question, the findings suggest that several seller-related attributes lead to negative feedback ratings in online auction markets.

As described in detail in Section 3.3, to answer the second research question, three-sample chi-squared test and pairwise comparisons of category frequencies of contingency table data were conducted to compare negative feedback category frequencies between the three countries. The chi-squared test shows that proportions of negative feedback categories differ significantly between the three countries, Pearson chi-squared (22) = 846.57 ($p < .001$). Marascuilo's (1966) chi-squared procedure was conducted as a follow-up to the chi-squared test to further explore these differences and to examine whether a category occurred significantly

more often in one country compared to another. The columns at the right side of Table 53 present the results for those categories with a significant difference between a pair of countries. The results of the post-hoc analysis show that feedbacks related to bad packaging occur significantly more often for the German sample, compared to the UK and the U.S. samples. Communication is less often a reason for disputes for the UK sample compared to the U.S. sample. Negative feedbacks in which buyers complain that the item was not shipped occur less frequently for the German sample, compared to the UK and the U.S. samples. While complaints about seller feedback and slow shipping occur less frequently for the German sample, compared to the U.S. sample, complaints about the quality of an item occurred more frequent for the German sample, compared to the UK and the U.S. samples. In answer to the second research question, the findings suggest that in different countries buyers have different reasons for negative feedback comments.

The third research question explores the effect of negative feedback categories on the number of bidders and on the auction price. To reduce the number of variables tested in the regression analysis the twelve negative feedback categories identified in the qualitative analysis were merged into four categories before the regressions were conducted. Following the procedure suggested by Srenka and Koeszegi (2007) those sub-categories were merged into one main category that describes the same service defect. The first main category is communication and includes the sub-categories communication and feedback. The second main category is fraud and includes the sub-categories failed to ship, fraud, and seller withdrawal. The third main category is product and includes the sub-categories general complaint, misrepresentation, and quality. The fourth main category is shipping: bad packaging, expensive shipping, and slow shipping. Table 54 present the result of the regression analysis, examining the effect of the main categories on the number of bidders.

Table 54: Results of Regression Analysis – Number of Bidders (Categories)

Variable	Number of Bidders		
	GE	UK	U.S.
Communication	-.004 (.635)	-.189 (.166)	-.064 (.082)
Fraud	-.089 (.297)	-.227 (.190)	-.152 [†] (.083)
Product	-.099 (.531)	-.043 (.120)	-.121 [†] (.046)
Shipping	.237 (.498)	-.173 (.155)	-.087 (.068)
Positive feedback	-.017 (.027)	.117*** (.022)	.098*** (.008)
Bold	.054 (.178)	.151 [†] (.088)	.048 (.033)
Competition	.076 (.065)	.048 (.066)	.039 (.037)
Description	.084 (.127)	.086 (.085)	.133*** (.035)
Duration	.265** (.076)	.077 (.052)	.013 (.021)
Gallery	.178 (.122)	.115 (.095)	.243*** (.034)
PayPal	-.114 (.156)	.156 [†] (.108)	.187* (.075)
Picture	-.121 (.263)	.246 (.172)	-.060 (.043)
Shipping costs	-.054 (.071)	.009 (.038)	.004 (.010)
Start price	-.266 [†] (.178)	-1.363*** (.079)	-.842*** (.029)
Time	-.073 (.094)	-.039 (.073)	-.007 (.140)
Weekend	.018* (.098)	-.163* (.080)	-.115*** (.031)
Constant	2.106 [†] (1.207)	1.100 (.836)	1.201** (.375)
<i>F</i>	1.45	23.47 ***	76.43 ***
<i>R</i> ²	.34	.49	.37
<i>Adjusted R</i> ²	.20	.46	.37
<i>n</i>	100	428	1979

Note: Regression coefficients with standard errors in parentheses. All regressions include fixed-effects for sellers.

[†] $p < .10$
 * $p < .05$
 ** $p < .01$
 *** $p < .001$

The results show that none of the four negative feedback categories has a significant effect on the number of bidders for both the German and the UK data. The results for the U.S. sample show that negative feedbacks related to fraud and product have a negative effect on the number of bidders with a tendency towards significance. Table 55 shows the regression result for the auction price.

Table 55: Results of Regression Analysis – Auction Price (Categories)

Variable	Auction Price		
	GE	UK	U.S.
Communication	-.262** (.095)	-.004 (.021)	-.029** (.009)
Fraud	-.091* (.045)	.006 (.024)	-.031*** (.009)
Product	-.209* (.079)	.019 (.015)	-.011* (.005)
Shipping	-.220** (.075)	.020 (.020)	-.022** (.007)
Positive feedback	.001 (.004)	.005 (.003)	.001 (.001)
Bidders (residual)	-.006 (.014)	.024*** (.007)	.018*** (.002)
Bold	.055* (.027)	.006 (.011)	.001 (.003)
Competition	-.013 (.010)	-.012 (.008)	-.004 (.004)
Description	.025 (.019)	.007 (.011)	.005 (.004)
Duration	.032** (.012)	-.010 (.007)	-.002 (.002)
Gallery	.021 (.018)	.011 (.012)	.020*** (.004)
PayPal	.020 (.023)	.076*** (.014)	.027** (.008)
Picture	.066 (.039)	-.048* (.022)	.002 (.005)
Shipping costs	.028* (.011)	.021*** (.005)	.017*** (.001)
Start price	-.023 (.027)	-.003 (.010)	-.003 (.003)
Time	-.029* (.014)	-.044*** (.009)	-.006 (.015)
Weekend	.022 (.015)	.008 (.010)	-.013*** (.003)
Constant	5.575*** (.180)	5.855*** (.106)	5.846*** (.040)
<i>F</i>	3.02 ***	6.90 ***	26.10 ***
<i>R</i> ²	.30	.23	.18
<i>Adjusted R</i> ²	.15	.18	.18
<i>n</i>	100	428	1979

Note: Regression coefficients with standard errors in parentheses and fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

For both the German and the U.S. data, all four main negative feedback categories have a negative effect on the auction price. For the UK sample none of the four main negative feedback categories has a significant effect on the auction price. The findings relating to the third research question reveal that negative feedback categories have a negative effect on the number of bidders for the U.S. sample, providing a more detailed picture of the specific negative feedbacks that affect U.S. bidders' valuation. For the U.S. sample, the quantitative measure

(negative feedback) was not significant but the categories fraud and product show a tendency towards significance. The significant negative effect of negative feedback on the number of bidders is not verified by the four categories for the German sample. The small sample size of 100 observations is one reason for the lack of significance.

The fourth research question focused on the moderating influence of national frameworks on the relation between negative feedback categories and the two auction outcomes. Table 56 shows the results of moderated hierarchical regression analysis to explore the research question for the number of bidders. For the number of bidders the results of Model 4 show that all interactions between the four negative feedback categories (communication, fraud, product, and shipping) and the UK as well as the U.S. are negative and not significant. Contrary to the hypothesized direction, the results of Model 4 show that the interaction effects between positive feedback and the UK ($\beta = 0.243, p < 0.05$) as well as between positive feedback and the U.S. ($\beta = 0.219, p < 0.05$) are positive and significant. Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.03$), indicating that the differences in the effects between the countries are significant. Compared to Model 2, the main independent variables and their respective interaction terms, included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.05$). These findings indicate that sellers with a higher number of positive feedback ratings attract a higher number of bidders for the UK and the U.S. sample, compared to the German sample.

Table 56: Results of Moderated Regression Analysis – Number of Bidders (Categories)

Variable	Number of Bidders			
	(1)	(2)	(3)	(4)
Bold	.037	.028	.061*	.017
UK x Bold		.017		.129
U.S. x Bold		-.030		.031
Competition	.073***	.066	.077***	.064
UK x Competition		-.002		-.022
U.S. x Competition		-.025		-.025
Description	.144***	.160	.122***	.161
UK x Description		.004		-.072
U.S. x Description		.038		-.029
Duration	.024	.261*	.036†	.263*
UK x Duration		-.203		-.188
U.S. x Duration		-.292*		-.250*
Gallery	.221***	.069	.204***	.075
UK x Gallery		.148		.034
U.S. x Gallery		.216		.168
PayPal	.209***	-.084	.193***	-.080
UK x PayPal		.290		.254
U.S. x PayPal		.290		.267
Picture	-.040	-.142	-.026	-.138
UK x Picture		.089		.382
U.S. x Picture		.074		.078
Shipping costs	.008	-.040	.009	-.041
UK x Shipping costs		.043		.049
U.S. x Shipping costs		.047		.045
Start price	-.931***	-.506†	-.908***	-.530†
UK x Start price		-.821**		-.819**
U.S. x Start price		-.317		-.311
Time	-.039	-.054	-.048	-.060
UK x Time		.041		.023
U.S. x Time		.048		.055
Weekend	-.115***	.021	-.123***	.023
UK x Weekend		-.169		-.180
U.S. x Weekend		-.117		-.137
Positive feedback			.094***	-.004
UK x Positive feedback				.116*
U.S. x Positive feedback				.102*
Communication			-.102	.097
UK x Communication				-.271
U.S. x Communication				-.159
Fraud			-.161*	.191
UK x Fraud				-.411
U.S. x Fraud				-.342
Product			-.055	.033
UK x Product				-.060
U.S. x Product				-.089
Shipping			-.136*	.274
UK x Shipping				-.433
U.S. x Shipping				-.394
Constant	1.717***	1.284	1.091***	1.273
UK		-.207		-.150
U.S.		-.311		-.066
<i>F</i>	138.33 ***	40.19 ***	96.77 ***	33.81 ***
<i>R</i> ²	.37	.36	.38	.41
<i>Adjusted R</i> ²	.37	.35	.38	.40
$\Delta R^2 (M2-M1), (M4-M3)$		-.01		.03 ***
$\Delta R^2 (M4-M2)$				.05 ***
<i>n</i>	2507	2507	2507	2507

Note: † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. All regressions include fixed-effects for sellers.

As presented in Table 57, for the auction price the results of Model 4 show that the interaction effects between the communication category and the UK ($\beta = 0.243, p < 0.05$) as well as between the communication category and the U.S. ($\beta = 0.219, p < 0.05$) are positive and significant. These results suggest that seller's negative feedback ratings that are related to communication between the seller and the buyer have a larger effect on the auction price for the German sample, compared to the UK and the U.S. samples. The interaction effects between the fraud category and the UK as well as between fraud and the U.S. are both not significant, suggesting that the effect of negative ratings on the auction price does not differ across countries for feedback comments related to fraudulent behaviour. The interaction effect between the product category and the UK is positive and significant ($\beta = 0.196, p < 0.05$). The interaction effect between the product category and the U.S. is positive and shows a tendency towards significance ($\beta = 0.167, p < 0.10$). These results suggest that the negative feedback related to the item has a larger effect on the auction price for the German sample, compared to the UK and the U.S. samples. The interaction effects between the shipping category and the UK ($\beta = 0.213, p < 0.05$) as well as between the shipping category and the U.S. ($\beta = 0.171, p < 0.05$) are both positive and significant, suggesting that negative feedbacks related to shipping and handling have a stronger effect on the auction price for the German sample, compared to the UK and the U.S. samples. Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.04$), indicating that the differences in the effects between the countries are significant. Compared to Model 2, the main independent variables and their respective interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.02$). With regard to the fourth research question, the findings indicate that not all negative feedback categories have the same effect across the three countries. While the effect on the auction price of the communication category, the product category, and the shipping category differ across the three countries, negative feedback comments related to sellers' fraudulent behaviour have a comparable effect across countries. This finding suggests that while the fraud category affects bidders' valuation in the same way across countries, the communication, product, and shipping categories have a larger effect for the German sample compared to the UK and the U.S. sample. One explanation for this finding is that the potential costs related to sellers' fraudulent behaviour are perceived as being higher than the potential costs related to communication, the item, or the shipping and handling by German bidders.

Table 57: Results of Moderated Regression Analysis – Auction Price (Categories)

Variable	Auction Price			
	(1)	(2)	(3)	(4)
Bidders (residual)	.018***	.000	.018***	.001
UK x Bidders (residual)		.023		.022
U.S. x Bidders (residual)		.018		.017
Bold	.002	.045	.002	.051 [†]
UK x Bold		-.044		-.045
U.S. x Bold		-.044		-.050 [†]
Competition	-.013***	-.016	-.013***	-.016
UK x Competition		.007		.005
U.S. x Competition		.012		.012
Description	.006 [†]	.022	.005 [†]	.020
UK x Description		-.012		-.014
U.S. x Description		-.017		-.015
Duration	-.004 [†]	.024 [†]	-.004 [†]	.024 [†]
UK x Duration		-.035*		-.035*
U.S. x Duration		-.027*		-.026 [†]
Gallery	.019***	.018	.018***	.015
UK x Gallery		-.006		-.007
U.S. x Gallery		.003		.006
PayPal	.027***	.016	.026***	.018
UK x PayPal		.061*		.058 [†]
U.S. x PayPal		.011		.009
Picture	.000	.012	.000	.008
UK x Picture		-.070		-.053
U.S. x Picture		-.010		-.006
Shipping costs	.017***	.029*	.017***	.030*
UK x Shipping costs		-.007		-.009
U.S. x Shipping costs		-.012		-.013
Start price	-.006*	-.013	-.005*	-.014
UK x Start price		.008		.012
U.S. x Start price		.009		.011
Time	-.036***	-.021 [†]	-.037***	-.027 [†]
UK x Time		-.022		-.016
U.S. x Time		.016		.021
Weekend	-.006*	.012	-.007*	.018
UK x Weekend		-.005		-.011
U.S. x Weekend		-.025 [†]		-.031 [†]
Positive feedback			.001	.002
UK x Positive feedback				.003
U.S. x Positive feedback				-.002 [†]
Communication			-.023**	-.248*
UK x Communication				.243*
U.S. x Communication				.219*
Fraud			-.024**	-.090*
UK x Fraud				.090
U.S. x Fraud				.059
Product			-.007	-.178*
UK x Product				.196*
U.S. x Product				.167 [†]
Shipping			-.015*	-.192*
UK x Shipping				.213*
U.S. x Shipping				.171*
Constant	5.893***	5.681***	5.891***	5.693***
UK		.161		.162
U.S.		.168		.153
<i>F</i>	40.60 ***	15.65 ***	29.57 ***	11.90 ***
<i>R</i> ²	.16	.19	.17	.21
<i>Adjusted R</i> ²	.16	.18	.17	.19
$\Delta R^2 (M2-M1), (M4-M3)$		.03 ***		.04 ***
$\Delta R^2 (M4-M2)$				.02 ***
<i>n</i>	2507	2507	2507	2507

Note: [†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. All regressions include fixed-effects for sellers.

5.3 Discussion and Consequences – Study 2

In this study, qualitative and quantitative data were used to examine cross-country differences in the types of attributes that lead to negative feedback ratings and to test the effect of the categorized negative feedback ratings on auction outcomes. Table 58 presents a summary of the results of the statistical tests for the intra-country analysis of the three dependent variables with respect to Hypotheses 1a, 1b, and 1c as well as the results of the statistical tests for the cross-country comparison with respect to Hypotheses 2a, 2b, and 2c.

Table 58: Summary of Hypotheses Tests – Study 2

Variables	H1a			H1b			H1c			H2a	H2b	H2c
	GE	UK	U.S.	GE	UK	U.S.	GE	UK	U.S.			
Negative feedback	-		-	-			-					G<UK/U.S.
Positive feedback	+		+		+	+		+		G>UK		G>UK/U.S.

Note: "-" denotes significant negative effects and "+" denotes significant positive effects that are in line with the proposed relations. Non-significant results are left blank.

The study makes several contributions toward the understanding of the cause-and-effect chain of negative feedbacks in online auction markets. First, the findings validate previous research by confirming complaint categories identified in previous studies. Further, the findings fill a gap in existing knowledge about cross-country differences in buyer feedback categories in online auction markets. The results show that buyer complaint categories occur with different frequency in different countries. These findings indicate that, while there are similar reasons for item related uncertainty (quality), the reasons for seller related uncertainty vary between the three countries (bad packaging, communication, and failed to ship). The difference in the failed to ship category between Germany and the UK as well as between Germany and the U.S. suggests either that fraudulent behavior occurs more often in the UK and the U.S. or that buyers perceive and rate disputes differently in Germany. The results for the UK and the U.S. sample are in line with the findings of Gregg and Scott (2008). They observe that the non-delivery of items accounts for 36.5 % of auction fraud in their U.S. sample. The current study thus provides scholars with a new window for investigation and understanding of cross-country similarities and differences in reputation effects in online auctions. Finally, the results show that feedback categories have different effects on online auction outcomes and that these effects vary across countries. While seller service defects related to fraud affect the auction price in the same way in all three countries, the effects of seller service defects related to communication, product, and shipping are stronger for the German sample. This finding suggests that while bidders' zone of tolerance is about the same in all three countries for ratings related to fraud, German bidders' zone of tolerance is narrower for ratings related to other service defects. The findings point to the importance of feedback comments in bidders' evaluation of sellers' reputation and bolster evidence that different buyer feedback categories are perceived differently by online auction bidders (Finch, 2007; Ghose, Ipeiritos, & Sundarara-

jan, 2005; Gregg & Scott, 2006; MacInnes, 2005; Pavlou & Dimoka, 2006; Weinberg & Davis, 2005).

The findings of this study have several consequences for international online auction markets, sellers, and bidders. First, the findings indicate that communication between the seller and the buyer is one of the major reasons for disputes in all three countries. Buyers' complaint comments indicate that sellers lack pre- and post-transactional communication skills. This suggests that sellers and bidders should maintain communication throughout the auction and transaction process and online auction markets should provide adequate communication channels. Second, the findings indicate that the escrow service PayPal was seldom a source of transaction problems and disputes. While PayPal is used by the majority of sellers in the current study's UK and U.S. sample (UK: 86%, U.S.: 96%), only a minority of sellers uses PayPal in Germany (16%). Gregg and Scott (2008) suggest that auction markets should further promote the use of escrow services, such as PayPal, in the U.S. in order to reduce the non-delivery fraud. The findings of the current study do not support this consequence. For the UK and the U.S. sample the results show that even though most sellers offer PayPal, sellers in both countries significantly more often do not send the item, compared to the German sample, having a low number of sellers that offer PayPal. Further, sellers in all three countries should describe the item for auction more carefully, as quality and item description are major complaint categories in all three countries. Moreover, sellers can improve their reputation through their customer service and in particular through the item delivery time, shipping and handling charges, and the packaging. In all three markets buyers complained about sellers, which send the item with a delay or charged higher prices for shipping and handling than announced in the item description. Buyers complained about sellers' packaging especially in Germany. Thus, legitimate online auction sellers interested in selling in foreign markets should do a market research in order to assess country-specific consumer preferences.

