

# Trends and Challenges of Electronic Auctions as a New Business Model

Margarita Janeska<sup>1</sup>, Dejan Zdraveski<sup>1</sup>, Suzana Taleska<sup>1</sup>

<sup>1</sup> Faculty of Economics Prilep, Gorce Petrov bb, Prilep, Macedonia

**Abstract** - The virtual internet based market allowed different forms of trading. Electronic business opens up new markets and market segments. Auctions are a very reliable and competitive trading model which allows to achieve fair prices and to choose the optimal business partners. The purpose of this model is that the system can extend the duration of the auction until they met various commercial applications. The basic motivation for research in this paper is the increasing trend of the use of electronic auctions in the process of selling and buying products and services.

**Keywords:** e-auctions, e-business, market, customer, advantages

## 1. Important Characteristics of Electronic Auctions

The electronic auctions today, are an important channel for selling and buying for many companies and individuals. The use of the internet as a basic infrastructure work and the proliferation of the Internet users contribute auctions to be realized with reduced transaction costs. The same contribute for increasing the profitability to those who buy and those who sell products and services.

Considering the fact that the individual applications of e-business, such as e-auctions, the time for implementing the overall transaction is of great importance, comes to expression the role and ability of intelligent agents to classify the multitude of incoming requests in a very short period. Besides increasing efficiency, intelligent agents improve the effectiveness of individual transactions that are perceived in a more favorable product selection, which is important for the participants in electronic auctions. [7]

Electronic auctions allow buyers to access to desired products and services wherever they conduct auctions. In addition, for the buyers and sellers are available almost all market information, including pricing, products, current supply, demand and so on.

Basic features of the electronic auction are: [8]

- The auction is bidding between buyers and sellers, and
- The auction may rise (forward) or decrease the price (reverse).

The following image represents the movement in the prices of the listed auctions:

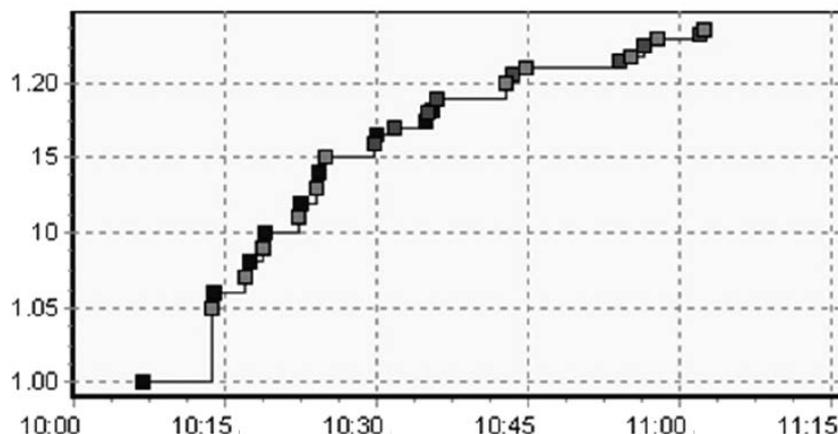


Figure 1. Movement of prices in an auction [6]



Figure 2. Movement of prices in standard reverse auction [6]

The electronic auctions today have a great expansion as a result of:

- Standardized presentation of the trade objects that is simple to operate;
- Communication infrastructure of links with many potential buyers and business partners - a global approach;
- Development of standard mechanisms for search and
- Developed systems of payment mechanisms with a high degree of certainty.

The following figure shows the components, processes and participants of the e-auctions:

An important feature of auctions is that they are realized in real time. This means that clients always have currently visible information. This is especially important for auctions realized in a relatively short time (about 30 minutes), where the frequency of offers is relatively high. The auction may consist of several slots, allowing the buyer to assort the products among several suppliers. This allows to prevent the dependence on a single supplier, and to be divided into different parts of delivery.

Different auctions may depend on each other. People in one auction may participate in different roles: auctioneer, bidder, auction initiator (the buyer in a reverse auction, the seller in normal auctions). Different roles have different information. For example, only the auctioneer may have information about the offers of their bidders during the auction. Bidders appear anonymous to each other, but they know how many competitors there are.

