

# Online Auctions: A Review at Age 20

**James K. Ho**

*University of Illinois at Chicago, USA*

## INTRODUCTION

This is a survey of online auctions as growing e-business models. A methodology for classifying markets as being favorable to buyers or sellers is included, along with empirical data for illustration.

## 1. A SURVEY OF ONLINE AUCTIONS

The Internet is a new medium of communication connecting potential partners in trade worldwide. The initial frenzy over its promises led to grossly exaggerated valuations of business models that were mere transplantations of existing processes to the alternative channel. Now that the bubble has burst more sensible and critical thoughts can be turned to true transformations that are creating and nurturing markets of the future (Dan 2014). Online auction is one of the very few cases that has held a steady course, as evidenced in the success to date of eBay.com. Founded in September 1995, eBay has become a global trading platform with presence in 39 markets where on any given day, there are more than 150 million listings across 50,000 plus categories. By 2015, over 150 million people will buy and sell well over \$2000 worth of goods every second (www.ebay.com). To review the development of online auctions apart from eBay over the past 20 years, we examine variations in the structural components of this e-business model, and give examples of operations online at this writing. For conciseness and consistency, the www prefix and .com suffix are omitted from the URL of corresponding companies, and all lowercase is used throughout.

### 1.1 Auction Mechanisms

#### Open Bid, Fixed Deadline, Second Price Auctions with Proxy Bidding

This is eBay's model which has become the de facto standard because of its market dominance. Buyers submit bids at any time before a fixed deadline. The current high bid is publicly displayed. An acceptable bid is any value at or above the current high bid plus an increment prescribed by the auctioneer. For example, suppose the current high bid is \$100 and the increment is \$1. Bidder W submits a bid of \$110. A new high bid of \$101 is displayed. If there is no higher bid before the deadline, W wins the auction at \$101. If another bid, say at \$105 comes in before the deadline W's bid will be raised automatically by the auctioneer with a proxy bid to \$106, and so on if necessary until the limit of \$110 is exhausted.

Examples: auctionfire, cqout, eBay, usiff, webstore.

## Flexible Deadline

The fixed deadline and second price mechanism promotes the strategy of “sniping” where buyers withhold their bids until the very last seconds before the deadline both to disguise interest in the item and to prevent further counter bids. This tends to favor buyers, and not sellers who can benefit from more competitive bidding. An alternative is to extend the deadline automatically by some prescribed duration (e.g. 5 minutes) whenever there is a bid within some other threshold (e.g. 15 seconds) of the current deadline. This will give buyers the opportunity to raise their bids against so called “snipers”.

Examples: auctions.samsclub, bidz, quibids.

## Fixed Deadline, Lowest Bid, Reverse Auctions

A buyer starts the reverse auction by listing precisely what he or she wants to buy. Sellers bid against each other and the lowest bidder by the fixed deadline wins the auction. Optionally, the buyer may have the provision to select (or invite) a subset of sellers from a database to bid, or eventually to choose a different seller than the winning bidder from among the participants if so desired.

Example: cheaperbytheday, dubli, sorcity.

Since this model features a single buyer soliciting bids from multiple buyers, it fits the procurement or sourcing function of supply chain management in the B2B environment particularly well. Therefore, instead of general purpose, public trading platforms, it is expected that private reverse auction sites (really e-business versions of the Request for Bids process in procurement) will be the growth area. Actually, a plethora of software vendors and platform builders (e.g. ariba, k2sourcing, ketera, usanetcreations, just to name a few) have already sprung up to provide related services.

## Unique Bid Auctions

Bidders may place bids that do not necessarily reflect any valuation of the item being auctioned. Rather, for a bid to be eligible to win, it has to be unique in the sense that no other bidder has made a bid for the same amount. Bidders are generally allowed to place multiple bids and the current number of bids at each amount is typically kept secret.

There are two major variants of unique bid auctions:

### 1. Highest unique bid:

The highest and unmatched bid when the auction closes is the winning bid. To assure bidders that they may indeed win the item at a lower price, a maximum bid value may be set at a much lower level than the actual value of the item, e.g. yourbidzone.com, auctions4acause.com.

### 2. Lowest unique bid:

The lowest and unmatched bid when the auction closes is the winning bid.

Examples: bassabids, thesmartbid, veibe.

The unique bid mechanism, though commonly presented as an auction model since it is the allocation of goods through a bidding process, is actually more of a lottery or strategy game. The typical purpose is not for selling the goods for profit, but rather for product promotion or mail-list collection, where the

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