6 Uncertainty Avoidance, Third Party Insurance, and Reputation Effects – Analysis and Results of Study 3

The following chapter presents the analysis and results of the third study. The purposes of the study are threefold: First, the effect of seller reputation on the probability of sale, the number of bidders, and the auction price are examined in two country clusters. The first country cluster includes France and Germany – both are countries with comparable regulations related to electronic commerce and a national culture characterized by high uncertainty avoidance and low trust. The second country cluster includes the UK and the U.S. – both are countries with a comparable legal framework related to electronic commerce and a national culture characterized by low uncertainty avoidance and high trust. The second objective of this study is to compare the effect of seller reputation on all three auction outcomes between the two country clusters. The third objective is to compare the within- and the between-country analysis results across two sub-samples. As described in Section 3.1.1, the first sub-sample includes all auctions in which sellers accepted PayPal and the second sub-sample includes all auctions in which PayPal was not accepted. The previous studies show that PayPal is accepted more often for the UK and the U.S. samples, compared to the German sample. Therefore, PayPal is an alternative explanation for the stronger effect of reputation in Germany, compared to the UK and the U.S., as PayPal functions as a third party insurance of the online transactions. A sample of more than 1,500 online auctions of a homogenous items (video game console), collected on the respective eBay websites in France, Germany, the UK, and the U.S., was analyzed to test the adjusted hypotheses. The next section describes the data sets for the main and for the sub-samples for both country clusters and presents the results of the hypotheses tests. As in the previous studies, regression analysis and moderated regression analysis is used to test the effect of seller reputation on auction outcomes and compare the reputation effects between countries. In the second section, the study's main findings as well as consequences for theory and practice are discussed.

6.1 The Effects of Reputation and Third Party Insurance on Online Auction Outcomes

Table 59 contains the means and standard deviations of main dataset I, which includes all auctions that resulted in a sale as well as all auctions that did not result in a sale.

Table 59: Descriptive Statistics – Main Dataset I

Variable	High Uncertainty Avoidance Sample		Low Uncertainty Avoidance Sample		Total Sample	
	Mean	s.d.	Mean	s.d.	Mean	s.d.
Probability of sale	86.94		72.17		77.02	
Negative feedback	2.11	22.04	2.06	8.68	2.08	14.49
Positive feedback	264.31	1163.46	705.70	5086.15	560.73	4225.48
Bold	22.89		10.84		14.80	
Competition	27.91	22.89	445.55	325.74	310.71	331.89
Description	3725.84	4936.38	6832.22	10147.98	5811.97	8902.92
Duration	2.94	1.68	3.56	2.53	3.36	2.30
Gallery	63.86		78.82		73.91	
PayPal	22.36		51.09		41.65	
Picture	1.28	0.95	1.19	0.88	1.22	0.90
Shipping costs (in €)	9.94	6.41	27.95	12.49	18.95	9.45
Start price (in €)	100.33	170.74	103.98	128.28	102.14	149.51

Note: High UAI $n = 559$, low UAI $n = 1143$, total sample $n = 1702$. Dummy variables are given in percent.

Compared to the low uncertainty avoidance sample, the probability of sale is higher in the high uncertainty avoidance sample. This finding has to be interpreted in the presence of a much higher number of competing auctions in the low uncertainty avoidance sample. While the negative feedback is about the same for both samples, the positive feedback is comparably higher in the low uncertainty avoidance sample. PayPal is accepted more often for the low uncertainty avoidance sample than for the high uncertainty avoidance sample.

Table 60 contains the means and standard deviations of main dataset II, which includes only auctions that resulted in a sale. Compared to the low uncertainty avoidance sample, the number of bidders is higher in the high uncertainty avoidance sample. This finding has again to be interpreted in the light of a higher number of competing auctions in the low uncertainty avoidance sample. The difference in the auction price is a result of different market prices. Compared to Germany and France, at the time the data was collected, the market price was 50 Euro lower in the UK and the U.S.

Table 60: Descriptive Statistics – Main Dataset II

Variable	High Uncertainty Avoidance Sample		Low Uncertainty Avoidance Sample		Total Sample	
	M	SD	M	SD	M	SD
Bidders	13.55	5.55	8.70	4.20	11.13	4.88
Auction price (in €)	362.35	23.50	308.08	30.13	335.22	26.81
Negative feedback	2.32	23.62	2.50	10.01	2.43	16.42
Positive feedback	293.95	1243.86	932.46	5968.43	695.76	4803.60
Bold	25.01		12.23		17.12	
Bidder experience	64.91	135.31	71.28	198.01	68.91	177.28
Competition	24.43	16.26	474.38	322.26	309.76	336.05
Description	3996.92	5128.43	7603.97	9982.54	6266.80	8686.55
Duration	2.59	1.17	3.05	2.24	2.88	1.93
Gallery	66.43		78.07		74.26	
PayPal	23.05		43.43		35.37	
Picture	1.28	0.89	1.20	0.87	1.23	0.88
Shipping costs (in €)	10.16	6.26	26.02	11.71	18.09	8.99
Start price (in €)	80.02	124.01	82.82	94.39	81.42	109.20

Note: High UAI $n = 486$, low UAI $n = 825$, total sample $n = 1311$. Dummy variables are given in percent.

Table 61 presents the correlation coefficients for the low and the high uncertainty avoidance sample of main dataset I. Following Fisher's z transformation (Fisher, 1921) of the correlation coefficients, comparison tests of the z scores were performed to determine whether there are significant differences between the high uncertainty avoidance and the low uncertainty avoidance samples.

Table 61: Pairwise Correlation Coefficients – Sub-Dataset I-I and I-II

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1 Probability of sale		.15*	.52*	.07*	.18*	.22*	-.30*	-.03	-.27*	.02	.16*	-.47*
2 Negative feedback	.07		.56*	.05	-.04	.16*	-.06*	.06*	-.31*	.05	.03	-.18*
3 Positive feedback	.23*	.56*		.06*	-.10*	.33*	-.25*	.02	-.55*	.04	.06*	-.38*
4 Bold	.12*	-.06	-.15*		.00	.09*	-.02	-.10*	-.05	.15*	.00	-.05
5 Competition	-.24*	.03	.18*	-.07		.09*	-.21*	-.09*	-.19*	-.06*	.34*	.01
6 Description	.24*	.16*	.40*	.13*	.18*		-.26*	.06*	-.30*	.14*	.20*	-.33*
7 Duration	-.43*	-.09*	-.28*	-.01	.04	-.28*		.01	.35*	.04	-.35*	.20*
8 Gallery	.11*	.00	.08*	.10*	.08*	.22*	-.01		-.02	.08*	.03	.00
9 PayPal	.02	-.18*	-.39*	.08	-.32*	-.38*	.17*	-.10		.02	-.29*	.24*
10 Picture	.04	.04	.06	.13*	-.06	.28*	.01	.26*	-.10		-.03	-.02
11 Shipping costs (in €)	.14*	.01	.00	.04	-.14*	.07	.03	.07	.16*	.09*		-.11*
12 Start price (in €)	-.24*	-.14*	-.41*	.05	-.19*	-.41*	.25*	-.11*	.34*	-.10	-.08	

Note: Correlation coefficients below the diagonal (on the left) are for the high uncertainty avoidance country cluster ($n = 559$). Correlation coefficients above the diagonal (on the right) are for the low uncertainty avoidance country cluster ($n = 1143$).

* $p < .05$

The correlation coefficient for the relation between positive feedback and the probability of sale is significantly higher ($z = 6.61$, $p < .001$) for the low uncertainty avoidance sample ($r = 0.52$), compared to the coefficient for the high uncertainty avoidance sample ($r = 0.23$). For both samples, negative feedback is not negatively related to the probability of sale. The correlation coefficient for the relation between PayPal and the probability of sale is significantly

higher ($z = 5.74, p < .001$) for the high uncertainty avoidance sample ($r = 0.02$), compared to the coefficient for the low uncertainty avoidance sample ($r = -0.27$). The correlation coefficient for the relation between PayPal and positive feedback is significantly lower ($z = -3.99, p < .001$) for the low uncertainty avoidance sample ($r = -0.55$), compared to the coefficient for the high uncertainty avoidance sample ($r = -0.39$). Table 62 presents the correlation coefficients for the low and the high uncertainty avoidance samples of main dataset II.

Table 62: Pairwise Correlation Coefficients – Sub-Dataset II-I and II-II

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Bidders		.20*	.17*	.19*	.07	.00	.05	.23*	-.07	.05	-.13*	0	.13*	-.65*
2 Price	.12*		.03	.14*	.05	-.06	.00	.27*	-.19*	.05	-.21*	.02	.59*	-.16*
3 Negative feedback	.07	-.04		.66*	.05	-.02	-.06	.12*	-.02	.08*	-.28*	.04	.00	-.14*
4 Positive feedback	.26*	.11*	.56*		.06	-.02	.00	.28*	-.16*	.08*	-.65*	.03	.06	-.19*
5 Bold	.00	.06	-.07	-.19*		.00	-.01	.10*	.01	-.11*	-.03	.18*	.00	-.01
6 Buyer experience	.09*	-.02	.05	.29*	-.08*		-.20	-.13*	.07	-.06	.02	.09*	-.09*	.06
7 Competition	.06	-.13*	.06	.24*	-.03	.16*		.05	-.17*	-.17*	-.15*	-.07	.31*	.11*
8 Description	.25*	.06	.14*	.35*	.12*	.20	.23*		-.19*	.02	-.24*	.13	.15*	-.29*
9 Duration	-.18*	.00	-.08*	-.27*	.05	-.19*	-.18*	-.30*		.02	.28*	.04	-.33*	.13*
10 Gallery	.11*	.06	-.03	.02	.09*	.01	.07	.16*	.02		-.02	.02	.01	.00
11 PayPal	-.09*	.04	-.21*	-.44*	.09*	-.30*	-.29*	-.38*	.29*	-.07		-.02	.02	.01
12 Picture	.06	.06	.02	-.01	.16*	.04	-.10*	.20*	-.01	.25*	-.06		.04	-.28*
13 Shipping costs	.08*	.14*	-.02	-.07	.02	-.09*	-.11*	-.01	.13*	.06	.18*	.03		-.06
14 Start price	-.62*	-.02	-.13*	-.38*	.08*	-.25*	-.23*	-.38*	.26*	-.06	.36*	-.03	.00	

Note: Correlation coefficients below the diagonal (on the left) are for the high uncertainty avoidance country cluster ($n = 486$). Correlation coefficients above the diagonal (on the right) are for the low uncertainty avoidance country cluster ($n = 825$).

* $p < .05$

The auction price and the number of bidders are positively related in both samples. The correlation coefficients for this relation do not significantly differ across the samples. The relationship between negative feedback and the number of bidders is positive in both countries. In both samples, negative feedback and price are not related. The correlation coefficients for the relation between negative feedback and the number of bidders as well as the relation between negative feedback and price do not significantly differ across the samples. In both samples, negative feedback and positive feedback are intercorrelated. The correlation coefficients for this relation is significantly lower ($z = -2.79, p < .01$) in the high uncertainty avoidance sample ($r = 0.56$), compared to the low uncertainty avoidance sample ($r = 0.66$). In both samples, PayPal is negatively related to positive feedback high. The correlation coefficients for this relation is significantly lower ($z = -5.42, p < .001$) in the high uncertainty avoidance sample ($r = -0.44$), compared to the low uncertainty avoidance sample ($r = -0.16$). In both samples PayPal is negatively related to the number of bidders. The correlation coefficients for this relation do not significantly differ across the samples. While PayPal and price are not related in the high uncertainty avoidance sample, PayPal and price are negatively related in the low uncertainty avoidance sample. The correlation coefficients for this relation is significantly higher ($z = 4.05, p < .001$) for the high uncertainty avoidance country cluster ($r = 0.04$), compared to the

low uncertainty avoidance country cluster ($r = -0.19$). The correlation coefficients for the total samples, which include the merged data of the low uncertainty avoidance sample and the high uncertainty avoidance sample, are presented in Appendix 4.

The proposed hypotheses are tested through hierarchical regression analysis of the main and sub-datasets. The analysis is conducted in three steps. In the first step, the country cluster samples included in the main datasets are examined to test the intra-country cluster effects of seller reputation and third party insurance on the dependent variables. The control variables are entered in Model 1. In order to examine the incremental impact of the three main independent variables, Model 2 includes the control variables and the main independent variables.

In a second step, the total database of the main datasets is examined to test the differences in the effects of the control and main variables across the country clusters. The control variables are entered in Model 1. Model 2 includes the country cluster dummy and the interaction terms in order to estimate the differences in the effect of the control variables across the two country clusters. Since the low uncertainty avoidance sample was considered as the base case, the country cluster dummy and the country cluster interactions are included for the high uncertainty avoidance sample. In order to examine the incremental impact of the main independent variables (negative feedback and positive feedback), Model 3 includes the control variables and the main independent variables. Model 4 includes the country cluster dummy and the interaction terms to estimate the differences in the effect of control variables and main independent variables across the two country clusters. Thus, a four-stage hierarchical regression is run to examine the incremental change in explained variance as new variables and interaction terms are entered. Moderation effects are supported if the model containing the interaction terms represents a significant improvement of the explained variance over the model containing the direct effects only (Baron & Kenny, 1986). To test the moderating effects of the country clusters on the control variables, the explained variances of Model 1 and Model 2 are compared. In order to test the moderating effects on the main independent variables, the explained variance of Model 3 and Model 4 are compared. Finally, Model 2 and Model 4 are compared to test whether negative feedback, positive feedback, and PayPal significantly improve the explained variance in the full-interaction model. As in the previous studies, the moderated regression applied in Models 2 and 4 are considered to be a conservative method for examining interaction effects because the interaction terms are tested for significance after having entered all lower-order effects have been entered into the regression equation (Carte & Russell, 2003).

In a third step, a two-stage hierarchical regression analysis is used to examine the sub-dataset I-I, I-II, II-I, and II-II. Model 1 includes the control variables and the three independent variables. In Model 2, the country cluster dummy and the interaction effects are included to es-

timate the differences in the effect of control variables and main independent variables across the two country clusters. In order to test the moderating effects on the dependent variables, the explained variances of Model 3 and Model 4 are compared. As in the first and the second study, all selling prices are converted from their local currency into Euro by using the purchasing power parity value obtained from the mean auction price in order to account for the different price levels in the four countries and to avoid their effect on the variance explained in the regression models.

Hypothesis 1a* states that auctions of more reputable sellers result in a higher probability of sale and that auctions of less reputable sellers result in a lower probability of sale. Table 63 presents the results of hierarchical logistic regression analysis for the low and the high uncertainty avoidance sample. The results of Model 2 in both samples show that negative feedback has a negative and significant effect. Moreover, positive feedback has a positive and significant effect in both samples. This provides support for Hypothesis 1a*. The comparison of Model 1, including the control variables, and Model 2, including the control variables and main effects, shows that in both samples the main effects explained a significant additional variance above that explained by the control variables. The additional explained variance in the low uncertainty avoidance country cluster ($\Delta \text{pseudo } R^2 = 0.20$) is higher in comparison to the low uncertainty avoidance country cluster ($\Delta \text{pseudo } R^2 = 0.02$).

Table 63: Results of Logistic Regression Analysis – Probability of Sale

Variables	Probability of Sale							
	Low Uncertainty Avoidance Sample				High Uncertainty Avoidance Sample			
	(1)		(2)		(1)		(2)	
Bold	.462	(.282)	.748*	(.342)	.830	(.536)	1.051 [†]	(.552)
Competition	.529***	(.092)	1.199***	(.133)	-1.484***	(.304)	-1.567***	(.332)
Description	.012	(.058)	-.209**	(.072)	.439**	(.155)	.323*	(.164)
Duration	-.772***	(.118)	-.761***	(.148)	-3.699***	(.531)	-3.706***	(.556)
Gallery	-.165	(.204)	.019	(.244)	.548	(.378)	.502	(.385)
PayPal	-.582***	(.178)	.970***	(.251)	.069	(.463)	.288	(.476)
Picture	.298	(.276)	.401	(.334)	-.721	(.594)	-.769	(.609)
Shipping costs	-.046	(.069)	.018 [†]	(.082)	.212	(.169)	.181	(.178)
Start price	-.517***	(.040)	-.479***	(.047)	-.365***	(.090)	-.352***	(.095)
Negative feedback			-.716***	(.166)			-.582*	(.285)
Positive feedback			.871***	(.068)			.385***	(.132)
Constant	0.477	(.726)	-5.384***	(1.024)	8.888***	(1.584)	8.999***	(1.831)
<i>Chi</i> ²	368.23		628.63		206.08		216.27	
<i>Pseudo R</i> ²	.27		.47		.48		.50	
$\Delta \text{pseudo } R^2$			.20***				.02***	
<i>n</i>	1143		1143		545		545	

Note: Regression coefficients with standard errors in parentheses, including fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Hierarchical logistic regression analysis of main dataset I is used to examine the differences across the country clusters in the relationship between the independent variables and the probability of sale. Table 64 presents the moderated logistic regression results.

Table 64: Results of Moderated Logistic Regression Analysis – Probability of Sale

Variables	Probability of Sale			
	(1)	(2)	(3)	(4)
Bold	.788**	.462 [†]	1.042***	.748*
HUAI x Bold		.368		.303
Competition	-.157**	.529***	-.166**	1.199***
HUAI x Competition		-2.013***		-2.766***
Description	.039	.012	-.099 [†]	-.209**
HUAI x Description		.427*		.532**
Duration	-1.094***	-.772***	-1.112***	-.761***
HUAI x Duration		-2.927***		-2.945***
Gallery	-.127	-.165	-.155	.019
HUAI x Gallery		.713 [†]		.483 [†]
Picture	.074	.298	.083	.401
HUAI x Picture		-1.019		-1.171
PayPal	-.355*	-.582***	.234	.970***
HUAI x PayPal		.651		-.682
Shipping costs	.055	-.046	.118 [†]	.018
HUAI x Shipping charge		.258		.163
Start price	-.409***	-.517***	-.338***	-.479***
HUAI x Start price		.152		.127
Negative feedback			-.512***	-.716***
HUAI x Negative feedback				.133
Positive feedback			.511***	.871***
HUAI x Positive feedback				-.486**
Constant	4.069***	.477	3.169***	-5.384***
High uncertainty avoidance (HUAI)		8.411***		14.384***
<i>Chi</i> ²	448.40 ***	621.39 ***	615.13 ***	891.26 ***
<i>Pseudo R</i> ²	.25	.34	.34	.49
Δ <i>pseudo R</i> ² (<i>M2</i> – <i>M1</i> ; <i>M4</i> – <i>M3</i>)		.09 ***		.15 ***
Δ <i>pseudo R</i> ² (<i>M4</i> – <i>M2</i>)				.15 ***
<i>n</i>	1702	1702	1702	1702

Note: The regression includes fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Hypothesis 2a* states that the degree of uncertainty avoidance and trust moderates the relationship between seller reputation and the probability of sale in such a way that this relationship is stronger for countries with a high degree of uncertainty avoidance and a low level of trust than for countries with a low degree of uncertainty avoidance and a high level of trust. The results of Model 4 show that the interaction effect between negative feedback and the high uncertainty avoidance sample is not significant. The interaction effect between positive feedback and the high uncertainty avoidance sample is negative and significant ($\beta = -0.486$, $p < 0.01$). Contrary to Hypothesis 2a*, more reputable sellers achieve significantly higher prices in the low uncertainty avoidance country cluster. Thus, Hypothesis 2a* is not supported.

Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta pseudo R^2 = 0.15$), indicating that the differences in the effects between the country clusters are significant. The main independent variables and their respective interaction terms included in Model 4 significantly increase the explained variance ($\Delta pseudo R^2 = 0.15$), compared to Model 2.

