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Abstract

In this study we draw on the resource-based view of the firm and on value-added methodology to examine when firms appropriate value from their superior resources. We argue for the need to take into account the role of the resource gap between competitors rather than the absolute resource stock of the focal firm when examining the resource-performance relationship. In particular, we investigate whether the ability of a reputable seller to command a price premium is influenced by the *reputation gap* (i.e., the reputation differences between the focal seller and its closest competitor standardized by the reputation stock of both sellers). We test our hypotheses on 72 matched pairs of online transactions screened from more than 2,000 auctions of new mobile phones on the Polish Internet auction site Allegro. We find that the ability of a reputable seller to command a price premium (1) increases with the size of the *reputation gap* between the focal seller and its matched competitor, and (2) becomes increasingly smaller for each additional unit of the seller *reputation gap*.

Keywords: Resource-based View; Value Added; Resource Gap; Reputation; Value

Appropriation; Intangible Resources

Great advances have been made by resource-based view (RBV) scholars in understanding how firms can create value from their superior resources (Barney, 1991; Peteraf, 1993), where resources are defined as tangible or intangible assets that "are tied semi-permanently to the firm" (Wernerfelt, 1984, p. 172). Competitive advantage results from being able to provide value to consumers in a way that cannot easily be matched by competitors; that is, "competitive advantage derives from firm-specific resources that are scarce and superior in use, *relative to others*" (Peteraf and Barney, 2003, p. 311; emphasis added). As a result, firms are likely to engage in a competitive race to develop and acquire superior resources to their competitors or to close any resource gap vis-à-vis the leader(s). This race ultimately reduces the value of the targeted resources for all firms, thereby diminishing the firm's ability to appropriate value from its resources.

The role of competitors' resources has been increasingly articulated as an important element of the resource-based view of the firm. Various but related perspectives such as "value-added methodology" (Brandenburger and Stuart, 1996; MacDonald and Ryall, 2004), "resource gap" (Helfat and Lieberman, 2002), "competitors' resource-oriented strategies" (Capron and Chatain, 2008), and "market-factor rivalry" (Barney, 1986; Adegbesan, 2009; Markman, Gianiodis, and Buchholtz, 2009) emphasize the importance of taking into account the role of competitors' resources when assessing a firm's ability to appropriate value from its resources. As rivals compete to accumulate similar types of resources, the market becomes increasingly competitive, with a heightened risk of erosion of resource value and subsequent diminishing returns on resource investments (Helfat and Peteraf, 2003; Adner and Zemsky, 2006; Priem, 2007)

Yet most empirical RBV studies have examined the relationship between the absolute resource position of a focal firm (i.e., its resource stock or flow) and its performance (Miller and

Shamsie, 1996; Afuah, 2002; Knott, Bryce, and Posen 2003; Hatch and Dyer 2004) *without* accounting for the role of its competitors' resource position.[1] This paper seeks to bridge this gap by examining, in the context of online auctions, the role of differences in reputation across competitors in the reputation-performance relationship.

RBV scholars view reputation as a valuable resource that can provide firms with sustainable superior performance (Hall, 1992; Mahoney and Pandian, 1992; Roberts and Dowling, 2002; Rindova *et al*., 2005). Reputation is defined as the "representation of a company's past actions and future prospects that describes the firm's overall appeal to all its key constituents when *compared to other leading rivals*" (Fombrun, 1995, p. 72; emphasis added). The importance of assessing a seller's reputation is paramount in electronic markets, which are characterized by a low level of regulation, relative anonymity of transactions, an absence of direct contact between sellers and buyers, and a tendency for deceptive practices among sellers (Pinker, Seidmann, and Vakrat, 2003).[2] The seller's reputation in these markets is forged through the history of their exchanges and through feedback systems set up by firms like eBay or Allegro (Resnick *et al*., 2000; Dellarocas, 2003) which allow the seller's behaviour to be publicly evaluated. Most existing studies on the reputation-performance relationship in the context of online markets have found a positive relationship between a seller's absolute level of reputation and the willingness to pay for that seller's item—across a range of products such as Pentium processors (Houser and Wooders, 2006), gold coins (Melnik and Alm, 2002), collectible coins (Reiley *et al*., 2007), and golf clubs (Livingston, 2005).[3] However, these studies have not examined how the ability of a

[1] According to Newbert (2007), 93% of all empirical RBV studies test for a relationship between the focal firm's stock of resource and its performance.
[2] The FBI's Internet Crime Complaint Center reveals that Internet auction fraud constituted 45% of all referred complaints in 2006 and was the most reported Internet-related offense (FBI IC3, 2006).
[3] See Pinker *et al*. (2003), Dellarocas (2003), and Livingston (2005) for reviews of the literature.

reputable seller to command a price premium over its competitors is affected by the *reputation gap*[4] between competing sellers.