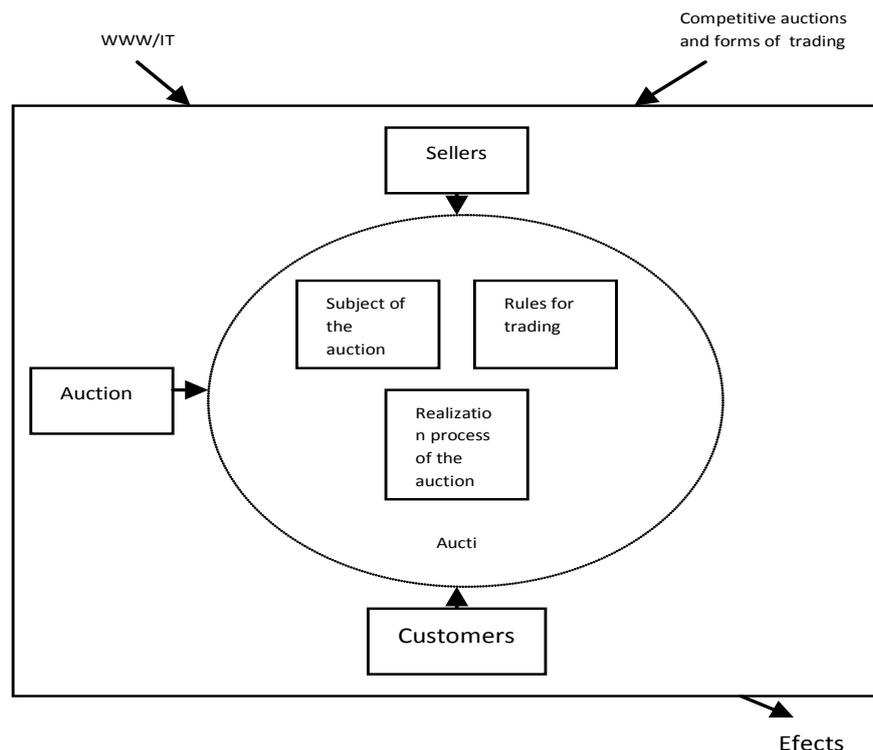


Figure 3. Model of e-auctions

## 2. Topology of e-Auctions

There are many types of electronic auctions, according to the number of participants, according to the available information, the duration, the amount of products that are subject to the auction and they have their own specificities. Some of these types of auctions are shown in the following table:

*Table 1. Important features of different types of e-auctions according to different criteria*

Characteristic	Type of auction	Description
Form of the auction	- Unilateral - Bilateral	- Allowed are only offers for buying or offers for selling - Allowed are offers for buying and selling
Duration	- One round - More rounds	-The auction has only one round - The auction has more rounds
Quantity of products	- One - More	- The auction sells only one product - The auction sells more pieces of the same product
Discovering information	- Yes  - No	- During of the auction are detected important information - During the auction the bidder has no information about the other participants
Compromised price	- First price - Second price - Different prices	- Wins the highest offered price - Wins the second highest price - The trading takes place at any time at different prices
Relationship buyer - seller	- More – one - One – more - More - more	- there are more buyers and only one seller - There is only one buyer and more sellers - There are more buyers and more sellers

Special accent is placed on auctions that are applied in two basic types of electronic business, ie B2B and B2C. The number of B2B electronic markets that negotiate with auction mechanism is in constant increase. The advantages over traditional methods of trading are a bigger market, lower inventory, reduced transaction costs, global expansion and efficient determination of prices.

In this model of electronic market the auctions can be classified as purchasing oriented (reversal auctions), sale-oriented (one seller and more buyers) and combined auctions (customers can buy various combinations of products/services). [1] As a special form of an electronic auction is the reverse auction according to the fact that these auctions are leading trend in the electronic transactions in the procurement world. They have a significant impact for the buyers and suppliers in terms of lowering costs and increasing competitiveness. [9]

Reverse auction is the most common auction model for big supplies (in terms of quantities or prices). This type of auction can be implemented at the customer site or the site of a third party. For example, eBay is the most famous site of the third person where are executed auctions and there can be found hundreds of thousands products in several types of auctions. In fact, more than 300 large companies offer online auctions. Auction sites earn taking commission from both sides.