Table 65 presents the results of hierarchical logistic regression analysis of sub-dataset I, including auctions in which PayPal was not accepted and sub-dataset II, including auctions in which PayPal was accepted.

Table 65: Results of Logistic Regression Analysis – Probability of Sale (Sub-Sample)

Variables	Probability of Sale			
	No PayPal Sample		PayPal Sample	
	(1)	(2)	(1)	(2)
Bold	1.168**	.703	.968**	.799 [†]
HUAI x Bold		.078		.849
Competition	-.249**	1.711***	-.149*	.980***
HUAI x Competition		-3.617***		-1.093
Description	-.162 [†]	-.317*	-.080	-.157 [†]
HUAI x Description		.618*		.732*
Duration	-1.227***	-.544*	-1.053***	-.919***
HUAI x Duration		-3.600***		-2.851
Gallery	-.250	-.285	-.148	.098
HUAI x Gallery		.258		1.632 [†]
Picture	-.436	-.391	.567 [†]	.671 [†]
HUAI x Picture		-.671		-.752
Shipping costs	.181	.249	.106	-.027
HUAI x Shipping charge		-.025		.259
Start price	-.267***	-.402***	-.413***	-.523***
HUAI x Start price		-.006		.191
Negative feedback	-.460**	-.752**	-.574**	-.670**
HUAI x Negative feedback		.470		-1.244 [†]
Positive feedback	.576***	1.179***	.454***	.713***
HUAI x Positive feedback		-.812***		-.233
Constant	3.952***	-9.002***	3.240***	-2.968**
High uncertainty avoidance (HUAI)		2.549***		6.076 [†]
Chi^2	276.69 ***	455.03 ***	260.84 ***	383.95 ***
$Pseudo R^2$	.34	.57	.28	.42
$\Delta pseudo R^2$		.23 ***		.14 ***
<i>n</i>	979	979	709	709

Note: The regression includes fixed-effects for sellers.

[†] $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

The results provide a more detailed picture of the influence of third party insurance on the relationship between seller reputation and the probability of sale. The results of Model 2 of the sub-dataset I-I (no PayPal) show that the interaction term between negative feedback and the high uncertainty avoidance sample is not significant and that positive feedback and the high

uncertainty avoidance sample is negative and significant ($\beta = -0.812, p < 0.001$). The interaction terms included in the second model significantly increase the explained variance in sub-dataset I-I ($\Delta R^2 = 0.23$), indicating that the differences in the effects between the country clusters are significant. The results of Model 2 of the sub-dataset I-II (PayPal) show that the interaction term between positive feedback and the high uncertainty avoidance sample is not significant. The interaction term between negative feedback and the high uncertainty avoidance sample is negative with a tendency towards significance ($\beta = -1.244, p < 0.10$). The interaction terms included in the second model significantly increase the explained variance in sub-dataset I-II ($\Delta R^2 = 0.14$), indicating that the differences in the effects between the country clusters are significant. This provides partial support for Hypothesis 2a* for sub-dataset I-II (PayPal).

Overall, the results show that the degree of uncertainty avoidance and trust moderate the relation between seller reputation and the probability of sale in the unexpected direction for sub-sample I-I (No PayPal) and in the expected direction in sub-sample II-I (PayPal). Moreover, the results show that the moderating effect of uncertainty avoidance and trust on the relationship between positive feedback and the probability of sale is significant for auctions in which PayPal was not accepted. The moderating effect is not significant for auctions in which PayPal was accepted. The comparison of the dataset of auctions in which PayPal was not accepted with the dataset of auctions in which PayPal was accepted shows that positive feedback has only a stronger affect for the low uncertainty avoidance sample for the sub-dataset in which PayPal was not accepted. Tables 66 and 67 present the distribution of auctions across the different seller types in the low uncertainty avoidance sample and the high uncertainty avoidance sample to interpret these results.

Table 66: PayPal Acceptance – Low Uncertainty Avoidance Sample

Number of positive feedbacks	PayPal					No PayPal				
	Sale		No sale		Total	Sale		No sale		Total
	Count	%	Count	%		Count	%	Count	%	
Low (570)	288	59	197	41	485	37	44	48	56	85
High (573)	64	65	35	35	99	436	91	38	9	474
Total	352		232		584	473		86		559

Note: % indicates row percentages. The column totals, which include both the PayPal and no PayPal data, are presented in parentheses on the left side.

While 85% (485 of 570) of all sellers with a low number of positive feedback (below a median of 79 positive feedback ratings in the UK and a median of 71 positive feedback ratings in the U.S.) accepted PayPal, only 17% (99 of 573) of all sellers with a high number of positive feedback (above the median in the respective country) accepted PayPal. This indicates that in the low uncertainty avoidance sample less experienced sellers accept PayPal and more experienced sellers do not accept PayPal. Sellers' strategies at the same time result in different re-

sults. Auctions of high reputation sellers that did not accept PayPal resulted with 91% (436 of 474) in a sale. Auctions of low reputation sellers that accepted PayPal resulted with 59% (288 of 485) in a sale. These findings indicate that more reputable sellers do not accept PayPal and, instead, use their reputation to signal cooperative behavior to potential bidders. Table 67 presents the distribution of auctions across different seller types for the high uncertainty avoidance sample to compare the two country clusters.

Table 67: PayPal Acceptance – High Uncertainty Avoidance Sample

Number of positive feedbacks	PayPal					No PayPal				
	Sale		No sale		Total Count	Sale		No sale		Total Count
	Count	%	Count	%		Count	%	Count	%	
Low	67	84	12	15	79	161	79	42	21	203
High	43	93	3	7	46	231	93	16	7	231
Total	110		15		125	392		58		434

Note: % indicates row percentages.

Compared to the low uncertainty avoidance sample, the majority of low and high reputation sellers did not accept PayPal in the uncertainty avoidance sample. High reputation sellers that accept PayPal have no advantage in terms of a higher probability of sale, compared to low reputation sellers. Auctions of high reputation sellers who did not offer PayPal resulted in a higher probability of sale, compared to low reputation sellers who did not offer PayPal.

Hypothesis 1b* states that auctions of more (less) reputable sellers attract a higher (lower) number of bidders. Table 68 presents the results of hierarchical regression analysis for the low and for the high uncertainty avoidance sample. The results of Model 2 in both samples show that negative feedback has a negative and significant effect. Moreover, positive feedback has a positive and significant effect in both samples. This provides support for Hypothesis 1b*. While PayPal has a positive effect for the low uncertainty avoidance country, PayPal has no significant effect in the high uncertainty avoidance country. The comparison of Model 1, including the control variables, and Model 2, including the control variables and main effects, shows that only for the high uncertainty avoidance sample, the main effects explain significant additional variance above that explained by control variables.

Table 68: Results of Regression Analysis – Number of Bidders

Variables	Number of Bidders							
	Low Uncertainty Avoidance Sample				High Uncertainty Avoidance Sample			
	(1)		(2)		(1)		(2)	
Bold	.160**	(.054)	.153**	(.054)	.054	(.045)	.060	(.046)
Buyer experience	.031**	(.010)	.031**	(.010)	-.018	(.012)	-.015	(.012)
Competition	.066**	(.021)	.068**	(.022)	-.065*	(.028)	-.054 [†]	(.027)
Description	.014	(.013)	.011	(.013)	-.004	(.017)	.004	(.017)
Duration	.047 [†]	(.025)	.047 [†]	(.025)	-.032	(.040)	-.041	(.039)
Gallery	.137**	(.043)	.128**	(.043)	.081 [†]	(.042)	.084*	(.041)
PayPal	-.022	(.037)	.019	(.051)	.218***	(.053)	.250***	(.055)
Picture	-.092	(.061)	-.094	(.061)	.015	(.067)	.038	(.066)
Shipping costs	.025	(.017)	.026	(.017)	.053*	(.025)	.037	(.025)
Start price	-.207***	(.009)	-.204***	(.009)	-.149***	(.010)	-.152***	(.010)
Negative feedback			.043	(.028)			-.028	(.032)
Positive feedback			.007	(.017)			.034*	(.013)
Constant	2.088***	(.180)	2.032***	(.203)	2.903***	(.175)	2.653***	(.179)
<i>F</i>	74.17***		56.39***		32.39***		27.77***	
<i>R</i> ²	.45		.45		.38		.41	
<i>Adjusted R</i> ²	.44		.45		.37		.41	
ΔR^2			.00				.03***	
<i>n</i>	825		825		486		486	

Note: Regression coefficients with standard errors in parentheses, including fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Hierarchical regression analysis is used to examine the relationship between the independent variables and the number of bidders. Table 69 presents the results of the analysis of main dataset II, including all auctions that resulted in a sale. Hypothesis 2b* suggests that the degree of uncertainty avoidance and trust moderates the relationship between seller reputation and the number of bidders in such a way that this relationship is stronger for the high uncertainty avoidance sample than for the low uncertainty avoidance sample. The results of Model 4 show that the interaction effect between negative feedback and the high uncertainty avoidance sample is negative and significant ($\beta = -0.071$, $p < 0.05$). The interaction effect between positive feedback and the high uncertainty avoidance sample is not significant. These results provide partial support for Hypothesis 2b*. Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.14$), indicating that the differences in the effects between the country clusters are significant. Compared to Model 2, the main independent variables and their respective interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.01$).

Table 69: Results of Moderated Regression Analysis – Number of Bidders

Variables	Number of Bidders			
	(1)	(2)	(3)	(4)
Bold	.109***	.160**	.118***	.153**
HUI x Bold		-.106		-.093
Buyer experience	-.001	.031**	-.000	.031**
HUI x Buyer experience		-.049**		-.045**
Competition	-.015 [†]	.066**	-.024**	.068**
HUI x Competition		-.131***		-.122**
Description	-.008	.014	-.012	.011
HUI x Description		-.018		-.007
Duration	.033 [†]	.047*	.028	.047*
HUI x Duration		-.078		-.088 [†]
Gallery	.061*	.137***	.052*	.128**
HUI x Gallery		-.057		-.045
PayPal	.036	-.022	.084**	.019
HUI x PayPal		.241**		.231**
Picture	-.096*	-.092	-.092*	-.094 [†]
HUI x Picture		.107		.132
Shipping costs	.040**	.025	.044***	.026 [†]
HUI x Shipping charge		.028		.010
Start price	-.150***	-.207***	-.146***	-.204***
HUI x Start price		.057***		.052***
Negative feedback			.004	.043
HUI x Negative feedback				-.071*
Positive feedback			.028**	.007
HUI x Positive feedback				.027
Constant	2.827***	2.088***	2.742***	2.032***
High uncertainty avoidance (HUI)		.815**		.621*
<i>F</i>	99.62 ***	51.85	75.83 ***	41.06 ***
<i>R</i> ²	.40	.43	.41	.44
<i>Adjusted R</i> ²	.40	.42	.41	.43
$\Delta R^2 (M2 - M1), (M4 - M3)$		.02 *		.03 **
$\Delta R^2 (M4 - M2)$				.01 *
<i>n</i>	1311	1311	1311	1311

Note: The regression includes fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Table 70 presents the results of hierarchical regression analysis of sub-dataset II-I, including auctions in which PayPal was not accepted, and sub-dataset II-II, including auctions in which PayPal was accepted. The results provide a more detailed picture of the influence of third party insurance on the relationship between seller reputation and the number of bidders.

Table 70: Results of Moderated Regression Analysis – Number of Bidders (Sub-Sample)

Variables	Number of Bidders			
	No PayPal Sample		PayPal Sample	
	(1)	(2)	(1)	(2)
Bold	.111**	.246**	.135**	.107 [†]
HUAI x Bold		-.334*		.007
Buyer experience	.014	.018	-.004	.040**
HUAI x Buyer experience		-.038		-.053**
Competition	-.017	.072*	-.072***	.062*
HUAI x Competition		-.164 [†]		-.104*
Description	-.011	.022	.034 [†]	-.001
HUAI x Description		.036		-.017
Duration	.011	.059	.035	.037
HUAI x Duration		-.427		-.086
Gallery	.076*	.130 [†]	.070	.135**
HUAI x Gallery		.068		-.095
Picture	-.014	-.149 [†]	-.068	-.040
HUAI x Picture		.390 [†]		.036
Shipping costs	.049*	.028	.038 [†]	.019
HUAI x Shipping charge		-.062		.081 [†]
Start price	-.178***	-.209***	-.179***	-.199***
HUAI x Start Price		.061*		.043*
Negative feedback	.023	.024	.026	.039
HUAI x Negative feedback		.028		-.072*
Positive feedback	.017	.009	-.001	.017
HUAI x Positive feedback		.024		.017
Constant	2.620***	1.998***	2.779***	2.072***
High uncertainty avoidance (HUAI)		.996 [†]		.644 [†]
<i>F</i>	29.58 ***	17.33 ***	52.49 ***	26.97 ***
<i>R</i> ²	.42	.48	.41	.43
<i>Adjusted R</i> ²	.41	.45	.40	.41
ΔR^2		.06 ***		.02 *
<i>n</i>	849	849	462	462

Note: The regression includes fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

For sub-dataset II-I (No PayPal), Model 2 shows that neither the interaction term between negative feedback and the high uncertainty avoidance sample nor the interaction term between positive feedback and the high uncertainty avoidance sample is significant. However, the interaction terms included in the second model significantly increase the explained variance in sub-dataset II-I ($\Delta R^2 = 0.23$), indicating that the differences in the effects for the control variables between the country clusters are significant. The results of Model 2 of sub-dataset II-II (PayPal) show that the interaction term between negative feedback and the high uncertainty avoidance sample is negative and significant ($\beta = -0.072$, $p < 0.05$). The interaction term between positive feedback and the high uncertainty avoidance sample is not significant. The interaction terms included in the second model significantly increase the explained variance in sub-dataset II-II ($\Delta R^2 = 0.02$), indicating that the differences in the effects between the country clusters are significant. This provides a partial support of Hypothesis 2b*

for sub-dataset II-II (PayPal). The results show that the degree of uncertainty avoidance and trust moderate the relation between seller reputation and the number of bidders in the expected direction for sub-dataset II (PayPal).

Hypothesis 1c* states that auctions of more reputable sellers result in a higher auction price and auctions of less reputable sellers result in a lower auction price. Table 71 presents the results of hierarchical regression analysis for the low and for the high uncertainty avoidance sample. The results of Model 2 in both samples show that negative feedback has a negative and significant effect. Moreover, positive feedback has a positive and significant effect in both samples. This provides support for Hypothesis 1c*. For both country clusters, PayPal has no significant effect. A comparison of Model 1, including control variables, and Model 2, including control variables and main effects, shows that in both samples the main effects explained significant additional variance above that explained by control variables alone. The additional explained variance in the low uncertainty avoidance sample ($\Delta R^2 = 0.04$) is higher, compared to the low uncertainty avoidance sample ($\Delta R^2 = 0.01$).

Table 71: Results of Regression Analysis – Auction Price

Variables	Auction Price							
	Low Uncertainty Avoidance				High Uncertainty Avoidance			
	(1)		(2)		(1)		(2)	
Bidders (residual)	.027***	(.006)	.027***	(.006)	.008	(.007)	.004	(.007)
Bold	.008	(.007)	.007	(.007)	.005	(.006)	.011*	(.006)
Buyer experience	-.002 [†]	(.001)	-.003 [†]	(.001)	.001	(.002)	.000	(.001)
Competition	-.029***	(.003)	-.029***	(.003)	-.012**	(.003)	-.014***	(.003)
Description	.010***	(.002)	.010***	(.002)	.005*	(.002)	.002	(.002)
Duration	.001	(.003)	.002	(.003)	-.003	(.005)	.000	(.005)
Gallery	.004	(.006)	.004	(.006)	.003	(.005)	.003	(.005)
PayPal	-.003	(.005)	.007	(.007)	.002	(.008)	.007	(.007)
Picture	-.008	(.008)	-.008	(.008)	.005	(.008)	.008	(.008)
Shipping costs	.054***	(.002)	.055***	(.002)	.010**	(.003)	.010**	(.003)
Start price	-.003*	(.001)	-.003*	(.001)	-.003*	(.001)	-.001	(.001)
Negative feedback			-.007 [†]	(.004)			-.010*	(.004)
Positive feedback			.005*	(.002)			.010***	(.002)
Constant	5.752***	(.024)	5.728***	(.028)	5.789***	(.022)	5.770***	(.022)
<i>F</i>	78.99***		61.63***		4.18***		6.42***	
<i>R</i> ²	.44		.45		.06		.10	
<i>Adjusted R</i> ²	.43		.44		.04		.08	
ΔR^2			.01***				.04***	
<i>n</i>	825		825		486		486	

Note: Regression coefficients with standard errors in parentheses, including fixed-effects for sellers.

- [†] $p < .10$
 * $p < .05$
 ** $p < .01$
 *** $p < .001$

Hierarchical regression analysis is used to examine the relationship between independent variables and auction price. Table 72 presents the results of the analysis of main dataset II, including all auctions that resulted in a sale.

Table 72: Results of Moderated Regression Analysis – Auction Price

Variables	Auction Price			
	(1)	(2)	(3)	(4)
Bidders (residual)	.016***	.027***	.016***	.026***
HUAI x Bidders (residual)		-.019*		-.024*
Bold	.005	.008	.007	.007
HUAI x Bold		-.004		.004
Buyer experience	-.001	-.002	-.002	-.002*
HUAI x Buyer experience		.001		.002
Competition	-.015***	-.025***	-.017***	-.030***
HUAI x Competition		.011*		.016**
Description	.010***	.012***	.009***	.010***
HUAI x Description		-.008*		-.007*
Duration	-.003	.002	-.001	.002
HUAI x Duration		-.006		-.002
Gallery	.004	.003	.003	.005
HUAI x Gallery		.001		-.002
PayPal	-.005	-.003	.006	.008
HUAI x PayPal		.005		-.001
Picture	.004	.007	.005	-.008
HUAI x Picture		-.002		.016
Shipping costs	.043***	.054***	.044***	.055***
HUAI x Shipping charge		-.044***		-.044***
Start price	-.002 [†]	-.002 [†]	-.001	-.002*
HUAI x Start Price		.001		.002
Negative feedback			-.012***	-.006 [†]
HUAI x Negative feedback				-.005
Positive feedback			.008***	.006**
HUAI x Positive feedback				.004*
Constant	5.694***	5.699***	5.680***	5.726***
High uncertainty avoidance (HUAI)		.105**		.044
<i>F</i>	63.57 ***	37.50 ***	51.07 ***	30.43 ***
<i>R</i> ²	.31	.36	.32	.37
Adjusted <i>R</i> ²	.30	.35	.31	.36
$\Delta R^2 (M2 - M1); (M4 - M3)$		.05 **		.05 **
$\Delta R^2 (M4 - M2)$				.01 *
<i>n</i>	1311	1311	1311	1311

Note: The regression includes fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Hypothesis 2c* suggests that the degree of uncertainty avoidance and trust moderates the relationship between seller reputation and the auction price in such a way that this relationship is stronger for countries with a high degree of uncertainty avoidance than for countries with a low degree of uncertainty avoidance. The results in Model 4 show that the interaction effect between negative feedback and the high uncertainty avoidance sample is not significant. The

interaction effect between positive feedback and the high uncertainty avoidance sample is positive and significant ($\beta = 0.004, p < 0.05$). These results provide partial support for Hypothesis 2c*. Compared to Model 3, the interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.05$), indicating that the differences in the effects between the country clusters are significant. Compared to Model 2, the main independent variables and their respective interaction terms included in Model 4 significantly increase the explained variance ($\Delta R^2 = 0.01$).

