

# Chapter 43

## E–Auction: Acceptance and Bidding Strategies

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### ABSTRACT

*Customer behavior is a multi-stage decision process in an e-auction in which each step is critical to achieve success in e-auctions. The first step is the potential customer's decision to adopt and use the e-auction system. It is important to understand the factors that affect the use of e-auction systems. Researchers have identified general reasons for the adoption of online auction such as a large variety of products, great price reductions, and without geographical limitations. The second step is the selection of the most appropriate bidding strategy. Bidders may have to embrace different bidding strategies during and at the end of the e-auction. In this chapter, bidding strategies applied to e-auctions are discussed. This chapter concludes with the possible future research areas related with customer behavior.*

### INTRODUCTION

With the advances in the information systems, a new concept namely, electronic auction or e-auction has come into existence in the procurement of products and gains popularity in e-commerce activities. Auction can be defined as a “market institution with an explicit set of rules determining resource allocation and prices on the basis of

bids from the market participants” (McAfee and McMillan, 1987; p.701). E-auction is an online version of the traditional auction and conducted in real time between an auctioneer and two or more bidders. It is also an e-sourcing method that allows suppliers to bid in real time using a web-based system and receives immediate feedback on their position. E-sourcing refers to the use of internet-enabled applications (online negotiations, reverse

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auctions) and decision support tools that facilitate competitive and collaborative interactions among buyers and suppliers (Engelbrecht-Wiggans and Katok, 2006).

The earliest web-based commercial auction dates back to 1995 and since then the number of e-auction users has been increased. OnSale and eBay are the earliest web-based business-to-consumer (B2C) and consumer-to-consumer (C2C) auction sites, which achieved significant sales with the e-auction activities (Lucking-Reiley, 2000). Business-to-business (B2B) e-auction was first introduced by FreeMarkets Online in 1995 and several big companies, such as General Electric, have been using e-auctions for procurement activities.

There are four main types of e-auction, which have been adopted from the traditional auction: the English auction, the Dutch auction, the first-price sealed-bid auction and the second-price sealed-bid auction. The English auction is the most commonly used one, since people traditionally think of ascending bid auctions first when they hear the word, auction. An English auction begins with the lowest acceptable price. A bidder, who finds an item that s/he is interested in, can view the current highest bid on the item and decide whether to increase the bid. Before the close of the auction, the bidder can return to the auction site at any time to view his/her status or to bid. Within the auction time limit, the bidder, offering the highest bid, wins the auction (Lucking-Reiley, 2000). The Dutch auction is conducted by an auctioneer who initially calls for a higher price and then continuously decreases the price until a bidder stops the auction. E-reverse auction is a type of Dutch auction, in which bidders open the bidding at the predetermined price and bid against each other to drive the price down. The bidder, who gives the lowest price within the time limit, wins the auction. In the first-price sealed-bid auction, the bidders give bids in a concealed fashion. The bidder, who makes the highest bid, claims the object and pays the amount s/he has

bid. The second-price sealed-bid auction, which is also known as Vickrey auction, is similar to first-price sealed-bid auction; the only difference is the bidder pays the amount of the second highest bid (Milgrom and Weber, 1982; Cui et al., 2008).

The e-auction method offers several advantages for the auctioneer as well as the bidders. In the literature (Carter, et al., 2004; Ariely and Simonson, 2003; Lucking-Reiley, 2000), several reasons for adoption of the online auction have been identified such as lower purchasing prices, convenient access through Internet which means geographically limitless, the availability of large variety of products/services. Despite great advantages of using the system, some potential users do not desire to use the e-auction system. The first decision a potential customer needs to make is whether to adopt and use the system. For this, it is important to understand the factors that affect the use of the e-auction system. The second decision is selecting the most appropriate bidding strategy as consumers may embrace different bidding strategies for bidding - during the auction as well as at the end of the auction. The next section mentions about the intellectual history on the customer behavior. This is followed by the e-auction behaviors in terms of the e-auction acceptance and bidding strategies. Then, this chapter concludes with recommendations for possible future areas.

## **INTELLECTUAL HISTORY OF CUSTOMER BEHAVIOR ON E-AUCTION**

Customer behavior can be classified into two groups: acceptance and bidding strategies. Researchers have identified general reasons for the adoption of online auction. Carter et al. (2004) found that e-reverse auction can lead to reduced cycle time and increased productivity. In contrast to these advantages, buying organizations encounter numerous barriers in the implementation of the e-auction, such as resistance from multiple

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