While in B2C electronic markets commonly are used the English auction (ie standard auction, known as an open auction with a low starting price, which increases), the Dutch auction (auction by lowering the price), Vickrey's auction (where the offers are submitted sealed), auction with sealed offers and payment on the highest offered price of unilateral auction (allowed are only offers to buy or offers to sell) and continuous double siding auctions (allowed are offers for buying and offers for selling). [5]

### *2.1. Comparison of the classical with the electronic purchasing system*

A comparison of classical with electronic purchasing system is the most prominent trend in the operation of the organizations. Namely, electronic auctions have a significant impact on customers and suppliers. They offer numerous advantages, in terms of negotiation, communication, duration of procedure, insight into market prices, receiving feedback from the market and so on.

The comparison of classical with electronic purchasing system is given in the following table:

Table 2. Comparison of the classical with the electronic purchasing system

Classical procurement system	Electronic procurement system
Buyer negotiates with the bidder	Bidders negotiate among themselves
Communication on paper	Electronic communication
Procurement procedure lasts an average 10 weeks	Procurement procedure lasts an average 6 weeks
The process of negotiation lasts an average 4 weeks	The process of negotiation lasts from 1 hour to 4 days
Minimum price lowering	Average price lowering 10-20%
Not complying the time limits (extencion)	Precise deadlines
Limitation of the existing suppliers	Openness towards new suppliers (multiple increased number of bidders)
Deficiency of process transparency	Process transparency (fair and ethical), feedback from the implemented auction

The following figure shows the comparison of the overall procedure duration between classical and electronic reverse auction:

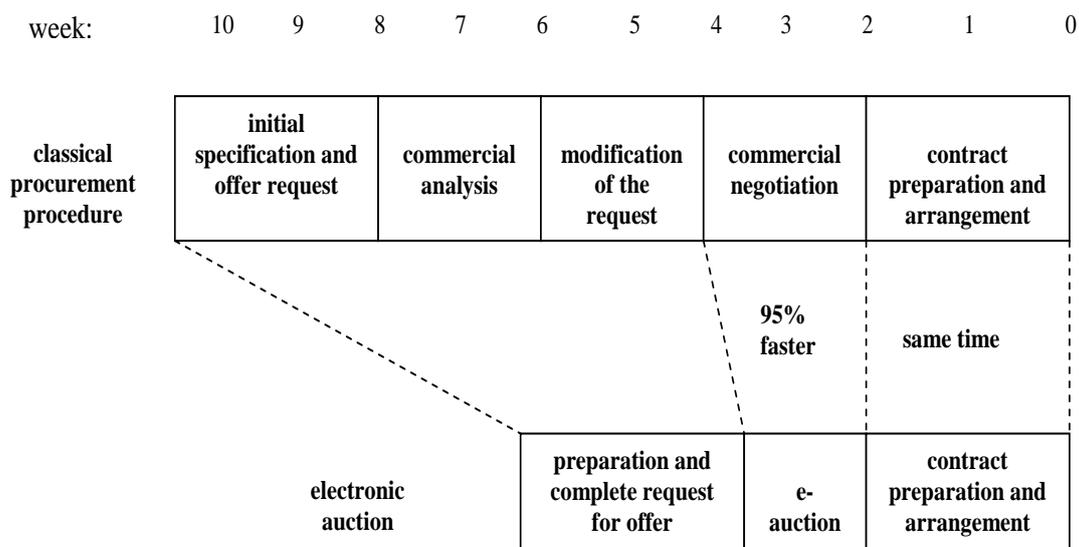


Figure 4. Comparison of the electronic reverse auction with the traditional procedure of procurement in terms of duration [2]

From the picture can be concluded that the procedure from application inicialization for supply to the submission of the request for electronic reversal auctions is 30% shorter than the classical procurement procedure, while the process of negotiation in electronic reversal auction is shorter for 95% than the classic procurement procedure.

### 3. Benefits and Limitations of e-Auctions

The benefits of e-auctions can be viewed from the perspective of sellers and from the perspective of buyers.

The advantages of e-auctions for sellers are seen in the following: [4]

- Increased revenues by expanding the customer base and shorter cycle time. With the e- auctions, sellers can find the most interested buyers in the most efficient manner and to sell the product/service at a price equal to the given value for that product/service from the the customer. It eliminates the need to predict demand and risk of too high or low prices;
- Optimal price setting. Sellers can use the collected information on the sensitivity of the set of prices in other fixed price markets;
- Instantaneousness. Sellers can get more profit from customers by offering items directly rather than going through an expensive agent or using expensive physical auction;

- Better customer relationships. Buyers and sellers have more time and opportunity to communicate with each other, which creates a sense of shared spirit and loyalty. Moreover, with the application of the information collected by the interests of clients, sellers improve the overall experience of e-commerce with realization of personalized content to customers and in that way they are improving the relationships with the customers;
- Liquidation. Sellers may quickly get rid of large amounts of outdated items.