Table 73 presents the results of hierarchical regression analysis of sub-dataset II-I, including auctions in which PayPal was not accepted, and sub-dataset II-II, including auctions in which PayPal was accepted. Regarding sub-dataset II-I (no PayPal), the second model shows that neither the interaction term between negative feedback and the high uncertainty avoidance sample nor the interaction term between positive feedback and the high uncertainty avoidance sample is significant. The interaction terms included in the second model significantly increase the explained variance in sub-dataset II-I ($\Delta R^2 = 0.06$), indicating that the differences between the country clusters in the effects for the control variables are significant. For sub-dataset II-II (PayPal), the second model shows that the interaction term between negative feedback and the high uncertainty avoidance sample is not significant. The interaction term between positive feedback and the high uncertainty avoidance sample is positive with a tendency towards significance ($\beta = 0.007, p < 0.10$). The interaction terms included in the second model significantly increase the explained variance in sub-dataset II-I ($\Delta R^2 = 0.05$), indicating that the differences between the country clusters in the effects for the control variables are significant. Overall, for sub-dataset II (PayPal) the results indicate that the degree of uncertainty avoidance and trust moderates the relation between seller reputation and auction price.

Table 73: Results of Moderated Regression Analysis – Auction Price (Sub-Samples)

Variables	Auction Price			
	No PayPal		PayPal	
	(1)	(2)	(1)	(2)
Bidders (residual)	.018***	.027***	.016***	.027***
HUAI x Bidders (residual)		-.017		-.036 [†]
Bold	.007	.000	.013	.026 [†]
HUAI x Bold		.008		-.017*
Buyer experience	.000	-.001	-.005*	-.003**
HUAI x Buyer experience		.000		-.006**
Competition	-.019***	-.029***	-.016***	-.021*
HUAI x Competition		.011 [†]		.020*
Description	.007***	.008**	.011***	.013*
HUAI x Description		-.006		-.010
Duration	-.006	-.004	.005	.013*
HUAI x Duration		.002		-.002
Gallery	.005	-.001	.001	.009
HUAI x Gallery		.011		-.023
Picture	-.002	-.005	.017	.016
HUAI x Picture		.006		.024
Shipping costs	.046***	.068***	.043***	.052***
HUAI x Shipping charge		-.059***		-.044***
Start price	.000	.000	-.003 [†]	-.003
HUAI x Start price		.001		.000
Negative feedback	-.010**	-.008 [†]	-.023**	-.025**
HUAI x Negative feedback		-.007		.007
Positive feedback	.009***	.011**	.008**	.009*
HUAI x Positive feedback		-.001		.007 [†]
Constant	5.690***	5.670***	5.669***	5.635
High uncertainty avoidance (HUAI)		.126*		.123
<i>F</i>	24.72 ***	16.48 ***		15.86 ***
<i>R</i> ²	.25	.31	.40	.45
Adjusted <i>R</i> ²	.24	.30	.38	.43
ΔR^2		.06 ***		.05 ***
<i>n</i>	849	849	462	462

Note: The regression includes fixed-effects for sellers.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

6.2 Discussion and Consequences – Study 3

Table 74 presents a summary of the results for each country cluster as well as the comparison of the effects between the country clusters. In the low uncertainty avoidance sample as well as in the high uncertainty avoidance sample, negative feedback has a negative effect and positive feedback has a positive effect on the probability of sale. Contrary to the prediction, the effect of positive feedback on the probability of sale is significantly stronger for the low uncertainty avoidance sample, compared to the high uncertainty avoidance sample. The findings for the low uncertainty avoidance sample indicate that more reputable sellers do not offer PayPal and, instead, use their reputation to signal their cooperative behavior to potential bidders. In

this way, more reputable sellers can realize a higher revenue by saving the PayPal related monetary costs. Several studies show that positive seller reputation has diminishing marginal returns in terms of higher auction prices (e.g., Livingston, 2005; Sun & Liu, 2009). The results show that although sellers' positive feedbacks have diminishing marginal returns on higher auction prices, in the low uncertainty avoidance sample a high number of positive feedbacks is a precondition to realize a higher probability of sale without offering third party insurance.

Table 74: Summary of Hypotheses Tests – Study 3

Variables	Probability of Sale			Number of Bidders			Auction Price		
	H1a		H2a	H1b		H2b	H1c		H2c
	LUAI	HUAI	Moderation	LUAI	HUAI	Moderation	LUAI	HUAI	Moderation
Negative feedback	-	-				LUAI > HUAI		-	
Positive feedback	+	+	LUAI > HUAI	+			+	+	LUAI < HUAI
Bidders							+		LUAI > HUAI
Bold	+	+		+	+			+	
Buyer experience				+		LUAI > HUAI	-		
Competition	+	-	LUAI > HUAI	+	-	LUAI > HUAI	-	-	LUAI < HUAI
Description	-	+	LUAI < HUAI				+		LUAI > HUAI
Duration	-	-	LUAI > HUAI	+		LUAI > HUAI			
Gallery			LUAI < HUAI	+					
PayPal	+			+		LUAI < HUAI			
Picture									
Shipping charge	+			+			+	+	LUAI > HUA
Start price	-	-		-	-	LUAI < HUAI	-		

Note: “+” denotes significant positive effects and “-” denotes significant negative effects that are in line with the hypothesized relations. Non-significant results are left blank.

The results of an additional analysis of auctions in which PayPal was offered and auctions in which PayPal was not offered suggest that for both country clusters third party insurance partly crowds out the effect of reputation. Thus, to some extent, the results provide empirical support for the experimental findings by Güth, Mengel, and Ockenfels (2007), which showed that third party insurance crowds out trust and trustworthiness. While sellers' reputation has an influence on the number of bidders for the high uncertainty avoidance sample it has no effect for the low uncertainty avoidance sample. The effect of negative feedback on the number of bidders is significantly stronger for the high uncertainty avoidance sample, compared to the low uncertainty avoidance sample. In the low uncertainty avoidance sample as well as in the high uncertainty avoidance sample, positive feedback has a positive effect on the auction price. The effect of positive feedback on the auction price is significantly stronger for the low uncertainty avoidance sample, compared to the high uncertainty avoidance sample. While negative feedback has a negative effect on the auction price for the high uncertainty avoidance sample, negative feedback has no effect for the low uncertainty avoidance sample. These findings shed light on the way reputation and the reputation level affects bidder behavior in different phases of the auction process. Seller reputation affects bidders' decision to place a bid and it affects the decision of the amount to bid in a particular auction in both country clus-

ters. While the effect of negative feedback on the probability of sale is about the same for both country clusters, the effect of positive feedback on the probability of sale is stronger for the low uncertainty avoidance sample. Seller reputation has a stronger effect on the number of bidders and the auction price for the high uncertainty avoidance sample. One explanation for this result is that reputation influences bidders' value assessment at different stages of the auction process. Overall, the results show that the influence of reputation on the different auction outcomes is a complex and interconnected process.

The results for the control variables show that the number of bidders has an influence on the auction price for the low uncertainty avoidance sample but not for the high uncertainty avoidance sample. Therefore, the determinants of the number of bidders that are attracted to an auction have an indirect influence on the auction price for the low uncertainty avoidance sample. In the low uncertainty avoidance sample, bidder experience has a positive effect on the number of bidders, while it has a negative effect on the auction price. In the high uncertainty avoidance sample, bidder experience has no effect on the auction outcomes. Therefore, it does not appear to have important consequences for the result that bidder experience was not included in the previous studies. The findings suggest that in the UK and the U.S. it is more difficult for sellers that do not offer PayPal to successfully complete an auction, compared to sellers in Germany. Thus, the present study provides profound evidence of country-specific bidder preferences for the PayPal online payment service.

7 Discussion, Limitations, and Directions for Further Research

The main purpose of this thesis was to examine the moderating influence of institutional frameworks on the relationship between seller reputation and auction outcomes. To answer what determines online auctions outcomes in different institutional frameworks, whether institutional frameworks influence the effect of seller reputation on auction outcomes, and what are the reasons for negative feedback and how do they affect auction outcomes across institutional frameworks, a meta-analysis and three empirical studies were conducted.

The results of the meta-analysis show that the majority of empirical studies investigating the relation between seller reputation and auction outcomes have found that more reputable sellers achieve better economic outcomes. The empirical results of the three studies validate and support this finding. Overall, the results of the meta-analysis and all the empirical studies show that auctions of more reputable sellers result in a higher probability of sale, a higher number of bidders, and a higher auction price. Furthermore, the findings of the three empirical studies show that the effect of seller reputation varies across countries. These results are an important extension of previous empirical studies. While specific reputation indicators might work efficiently in online auctions in one country, they might be less efficient in another country. In the country with the higher uncertainty avoidance level and the higher costs of legal enforcement, reputation has a stronger effect, compared to the countries with lower uncertainty avoidance levels and lower costs of legal enforcement. This effect was observed, in particular, for the heterogeneous item with the lowest price (silver coin sample) as well as for the homogeneous items with the highest prices (video game consoles), indicating that different incentives influence a bidder's decision to evaluate a seller's reputation for product categories with different price levels. For items with lower prices the economic incentives to enforce contracts in cases of disputes are lower, compared to the items with higher prices. However, the results for the video game console samples in the second study and the third study indicate that also in the case of an item with a high price and, therefore, with a high economic incentive to enforce the contract, seller reputation is a complement to the regulatory framework and third party insurance. This result was not observed for the digital camera sample in the first study, having an average price above eBay's protection program but below the average price of the video game console. Future research should further explore the relation between product characteristics and the effect of reputation on auction results. In the second study, qualitative and quantitative data was used to investigate cross-country differences in reasons for buyer complaints as well as to examine the effect of different complaint categories on auction outcomes. The findings of the second study extend previous research, suggesting that buyer complaint categories occur with different frequencies in different countries. The findings also show that the same complaint categories have different effects on auction outcomes in different countries. These findings shed light on differences in consumer complaint

behavior in different countries in online auction markets and begin to answer calls for research to analyze online auctions from a marketing perspective (Becherer & Halstead, 2004; Chakravarti et al., 2004). The results of the third study show that the cross-country differences in the effect of seller reputation on auction outcomes are not related to cross-country differences in the use of third party insurance.

The results of all three studies show that the number of bidders has a significant effect on the auction price at least in one of the countries, indicating that the 2SLS procedure is an adequate method for estimating the auction price while taking a potential correlation of the number of bidders and the auction price into account. The meta-analysis as well as all second and the third study add novel insights to the existing literature by identifying that reputation is of particular importance in the first decision a potential bidder has to make: Whether or not to place a bid. Previous research focused on the examination of auction prices and price premiums. The findings of both studies suggest that reputation is of more importance at an earlier stage of the auction process. Future research, therefore, should focus on bidders' arrival process and the determinants that attract a potential bidder to an auction.

Furthermore, the findings of all three studies suggest that in the UK and the U.S., for the majority of the item samples, the online payment service PayPal has a significant positive effect on auction outcomes and, in particular, on the probability of sale. While in the UK and the U.S. samples the third party escrow and online payment service is used in nearly all auctions, in the German sample as well as in the French sample this service is used very rarely. Moreover, in the UK and the U.S. it is more difficult to successfully complete an auction for sellers not offering PayPal. Thus, the present study provides empirical evidence of country-specific bidder preferences for third party insurance, indicating that online auction market participants might react differently in different countries in case institutional settings are changed, e.g., a PayPal only policy is introduced.⁴² In addition, the findings have the potential to advance recent research on a potential crowding-out effect of trust through buyer insurance as offered by third parties, such as PayPal (Güth, Mengel, & Ockenfels, 2007).

Like most research, the present study has limitations that merit further discussion. First, meta-analysis, like most research methods, has certain inherent shortcomings. Among these are publication bias, quality bias created by lack of controlled conditions, and lack of homogeneous measures. Since meta-analysis depends on published literature, various publication biases may develop. Certain independent variables and weak results may be systematically excluded because of the reviewing process. Second, the role of buyer experience is not included in the analysis of the first and the second study. In previous studies, mixed results are found on the

⁴² In early 2008 eBay proposed to require customers to use PayPal for all transactions on eBay's auction market in Australia.

effect of bidder experience on auction outcomes (Houser & Wooders, 2006; Lee, Im, & Lee, 2006; Wilcox, 2000). The results of the third study show that bidder experience has different effects in the two country clusters. In order to examine country-specific effects of bidder experience, future studies should include experience effects in their analysis. Third, a differentiation of highly professional sellers and more regular sellers, especially in the U.S., might find stronger effects of reputation in auctions of sellers where a consumer-to-consumer transaction is at hand (Snijders & Zijdemans, 2004). Fourth, differences in socio-economic characteristics of sellers and buyers (Black, 2007a, 2007b; Möllenberg, 2004) might have an impact on reputation effects. Fifth, in order to examine the effect of the different buyer complaints on auction outcomes, the second study used a sample of sellers selling the same item. All negative feedback ratings of the respective sellers were included in the sample, increasing the potential for same-source bias. It would have been ideal if one had used data collected from more than a single product category in each country. Previous research shows that feedback comments have different effects for different products (Finch, 2007). Future research could improve the study design by combining a random sample of items from different product categories and by expanding the choice of countries. Finally, there is a serious limitation of field data, posing a major opportunity for further inquiry. In all three studies it is not examined which institutional framework factors in particular affect bidders' preferences. Future research could use the controlled environment of economic experiments in order to reveal bidders' behavior and to test the effect of different institutional frameworks, thus, providing a more detailed understanding of the relationship between bidders' preferences, sellers' reputation, and the influence of the national culture and the national regulatory framework on this relationship. Furthermore, in all three studies it is assumed that bidders in each country form a homogenous group. Especially in the Internet, multiculturalism, subgroups within nations, and cultural homogeneity could occur. Therefore, the presented approach simplifies the influencing role of the institutional framework and may be useful for future researchers to further explore the effects of cultural norms and values on bidder behavior (Myers & Tan, 2003). Despite these limitations, however, the present study takes a step forward and sheds some light on the complexity of bidders' value assessment of an item for auction. At the same time, it underscores the need for more empirical work in this research field.

The findings point to consequences for sellers that attempt to auction their items internationally. While reputation might be more important for online auction bidders in one country, reputation might be less important in another country. Prior research in this area has identified the influence of culture on the positive effect of feedback ratings on seller success (Komiak, Komiak, & Imhof, 2008). As online auction marketplaces continue to expand their business internationally, the need for a better understanding of the impact of differences in countries' institutional frameworks on individuals' preferences and consumer behavior in electronic auction markets continues to grow. As cross-border trade accounted for 20% of eBay's overall

international sales, 12% in the U.S., about 14% in the UK, and about 8% in Germany (eBay, 2008d), in particular differences in regulatory frameworks affect online auction participants. Currently no single set of international legal rules and regulations is applicable to electronic commerce on an international level, leaving disputes across borders on an even more complicated level than disputes within a single country (Colón-Fung, 2007; Edwards & Wilson, 2007). In conclusion, this thesis provides a first step toward an empirical understanding of country-specific reputation effects in online auction markets.

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Appendices

Appendix Part 1: Literature review

Table 75: Sources of Studies

Source	Count
American Economist	1
Atlantic Economic Journal	1
B.E. Journal of Economic Analysis & Policy	2
Coastal Business Journal	2
Communications of the ACM	1
Decision Support Systems	1
Electronic Commerce Research	1
Experimental Economics	1
Information Systems Research	1
Information Technology and Management	1
International Journal of Business and Economics Perspectives	1
International Journal of E-Business Research	1
International Journal of Electronic Business	1
International Journal of Electronic Marketing and Retailing	1
International Journal of the Economics of Business	1
Journal of Applied Economics and Policy	1
Journal of Business	1
Journal of Computer Information Systems	1
Journal of Consumer Psychology	1
Journal of Cultural Economics	1
Journal of Economics & Management Strategy	1
Journal of Electronic Commerce Research	1
Journal of Industrial Economics	3
Journal of Interactive Marketing	1
Journal of Management	1
Journal of Marketing	1
Journal of Marketing Research	3
Journal of Organizational Computing and Electronic Commerce	1
Journal of Product & Brand Management	1
Journal of the Operational Research Society	1
Kölner Zeitschrift für Soziologie und Sozialpsychologie	2
Management Science	1
Mid-American Journal of Business	1
MIS Quarterly	1
Psychology and Marketing	1
RAND Journal of Economics	2
Review of Economics and Statistics	1
Small Economic Business	1
Southern Economic Journal	1
Zeitschrift für Betriebswirtschaft	1
Proceedings	5
Books	5

Table 76: Determinants of the Probability of Sale

Variable	Study	+	-	ns
Accessories	Diekmann, Jann, & Wyder (2007); Zhang (2006)	0	0	2
Auction end (afternoon)	Livingston (2005)	0	0	1
Auction end (late)	Livingston (2005)	0	0	1
Auction end (morning)	Gilkeson & Reynolds (2003)	0	0	1
Auction ending time	Andrews & Benzing (2007)	0	0	1
Bold	Zhang (2006)	0	0	1
Buy it now	Dimoka & Pavlou (2006); Li, Srinivasan, & Sun (2009); Zhang (2006)	2	1	0
Buy it now * Seller reputation	Dimoka & Pavlou (2006)	0	0	1
Calendar time	Diekmann, Jann, & Wyder (2007)	0	1	0
Certification	Hou (2007c)	1	0	0
Checks	Gilkeson & Reynolds (2003)	0	0	1
Claim	Hou (2007c)	0	0	1
Claim * Negative feedback	Hou (2007c)	0	0	1
Claim * Positive feedback	Hou (2007c)	0	0	1
Competition	Berger & Schmitt (2005) Livingston (2005)	0	1	1
Credit Card	Bland, Black, & Lawrimore (2005); Eaton (2005); Gilkeson & Reynolds (2003); Livingston (2005)	0	1	4
Damaged	Gilkeson & Reynolds (2003)	0	0	1
Dealer	Andrews & Benzing (2007); Jin & Kato (2006); Simonsohn & Ariely (2008); Duan, Gu, & Whinston (2006)	1	1	2
Display	Andrews & Benzing (2007)	0	1	0
Duration	Dewan & Hsu (2004); Diekmann, Jann, & Wyder (2007); Dimoka & Pavlou (2006); Duan, Gu, & Whinston (2006); Gilkeson & Reynolds (2003); Hou (2007c); Livingston (2005); Zhang (2006)	4	1	3
Feature	Andrews & Benzing (2007); Dimoka & Pavlou (2006)	1	0	1
Feedback rating	Andrews & Benzing (2007); Dewan & Hsu (2004); Diekmann, Jann, & Wyder (2007); Duan, Gu, & Whinston (2006); Eaton (2005); Eaton (2007); Gilkeson & Reynolds (2003); Li, Srinivasan, & Sun (2009); Simonsohn & Ariely (2008)	5	2	2
Feedback rating bidder	Gilkeson & Reynolds (2003)	1	0	0
Few negative feedback ratings	Dimoka & Pavlou (2006)	1	0	0
Gallery	Zhang (2006)	0	0	1
Graded	Jin & Kato (2006)	1	0	0
High first bid	Bland, Black, & Lawrimore (2005)	1	0	1
Information	Berger & Schmitt (2005)	0	0	1
International transaction	Dewan & Hsu (2004)	0	1	0
Logarithm of feedback rating	Eaton (2007)	1	0	0
Lower standard product value	Dimoka & Pavlou (2006)	1	0	0
Minutes left	Simonsohn & Ariely (2008)	0	1	0
Money back	Li, Srinivasan, & Sun (2009)	1	0	0
Monogrammed	Gilkeson & Reynolds (2003)	0	1	0
Negative * Credit	Eaton (2005)	0	0	1
Negative * PayPal	Eaton (2007)	0	0	1
Negative * Picture	Eaton (2005)	1	0	0
Negative and neutral rating	Livingston (2005)	0	0	1
Negative rating (buyer)	Zhang (2006)	0	0	1
Negative rating (> 6 months)	Eaton (2007)	0	0	1
Negative rating (1 month)	Eaton (2007)	0	1	0
Negative rating (seller)	Berger & Schmitt (2005); Eaton (2005); Eaton (2007); Hou (2007c); Resnick & Zeckhauser (2002); Zhang (2006)	0	6	1
Negative rating (Amount)	Eaton (2007)	0	1	0

