

ELECTRONIC AUCTIONS IN FINLAND – WHY SUPPLY AND DEMAND DO NOT MEET?

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INTRODUCTION

Electronic (online) auctions have received considerable publicity during the heyday of “Internet-boom”. The online auction industry was born in 1995 with the founding of eBay, now the biggest auction-site in the world, with an 85% market share of the online auction sector (Lansing & Hubbard, 2002). Albert (2002) presents several industry growth related numbers, of which the number of participants perhaps illuminates the situation best: 6.5 million participants was the projection in online auctions in 2000, which was exceeded with considerable margin (35 million participants). Also the number of online auction transactions is considerable; 1.3 million transactions per day in 2001.

Online auctions have several characteristics that make them appealing from the viewpoints of both consumers and businesses. According to Koch and Cebula (2002), electronic auctions can yield to better prices to sellers than via other electronic channels. They point out that while the Internet in general tends to lower prices, product branding, price discrimination and online auctions may raise prices. Lansing and Hubbard (2002) also point out higher prices to sellers, and add low overhead costs. According to them, the online auctions are a classic example of the ideal online business, where the online auctions act solely as intermediaries between sellers and buyers, without considerable investments in land, property and inventory.

In addition to the famous, big general auctions such as eBay and Amazon’s and yahoo’s auctions sites, there has been a surge of more regional or niche-market focused auctions (see for example Lansing and Hubbard, 2002). However, the majority of consumer focused auctions have proved to be short-lived, some due to not reaching critical mass of users and some due to not finding a sustainable business model. In addition, one must note that there may be and probably are differences whether an auction operates in large markets (eBay: USA plus world) or in smaller, more language and location dependant markets such as Finland.

In this study our goal is twofold. On the one hand we have studied the supply side by interviewing the management of the major Finnish online auctions. On the other hand, we conducted a study of potential users of online auctions. We were especially interested in some of the particular aspects of the Finnish market: people wired and mobile, and there are a number of different eAuctions but eAuctions have not gained wide popularity. Our main aim was to try to find reasons for why supply and demand do not seem to be meeting in Finnish market.

ELECTRONIC AUCTIONS

There are four basic types of auction mechanisms that are widely used and analyzed (see e.g. Klemperer 1999). The main four types are: the ascending-bid auction – also called the open, oral, or English auction; the descending-bid auction – used in the Dutch flower industry and also called the Dutch auction (for more details, see Kambil and van Heck 1998); the first-price sealed-bid auction; and the second-price, sealed-bid auction – also called the Vickrey auction (for more details, see Vickrey 1961 and Kauffman & Wang 2001).

In the ascending auction (English auction), the price is successively raised until only one bidder remains, and that bidder wins the object at the final price. This auction can be run by having the seller announce the prices, or by having the bidders call out prices themselves, or by having bids submitted electronically with the best current bid posted. This third form of the ascending auction was used in this research.

The descending auction (Dutch auction) works in exactly the opposite way: the auctioneer starts at a very high price, and then lowers the price continuously. The first bidder who calls out or submits electronically that she or he will accept the current price wins the object at that price. The auctioneer can announce the prices or a clock can be used that will indicate the price. The clock hands tick downward until a buyer stops them by raising a hand, pushing a button, or by clicking the mouse of his computer. The third form was used in this research.

In the first-price sealed-bid auction each bidder independently submits a single bid, without seeing others' bids, and the object is sold to the bidder who makes the highest bid. The bidder pays her bid – that is the highest price or “first” price bid. This method is used in procurement, that is competing contractors submit prices and the lowest bidder wins and receives her price for fulfilling the contract. This type of auction is also called “reverse” auction, because in this case the seller is the bidder and the buyer the bid-taker.

In the second-price sealed-bid auction each bidder independently submits a single bid, without seeing other's bids, and the object is sold to the bidder who makes the highest bid. However, the price she pays is the second-highest bidder's bid or “second price”.