The benefits of e-auctions for customers are: [8]

- An opportunity to find unique and collectible items;
- Possibility for a deal. Instead of buying at a fixed price, customers may use the auction mechanism through contract with sellers for the price they are prepared to pay;
- Fun. Participation in e-auction can be funny and exciting.
- The interaction between buyers and sellers can create good will and positive feelings;
- Anonymity. Buyers in the process of e-auction can stay anonymous;
- Conformity. Customers can trade from everywhere, even with a mobile phone (mobile commerce).

E - auctions have some limitations. They are the following:

- Possibility for deceit. In many cases the items for auction are unique or antique. Given the fact that buyers can not see them, they can receive a defective product. Also, buyers can make deceit. So, the degree of risk in e-auctions is very high;
- Limited participation. In fact, some auctions are by invitation only, while others are open only to concessionaires;
- Security. Some of C2C auctions realized on the internet are not secure, and some participants are afraid of deficiency of security. While some B2B auctions are implemented in a highly secure manner;
- Software. Only a few software solutions can support the dynamic trade in terms of price optimization strategies.

Based on the components, processes and benefits of e-auctions, their impact is summarized in the following table:

Table 3. Benefits of e-auctions in terms of certain parameters

Parameters	Impact of the Web
Auctioneer	Lower entry barriers; possibility for direct sales
Rules for Access	Customisation; theoretically can cover millions of potential customers
Auction subjects	Focused product segments can be auctioned; the technology allows to expand the description of the products
Rules for trading	Trade rules express the deficiency of guaranteed service
The realization process	For digital products, the entire sales cycle can be realized on the web, for physical products of trading the overall process and physical logistics can not be separated, which is leading to reducing the costs

#### 4. Comparative Analysis of the Top 10 Web Sites for Electronic Auctions in the World

Top 10 web sites in the world for electronic auctions (according to the latest data from 2014), evaluated according to the scale from 0-10 are the following: [3]

Table 4. Top 10 web sites in the world for electronic auctions

Number	Web site	Rating
1.	eBay	9,78
2.	OnlineAuction	9,65
3.	eBid	9,60
4.	ePier	9,40
5.	WebStore	9,05
6.	WeBidz	8,95
7.	CQout	8,73
8.	Auction Fire	8,65
9.	Listia	7,82
10.	Auction-Warehouse	7,70

The comparison of the top 10 web sites for electronic auctions can be made in terms of various aspects, from the perspective of: selling fees, selling features, buying features, security and support.

For example, in terms of selling fees the comparative picture of the individual sites is given in the following chart:

Even in the early years is seen substantial increase in the number of the auctions conducted on this site. Namely from 250 000 auctions in 1996, only in January 1997 were realized 2 000 000 auctions. In 2008 were noticed hundreds of millions registered users of e-auctions. Today eBay is mega auction site that has a million users and sells thousands of items every day.