Table 76: Determinants of the Probability of Sale (cont'd)

Variable	Study	+	-	ns
Negative Rating (six months)	Eaton (2007)	0	0	1
Negative Rating to product	Eaton (2007)	1	0	0
Negative Rating to seller	Eaton (2007)	0	1	0
Negative ratings * graded	Jin & Kato (2006)	0	0	1
Negative ratings * ungraded	Jin & Kato (2006)	0	1	0
New	Hou (2007c); Livingston (2005); Simonsohn & Ariely (2008); Zhang (2006)	2	2	0
Number of bids	Dimoka & Pavlou (2006); Gilkeson & Reynolds (2003); Zhang (2006)	2	0	1
PayPal	Berger & Schmitt (2005); Eaton (2005); Eaton (2007); Li, Srinivasan, & Sun (2009); Zhang (2006)	2	0	3
Picture	Andrews & Benzing (2007); Bland, Black, & Lawrimore (2005); Eaton (2005); Eaton (2007); Jin & Kato (2006); Li, Srinivasan, & Sun (2009)	3	1	3
Positive rating (buyer)	Zhang (2006)	0	0	1
Positive rating (seller)	Andrews & Benzing (2007); Berger & Schmitt (2005); Dimoka & Pavlou (2006); Hou (2007c); Livingston (2005); Resnick & Zeckhauser (2002); Zhang (2006)	7	0	1
Product inspection	Dimoka & Pavlou (2006)	1	0	0
Product inspection * Seller reputation	Dimoka & Pavlou (2006)	1	0	0
Reserve price	Bland, Black, & Lawrimore (2005); Dewan & Hsu (2004); Dimoka & Pavlou (2006); Gilkeson & Reynolds (2003); Li, Srinivasan, & Sun (2009); Livingston (2005); Zhang (2006)	2	6	0
Reserve price * Seller reputation	Dimoka & Pavlou (2006)	1	0	0
Retail price	Livingston (2005)	0	0	1
Scott value	Dewan & Hsu (2004)	1	0	0
Seller active	Bland, Black, & Lawrimore (2005)	1	0	1
Seller dealer * Feedback score	Duan, Gu, & Whinston (2006)	0	1	0
Seller Experience	Simonsohn & Ariely (2008)	0	1	0
Seller Rating * graded	Jin & Kato (2006)	1	0	0
Seller Rating * ungraded	Jin & Kato (2006)	1	0	0
Seller self grade * ungraded	Jin & Kato (2006)	1	0	0
Seller self grade * ungraded	Jin & Kato (2006)	1	0	0
Seller's 1-month warranty	Dimoka & Pavlou (2006)	0	0	1
Seller's 1-month warranty * Seller reputation	Dimoka & Pavlou (2006)	1	0	0
Shipping	Diekmann, Jann, & Wyder (2007); Gilkeson & Reynolds (2003); Simonsohn & Ariely (2008); Zhang (2006)	2	2	0
Standard product value * Seller reputation	Dimoka & Pavlou (2006)	1	0	0
Starting bid	Dewan & Hsu (2004); Diekmann, Jann, & Wyder (2007); Hou (2007c); Li, Srinivasan, & Sun (2009); Zhang (2006)	0	4	1
Starting price	Berger & Schmitt (2005); Bland, Black, & Lawrimore (2005); Dimoka & Pavlou (2006); Duan, Gu, & Whinston (2006); Gilkeson & Reynolds (2003)	4	3	0
Starting price * Seller reputation	Dimoka & Pavlou (2006)	0	0	1
Title	Andrews & Benzing (2007)	0	0	1
Ungraded with no self grade	Jin & Kato (2006)	1	0	0
Warranty	Andrews & Benzing (2007); Dimoka & Pavlou (2006)	1	0	1
Warranty * Seller reputation	Dimoka & Pavlou (2006)	0	0	1

Table 77: Determinants of the Number of Bidders

Variable	Study	+	-	ns
Accessories	Anderson, Friedman, Milam, & Singh (2008)	0	1	0
Book value	Bajari & Hortaçsu (2003)	1	0	0
Buy it now	Anderson, Friedman, Milam, & Singh (2008); Li, Srinivasan, & Sun (2009); Park & Bradlow (2005)	0	3	0
Certification	Hou (2007c)	1	0	0
Claim * Negative rating	Hou (2007c)	0	1	0
Claim * Positive rating	Hou (2007c)	0	0	1
Company	Bland, Black, & Lawrimore (2005)	0	0	2
Credit card	Bland & Barret (2004); Bland, Black, & Lawrimore (2005)	1	0	2
Damage	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Bland & Barret (2004)	0	1	2
Description	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Description incl. "no cover"	Bland & Barret (2004)	0	0	1
Duration	Anderson, Friedman, Milam, & Singh (2008); Bland & Barret (2004); Hou (2007c); Park & Bradlow (2005)	2	1	1
Featured	Anderson, Friedman, Milam, & Singh (2008)	1	0	0
Feedback rating	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Li, Srinivasan, & Sun (2009)	2	0	1
First bid	Bland & Barret (2004); Bland, Black, & Lawrimore (2005)	0	1	2
Free shipping	Bland & Barret (2004)	1	0	0
Holiday	Bland & Barret (2004)	0	0	1
Low reputation bidder rejection	Bland & Barret (2004)	0	0	1
Minimum bid	Bajari & Hortaçsu (2003)	0	1	0
Minimum bid	Bajari & Hortaçsu (2003)	0	1	0
Money-back guarantee	Li, Srinivasan, & Sun (2009)	1	0	0
Month	Bland & Barret (2004)	1	0	0
Negative rating	Bajari & Hortaçsu (2003); Bland & Barret (2004); Hou (2007c); Park & Bradlow (2005)	0	1	3
Negative/positive rating ratio	Bajari & Hortaçsu (2003)	1	0	0
New	Anderson, Friedman, Milam, & Singh (2008); Bland & Barret (2004); Hou (2007c)	2	0	1
No reserve	Bland & Barret (2004)	0	0	1
Number of items	Anderson, Friedman, Milam, & Singh (2008)	0	1	0
Picture	Anderson, Friedman, Milam, & Singh (2008); Bland, Black, & Lawrimore (2005); Li, Srinivasan, & Sun (2009); Park & Bradlow (2005)	3	1	1
Positive rating	Park & Bradlow (2005); Bland & Barret (2004); Hou (2007c)	1	0	2
Reserve price	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Bland, Black, & Lawrimore (2005); Li, Srinivasan, & Sun (2009)	0	4	1
Self made quality claim	Hou (2007c)	0	0	1
Seller active	Bland, Black, & Lawrimore (2005)	0	0	2
Seller active months	Bland & Barret (2004)	0	0	1
Seller held more than one but no more than ten auctions	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Seller held one auction	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Seller web link	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Start price	Anderson, Friedman, Milam, & Singh (2008); Bland, Black, & Lawrimore (2005); Hou (2007c); Li, Srinivasan, & Sun (2009); Park & Bradlow (2005)	0	6	0
Start price (< US\$20)	Anderson, Friedman, Milam, & Singh (2008)	1	0	0
Start price equal to Buy it now price	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Start price squared	Anderson, Friedman, Milam, & Singh (2008)	1	0	0
Tax	Bland & Barret (2004)	0	0	1
Third party payment	Anderson, Friedman, Milam, & Singh (2008); Li, Srinivasan, & Sun (2009)	1	0	1
Used	Bland & Barret (2004); Bland, Black, & Lawrimore (2005)	0	2	1
Weekend	Bland & Barret (2004); Hou (2007c)	0	2	0

Table 78: Determinants of the Number of Bids

Variable	Study	+	-	ns
Average price	Highfill & O'Brien (2007)	1	0	0
Bold	Erlenkämper (2005)	0	0	2
Bundle	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Buy it now	Anderson, Friedman, Milam, & Singh (2008); Baker & Song (2008); Highfill & O'Brien (2007); Park & Bradlow (2005)	2	0	3
Cash on delivery	Erlenkämper (2005)	1	0	1
Cash on delivery (face-to-face)	Erlenkämper (2005)	0	0	2
Certified member	Erlenkämper (2005)	0	0	2
Competition	Erlenkämper (2005)	0	1	1
Damage	Anderson, Friedman, Milam, & Singh (2008)	0	1	0
Delivery destination	Erlenkämper (2005)	0	0	2
Description	Anderson, Friedman, Milam, & Singh (2008); Erlenkämper (2005)	0	0	3
Difference between positive and negative ratings	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Duration	Anderson, Friedman, Milam, & Singh (2008); Baker & Song (2008); Erlenkämper (2005); Highfill & O'Brien (2007); Park & Bradlow (2005)	4	0	3
Ending time afternoon	Baker & Song (2008)	0	0	2
Ending time weekday morning	Baker & Song (2008)	0	0	2
Ending time weekend morning	Baker & Song (2008)	0	1	1
Expedited delivery	Baker & Song (2008)	0	0	2
Experience (bidder)	Erlenkämper (2005)	0	0	2
Experience (seller)	Highfill & O'Brien (2007); McDonald & Slawson (2002); Simonsohn & Ariely (2008)	0	0	3
Featured	Anderson, Friedman, Milam, & Singh (2008)	1	0	0
Feedback rating	Highfill & O'Brien (2007); Flanagan (2007); Fuchs, Höpken, Eybl, & Ulrich (2008); McDonald & Slawson (2002); Ottaway, Bruneau, & Evans (2003); Resnick, Zeckhauser, Swanson, & Lockwood (2006); Simonsohn & Ariely (2008)	5	0	2
Gallery	Baker & Song (2008); Erlenkämper (2005)	0	0	4
High reputation	McDonald & Slawson (2002)	0	0	1
Highlight	Erlenkämper (2005)	1	0	1
Information	Flanagan (2007)	0	1	0
Initial bid	Baker & Song (2008)	0	2	0
Low reputation	McDonald & Slawson (2002)	0	0	1
Market value	Ottaway, Bruneau, & Evans (2003)	1	0	0
Membership duration	Erlenkämper (2005)	0	0	2
Minutes left on the auction	Simonsohn & Ariely (2008)	1	0	0
Negative rating	Baker & Song (2008); Erlenkämper (2005); Park & Bradlow (2005)	0	1	3
Negative/positive rating ratio	Anderson, Friedman, Milam, & Singh (2008); McDonald & Slawson (2002)	1	0	1
New	Anderson, Friedman, Milam, & Singh (2008); Simonsohn & Ariely (2008)	2	0	0
Number of items	Anderson, Friedman, Milam, & Singh (2008)	0	1	0
Payment in advance	Erlenkämper (2005)	1	0	1
PayPal	Anderson, Friedman, Milam, & Singh (2008); Highfill & O'Brien (2007)	0	0	2
Picture	Anderson, Friedman, Milam, & Singh (2008); Erlenkämper (2005); Ottaway, Bruneau, & Evans (2003); Park & Bradlow (2005)	1	0	4

Table 78: Determinants of the Number of Bids (cont'd)

Variable	Study	+	-	ns
Positive rating	Baker & Song (2008); Park & Bradlow (2005)	2	0	1
Power seller	Erlenkämper (2005)	0	1	1
Reserve price	Anderson, Friedman, Milam, & Singh (2008); McDonald & Slawson (2002)	0	2	0
Seller held more than one but no more than ten auctions	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Seller held one auction	Anderson, Friedman, Milam, & Singh (2008)	1	0	0
Seller web link	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Shipping	Baker & Song (2008); Erlenkämper (2005); Highfill & O'Brien (2007); Simonsohn & Ariely (2008)	1	3	2
Start price (< US\$20)	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Starting price	Anderson, Friedman, Milam, & Singh (2008); Erlenkämper (2005); Fuchs, Höpken, Eybl, & Ulrich (2008); Highfill & O'Brien (2007); McDonald & Slawson (2002); Park & Bradlow (2005)	1	6	0
Starting price squared	Anderson, Friedman, Milam, & Singh (2008)	1	0	0
Store	Simonsohn & Ariely (2008)	0	0	1
Time	Erlenkämper (2005)	0	0	2
Visits	Fuchs, Höpken, Eybl, & Ulrich (2008)	1	0	0
Warranty	Erlenkämper (2005)	0	0	2
Weather clouds	Erlenkämper (2005)	0	0	2
Weather rain	Erlenkämper (2005)	1	0	1
Weather temperature	Erlenkämper (2005)	0	1	1

Table 79: Determinants of the Auction Price

Variable	Study	+	-	ns
1 day	Grund & Gürtler (2008)	0	0	1
3 days	Grund & Gürtler (2008)	0	0	1
5 days	Dewally & Ederington (2006); Houser & Wooders (2006); Livingston (2005)	1	0	2
7 days	Grund & Gürtler (2008); Dewally & Ederington (2006); Houser & Wooders (2006); Livingston (2005)	1	2	1
10 days	Grund & Gürtler (2008); Dewally & Ederington (2006); Houser & Wooders (2006); Livingston (2005)	1	1	2
About me	Standifird & Weinstein (2007)	0	0	1
Abysmal benevolence text comments	Pavlou & Dimoka (2006)	0	1	0
Abysmal credibility text comments	Pavlou & Dimoka (2006)	0	1	0
Accessories	Anderson, Friedman, Milam, & Singh (2008); Diekmann & Wyder (2002); Zhang (2006); Zhou, Dresner, & Windle (2009)	3	0	1
Age	Chan, Kadiyali, & Park (2007); Park & Bradlow (2005)	0	1	1
auction ended between five PM and midnight	Andrews & Benzing (2007)	0	0	1
Auction ends between 3:00 P.M. and 7:00 P.M.	Livingston (2005)	0	0	1
Auction ends in the afternoon on a weekend	Baker & Song (2008)	0	1	1
Auction ends in the morning on a weekday	Baker & Song (2008)	0	1	1
Auction ends in the morning on a weekend	Baker & Song (2008)	0	1	1
Auction starting date	Ariely & Simonson (2003)	0	1	0
Bidder expenditures	Chan, Kadiyali, & Park (2007)	1	0	0
Bidder experience	Erlenkämper (2005); McDonald & Slawson (2002); Simonsohn & Ariely (2008)	1	0	3
Bids	Chan, Kadiyali, & Park (2007)	0	1	0
Bill point	Standifird & Weinstein (2007)	0	0	1
Bold	Fuchs, Höpken, Eybl, & Ulrich (2008); Zeithammer (2006); Zhang (2006)	2	0	1
Bonus	Sun (2008)	1	0	0
Buy it now	Anderson, Friedman, Milam, & Singh (2008); Baker & Song (2008); Chan, Kadiyali, & Park (2007); Dimoka & Pavlou (2006); Durham, Roelofs, & Standifird (2004); Highfill & O'Brien (2008); Highfill & O'Brien (2008); Li, Srinivasan, & Sun (2009); Mink & Seifert (2006); Park & Bradlow (2005); Song & Baker (2007); Standifird & Weinstein (2007)	5	1	8
Buy it now * Initial bid	Baker & Song (2008); Song & Baker (2007)	1	0	1
Buy it now * Number of bids	Baker & Song (2008); Song & Baker (2007)	0	1	1
Buy it now * Seller reputation	Dimoka & Pavlou (2006)	0	0	1
Certification	Dewally & Ederington (2006); Eaton (2005); Hou (2007b); Hou (2007c); Melnik & Alm (2005)	4	1	0
Certification * Information	Dewally & Ederington (2006)	0	0	1
Certification * Reputation	Dewally & Ederington (2006)	0	1	0
Certified member	Erlenkämper (2005)	0	2	0
Checks	Gilkeson & Reynolds (2003); Melnik & Alm (2005)	1	0	1
Closing price for similar items	Chan, Kadiyali, & Park (2007)	0	1	0
Closing price of similar items	Chan, Kadiyali, & Park (2007)	0	1	0
Competition	Berger & Schmitt (2005); Brint (2003); Chan, Kadiyali, & Park (2007); Erlenkämper (2005); Kauffmann & Wood (2006); Livingston (2005); Sun (2008); Zeithammer (2006)	4	7	6
Condition of the item	Lawson (2002)	1	0	0

Table 79: Determinants of the Auction Price (cont'd)