Using a unique sample of 72 matched pairs of online transactions screened from over 2,000 auctions of new mobile phones on the Polish Internet auction site Allegro, we find that price premia obtained by high-reputation sellers (1) increase with the size of the reputation gap between the focal seller and its matched competitor; and (2) become increasingly smaller for each additional unit of seller reputation gap.

Our paper makes an empirical contribution to the RBV and to the emerging stream of literature on the value-added approach by establishing the role of competitors' resources while examining the resource-performance relationship. It also provides a methodological contribution to the RBV. Although it usually is difficult to measure willingness to pay (Besanko, Gupta, and Jain, 1998), the second-price English auction provides an ideal setting in which to assess the direct impact of reputation on customers' willingness to pay. Furthermore, our research design involves considerable efforts put into identifying matched pairs of transactions, so that reputation remains the main differentiating factor between the two competing sellers. We thereby control for otherwise unobservable sources of friction that could affect value appropriation (Chatain and Zemsky, 2009) and avoid the endogeneity issues associated with studies of returns to reputation.[5]

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Our research is built upon the central premise that *reputation gap* (i.e., the reputation differences between the focal firm and its closest competitor), drives the focal seller's ability to command a price premium from its superior reputation. The ability of a reputable seller to command a price

[4] In a recent study, Davies, Chun, and Kamins (2010) used the term *reputation gap* to describe differences between customer and employee perceptions of corporate reputation. Our usage of this term is different, as defined above.

[5] Most of the transactions on Internet auctions are non-repeating and limited in time span. Moreover, buyers have no direct interest in boosting any particular seller's performance. There is no reason to suspect that the strong performance of the sellers in terms of high selling price would lead to positive feedback from a transacting party.

premium is likely to be influenced not only by its total reputation stock but also by its reputation relative to that of its closest competitors, i.e. - its *reputation gap* (Fombrun, 1995; Abreu and Pearce, 2007). Investments in reputation typically trigger a race between leaders and followers to close the reputation gap and thus eventually could reduce the value of reputation as a differentiating resource. As differences in the perceived risks associated with the transaction shrink, the customers are likely to adjust their willingness to pay and leaders may expect lower prices (or lower price differentials) owing to the relative loss in the reputational advantage. Moreover, a highly reputable seller may create an anchoring effect and thus make it difficult for followers to achieve high returns from their efforts to close the reputation gap.

In order to make the development of our hypothesis more precise, we introduce the following stylised notation of the relationship between the reputation gap and performance, closely corresponding to our empirical design. We consider two sellers (called *Focal Seller* and *Competitor*) with reputation stock R_F and R_C respectively, and ordered such that $R_F \geq R_C$. Two auction-winning customers, each buying from one of the sellers, are denoted by C_F and C_C, and their respective willingness to pay (equal to their reservation prices[6]) for products by WTP_F and WTP_C. We abstract from preference heterogeneity on the side of the customers, an assumption that precludes any analysis of the process by which final prices are attained. Although that process is important, it is not likely to affect the relation between seller's reputation stock and buyer's willingness to pay.[7]

The basic unit in this analysis is a standardized pair of transactions: *Focal Seller* sells a product to C_F while *Competitor* sells a product to C_C. There is no heterogeneity on the product

[6] In the context of a second-price English auction style (like eBay) a buyer's willingness to pay corresponds closely to her reservation price (Roth and Ockenfels, 2002).
[7] See Peters and Severinov (2006) for a discussion on buyers' valuation heterogeneity and bidding strategies. We are grateful to the anonymous reviewer for this comment.

