Research into the effect of computerised bidders on human bidding behaviour is still in its infancy (Teubner, Adam & Riordan, 2015). This is particularly evident for research into the Dutch Auction format which has been less studied compared to other auction formats (REF). The research that has been done in this field has found evidence that competitions between humans results in different competitive behaviour compared to where humans are knowingly competing against computers.

Teubner, Adam and Riordan (2015) investigated the effect of computerised bidders on the immediate emotions, overall arousal and bidding behaviours of human bidders in first price sealed bid (FPSB) electronic auctions. They found participants overall arousal and the bids they placed were generally lower when competing against computerised bidders compared to human bidders (Teubner, Adam & Riordan, 2015). The authors suggested that these findings are related to the socially competitive nature of auctions where participants gain greater satisfaction in winning against other human compared to computer opponents (Teubner, Adam & Riordan, 2015). However it is important to note that while researchers also found that the intensity of participants emotional responses was generally lower when competing against computerised bidders, the emotional response associated with winning against computer competitors was higher than losing against human competitors (Teubner, Adam & Riordan, 2015). Researchers suggested this shows the overall ‘joy of winning’ in any condition exceeds the frustration of losing against a human competitor despite the associated social competition (Teubner, Adam & Riordan, 2015).

Adam, Kramer and Muller (2015) examined the effect of the interaction of time pressure and social competition on bidding behaviours particularly focusing on the effect of the phenomenon “Auction Fever” in ascending clock auctions. Auction fever is an emotional state where the emotional arousal caused by participating in an auction hinders rational bidding resulting in higher bids. Researchers found bidders’ arousal was increased in high time pressure auctions which resulted in higher bids in ascending auctions (Adam, Kramer & Muller, 2015). However, the effect was only present when bidders competed against human opponents (Adam, Kramer & Muller, 2015). From these findings’ researchers concluded social competition is crucial component of the ‘Auction Fever’ effect (Adam, Kramer & Muller, 2015).

Haubl and Popkowski (2018) examined the speed of competitor reaction and its effect on willingness to pay in auctions hypothesising that the intensity of competitive interaction between bidders affects the amount of money they are prepared to pay. They found that greater speed of competitor reaction causes a higher willingness to pay under increased competitive intensity of the auction leading to an increased desire to win (Haubl & Popkowski, 2018). However, this effect is only seen between human bidders as the effect disappears when participants are competing against a protocol that is automatically executed by a computer (Haubl & Popkowski, 2018).

It is clear from the research is that the desire to win heightened by competitive arousal and time pressures associated with auctions has a significant impact on peoples bidding behaviours (Malhotra, ku & Murnighan, 2008). This often causes bidders to focus on beating their opponents rather than maximising their profit resulting in overbidding (Malhotra, ku & Murnighan, 2008). However, it is important to note that the above mentioned studies all focused on ascending auction formats. It remains unclear as to whether these effects to the same extent also occur in descending auctions such as Dutch Auctions.