Variable	Study	+	-	ns
Credit card	Bland & Barret (2004); Eaton (2005); Gilkeson & Reynolds (2003); Houser & Wooders (2006); Kauffmann & Wood (2006); Livingston (2005); Melnik & Alm (2002); Melnik & Alm (2005); Zhou, Dresner, & Windle (2009)	2	0	7
Current price when bid was placed	Simonsohn & Ariely (2008)	1	0	0
Damage	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Gilkeson & Reynolds (2003)	0	3	0
Dealer	Andrews & Benzing (2007); Jin & Kato (2006); Sena & Braun (2006); Simonsohn & Ariely (2008)	2	0	2
Description	Anderson, Friedman, Milam, & Singh (2008); Erlenkämper (2005); Kauffmann & Wood (2006); Sena, Heath & Webb (2005)	4	1	0
Difference between positive and negative feedback counts (12 months)	Zhou, Dresner, & Windle (2009)	0	0	1
Dollar amount of bid	Simonsohn & Ariely (2008)	1	0	0
Duration	Anderson, Friedman, Milam, & Singh (2008); Ariely & Simonson (2003); Baker & Song (2008); Brint (2003); Dewan & Hsu (2004); Diekmann & Wyder (2002); Gilkeson & Reynolds (2003); Highfill & O'Brien (2007); Hou (2007a); Hou (2007b); Hou (2007c); Kauffmann & Wood (2006); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Melnik & Alm (2002); Mink & Seifert (2006); Park & Bradlow (2005); Song & Baker (2007); Standifird (2001); Sun (2008); Wan & Teo (2005); Zhang (2006); Zhou, Dresner, & Windle (2009)	9	5	12
End date	Highfill & O'Brien (2007); Gilkeson & Reynolds (2003); Melnik & Alm (2002)	1	1	1
End in morning	Gilkeson & Reynolds (2003)	0	0	1
Ending time: office hours 9:30-17:30 on weekdays, ant-social 1-9:30 any day, leisure hours anything else	Brint (2003)	0	0	2
Evening	Grund & Gürtler (2008)	0	1	0
Expedited delivery	Baker & Song (2008); Song & Baker (2007)	0	2	2
Feature	Anderson, Friedman, Milam, & Singh (2008); Andrews & Benzing (2007)	0	0	2
Featured auction	Dimoka & Pavlou (2006)	1	0	0
Feedback rating	Andrews & Benzing (2007); Ariely & Simonson (2003); Bajari & Hortaçsu (2003); Brint (2003); Bruce, Haruvy, & Rao (2004); Dewally & Ederington (2006); Dewan & Hsu (2004); Diekmann & Wyder (2002); Durham, Roelofs, & Standifird (2004); Eaton (2005); Gilkeson & Reynolds (2003); Flanagan (2007); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Houser & Wooders (2006); Kauffmann & Wood (2006); Lawson (2002); Li, Srinivasan, & Sun (2009); McDonald & Slawson (2002); Melnik & Alm (2002); Melnik & Alm (2005); Mink & Seifert (2006); Ottaway, Bruneau, & Evans (2003); Ockenfels (2003); Resnick, Zeckhauser, Swanson, & Lockwood (2006); Sena & Braun (2006); Sena, Heath, & Webb (2005); Simonsohn & Ariely (2008); Sun (2008); Wan & Teo (2005); Zeithammer (2006); Zhou, Dresner, & Windle (2009)	20	1	17
Feedback rating (buyer)	Dewan & Hsu (2004); Durham, Roelofs, & Standifird (2004); Gilkeson & Reynolds (2003); Lawson (2002); Sena & Braun (2006)	0	3	2
Feedback ratio	Anderson, Friedman, Milam, & Singh (2008); Grund & Gürtler (2008); Kauffmann & Wood (2006); Lee, Im, & Lee (2006); McDonald & Slawson (2002);	0	2	3
Few negative feedback ratings	Dimoka & Pavlou (2006)	1	0	0
Fraction of negative and neutral rating	Livingston (2005)	1	0	0

Table 79: Determinants of the Auction Price (cont'd)

Variable	Study	+	-	ns
Free shipping	Bland & Barret (2004); Zhou, Dresner, & Windle (2009)	1	0	1
Friday	Melnik & Alm (2005)	0	0	1
Gallery	Zeithammer (2006); Zhang (2006)	2	0	0
Gender	Chan, Kadiyali, & Park (2007); Park & Bradlow (2005)	0	0	2
Graded	Jin & Kato (2006)	1	0	0
Holiday	Bland & Barret (2004)	0	0	1
Icon	Houser & Wooders (2006)	0	1	0
Inexperienced seller	Chan, Kadiyali, & Park (2007)	0	0	1
Information	Berger & Schmitt (2005); Flanagan (2007)	4	0	0
International transaction	Baker & Song (2008); Dewan & Hsu (2004)	1	1	1
Low reputation bidders exclusion	Bland & Barret (2004); Houser & Wooders (2006)	0	0	2
Lower mileage	Dimoka & Pavlou (2006)	1	0	0
Lower standard product value	Dimoka & Pavlou (2006)	1	0	0
Market price	Brint (2003); Dewan & Hsu (2004); Erlenkämper (2005); Highfill & O'Brien (2008); Hou (2007a); Hou (2007b); Houser & Wooders (2006); Lawson (2002); Melnik & Alm (2005); Ottaway, Bruneau, & Evans (2003); Sena & Braun (2006)	10	1	3
Membership duration (seller)	Bland & Barret (2004); Erlenkämper (2005)	1	1	1
Mileage * Feedback rating	Dimoka & Pavlou (2006)	1	0	0
Mint	Zhou, Dresner, & Windle (2009)	0	1	0
Missing accessories	Zhou, Dresner, & Windle (2009)	0	1	0
Money back guarantee	Hou (2007b); Lawson (2002); Li, Srinivasan, & Sun (2009)	1	1	2
Monogrammed	Gilkeson & Reynolds (2003)	0	0	1
Month	Bland & Barret (2004); Sun (2008)	1	0	1
Negative feedback * Buyer reputation	Durham, Roelofs, & Standifird (2004)	0	0	1
Negative feedback * Credit card	Eaton (2005)	0	0	1
Negative feedback * Graded	Jin & Kato (2006)	0	0	1
Negative feedback * New	Lee, Im, & Lee (2006)	0	0	1
Negative feedback * Number of pictures	Eaton (2005)	1	0	0
Negative feedback * Paypal	Eaton (2005)	0	1	0
Negative feedback * Ungraded	Jin & Kato (2006)	0	0	1
Negative feedback * Used	Lee, Im, & Lee (2006)	0	1	0
Negative rating	Anderson, Friedman, Milam, & Singh (2008); Ba & Pavlou (2002); Bajari & Hortaçsu (2003); Baker & Song (2008); Berger & Schmitt (2005); Bland & Barret (2004); Chan, Kadiyali, & Park (2007); Dewally & Ederington (2006); Durham, Roelofs, & Standifird (2004); Eaton (2005); Erlenkämper (2005); Grund & Gürtler (2008); Hou (2007a); Hou (2007c); Houser & Wooders (2006); Lawson (2002); Lee, Im, & Lee (2006); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Melnik & Alm (2002); Melnik & Alm (2005); Park & Bradlow (2005); Pavlou & Dimoka (2006); Resnick & Zeckhauser (2002); Song & Baker (2007); Standifird (2001); Standifird & Weinstein (2007); Sun (2008); Zhang (2006); Zhou, Dresner, & Windle (2009)	1	25	26
Negative rating (buyer)	Houser & Wooders (2006); Zhang (2006)	0	1	1
Neutral rating	Melnik & Alm (2005); Standifird (2001)	1	0	1
New	Anderson, Friedman, Milam, & Singh (2008); Bland & Barret (2004); Hou (2007a); Hou (2007b); Hou (2007c); Livingston (2005); Simonsohn & Ariely (2008); Zeithammer (2006)	8	0	1
New or recently changed ID	Standifird (2001)	0	1	0
Newer year	Dimoka & Pavlou (2006)	1	0	0
No picture	Dewally & Ederington (2006)	0	1	0

Table 79: Determinants of the Auction Price (cont'd)

Variable	Study	+	-	ns
Number of bidders	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Hou (2007b); Hou (2007c); Kauffmann & Wood (2006); Wan & Teo (2005)	6	1	1
Number of bids	Anderson, Friedman, Milam, & Singh (2008); Ariely & Simonson (2003); Berger & Schmitt (2005); Dewan & Hsu (2004); Diekmann & Wyder (2002); Dimoka & Pavlou (2006); Erlenkämper (2005); Fuchs, Höpken, Eybl, & Ulrich (2008); Gilkeson & Reynolds (2003); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Hou (2007a); Lawson (2002); McDonald & Slawson (2002); Pavlou & Dimoka (2006); Sena & Braun (2006); Song & Baker (2007); Standifird (2001); Sun (2008); Zhang (2006)	15	0	8
Number of payment options	Anderson, Friedman, Milam, & Singh (2008); Song & Baker (2007)	0	2	1
Number of pictures	Andrews & Benzing (2007); Baker & Song (2008); Eaton (2005); Erlenkämper (2005); Li, Srinivasan, & Sun (2009); Sena & Braun (2006); Song & Baker (2007)	5	3	2
Online payment	Melnik & Alm (2005)	0	0	1
Other pictures	Erlenkämper (2005)	0	0	2
Outstanding benevolence text comments	Pavlou & Dimoka (2006)	1	0	0
Outstanding credibility text comments	Pavlou & Dimoka (2006)	1	0	0
Partial warranty	Zhou, Dresner, & Windle (2009)	0	0	1
Past experience	Pavlou & Dimoka (2006)	1	0	0
Past experience (seller)	Chan, Kadiyali, & Park (2007); Pavlou & Dimoka (2006)	2	0	0
PayPal	Berger & Schmitt (2005); Eaton (2005); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Li, Srinivasan, & Sun (2009); Melnik & Alm (2002); Standifird & Weinstein (2007); Zhang (2006)	2	3	5
Percent of positive ratings	Zhou, Dresner, & Windle (2009)	1	0	0
Picture	Anderson, Friedman, Milam, & Singh (2008); Kauffmann & Wood (2006); Melnik & Alm (2002); Melnik & Alm (2005); Ottaway, Bruneau, & Evans (2003); Park & Bradlow (2005); Standifird & Weinstein (2007); Zeithammer (2006)	4	0	4
Positive rating	Andrews & Benzing (2007); Ba & Pavlou (2002); Baker & Song (2008); Berger & Schmitt (2005); Bland & Barret (2004); Chan, Kadiyali, & Park (2007); Dimoka & Pavlou (2006); Hou (2007a); Hou (2007b); Hou (2007c); Livingston (2005); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Park & Bradlow (2005); Pavlou & Dimoka (2006); Resnick & Zeckhauser (2002); Song & Baker (2008); Standifird (2001); Standifird & Weinstein (2007); Zhang (2006); Zhou, Dresner, & Windle (2009)	33	0	10
Positive rating (buyer)	Houser & Wooders (2006); Zhang (2006)	0	0	2
Posted reserve price * Seller reputation	Dimoka & Pavlou (2006)	0	0	1
Posted start price * Seller reputation	Dimoka & Pavlou (2006)	0	0	1
Power seller	Erlenkämper (2005)	1	0	1
Product	Zhou, Dresner, & Windle (2009)	0	0	1
Product inspection	Dimoka & Pavlou (2006)	1	0	0
Product inspection * Seller reputation	Dimoka & Pavlou (2006)	1	0	0
Reserve price	Anderson, Friedman, Milam, & Singh (2008); Bajari & Hortaçsu (2003); Bland & Barret (2004); Brint (2003); Dewally & Ederington (2006); Dewan & Hsu (2004); Dimoka & Pavlou (2006); Gilkeson & Reynolds (2003); Hou (2007a); Hou (2007b); Li, Srinivasan, & Sun (2009); Livingston (2005); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Standifird (2001); Standifird & Weinstein (2007); Zhang (2006)	8	3	7
Retail price	Houser & Wooders (2006); Livingston (2005)	2	0	0
Return * Negative rating	Hou (2007b)	0	1	1
Return * Positive rating	Hou (2007b)	1	0	1

Table 79: Determinants of the Auction Price (cont'd)

Variable	Study	+	-	ns
Sales tax	Bland & Barret (2004)	0	0	1
Saturday	Melnik & Alm (2005)	1	0	0
Self made claim	Hou (2007c)	0	0	1
Seller posts an initial price below twenty dollars	Anderson, Friedman, Milam, & Singh (2008)	0	1	0
Seller rating * graded	Jin & Kato (2006)	0	0	1
Seller rating * ungraded	Jin & Kato (2006)	0	0	1
Seller self grade * ungraded	Jin & Kato (2006)	0	0	1
Seller web link	Anderson, Friedman, Milam, & Singh (2008)	0	0	1
Seller's 1-month warranty	Dimoka & Pavlou (2006)	0	0	1
Seller's 1-month warranty *	Dimoka & Pavlou (2006)	1	0	0
Feedback rating				
Shipping	Baker & Song (2008); Diekmann & Wyder (2002); Durham, Roelofs, & Standifird (2004); Gilkeson & Reynolds (2003); Grund & Gürtler (2008); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Hou (2007a); Melnik & Alm (2002); Mink & Seifert (2006); Simonsohn & Ariely (2008); Song & Baker (2007); Standifird & Weinstein (2007); Zhang (2006)	1	12	5
Shipping cost * Expedited delivery	Baker & Song (2008); Song & Baker (2007)	1	0	1
Site visits	Park & Bradlow (2005)	0	0	1
Standard product value * Seller reputation	Dimoka & Pavlou (2006)	1	0	0
Start price	Anderson, Friedman, Milam, & Singh (2008); Ariely & Simonson (2003); Bajari & Hortaçsu (2003); Baker & Song (2008); Berger & Schmitt (2005); Bland & Barret (2004); Brint (2003); Dewan & Hsu (2004); Diekmann & Wyder (2002); Dimoka & Pavlou (2006); Erlenkämper (2005); Fuchs, Höpken, Eybl, & Ulrich (2008); Gilkeson & Reynolds (2003); Highfill & O'Brien (2007); Highfill & O'Brien (2008); Hou (2007a); Hou (2007b); Hou (2007c); Kauffmann & Wood (2006); Li, Srinivasan, & Sun (2009); Lucking-Reiley, Bryan, Prasad, & Reeves (2007); Mink & Seifert (2006); Park & Bradlow (2005); Simonsohn & Ariely (2008); Song & Baker (2007); Standifird (2001); Sun (2008); Wan & Teo (2005); Zhang (2006)	29	1	7
Starting price squared	Anderson, Friedman, Milam, & Singh (2008)	1	0	0
Subtitle	Fuchs, Höpken, Eybl, & Ulrich (2008)	0	0	0
Sunday	Melnik & Alm (2005)	1	0	0
Thursday	Melnik & Alm (2005)	0	0	1
Time 0-6	Melnik & Alm (2005); Livingston (2005)	1	0	1
Time 18-24	Melnik & Alm (2005)	0	0	1
Time 6-12	Melnik & Alm (2005)	1	0	0
Title was clear	Andrews & Benzing (2007)	1	0	0
Top seller	Zeithammer (2006)	1	0	0
Tuesday	Melnik & Alm (2005)	0	0	1
Ungraded with no self grade	Jin & Kato (2006)	1	0	0
Used	Bland & Barret (2004); Bruce, Haruvy, & Rao (2004); Houser & Wooders (2006); Livingston (2005); Zhou, Dresner, & Windle (2009)	0	5	3
Using display service	Andrews & Benzing (2007)	0	0	1
Views	Chan, Kadiyali, & Park (2007); Park & Bradlow (2005)	1	1	0
Warranty	Andrews & Benzing (2007); Dewally & Ederington (2006); Dimoka & Pavlou (2006); Zhou, Dresner, & Windle (2009)	2	0	2
Warranty * Feedback rating	Dimoka & Pavlou (2006)	0	0	1
Wednesday	Melnik & Alm (2005)	0	0	1
Weekend	Bland & Barret (2004); Dewan & Hsu (2004); Grund & Gürtler (2008); Dimoka & Pavlou (2006); Hou (2007a); Hou (2007b); Hou (2007c); Kauffmann & Wood (2006); Livingston (2005); Melnik & Alm (2002); Standifird (2001); Sun (2008); Wan & Teo (2005)	3	4	7
Year * Seller feedback	Dimoka & Pavlou (2006)	1	0	0

Appendix Part 2: Study 1

Table 80: Pairwise Correlation Coefficients - Compact Discs Sample Germany

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.52															
3 Negative feedback	.05	.00														
4 Positive feedback	.08	.00	.64													
5 Feedback score	.09	.00	.63	.99												
6 Neutral feedback	.05	.03	.73	.43	.43											
7 Bold	-.07	-.01	-.04	-.04	-.04	-.03										
8 Description	-.08	-.14	.00	.00	.00	.00	.03									
9 Competition	.01	.08	.20	.19	.19	.21	-.02	-.02								
10 Duration	-.05	-.11	.15	.09	.09	.15	.00	.19	.10							
11 Gallery	.03	.10	-.09	-.07	-.07	-.07	.16	.06	.06	.01						
12 PayPal	-.04	.02	.16	.17	.17	.28	-.05	-.02	.08	.07	-.02					
13 Picture	.00	-.01	.10	.15	.15	.08	.01	.03	.10	.11	.07	.00				
14 Shipping costs	-.14	.05	.08	-.04	-.03	.17	-.04	-.10	.17	-.07	.00	.05	-.08			
15 Start price	-.46	.07	-.05	-.08	-.08	-.01	.08	-.03	-.02	.03	.01	.11	.04	.04		
16 Time	.03	.01	.12	.21	.22	.15	.03	-.03	.11	.02	.05	.07	.05	.04	-.03	
17 Weekend	-.09	-.16	.01	-.01	-.01	-.03	.03	.34	-.10	.07	.03	-.02	.06	-.02	-.05	-.02

Note: $n = 893$. All correlations above |.061 are significant at $p < .05$.

Table 81: Pairwise Correlation Coefficients - Compact Discs Sample UK

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.29															
3 Negative feedback	.04	-.14														
4 Positive feedback	.07	-.05	.59													
5 Feedback score	.06	-.05	.59	1.00												
6 Neutral feedback	.06	-.16	.72	.38	.38											
7 Bold	.03	.06	.01	-.06	-.06	.02										
8 Description	.01	-.02	.00	.03	.03	-.04	-.02									
9 Competition	-.11	-.05	.11	.26	.26	.12	.01	.00								
10 Duration	.03	-.08	.13	.05	.05	.13	-.02	.08	.05							
11 Gallery	.09	.11	-.14	-.06	-.06	-.08	.10	.05	.02	-.06						
12 PayPal	.16	.16	-.11	-.13	-.13	-.19	.02	.06	-.05	.01	.12					
13 Picture	-.05	-.02	-.12	-.16	-.17	-.11	-.02	.07	-.18	-.06	.12	.03				
14 Shipping costs	-.01	.15	-.08	-.07	-.07	-.08	.11	-.02	-.02	-.02	.05	.10	-.05			
15 Start price	-.69	.02	-.09	-.06	-.06	-.08	.03	-.04	.08	-.03	-.08	-.16	.03	.00		
16 Time	.00	.03	.01	.14	.15	-.07	-.01	-.01	.09	-.03	.05	-.01	.04	.03	.05	
17 Weekend	-.03	.04	-.05	.00	-.01	-.08	-.03	.64	.01	.06	.07	.04	.03	-.03	.00	-.02

Note: $n = 909$. All correlations above |.061 are significant at $p < .05$.

Table 82: Pairwise Correlation Coefficients - Compact Discs Sample U.S.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.21															
3 Negative feedback	.02	-.03														
4 Positive feedback	.10	.11	.74													
5 Feedback score	.10	.11	.74	1.00												
6 Neutral feedback	.01	-.18	.69	.46	.46											
7 Bold	-.11	-.05	.00	-.04	-.04	-.01										
8 Description	.00	-.03	.07	.00	.00	-.05	.00									
9 Competition	.00	.16	.28	.22	.22	.23	.02	.11								
10 Duration	.20	.09	-.04	-.02	-.02	-.03	-.04	-.03	-.05							
11 Gallery	-.07	.07	-.15	-.20	-.20	-.08	-.02	-.01	.09	.00						
12 PayPal	.02	.42	-.15	-.04	-.03	-.13	.01	-.01	.17	-.03	.02					
13 Picture	-.04	.01	-.16	-.29	-.29	-.08	-.02	-.07	-.20	.10	.19	.04				
14 Shipping costs	-.16	.36	.07	.01	.01	-.02	.08	-.07	.12	-.01	-.09	.26	.01			
15 Start price	-.63	.26	-.12	-.06	-.06	-.15	-.04	-.08	-.02	-.09	.21	.06	.09	.02		
16 Time	-.02	.02	.00	.07	.07	.02	-.04	.06	-.03	-.05	.01	.00	.02	-.11	.03	
17 Weekend	-.05	.03	-.06	-.01	-.01	-.01	-.02	-.29	-.05	.02	-.01	.04	.04	.03	.05	-.04

Note: $n = 532$. All correlations above 1.081 are significant at $p < .05$.