or transaction side, and we allow sellers to differ only in their reputation stock. This assumption, which corresponds to our empirical design, allows us to abstract from all other effects that might affect relative transaction outcomes. We therefore express customers' willingness to pay for the item sold by *Focal Seller* as a function of the absolute reputation gap and willingness to pay for the product sold by *Competitor*:

$$\mathrm{WTP}_F = f(R_F - R_C) + \mathrm{WTP}_C \quad (1)$$ [8]

Likewise, we express the price premium extracted by *Focal Seller* that is attributable to absolute reputation advantage as

$$\mathrm{WTP}_F - \mathrm{WTP}_C = f(R_F - R_C). \quad (2)$$

However, as indicated earlier, the value of resources may evolve with shifts in total resource stocks across players. It is therefore important that the resource gap construct take into account the total stock of resources of competitors. In the context of our study, if competing sellers engage in a race to accumulate reputation stock, then the ability of *Focal Seller* to appropriate value from its reputation advantage over its competitors may diminish as both sellers accumulate more reputation and as the environment becomes increasingly competitive and crowded owing to reputation accumulation by all players.

The above representation of the absolute reputation gap does not allow us to account for the total stock of reputation accumulated across both sellers, holding reputation differences constant. We thus revise our initial formulation of the absolute reputation gap to accommodate the total stock of reputation of *Focal Seller* and *Competitor*. This measure leads to a refinement of the representation via an alternative specification of the willingness to pay for the product sold by

[8] A more complete representation would include a vector Z of control variables (including product and transactional characteristics) affecting the willingness to pay for the product sold by the *Focal seller*: $\mathrm{WTP}_F = f(R_F - R_C) + \mathrm{WTP}_C + Z + \varepsilon$. However, because we assume homogeneity of product and transaction characteristics (per our empirical design), the same vector is contained within WTP_C and can therefore be dropped.

Focal Seller as a function (*g*) of the absolute reputation gap standardized by the sum of reputation of the respective sellers (henceforth *reputation gap*),

$$\mathrm{WTP}_F = g\left(\frac{R_F - R_C}{R_F + R_C}\right) + \mathrm{WTP}_C, \tag{3}$$

and the price premium extracted by *Focal Seller*,

$$\mathrm{WTP}_F - \mathrm{WTP}_C = g\left(\frac{R_F - R_C}{R_F + R_C}\right).^{9} \tag{4}$$

The price premium represents the difference in a customer's willingness to pay (i.e., her reservation price) for the product sold by *Focal Seller* versus that for the product sold by *Competitor*.[10] Therefore, we predict that *Focal Seller*'s ability to extract a price premium will be positively related to the size of the reputation gap between *Focal Seller* and its matched *Competitor*. This leads to our first hypothesis.

> *Hypothesis 1: The larger the reputation gap between the focal seller and its matched competitor (compared with the combined stock of reputation accumulated by the two competing sellers), the higher the price premium obtained by the focal seller.*

Theoretical and empirical studies in various disciplines indicate that the law of diminishing marginal returns applies to returns from resource accumulation (Buckley and Casson, 1998; Nunes and Park, 2003; Hatch and Dyer, 2004). Similarly, the assumption of customers' diminishing marginal utility is a major component of analysis of the demand-side drivers of

[9] We do not specify the functional form of the relationship. In order to allow for its possible nonlinearity, we empirically estimate the second-order approximation of the Taylor series expansion of the function $g(\frac{R_F - R_C}{R_F + R_C}) \approx (\frac{R_F - R_C}{R_F + R_C}) + (\frac{R_F - R_C}{R_F + R_C})^2$.

[10] Research on Internet auctions has shown that, in an English-style second-price auction, a buyer's dominant strategy is to bid his reservation price (Bajari and Hortaçsu, 2004). We therefore assume that the product is purchased at a price that equals the customer's willingness to pay, which leads the seller to appropriate all the value added in the transaction. A similar assumption is made by Adner and Zemsky (2006, p. 220).

value creation (Adner, 2004; Adner and Zemsky, 2006; Priem, 2007). Customers are therefore likely to place an increasingly smaller value on reputation differences across sellers at sufficiently high absolute levels of seller reputation. That is, each unit of reputational difference brings the buyer less additional value because the likelihood of opportunistic behaviour on the part of the seller decreases simultaneously with increases in the seller's stake in this costly and path-dependent resource.