One notable factor of these different auction mechanisms is that according to Vickrey's classical theorem, they all yield to the same final price. In other words, there is no difference from the seller's perspective which mechanism is used. However, with online auctions there have been some notions that this may not be a valid assumption. For example Lucking-Reiley (1999) conducted a field study by selling Magic: the gathering-collectible cards in several online auctions. This research is interesting in the sense, that it avoids the most eminent pitfall of such studies, namely it recreates almost identical starting position to each sale. Normally, it

is very hard to make comparisons between different mechanisms, since for instance Sotheby's does not run both a second-price auction and an English auction for the same piece of antique furniture. According to Lucking-Reilly's findings, the Dutch auction produced 30-percent higher revenues than the first-price auction format.

THE FINNISH ELECTRONIC AUCTIONS

In this section we report the findings of the empirical studies conducted in both the supply and demand side of the Finnish auction market. We conducted interviews with more than a half of the major auctioneers and we made several questionnaires for potential users of auctions for the demand side. We used students as our sample for the demand side, because they have the technical means and interest to participate in electronic forms of auctions.

The Supply Side

The research was focused upon Finnish electronic auctions. 21 such auctions were found, of which 11 participated to the study. The study was conducted through interviews of the management of auctions. In addition, three auctions were studied through Internet only (i.e. no interviews). The interviews were conducted as semi-structured interview, i.e. the basic structure for each interview remained the same, however, in each interview the respondent had quite a lot of room to go into topics not mentioned in the interview-structure.

The following table lists all auctions, in which interviews were conducted.

Table 1.

Auction/ Interviewee	Main Type	b-to-c, c-to-c	Main products	Type of interview	Duration
Konepiste Mika Aro, general management	Dutch	b-to-c	Consumer electronics	Phone	30 min.
Keltainen Pörssi Huutokauppa Function manager Mike Katajamäki	English	c-to-c, partly b-to-c	General auction	Face-to-face, taped	90 min
Huuto.net Director Lari Lohikoski	English	c-to-c, partly b-to-c	General auction	Face-to-face, taped	60 min
Zuumania general secretary Petri Rajaniemi (SKOL).	English	c-to-c, partly b-to-c	General auction	Phone, taped	30 min
Postimerkkipalvelu Owner Anneli Hytönen and the developer of the system	English	b-to-c, c-to-c	Stamps, coins, medals	2 phone-interviews	together 50 min
antikka.net Owner Kari Selinheimo	English	c-to-c, partly b-to-c	Used books	Face-to-face	20 min.
Fritidsresor E-commerce manager Jenni Pekarila	English	b-to-c	Travels	Phone	30 min.
M.Helander Huutokaupat Oy Owner Mikko Helander	English (not real-time)	c-to-c, b-to-c	Traditional auction house (antiques)	Phone, taped	40 min.
Matkalehti Owner	English	b-to-c	Travels, travel products	Phone, taped	20 min.
Suomen Filatelistiliitto Auction officer Martti Vuorivirta	hidden	c-to-c	Stamps	Phone, taped	15 min.
QXL CEO Jyri Kulmala	English	c-to-c, b-to-c	General	Face-to-face, taped *	about 60 min.

The auctions in question were either business-to-consumer or consumer-to-consumer auctions. Researched areas included (for a complete list of structured questions in Finnish, contact the authors):

- business models
- used technologies
- products
- pricing mechanisms
- customers
- marketing

* Interviewed by Jyri Kulmala. Interview a part of thesis: Customer-to-Customer Internet auctions: Finnish perspective. Final thesis Tampere Polytechnic, 2001

The Demand Side

Survey data was collected in four sets in Helsinki School of Economics (HSE) and Turku Schools of Economics (TuSE), with students (some also international) as subjects. The students were gathered on courses, which have wide participation across subjects to avoid bias toward technically oriented students, however, 60% of the students had information systems or e-business as their major subject.

Background Information on the Subjects

There were a total of 106 students, divided into 68 at HSE and 38 TuSE students. There were 83 Finnish students and 18 from other countries (Russian, Estonian, Ukrainian, Canadian, Chinese, etc.). There were 37 female and 68 male subjects, with an age range from 20 to 55, with a mean age of 27 years. The working experience varied from ½ year to 33 years, with a mean of 5 years. All were completing university education, and had studied from ½ year to 8 years, with a mean of 3 years. The students were well connected with 72% having internet connection at home and full 100% having a mobile phone. The following table lists their internet usage patterns:

Table 2.