Table 83: Pairwise Correlation Coefficients - Compact Disc Full Sample

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.15															
3 Negative feedback	.00	.02														
4 Positive feedback	.05	.06	.67													
5 Feedback score	.05	.06	.66	1.00												
6 Neutral feedback	-.01	-.05	.52	.29	.29											
7 Bold	-.04	.02	-.02	-.05	-.05	-.01										
8 Description	.05	-.15	-.10	-.08	-.08	-.09	.03									
9 Competition	-.04	-.08	.25	.25	.25	.16	-.03	-.18								
10 Duration	.09	-.16	.03	.02	.01	-.03	-.01	.17	.03							
11 Gallery	.06	-.13	-.13	-.10	-.10	-.05	.08	.06	.11	.03						
12 PayPal	.05	-.32	.07	.07	.07	.03	-.05	-.20	.37	.07	.21					
13 Picture	-.02	.24	-.13	-.15	-.15	-.08	.03	.22	-.33	.01	-.02	-.46				
14 Shipping costs	-.15	.32	.08	.02	.02	.03	.03	-.17	.09	-.10	-.08	.01	-.02			
15 Start price	-.59	.11	-.04	-.02	-.02	-.07	.02	-.15	.10	-.05	.05	.13	-.07	.06		
16 Time	.00	.03	.04	.14	.15	.01	.01	.00	.05	-.02	.03	-.01	.05	-.01	.01	
17 Weekend	-.03	-.17	-.04	-.02	-.02	-.01	-.01	.32	.01	.09	.10	.15	-.06	-.06	.01	-.03

Note: $n = 2334$. All correlations above 1.031 are significant at $p < .05$.

Table 84: Pairwise Correlation Coefficients - Digital Cameras Sample Germany

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	-.06															
3 Negative feedback	.16	-.09														
4 Positive feedback	.04	.05	.63													
5 Feedback score	.04	.06	.62	.98												
6 Neutral feedback	.06	-.11	.69	.46	.46											
7 Bold	.17	.00	-.12	-.21	-.21	-.06										
8 Description	.11	-.09	-.04	.09	.08	.00	.00									
9 Competition	.06	-.17	.33	.28	.28	.11	-.01	-.03								
10 Duration	.13	-.12	.12	.00	.03	.07	.13	.09	.02							
11 Gallery	.13	-.18	.21	.06	.05	.17	.16	-.03	.26	-.07						
12 PayPal	.01	.06	-.08	-.07	.00	-.06	.08	-.10	.14	.03	-.08					
13 Picture	.19	-.07	.02	.00	.01	.04	.05	.00	.03	-.14	.14	.05				
14 Shipping costs	.11	-.02	.24	.21	.19	.16	.02	.04	.09	.00	.17	-.12	.07			
15 Start price	-.66	.13	-.23	.03	.03	-.11	-.10	-.27	-.12	-.14	-.15	.01	-.10	-.09		
16 Time	.12	-.21	.03	-.11	-.13	.08	.09	.10	-.01	.00	.08	-.01	.05	-.08	-.23	
17 Weekend	.00	-.12	-.02	.08	.07	.01	-.03	.70	.08	.10	-.04	-.06	.03	.16	-.15	.11

Note: $n = 125$. All correlations above |.171| are significant at $p < .05$.

Table 85: Pairwise Correlation Coefficients - Digital Cameras Sample UK

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.08															
3 Negative feedback	.07	-.02														
4 Positive feedback	.23	.18	.55													
5 Feedback score	.23	.18	.55	1.00												
6 Neutral feedback	-.04	-.09	.81	.38	.38											
7 Bold	.09	.01	.21	-.13	-.13	.17										
8 Description	.10	.06	.09	.04	.04	.08	.02									
9 Competition	.25	.32	.22	.33	.33	.12	.06	.12								
10 Duration	-.08	-.41	-.13	-.34	-.34	-.13	.10	-.16	-.27							
11 Gallery	.29	.00	.12	.15	.15	.15	.23	-.03	.36	-.09						
12 PayPal	-.04	-.09	-.21	-.15	-.15	.06	-.06	-.12	-.18	-.02	.08					
13 Picture	-.15	-.09	-.46	-.35	-.35	-.43	.00	-.22	-.18	.01	.02	.22				
14 Shipping costs	-.08	.32	.19	.05	.05	.27	-.05	.14	.23	-.12	.18	-.01	-.47			
15 Start price	-.65	.32	-.15	-.31	-.31	-.11	-.02	-.06	-.05	.18	-.17	-.13	.15	.11		
16 Time	.25	-.06	-.04	.36	.36	-.07	-.16	.07	.08	-.04	.10	-.04	-.02	-.09	-.26	
17 Weekend	-.08	-.20	-.07	-.13	-.13	-.05	-.14	-.10	-.21	.26	-.10	-.01	-.05	.18	.01	-.14

Note: $n = 86$. All correlations above |.201| are significant at $p < .05$.

Table 86: Pairwise Correlation Coefficients - Digital Cameras Sample U.S.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.25															
3 Negative feedback	.05	-.18														
4 Positive feedback	.13	-.07	.71													
5 Feedback score	.13	-.07	.71	1.00												
6 Neutral feedback	.01	-.18	.68	.44	.45											
7 Bold	.08	.10	-.09	-.10	-.10	-.04										
8 Description	.02	.05	-.04	.02	.01	-.05	.05									
9 Competition	.02	.00	.11	.24	.24	.12	.02	.03								
10 Duration	-.04	-.21	.01	-.15	-.15	.03	.04	-.04	-.10							
11 Gallery	.07	.05	-.05	-.02	-.02	.07	.14	-.04	.07	.23						
12 PayPal	.06	-.17	.07	.07	.07	.03	.06	.02	.17	.25	-.14					
13 Picture	.10	.12	-.15	-.09	-.09	-.24	-.01	.01	.09	-.01	-.03	.25				
14 Shipping costs	.17	.18	.01	.09	.09	.00	.02	-.01	.29	-.11	-.04	.34	.33			
15 Start price	-.64	-.06	-.13	-.29	-.29	-.05	-.03	.01	-.09	.23	-.03	.03	-.01	-.17		
16 Time	.05	.14	-.12	-.05	-.05	-.15	.04	.02	.08	.05	.10	.00	.08	.03	-.08	
17 Weekend	-.12	-.01	-.05	-.10	-.10	.01	-.04	-.11	-.07	.00	-.03	-.03	-.02	-.05	.11	-.01

Note: $n = 1127$. All correlations above 1.111 are significant at $p < .05$.

Table 87: Pairwise Correlation Coefficients - Digital Cameras Full Sample

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.23															
3 Negative feedback	.07	-.11														
4 Positive feedback	.14	.00	.69													
5 Feedback score	.14	.00	.69	1.00												
6 Neutral feedback	.01	-.14	.67	.42	.43											
7 Bold	.07	.03	-.08	-.12	-.12	-.04										
8 Description	.02	.25	.03	.06	.05	.02	-.05									
9 Competition	.04	.08	.15	.25	.25	.12	.00	.21								
10 Duration	-.03	-.26	.00	-.15	-.15	.02	.07	-.19	-.14							
11 Gallery	.07	-.01	-.03	-.02	-.02	.07	.16	-.06	.09	.19						
12 PayPal	-.04	-.10	.02	.01	.01	.03	.05	.38	.19	.07	-.05					
13 Picture	.09	.06	-.15	-.09	-.09	-.23	.00	-.12	.04	.01	-.02	.11				
14 Shipping costs	.14	.18	.02	.09	.09	.01	.02	.10	.28	-.12	-.02	.32	.27			
15 Start price	-.64	-.02	-.14	-.26	-.26	-.05	-.03	-.06	-.10	.21	-.04	.02	.00	-.14		
16 Time	.07	.09	-.10	-.03	-.03	-.13	.02	.03	.07	.03	.10	.01	.07	.02	-.10	
17 Weekend	-.09	-.05	-.05	-.08	-.08	.00	-.05	-.09	-.07	.04	-.04	-.12	.00	-.05	.07	-.01

Note: $n = 1338$. All correlations above 1.051 are significant at $p < .05$.

Table 88: Pairwise Correlation Coefficients - Silver Coins Sample Germany

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.57															
3 Negative feedback	-.13	.05														
4 Positive feedback	-.12	-.01	.63													
5 Feedback score	-.12	-.01	.63	1.00												
6 Neutral feedback	-.25	-.05	.68	.52	.51											
7 Bold	.07	.06	-.02	-.14	-.14	-.08										
8 Description	.11	.00	-.19	-.20	-.20	-.15	.03									
9 Competition	.17	.11	.29	.05	.04	-.01	-.04	.03								
10 Duration	-.05	.04	-.25	.01	.01	-.03	.01	.17	-.34							
11 Gallery	.14	.17	.11	-.03	-.03	-.16	.04	-.10	.28	-.27						
12 PayPal	.08	.09	.18	.14	.14	-.12	-.06	-.10	.47	-.19	.24					
13 Picture	-.20	.28	.01	.03	.03	-.01	-.11	-.34	.03	-.04	.15	.15				
14 Shipping costs	-.12	.26	.26	.10	.09	.36	.08	-.06	.10	-.04	.05	.02	.19			
15 Start price	-.21	.24	.20	.20	.20	.08	-.03	.08	-.09	.13	-.11	-.07	.12	.06		
16 Time	-.01	-.09	.14	.16	.16	.17	-.11	.14	.15	-.12	.07	-.06	-.14	-.12	.05	
17 Weekend	.09	.00	-.23	-.20	-.20	-.22	.04	.54	.07	.18	-.05	.01	-.15	.02	-.03	.08

Note: $n = 192$. All correlations above |.13| are significant at $p < .05$.

Table 89: Pairwise Correlation Coefficients - Silver Coins Sample UK

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.45															
3 Negative feedback	.17	.06														
4 Positive feedback	.30	.06	.49													
5 Feedback score	.30	.06	.49	1.00												
6 Neutral feedback	.24	.08	.80	.40	.39											
7 Bold	-.01	.04	.01	-.05	-.05	.00										
8 Description	-.20	.19	.07	-.10	-.10	-.05	-.20									
9 Competition	.08	.15	.28	.02	.02	.36	-.04	.11								
10 Duration	.03	-.03	.36	.32	.32	.33	.06	-.04	.18							
11 Gallery	.23	.43	.00	-.07	-.07	.03	.07	.07	.28	.03						
12 PayPal	-.06	.02	.13	.09	.09	.11	.04	.11	.18	-.07	.33					
13 Picture	-.05	.09	-.04	-.07	-.07	-.22	.03	.09	-.25	.02	.25	-.06				
14 Shipping costs	.16	.38	-.08	-.08	-.08	-.06	.12	-.08	.02	-.06	.23	-.15	.11			
15 Start price	-.29	.52	-.15	-.22	-.22	-.15	-.06	.43	.00	-.03	.17	.02	.09	.14		
16 Time	.04	-.03	-.06	.20	.20	-.02	.00	.01	-.11	-.05	.03	.09	-.09	-.12	.04	
17 Weekend	.06	.00	-.06	-.07	-.07	.06	.03	.31	.19	.03	-.01	-.04	-.24	-.03	.04	.18

Note: $n = 116$. All correlations above |.16| are significant at $p < .05$.

Table 90: Pairwise Correlation Coefficients - Silver Coins Sample U.S.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.33															
3 Negative feedback	-.07	.09														
4 Positive feedback	-.05	.13	.66													
5 Feedback score	-.05	.13	.66	1.00												
6 Neutral feedback	-.07	.06	.63	.35	.35											
7 Bold	.02	.03	-.03	-.05	-.05	-.02										
8 Description	.20	.56	-.02	.02	.02	-.05	.02									
9 Competition	.09	.13	.11	.15	.15	.12	.04	.19								
10 Duration	.01	-.06	.03	.01	.01	.01	.01	-.04	.06							
11 Gallery	.18	.19	-.05	-.08	-.08	.05	.06	.11	.28	-.01						
12 PayPal	.01	.07	-.09	-.01	-.01	-.03	.02	.03	.14	-.02	.15					
13 Picture	.03	.04	-.31	-.27	-.27	-.19	.04	.07	-.13	-.15	.03	.00				
14 Shipping costs	.00	.20	-.13	-.13	-.13	-.01	.01	-.03	.03	-.16	.11	.09	.16			
15 Start price	-.58	.28	.09	.11	.11	.11	-.01	.14	-.04	-.04	-.05	.02	.04	-.01		
16 Time	.05	.04	-.05	.05	.05	-.05	-.01	.02	.09	.01	.08	.03	-.02	.05	-.09	
17 Weekend	.01	-.01	-.08	-.06	-.06	-.05	.02	.04	-.04	-.07	.01	.00	.09	.06	-.03	-.10

Note: $n = 5195$. All correlations above 1.021 are significant at $p < .05$.

Table 91: Pairwise Correlation Coefficients - Silver Coins Full Sample

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.35															
3 Negative feedback	-.07	.09														
4 Positive feedback	-.03	.13	.65													
5 Feedback score	-.04	.13	.65	1.00												
6 Neutral feedback	-.06	.06	.62	.35	.35											
7 Bold	.02	.03	-.03	-.05	-.05	-.02										
8 Description	.20	.56	.01	.06	.05	-.03	.00									
9 Competition	.10	.15	.12	.15	.14	.12	.03	.20								
10 Duration	.00	-.09	.02	.01	.01	.01	.01	-.11	.04							
11 Gallery	.18	.20	-.05	-.07	-.07	.05	.05	.11	.29	-.02						
12 PayPal	.03	.15	-.06	.03	.02	-.02	.01	.24	.18	-.06	.19					
13 Picture	.01	.03	-.30	-.26	-.26	-.19	.03	.00	-.13	-.13	.03	-.01				
14 Shipping costs	.00	.21	-.12	-.12	-.12	-.01	.01	.00	.03	-.15	.11	.08	.16			
15 Start price	-.55	.29	.09	.12	.12	.11	-.01	.19	-.02	-.05	-.03	.07	.04	.00		
16 Time	.04	.01	-.05	.05	.05	-.05	-.01	-.03	.08	.02	.06	-.02	-.02	.04	-.09	
17 Weekend	.01	-.03	-.08	-.07	-.07	-.06	.02	-.01	-.04	-.05	.00	-.04	.08	.05	-.04	-.08

Note: $n = 5503$. All correlations above 1.021 are significant at $p < .05$.

Table 92: Pairwise Correlation Coefficients - Gold Coins Sample Germany

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.47															
3 Negative feedback	-.03	-.02														
4 Positive feedback	-.07	.23	.47													
5 Feedback score	-.07	.23	.47	1.00												
6 Neutral feedback	-.07	.04	.43	.15	.15											
7 Bold	.00	-.02	-.10	-.06	-.06	-.07										
8 Description	.09	-.07	.09	-.01	-.01	.06	.17									
9 Competition	.01	.19	.23	.30	.30	.10	.24	-.06								
10 Duration	.02	-.04	-.03	.13	.13	-.17	.18	-.02	.08							
11 Gallery	.13	.10	.06	-.04	-.04	.10	.07	.06	.02	.11						
12 PayPal	.12	-.01	-.26	-.26	-.26	-.15	.30	.03	-.07	.06	.02					
13 Picture	.16	.12	-.40	-.09	-.09	-.15	.05	.05	-.01	-.01	.00	.12				
14 Shipping costs	-.06	-.17	.05	-.13	-.13	.04	-.40	-.13	-.24	-.07	.03	-.08	-.05			
15 Start price	-.61	-.27	.00	-.02	-.02	-.01	-.13	-.20	-.10	-.16	-.15	-.28	-.15	.09		
16 Time	.25	.17	.10	.04	.04	-.07	-.12	-.03	-.12	-.02	.01	-.16	.02	.10	-.20	
17 Weekend	-.06	-.17	.09	-.02	-.02	.07	.07	.54	-.08	.12	-.08	-.05	.00	-.05	-.10	-.06

Note: $n = 91$. All correlations above 1.211 are significant at $p < .05$.

Table 93: Pairwise Correlation Coefficients - Gold Coins Sample UK

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.08															
3 Negative feedback	-.05	.59														
4 Positive feedback	.01	.38	.71													
5 Feedback score	.01	.38	.71	1.00												
6 Neutral feedback	-.11	.18	.23	.09	.08											
7 Bold	.13	-.10	-.09	-.28	-.28	-.04										
8 Description	-.03	-.03	-.10	.04	.04	.24	-.03									
9 Competition	-.01	.60	.85	.57	.57	-.14	-.08	-.09								
10 Duration	-.03	.33	.39	.39	.39	.01	.10	.17	.29							
11 Gallery	.03	.39	.39	.21	.21	-.06	.09	-.14	.44	.04						
12 PayPal	-.21	.16	-.10	.08	.08	.31	-.07	.41	.00	.06	-.10					
13 Picture																
14 Shipping costs	-.41	-.23	.01	-.12	-.12	.48	.03	.06	-.20	-.32	-.13	.10				
15 Start price	-.69	-.05	.01	-.13	-.13	.21	-.04	.12	-.09	.13	-.10	.25		.57		
16 Time	-.10	.24	.21	.09	.09	.28	-.13	.14	.16	-.04	.24	.06		.20	.18	
17 Weekend	.10	.01	.05	.22	.23	-.13	-.09	.49	.19	.03	-.14	.28		-.10	-.07	-.18

Note: $n = 67$. All correlations above 1.221 are significant at $p < .05$.

Table 94: Pairwise Correlation Coefficients - Gold Coins Sample U.S.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	.00															
3 Negative feedback	.14	.00														
4 Positive feedback	.10	.10	.76													
5 Feedback score	.10	.10	.76	1.00												
6 Neutral feedback	.23	-.08	.66	.46	.46											
7 Bold	.06	.10	-.25	-.33	-.33	-.14										
8 Description	-.03	.14	.32	.33	.33	.14	-.04									
9 Competition	.16	-.03	.51	.41	.41	.65	-.05	.17								
10 Duration	.03	.14	.00	.07	.07	.20	.16	.05	.03							
11 Gallery	-.07	.08	.20	.21	.21	.20	.19	.06	.41	-.12						
12 PayPal	.28	.14	.17	-.05	-.05	.16	.16	-.03	.19	-.12	.26					
13 Picture	.01	-.04	-.44	-.46	-.46	-.22	.18	-.12	-.34	.07	-.05	-.06				
14 Shipping costs	-.03	.27	.10	.03	.03	.13	-.05	.01	.09	-.22	.07	.23	-.04			
15 Start price	-.65	-.03	-.24	-.23	-.23	-.19	.06	-.09	-.24	-.04	-.01	-.10	.28	-.07		
16 Time	-.25	.00	-.14	-.16	-.16	-.18	-.11	-.05	-.11	.06	-.08	.03	-.09	.20	.15	
17 Weekend	-.14	.02	-.24	-.09	-.09	-.20	.04	-.04	-.29	.05	-.08	-.09	.16	-.10	.08	.30

Note: $n = 121$. All correlations above 1.171 are significant at $p < .05$.