Diminishing marginal returns to absolute levels of reputation have also been empirically documented in the context of online auctions. Livingston (2005), for example, shows that returns to reputation are strongly non-linear. Sellers are rewarded—in terms of sale probability and auction revenue—for the first few "points"[11] of reputation, whereas positive reports beyond those levels have little impact on sellers' rewards. A similar process should hold true for the notion of the reputation gap. We thus expect consumers to place an increasingly smaller value on reputation differences, which leads to our second hypothesis.

> *Hypothesis 2: The price premium obtained by the focal seller increases at a diminishing rate as the reputation gap between the focal seller and its matched competitor (compared with the combined stock of reputation accumulated by the two competing sellers) increases.*

METHODS

Sample selection and matching procedure

Our initial data set comprises more than 2,000 auctions of three new mobile phone models on Allegro, the largest Polish online auction site. By focusing on new mobile phones, we set out to conduct a conservative test of the impact of reputation on performance. In this setting, reputation accrues only to the transactional characteristics because the product itself is fully standardized.

[11] *Points* are the total number of positive transaction evaluations minus the total number of negative transaction evaluations.

Accuracy of item description, communication, delivery and shipping time, and shipping and handling terms are the key components in a buyer's assessment (through transaction feedback) of the seller. The three particular models of mobile phones were chosen because, during the period analyzed, the average price paid did not differ significantly among this group.

Allegro, like eBay, uses the ascending-bid, second-price English auction style (McAfee and McMillan, 1987). Our data contained information on transaction characteristics—including seller reputation—and the final selling price (cf. Obloj and Obloj, 2006). The data set consisted of all auctions finishing with at least one bid for analyzed products in a four-month period. We augmented this data with additional information on seller and transaction characteristics, as described below.

We employed a matched-pairs design (O'Connor *et al*., 2006) for empirical testing of the proposed hypotheses. We took great care to assure the maximum reliability of our matching procedure (Heckman, Ichimura, and Todd, 1997), which aimed at matching transactions with the same characteristics so that the sellers' reputation would be the main differentiating factor. We matched transactions with identical observable product characteristics and auction description, auction conditions (including timing), object location, and graphical and verbal product presentation.[12] This matching procedure yielded 72 matched pairs of transactions (144 individual transactions).[13] The Appendix offers further details on the matching procedure.

Construction of variables

Dependent variable. We use P_F and P_C, respectively, to denote the final auction price obtained by *Focal Seller* and *Competitor*. The dependent variable is the price premium obtained by *Focal*

[12] This particular design has the further advantage that willingness to pay could depend on the number of concurrently running auctions (Chan, Kadiyali, and Park, 2007). A matched-pairs method, together with control variables, ensures that such effects will not influence the distribution of relative measures.

[13] The matching procedure could theoretically produce groups of identical transactions, rather then pairs. However, no groups of more than two were observed.

Seller compared to its matched *Competitor*: $P_F - P_C$. This variable is denoted by P_{premium}, and in this setting corresponds to the value added by *Focal Seller* (Brandenburger and Stuart, 1996).

Independent variables. Drawing on previous studies (Melnik and Alm, 2002; Reiley *et al*., 2007), we measure reputation (denoted by R_F and R_C for *Focal Seller* and *Competitor*, respectively) as the difference between the number of positive and negative ratings for each selling party. We choose this measure of reputation (instead of the number of positive ratings) because it is the most easily accessible indicator of a buyer's reputation. Our principal independent variable is the *reputation gap* (i.e., the reputation differences between the focal seller and its competitor standardized by the reputation stock of both sellers), $\frac{R_F - R_C}{R_F + R_C}$.[14]

We control for the total number of offers (*bids*) as a proxy for current demand because it may influence the final selling price (Kauffman and Wood, 2005). The price obtained by the seller may also be influenced by the *number of negative ratings*, irrespective of the seller's overall reputation (Standifird, 2001; Reiley *et al*., 2007). We control separately for the number of negative ratings of the *Focal Seller* (N_F) and *Competitor* (N_C). Finally, we include *telephone model fixed effects* to account for heterogeneity of the demand characteristics for these devices. We estimate the second-order approximation of the Taylor series expansion of the function *g* in equation (4) using ordinary least squares (OLS) regressions with telephone model fixed effects. Descriptive statistics for all variables are summarized in Table 1.