	N	Minimum	Maximum	Mean	Std. Deviation
Daily use of WWW (avg mins)	106	10,00	1200,00	127,1132	135,0021
daily received email (avg)	106	,50	100,00	7,8679	11,1619
daily sent email (avg)	106	,50	30,00	3,7217	4,1651
online purchases / last 6 months	102	,00	40,00	1,0882	4,1389

It is noticeable however, that there were very few online purchases performed by the sample group. It is also noteworthy that 16 % of the respondents had bought items from online auctions and 2 % had sold something in them.

The table below summarizes the general attitudes towards selling and buying goods in auctions:

Table 3.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes, for buying	16	15,1	15,8	15,8
	yes, for selling	2	1,9	2,0	17,8
	no	79	74,5	78,2	96,0
	no, but used for searching	2	1,9	2,0	98,0
	yes, for both buying & selling	2	1,9	2,0	100,0
	Total	101	95,3	100,0	
Missing	System	5	4,7		
Total		106	100,0		

ANALYSIS OF THE RESULTS/FINDINGS

In the following preliminary results we briefly summarize the findings about the survey. We first look at the supply side by characterizing the auction site by their technical platform,

auction type and business model according to the classification in the second section. In all the questions for the supply side we used a Likert scale from 1 (fully agree) to 7 (fully disagree).

Technical platform

The Internet was the dominant "platform" for auctions, only few auctions offered for example mobile solutions. This is interesting because Finland is one of the foremost counties in mobile-phone usage. The supply side was quite unanimous in their belief that mobile-only auction has at the moment no possibilities, mainly because of the limited screen and user interface of current mobile phones. However, certain companies voiced their belief in Digital Television coupled with mobile phones as a terminal device for making the actual bid, thus serving as the return channel. In the demand side there was little need for this, even among our sample, which is quite advanced in mobile phone use.

Types of auctions

English auction was the dominant form of auction, a few auctions used Dutch auction mechanism, one stamp and collectibles auction used sealed mechanism. This is understandable, as the English auction is the best known mechanism in Finland. In the stamp and collectible auctions there is a long tradition of auctions from the offline world and thus the more advanced auction mechanisms can be employed.

Business model

The studied auctions were classified under four categories:

- general auction, where the auction is either the main business or has high role for the main business
- marketing magnets, where the role of auction is to draw customers to the main business
- additional service, where the role of the auction is to support main business
- "window" to traditional auction, where the eAuction offers an interface to the traditional (physical) auction.

While analyzing the viability of the business models, we encountered several interesting issues. First, the general auctions such as Huuto.net, Keltainen Pörssi and QXL were generally dissatisfied with results revenue wise. None of the major players was able to include any form of commissions, thus they were dependant upon banner-advertising, strategic partnerships and other means of revenue. It is noteworthy that none of these companies announced that they were making profits.

Firms using eAuctions as marketing **magnets** were satisfied with results. Online auction seems to be under the light of this research a good way to market a site, at least at this moment.

Companies using eAuctions as **windows** to traditional auctions were generally very satisfied with the results. The reason for their satisfaction stems from location dependant reasons. Traditional auction is somewhat hindered by its place-dependency. Internet in general was

seen as a vehicle to broaden markets, by making information distribution about sold items both economical and quick.

Generally, eAuctions were seen as good additional services, but as a main business found problematic. After the research, the number one general auction in Finland, Huuto.net, was purchased by local telecom company, Sonera, and added as an additional service to their popular portal. In light of this research it thus seems that independent general auctions in small markets do not have a viable business model available. However, it seems that auctions per se are popular, and generate lots of traffic to sites whose main service is something else.

Products or services for auctions

Suitable products or services for auctions have certain properties. They must be easily describable, and their related information (what, in what condition etc.) must be easy to digitize. Examples of such were multiple, including computer equipment, electronics, collectibles and antiques.

On the demand side the subjects think that they can (or could) buy goods from auctions that they cannot find anywhere else (mean 3,35*), rather than use auctions to purchase things that are bought regularly (e.g. clothes or groceries) (mean 5,27*). They also largely agreed that Web-auctions are best used for making impulse or one-time purchases (e.g. a DVD-player or airline tickets) (mean 3,03*). Selling goods on eAuctions is seen as a fairly feasible option (mean 3,44*).