Table 95: Pairwise Correlation Coefficients - Gold Coins Full Sample

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Bidders																
2 Price	-.09															
3 Negative feedback	.00	.23														
4 Positive feedback	-.03	.29	.70													
5 Feedback score	-.03	.30	.70	1.00												
6 Neutral feedback	.10	.18	.62	.38	.38											
7 Bold	.03	.15	-.16	-.18	-.18	-.09										
8 Description	-.02	.35	.23	.22	.22	.16	.09									
9 Competition	.10	-.34	.36	.28	.28	.31	-.02	-.10								
10 Duration	-.04	.05	.10	.19	.19	.09	.15	.03	.08							
11 Gallery	-.03	.03	.21	.15	.15	.15	.13	.02	.28	.05						
12 PayPal	.00	.47	.15	.09	.09	.16	.22	.22	-.13	.07	.10					
13 Picture	.09	-.28	-.47	-.40	-.40	-.26	.10	-.15	-.09	-.03	-.05	-.17				
14 Shipping costs	.00	-.08	.02	-.06	-.06	.08	-.13	-.04	.04	-.18	.02	.02	.01			
15 Start price	-.63	.30	-.06	-.03	-.03	-.06	.04	.01	-.26	-.01	-.03	.09	.07	-.08		
16 Time	-.02	-.20	-.10	-.12	-.12	-.15	-.13	-.07	.04	-.05	.00	-.16	.04	.18	-.05	
17 Weekend	-.01	-.05	-.15	-.04	-.04	-.13	.03	.26	-.08	.02	-.12	-.05	.13	-.04	-.03	.09

Note: $n = 279$. All correlations above 1.101 are significant at $p < .05$.

Table 96: Summary of Results - Compact Discs Sample

Variables	Number of Bidders			Auction Price		
	GE	UK	U.S.	GE	UK	U.S.
Negative feedback	-	ns	-	-	-	-
Positive feedback	ns	+	+	ns	ns	+
Feedback score	ns	+	ns	ns	ns	ns
Neutral feedback	+	+	ns	ns	-	ns
Bidders				+	+	+
Bold	-	ns	-	ns	ns	ns
Competition	-	ns	ns	-	-	ns
Description	ns	-	ns	ns	ns	ns
Duration	ns	ns	+	ns	+	+
Gallery	ns	+	ns	ns	+	+
PayPal	ns	+	+	ns	+	+
Picture	+	-	ns	+	ns	ns
Shipping costs	-	ns	-	+	+	+
Start price	-	-	-	ns	ns	+
Time	ns	ns	-	-	ns	ns
Weekend	ns	-	ns	-	ns	ns

Note: “+” denotes positive effects, “-” denotes negative effects, and “ns” denotes non-significant effects.

Table 97: Summary of Results - Digital Cameras Sample

Variables	Number of Bidders			Auction Price		
	GE	UK	U.S.	GE	UK	U.S.
Negative feedback	ns	+	ns	-	ns	ns
Positive feedback	ns	ns	ns	ns	ns	+
Feedback score	ns	ns	ns	ns	ns	ns
Neutral feedback	ns	ns	+	ns	ns	-
Bidders				+	+	+
Bold	ns	ns	ns	ns	ns	ns
Competition	ns	ns	ns	-	-	ns
Description	-	+	-	ns	ns	ns
Duration	+	-	ns	ns	+	+
Gallery	ns	+	+	ns	+	+
PayPal	ns	ns	+	ns	+	+
Picture	+	ns	ns	+	ns	ns
Shipping costs	ns	-	ns	+	+	+
Start price	-	-	-	ns	ns	+
Time	ns	+	-	-	ns	ns
Weekend	ns	ns	-	-	ns	ns

Note: “+” denotes positive effects, “-” denotes negative effects, and “ns” denotes non-significant effects.

Table 98: Summary of Results - Silver Coins Sample

Variables	Number of Bidders			Auction Price		
	GE	UK	U.S.	GE	UK	U.S.
Negative feedback	-	ns	-	-	ns	ns
Positive feedback	ns	ns	ns	+	+	+
Feedback score	-	ns	ns	+	+	+
Neutral feedback	-	ns	ns	-	+	+
Bidders				+	+	+
Bold	ns	ns	ns	ns	ns	+
Competition	ns	ns	ns	ns	ns	ns
Description	ns	ns	ns	-	ns	+
Duration	ns	ns	ns	+	ns	ns
Gallery	+	+	+	+	+	+
PayPal	ns	+	ns	+	ns	+
Picture	-	ns	+	ns	-	+
Shipping costs	ns	ns	-	+	+	+
Start price	ns	-	-	+	+	+
Time	-	ns	-	-	-	-
Weekend	ns	ns	ns	ns	ns	ns

Note: “+” denotes positive effects, “-” denotes negative effects, and “ns” denotes non-significant effects.

Table 99: Summary of Results - Gold Coins Sample

Variables	Number of Bidders			Auction Price		
	GE	UK	U.S.	GE	UK	U.S.
Negative Feedback	ns	ns	ns	ns	+	-
Positive Feedback	ns	+	ns	+	ns	+
Feedback Score	ns	+	ns	ns	ns	+
Neutral Feedback	ns	ns	ns	ns	ns	ns
Bidders				+	ns	ns
Bold	ns	+	ns	ns	ns	ns
Competition	ns	ns	ns	ns	ns	ns
Description	ns	ns	ns	ns	+	ns
Duration	ns	ns	ns	ns	ns	ns
Gallery	ns	ns	ns	+	ns	ns
PayPal	ns	ns	+	ns	ns	ns
Picture	ns	-	ns	ns	ns	ns
Shipping Costs	ns	ns	ns	-	ns	+
Start Price	-	ns	-	ns	ns	ns
Time	+	ns	ns	+	ns	ns
Weekend	ns	ns	ns	ns	+	ns

Note: “+” denotes positive effects, “-” denotes negative effects, and “ns” denotes non-significant effects.

Table 100: Summary of Moderated Regression Analysis

Variables	Compact Discs			Digital Cameras			Silver Coins			Gold Coins		
	GE-UK	GE-US	UK-US	GE-UK	GE-US	UK-US	GE-UK	GE-US	UK-US	GE-UK	GE-US	UK-US
Number of Bidders												
Negative feedback	.893	.138	.455	.019	.407	.028	.006	.004	.002	.614	.688	.796
Positive feedback	.450	.965	.666	.097	.916	.204	.482	.079	.763	.639	.451	.473
Feedback score	.368	.067	.109	.373	.138	.952	.012	.774	.107	.511	.260	.309
Neutral feedback	.913	.003	.093	.815	.184	.523	.091	.067	.063	.860	.850	.840
Auction Price												
Negative feedback	.229	.278	.187	.520	.924	.625	.008	.0001	.001	.027	.836	.086
Positive feedback	.620	.003	.030	.311	.298	.745	.583	.484	.503	.277	.956	.459
Feedback score	.965	.027	.180	.373	.138	.952	.282	.035	.103	.979	.711	.842
Neutral feedback	.033	.847	.240	.815	.184	.523	.003	.0001	.0001	.396	.658	.459

Note: Statistically significant p-values that support the hypotheses are indicated in bold.

Appendix Part 3: Study 2

Table 101: Pairwise Correlation Coefficients - German Sample (Main Dataset I)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Probability of sale													
2 Negative feedback	.09												
3 Positive feedback	.30	.67											
4 Bold	-.16	-.08	-.12										
5 Competition	-.70	-.27	-.39	.02									
6 Description	.58	.13	.16	-.07	-.34								
7 Duration	-.32	.11	.01	.08	.04	-.34							
8 Gallery	.01	.05	.02	-.08	.01	.34	-.22						
9 PayPal	-.50	.11	-.15	.22	.26	-.23	.21	.19					
10 Picture	.36	-.03	.03	-.16	-.22	.44	-.24	.32	-.11				
11 Shipping costs	-.08	-.20	-.01	.00	.14	-.30	.06	-.27	-.31	-.16			
12 Start price	-.80	-.06	-.31	.08	.59	-.45	.28	-.10	.32	-.20	.07		
13 Time	.12	-.04	.16	-.11	-.09	-.05	-.08	.04	-.04	-.01	.03	-.14	
14 Weekend	.12	-.01	-.03	.04	.06	-.09	-.06	-.16	-.14	.01	.03	-.14	-.02

Note: $n = 130$. All correlations above $|.18|$ are significant at $p < .05$.

Table 102: Pairwise Correlation Coefficients - UK Sample (Main Dataset I)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Probability of sale													
2 Negative feedback	.11												
3 Positive feedback	.15	.61											
4 Bold	.24	-.15	-.06										
5 Competition	-.45	-.01	.10	-.03									
6 Description	.65	.26	.33	.14	-.15								
7 Duration	-.31	-.21	-.15	-.05	-.04	-.35							
8 Gallery	.27	.01	.10	.18	-.05	.24	-.01						
9 PayPal	.35	.01	-.16	.15	-.23	.13	-.16	.04					
10 Picture	.04	-.32	-.24	-.02	-.07	-.07	.22	.14	.12				
11 Shipping costs	.31	-.06	-.02	.04	-.21	.07	.02	.14	.02	.07			
12 Start price	-.20	-.11	-.30	-.03	.04	-.24	.13	-.13	.02	.17	.05		
13 Time	.12	.07	.11	.07	.01	.12	.02	.03	-.01	.05	.01	-.15	
14 Weekend	.09	-.06	.07	.06	.23	.10	.03	.13	-.06	.06	.06	.01	.01

Note: $n = 652$. All correlations above $|.07|$ are significant at $p < .05$.

Table 103: Pairwise Coerrelation Coefficients - U.S. Sample (Main Dataset I)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Probability of sale													
2 Negative feedback	.04												
3 Positive feedback	.18	.60											
4 Bold	.09	-.11	-.11										
5 Competition	.66	.01	.16	.06									
6 Description	.69	.08	.16	.08	.53								
7 Duration	-.35	-.05	-.24	.01	-.47	-.28							
8 Gallery	.18	.03	.10	.15	.17	.28	-.20						
9 PayPal	.37	-.10	-.07	.09	.29	.27	-.20	.12					
10 Picture	.13	-.01	.02	-.01	.13	.16	-.13	.31	.07				
11 Shipping costs	.12	.00	.12	.00	.11	.03	-.19	.04	-.02	.02			
12 Start price	-.21	-.08	-.21	-.09	-.16	-.18	.16	-.15	-.07	-.01	-.08		
13 Time	-.62	-.02	-.06	-.06	-.37	-.43	.23	-.13	-.31	-.11	.00	.11	
14 Weekend	.07	.02	.09	.02	.29	.00	-.18	.07	.02	.02	.05	.01	.00

Note: $n = 2199$. All correlations above 1.031 are significant at $p < .05$.

Table 104: Pairwise Correlation Coefficients - Total Sample (Main Dataset I)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Probability of sale													
2 Negative feedback	.13												
3 Positive feedback	.07	.02											
4 Bold	.08	-.03	.02										
5 Competition	.18	.15	.07	.28									
6 Description	.33	.14	-.01	.03	.10								
7 Duration	-.18	-.06	.00	.00	-.14	.04							
8 Gallery	-.32	-.06	.00	.01	-.05	-.27	-.07						
9 PayPal	.05	-.12	.00	-.06	.03	-.05	-.09	.04					
10 Picture	.16	-.10	.08	-.02	.10	-.08	-.23	.03	.60				
11 Shipping costs	.65	.09	.01	.13	.27	.21	-.18	-.24	.12	.19			
12 Start price	.18	.02	.05	.00	.05	.05	-.02	-.07	-.03	.09	.04		
13 Time	.32	.10	.16	-.04	.09	.36	.07	-.48	-.04	.05	.30	.16	
14 Weekend	-.35	-.02	-.12	-.05	-.16	-.21	.13	.18	-.08	-.21	-.31	-.17	-.34

Note: $n = 2981$. All correlations above 1.061 are significant at $p < .05$.

Table 105: Pairwise Correlation Coefficients - German Sample (Main Dataset II)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Bidders														
2 Price	.09													
3 Negative feedback	-.02	-.17												
4 Positive feedback	-.03	.02	.68											
5 Bold	.08	.18	-.02	-.05										
6 Competition	-.02	-.18	-.30	-.24	-.12									
7 Description	.17	.14	.21	.26	.12	-.12								
8 Duration	.19	.19	.14	.10	.02	-.27	-.19							
9 Gallery	.14	.04	.13	.17	-.14	-.05	.55	-.22						
10 PayPal	.06	.01	.42	.38	.07	-.25	.24	.14	.24					
11 Picture	-.13	-.01	.03	.10	-.16	-.06	.07	-.14	.10	.08				
12 Shipping costs	-.06	.19	-.35	-.32	-.12	.24	-.24	-.08	-.22	-.61	.09			
13 Start price	-.44	-.04	.02	-.18	-.08	.04	-.23	.05	-.26	-.12	.05	.06		
14 Time	-.04	-.23	.08	.07	-.09	-.15	.12	-.13	.19	.11	.11	-.13	-.09	
15 Weekend	.10	.06	-.05	-.17	.13	.28	.02	-.07	-.13	-.03	-.09	.12	-.07	-.03

Note: $n = 100$. All correlations above $|.181|$ are significant at $p < .05$.

Table 106: Pairwise Correlation Coefficients - UK Sample (Main Dataset II)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Bidders														
2 Price	.18													
3 Negative feedback	.12	.15												
4 Positive feedback	.25	.12	.64											
5 Bold	.07	.08	-.20	-.13										
6 Competition	.05	-.03	.04	.16	.08									
7 Description	.22	.02	.15	.28	.05	.13								
8 Duration	-.03	-.07	-.17	-.17	.02	-.25	-.20							
9 Gallery	.13	.12	.13	.18	.21	.07	.16	-.05						
10 PayPal	.02	.25	-.04	.00	.16	-.02	-.11	.10	-.02					
11 Picture	-.04	-.16	-.48	-.32	.03	-.02	-.13	.18	-.01	-.06				
12 Shipping costs	.01	.16	.09	.04	-.09	-.05	.02	-.05	.03	.00	.06			
13 Start price	-.67	-.08	-.17	-.27	.01	-.05	-.26	.12	-.08	.03	.10	-.02		
14 Time	.05	-.25	.03	.09	.02	.05	.10	.09	.02	-.06	.02	.04	-.05	
15 Weekend	-.07	.05	-.03	.08	.04	.38	-.04	-.03	.11	.02	-.01	.02	.01	-.05

Note: $n = 428$. All correlations above $|.1081|$ are significant at $p < .05$.

Table 107: Pairwise Correlation Coefficients - U.S. Sample (Main Dataset II)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Bidders														
2 Price	.21													
3 Negative feedback	.08	-.09												
4 Positive feedback	.21	.07	.59											
5 Bold	.08	.04	-.11	-.12										
6 Competition	.02	-.01	-.02	.10	.01									
7 Description	.15	.07	.12	.15	.10	.02								
8 Duration	-.07	-.10	-.05	-.22	.05	-.36	-.04							
9 Gallery	.19	.18	.04	.11	.14	.05	.16	-.14						
10 PayPal	.05	.08	-.02	.06	.02	.05	.08	-.07	.05					
11 Picture	.02	.04	-.02	.01	-.02	.07	.01	-.08	.24	.02				
12 Shipping costs	.04	.34	-.03	.07	-.02	.05	.01	-.19	.04	-.01	.01			
13 Start price	-.58	-.06	-.08	-.19	-.08	-.04	-.10	.10	-.13	.00	.02	-.05		
14 Time	-.02	-.14	.04	.03	-.02	.00	-.05	.03	.03	-.04	-.01	.00	.00	
15 Weekend	-.05	-.07	.01	.07	.02	.38	.01	-.17	.06	.01	.00	.05	.02	.01

Note: $n = 1979$. All correlations above 1.041 are significant at $p < .05$.

Table 108: Pairwise Correlation Coefficients – Total Sample (Main Dataset II)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Bidders														
2 Price	.20													
3 Negative feedback	.08	-.02												
4 Positive feedback	.21	.08	.60											
5 Bold	.08	.05	-.13	-.12										
6 Competition	.01	-.01	-.07	.01	.07									
7 Description	.16	.06	.12	.17	.10	.14								
8 Duration	-.06	-.08	-.06	-.20	.03	-.27	-.09							
9 Gallery	.18	.16	.06	.12	.14	.01	.17	-.13						
10 PayPal	.03	.11	-.01	.05	.10	.36	.08	-.08	.06					
11 Picture	.01	.01	-.07	-.02	-.02	-.07	-.02	-.04	.21	-.04				
12 Shipping costs	.03	.29	-.03	.06	-.01	.12	.02	-.19	.04	.06	.00			
13 Start price	-.58	-.06	-.10	-.21	-.05	.15	-.10	.07	-.12	.11	.00	-.02		
14 Time	.01	-.11	.06	.06	-.03	-.55	-.07	.11	.03	-.21	.07	-.07	-.13	
15 Weekend	-.05	-.04	.00	.06	.03	.17	.00	-.14	.06	.00	.00	.04	.02	-.01

Note: $n = 2507$. All correlations above 1.1 are significant at $p < .05$.

Appendix Part 4: Study 3

Table 109: Pairwise Correlation Coefficients - Main Dataset I

Variable	1	2	3	4	5	6	7	8	9	10	11
1 Probability of sale											
2 Negative feedback	.12										
3 Positive feedback	.43	.56									
4 Bold	.11	.00	-.03								
5 Competition	-.08	.06	.06	-.14							
6 Description	.19	.17	.35	.08	.19						
7 Duration	-.33	-.06	-.25	-.02	-.07	-.26					
8 Gallery	-.01	.05	.05	-.04	.11	.14	.01				
9 PayPal	-.24	-.24	-.47	-.04	.09	-.27	.31	.00			
10 Picture	.03	.04	.04	.15	-.07	.17	.03	.14	-.03		
11 Shipping costs	.10	.05	.07	-.03	.37	.20	-.26	.09	-.10	-.01	
12 Start price	-.41	-.16	-.38	-.02	.02	-.34	.21	-.03	.27	-.05	-.08

Note: Total sample $n = 1702$. All correlations above $|.06|$ are significant at $p < .05$.

Table 110: Pairwise Correlation Coefficients - Main Dataset II

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Number of bidders													
2 Price	.18												
3 Negative feedback	.13	.02											
4 Positive feedback	.18	.13	.63										
5 Bold	.05	.05	-.02	-.10									
6 Buyer experience	.03	-.05	.00	.07	-.01								
7 Competition	-.03	-.04	.08	.24	-.15	-.10							
8 Description	.21	.22	.14	.34	.07	-.04	.21						
9 Duration	-.09	-.16	-.05	-.19	.02	.00	-.08	-.22					
10 Gallery	.07	.05	.06	.08	-.04	-.04	.07	.09	.02				
11 PayPal	-.10	-.15	-.23	-.49	-.02	-.09	.08	-.24	.28	.00			
12 Picture	.02	.04	.03	.00	.17	.07	-.09	.14	.02	.10	-.01		
13 Shipping charge	.09	.46	.05	.11	-.05	-.10	.41	.17	-.23	.07	-.09	-.05	
14 Start price	-.63	-.13	-.14	-.27	.03	-.04	-.02	-.32	.17	-.03	.19	-.03	-.07

Note: Total sample $n = 1311$. All correlations above $|.06|$ are significant at $p < .05$.