*** Insert Table 1 about Here ***

[14] A similar measure is used in Adner (2004) and Adner and Zemsky (2006, p. 216) .

RESULTS

Table 2 reports the results of the estimation. Baseline Models 1–3 include control variables and the absolute reputation stock of *Focal Seller.* [15] Model 4 provides strong support for Hypothesis 1, which states that the price premium obtained by *Focal Seller* increases with the size of the reputation gap. In other words, the greater the size of the reputation gap between *Focal Seller* and its matched *Competitor* (compared with the combined stock of reputation accumulated by the two competing sellers), the higher the price premium commanded by *Focal Seller*. A negative and significant coefficient on the square of reputation gap indicates diminishing returns to increases in reputation gap and thereby provides support for Hypothesis 2 (see Model 5).[16] In the fully restricted model, the marginal effect of a 1-unit increase in reputation gap, keeping other variables constant, translates into an increase of more than 40 units in average price premium. This enhancement corresponds to an average premium of 6% in absolute selling price.

Observe that in Model 3 the price premium obtained by the *Focal Seller* increases at a diminishing rate as the absolute reputation stock of the *Focal Seller* increases. Once included in our models, the absolute reputation stock of *Focal Seller* no longer significantly affects the price premium (see Models 4 and 5). It is also interesting to note that if the model includes the reputation gap in addition to the absolute level of reputation, then the variance explained by the model increases from 12% to 40%. None of the control variables, including the measures of

[15] In order to ensure the comparability of our results to those of previous studies, we also estimated the impact of the focal seller's *absolute reputation stock* on *final auction price* of the auction across the entire sample of 144 transactions (without matching). We find a concave relationship between reputation and final auction price, confirming the results of previous studies.

[16] We also find support for hypothesis 1 and 2 when the reputation gap is defined as $(R_F - R_C)$ and therefore not standardized by the sum of the reputation stocks of both sellers.

negative reputation, significantly affects the price premium obtained by *Focal Seller* in our models.[17]

*** Insert Table 2 about Here ***

DISCUSSION AND CONCLUSIONS

Much work remains in order to enhance our knowledge of the link between firm resources and performance. This paper endeavours to provide an empirical test that accounts for the role of competitors' resources in the resource-performance relationship. We find that the ability of a focal seller to command price premia over its competitors (1) increases with the size of the reputation gap between the focal seller and its matched competitor (standardized by reputation stock of both sellers), and (2) becomes increasingly smaller for each additional unit of seller reputation gap.

Overall, our results provide empirical support for the resource-based view and can be treated as a direct test of whether ownership of superior intangible resources generates economic rents. Our research also provides support for emerging ramifications of the RBV that stress the importance of taking into account competitors' resource positions (Brandenburger and Stuart, 1996; Ghemawat and Cassiman, 2007; Capron and Chatain, 2008) as well as consumers' marginal utility and demand-side drivers of competitive advantage (Helfat and Peteraf, 2003; Lippman and Rumelt, 2003; Adner and Zemsky, 2006; Priem, 2007) when studying the relation between resources and performance.

[17] Our results are robust to the influence of outliers. Also, the low levels of variance inflation factors (VIFs) rule out the possibility of spurious effects from the inclusion of co-linear measures (max VIF = 3.14, which is below a conservative cutoff value of 5). The lack of significant results for the effect of negative ratings on price premia is surprising in light of earlier evidence from Internet auctions (Standifird, 2001), and so calls for more careful attention. A possible explanation for this nonfinding is that negative feedback is more common on Allegro than it is on eBay. A measure of reputation that takes into account the difference between positive and negative ratings might thus be a better indicator of conduct on Allegro than in settings (such as eBay) where negative feedback is extremely rare.

From a methodological standpoint, scholars have emphasized that comprehensive empirical support for the RBV is not possible unless sufficient attention is given to understanding (a) how resource competition affects value appropriation, (b) how resource stocks map onto performance enhancements and customer value, and (c) how the value of a resource evolves with shifts in resource stocks (Helfat, 1997; Afuah, 2002; Arend, 2003; Adner and Zemsky, 2006). In this study we have made considerable efforts to clarify the mechanisms by which seller reputation may create value by examining the performance implications of two reputation constructs: absolute reputation level and reputation gap. We also have analyzed the extent to which reputation levels exhibit diminishing returns in terms of those measures.