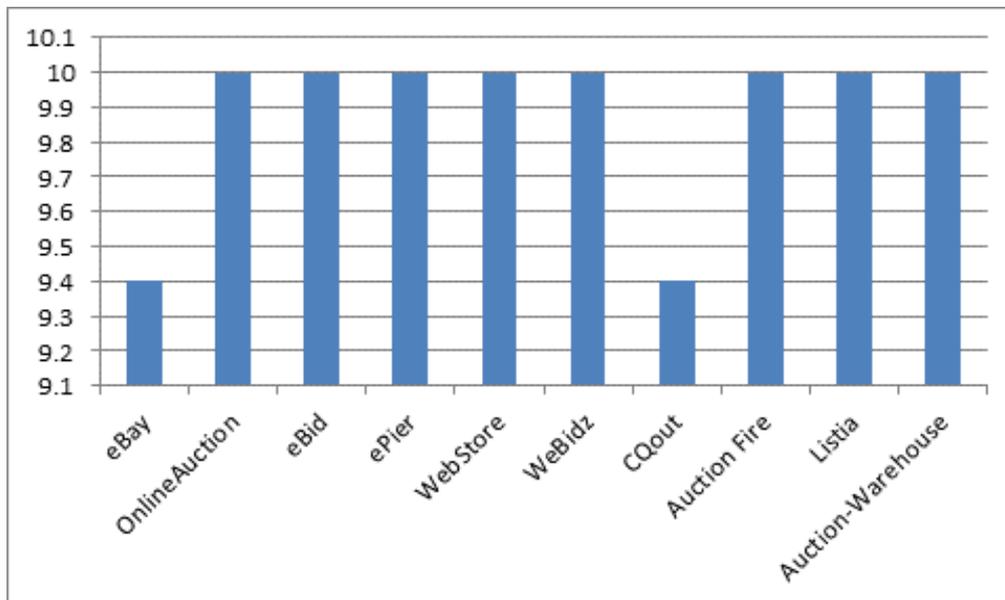


Figure. 5 Comparative analysis of the top 10 auction sites in terms of the selling fees

Or, in terms of the safety and support, the comparative picture of the individual web sites is given in the following chart:

There are some eBay sites in the USA and United Kingdom, which allow the users to trade with the local currency.

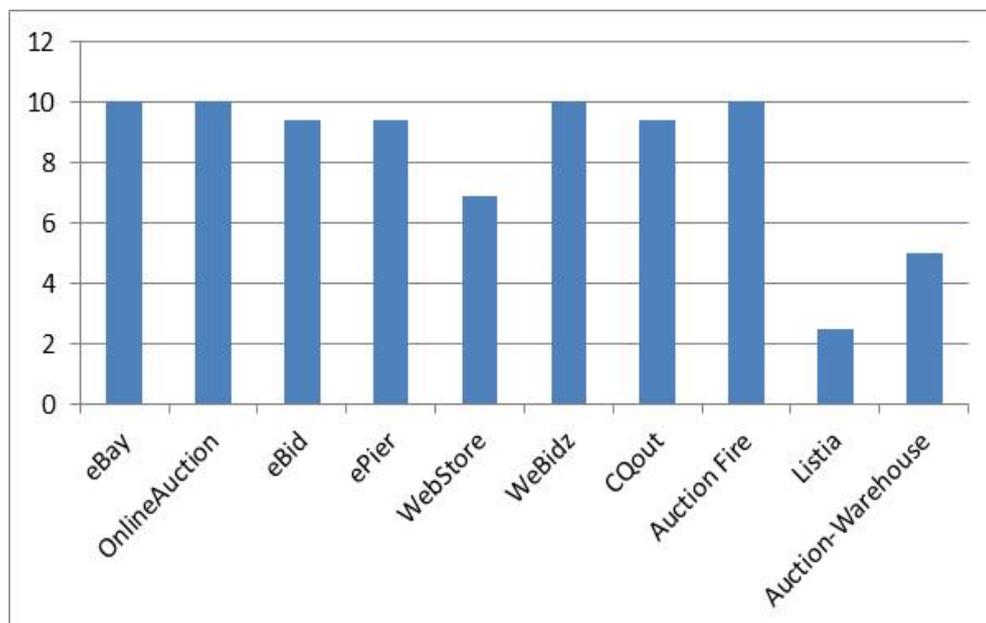


Figure. 6 Comparative analysis of the top 10 auction sites in terms of safety and support

The e-Bay site was founded in 1995 and today it is the worldwide leader in online auctions.

E-bay auction site in its operating model has incorporated all the key variables that influence the

success of an auction site and it is a fact that it is not only maintained, but also increases the customer base. While, auction sites such as: SandCrawler.com, FirstAuction.com and Auctions.com had a failure.

## 5. Conclusion

The electronic auctions have proved to be new successful business model. But not all auction web sites in their model have incorporated all the key variables that contribute to a successful and profitable operation.

There are many variables that determine the final success or failure of an online auction site. These include: user interactivity (feedback application), offered products (diversification can help in creating a broader base of customers with different interests), confidence level (there are various encryption techniques to protect customer information), growth (auction sites should actively look for new business opportunities in order to expand their place at the market), networking (between partners and between users themselves), level of commitment (by sellers and by customers) payment options (different payment options) etc.. Only those companies that create a unique model and know that buyers and sellers are required in the online auction will be able to survive and make electronic auctions profitable model of e-business.

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*Corresponding author:* Margarita Janeska  
*Institution:* Faculty of Economics Prilep, Gorce  
Petrov bb, Prilep, Macedonia  
*E-mail:* mjaneska@yahoo.com