Price setting value/role of eAuctions

Electronic auctions define theoretically both the correct price from the markets as well as adjust the level of needed information to correct level (example of the latter: a product is put to the eAuction, interactive features of the system allow for feed-back upon more information (more detailed descriptions, digitized pictures etc.). However, it is notable that only the major auctions can achieve the liquidity and popularity needed for the price setting to work. In the table below the main reasons for using eAuctions are listed. It should be noted that the quality is perceived as far more important than price alone.

Table 4. Main criteria for shopping:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	price	35	33,0	33,7	33,7
	quality	64	60,4	61,5	95,2
	(both)	5	4,7	4,8	100,0
	Total	104	98,1	100,0	
Missing	System	2	1,9		
Total		106	100,0		

Entertainment value of eAuctions

Perceived entertainment value of eAuctions for the subjects is rather modest on average.

Trust issues

Trust is one of the key components in electronic commerce in general and even more so on online auctions. Online auction fraud is an issue, which has grown hand in hand with the growth of the online auction industry. Albert (2002) for example reports that consumer complaints to US National Consumer Leagues Internet Fraud Watch increased by 600% from 1997 to 1998, with online auction related complaints numbering almost 5500 or 68% of all 1998 complaints. The Federal Trade Commission in the US has seen online auction related complaints to grow from 106 in 1997 to a remarkable 10872 in 2000. One must also note that these figures indicate only the reported incidents, the true number of frauds is higher.

When asked, the subjects on average, felt that it is important to see the items in real as they are before making a bid (mean 3,11*), rather than trusting textual descriptions of goods being sold in the eAuction (mean 4,94*). This alleviates again the previously mentioned ease of digitization as a key to success of the auctions. It is also important to be able to view the reputation of the seller/buyer (as graded by others at the auction site) (mean 2,78*). Furthermore, most subjects would rather buy from a company than another consumer in an auction (mean 3,11*). Thus it is not surprising that many of the bigger auction companies have taken several incentives in building consumer trust over online auctions.

Most subjects were concerned about security of online payments (mean 2,82*). Also, they do not like the idea of allowing their buying habits to be analyzed by the auctioneer (mean 4,49*). This is in contrast with the ideas of eAuctioneers, who use these as magnets and would like to understand the patterns of behavior of the bidders.

DISCUSSION AND PRELIMINARY CONCLUSIONS

In order for an eAuction to work, a critical mass of users is needed, which is hard to attain in small markets, such as Finland. First mover advantage was dominant with general auctions, however, first mover advantage did not lead into revenue. The existence of close substitutes (competing general auctions) prevented any auctions to charge for their services. Thus, in Finland, even successful general auctions were not able to get any revenue from the main business. Revenue had to be found from marketing and affiliated activities. The companies, who used the auctions as marketing magnets were generally quite pleased with their results.

On the auction user side the perceived problems seem to be largely the same as with Internet-based buying and selling in general, that is, related to insufficient quality of on-screen presentation of goods and security issues. Also, the goods seen to be suitable for online auctions (i.e. computer related goods, software, tickets) are the same as those found to be suitable for eCommerce in general. However, there are further issues with the security and trust, because the peer-to-peer nature of auctions forces the buyers to think carefully of not only the price, but also the risks involved. This alleviates the need for repudiation mechanisms, which need a critical mass of users to work.

In conclusion, eAuctions are not really trusted as the most efficient mechanism for setting price, and their entertainment value is perceived as rather low, online auctions at the moment are not able to attract a critical mass of users.

REFERENCES

- Albert, Miriam R. (2002) E-Buyer Beware: Why Online Auction Fraud Should Be Regulated. *American Business Law Journal*, 39, pp. 575-643.
- Kauffman, Robert J. and Wang, Bin (2001) New Buyer's Arrival Under Dynamic Pricing Market Microstructure: The Case of Group-Buying Discounts on the Internet. *Journal of Management Information Systems*, 18/2, pp. 157-188.
- Koch, James V. and Cebula, Richard J. (2002) price, Quality, and Service on the Internet: Sense and Nonsense. *Contemporary Economic Policy*, 20/1, pp. 25-37.
- Lansing, Paul and Hubbard, John (2002) Online Auctions: The Need for Alternative Dispute Resolution. *American Business Review*, January, pp. 108-116.