This study has several limitations. First, our matching procedure severely limits the number of observations available for econometric analysis. Second, reputation is easily observed and represented on a continuous (rather than a rank-order) scale in Internet auctions. Third, our empirical setting involves individual-to-individual auctions rather than business-to-individual or business-to-business auctions. Fourth, we treat empirically and model a market with two sellers only. Fifth, research on industry and capability evolution (Helfat, 2000; Huygens *et al.*, 2001; Helfat and Peteraf, 2003) and industry technology trajectories (Adner and Levinthal, 2001; Adner, 2004) provide evidence for seeing the value of resources as being conditional on the process of resource stock accumulation across competitors. While our empirical setting does not allow us to trace the evolutionary process of reputation accumulation, future research could usefully apply the notion of a resource gap to different empirical settings that involve more than two competing players, different types of resources and changing industry resource dynamics over time.

Our study offers some prescriptive implications for managers seeking to deploy and maintain resource-based strategies. The focus on the resource gap allows each seller in our study to predict the marginal effect on the price premium[18] generated by an additional unit of the focal resource stock in a given competitive setting. Initial findings from our analysis suggest that it is possible—assuming a given response by competitors and a known cost of resource building—to optimize the investment in resources. Because investment in resources will affect the focal seller's ability to appropriate value contingent on the resource stock of its competitors, investment decisions should take into account not only the focal firm's direct value-generation effect but also the net competitive outcome of this process.

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[18] No claim is made about the absolute price that each of the sellers can obtain.

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Table 1. Summary statistics and pairwise correlation tables

Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10
1. Reputation gap	0.70	0.42	0.07	3[a]	1									
2. Price premium (P_{premium})	50.84	74.98	−80	312	0.06	1								
3. Bids	13.33	6.73	3	33	0.23	0.12	1							
4. Reputation of the *Focal seller* (R_F)	70.92	86.23	2	456	0.06	0.12	−0.17	1						
5. Reputation of the *Competitor* (R_C)	12.97	16.48	−28	62	−0.48*	0.06	−0.2	0.45*	1					
6. Sell price of the *Focal seller* (P_F)	871.06	111.54	711	1536	−0.03	0.64*	0.15	0.23	0.31*	1				
7. Sell price of the *Competitor* (P_C)	814.03	90.39	560	1300	−0.09	−0.05	0.1	0.19	0.36*	0.77*	1			
8. Negative ratings of the *Focal seller* (N_F)	2.06	8.03	0	63	0.16	0.11	0.02	0.35*	−0.31*	−0.03	−0.14	1		
9. Negative ratings of the *Competitor* (N_C)	1.05	2.43	0	16	0.31*	0.112	0.23*	0.02	−0.07	0.06	−0.02	0.04	1	
10. Reputation gap squared	0.67	1.12	.005	9	0.9*	0.02	0.18	−0.04	−0.35*	−0.003	−0.02	0.07	0.39*	1

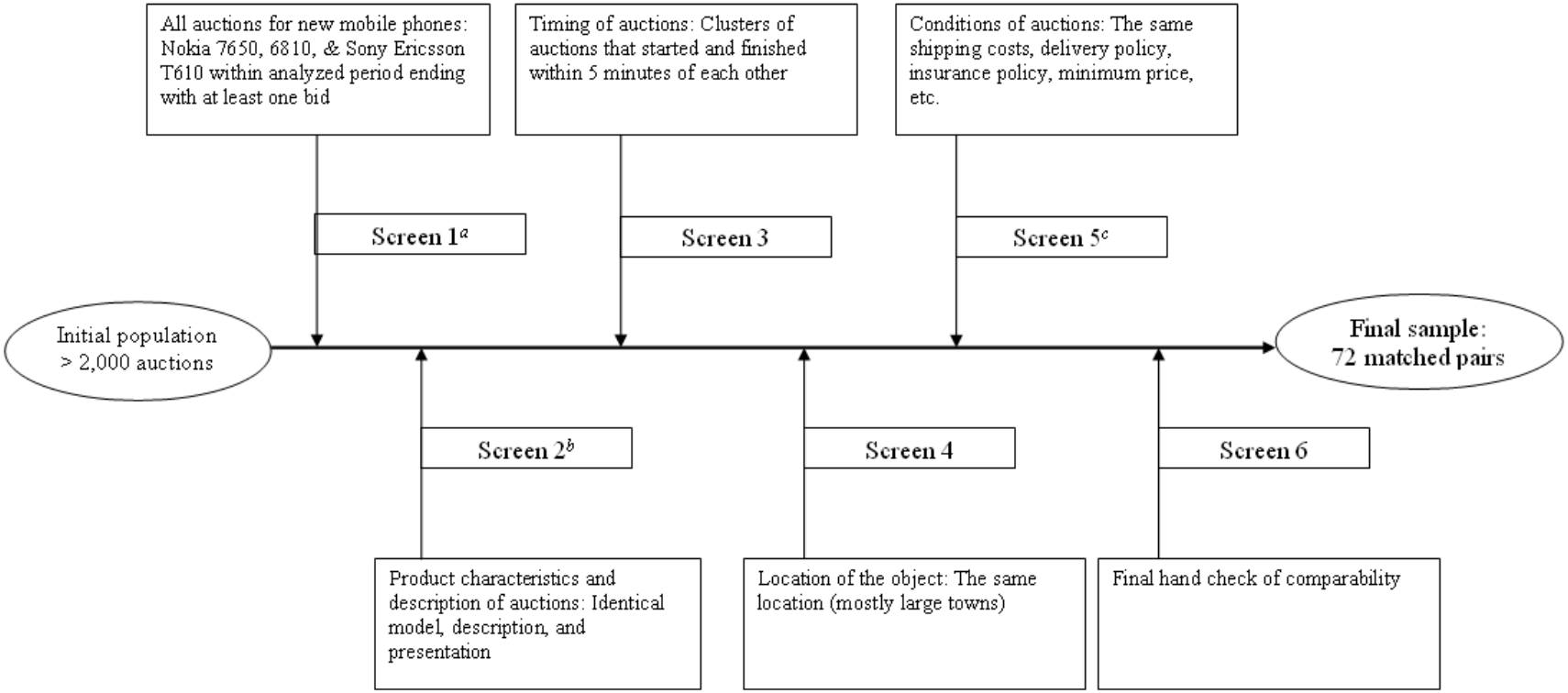
[a] There were two instances where the reputation gap variable exceeded 1; this occurred when one of the sellers had a negative reputation level.
* Significant at the 0.05 level.

Table 2. Matched pairs results, OLS regression
Dependent variable: price premium (P_{premium}).

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Reputation gap				68.88 (4.28)***	82.5 (5.19)***
Reputation gap squared					−20.85 (2.23)**
Reputation of the *Focal seller*		0.29 (1.70)*	1.01 (3.07)**	0.08 (0.56)	0.01 (0.10)
Reputation of the *Focal seller* squared			−0.002 (2.81)***		
Bids	−1.64 (0.82)	−1.05 (0.50)	−0.91 (0.43)	−1.25 (0.78)	−1.09 (0.69)
Negative ratings of the *Focal seller* (N_F)	−2.17 (2.61)**	−1.87 (2.16)**	−1.27 (1.86)*	−0.39 (0.53)	0.11 (0.16)
Negative ratings of the *Competitor* (N_C)	6.32 (1.35)	5.35 (1.16)	4.22 (0.90)	0.70 (0.20)	3.40 (0.83)
Telephone model fixed effects	Included	Included	Included	Included	Included
R^2	0.06	0.10	0.12	0.37	0.40
N	72	72	72	72	72
F-statistic	2.68*	2.76**	3.88***	5.27***	6.15***

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$. Robust t-statistics in parentheses. Constant included, not reported.

APPENDIX: Sampling procedure



[a] The products were brand new, in original wrapping and boxes, and with valid warranty.

[b] Descriptions of items sold were identical. Allegro allows sellers (for an additional fee) to enrich description of the item sold. In order to make transactions strictly comparable, we disregarded transactions that used any special description styles (bold, underline, etc.) or provided additional information.

[c] Auctions did not have minimum required prices, or the minimum required prices (or "buy it now" prices) were identical; conditions of the auction were identical (no insurance, no deferred payments, identical shipping costs, etc.).

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