

## **Analyzing the performance of multiple agents with varying bidding behaviors and standard bidders in online auctions**

### **Abstract**

Online auctions have provided an alternative trading method to exchange items without the geographical and time constraints. However, buyers would face difficulties in searching, monitoring, and selecting an auction to participate in. As a consequence, agent technology is introduced to overcome these pitfalls. In this paper, heterogeneous intelligent agents and heterogeneous standard bidders are generated in a simulated auction market and their performances are measured. By doing so, it would further simulate the real online auction marketplace where bidders may have different bidding behaviors or implement different bidder agents. From the simulated results, the average winner's utility, the average number of winning auctions, the average closing price and the average median consumer surplus ratio are used to evaluate the winners' performances. From the results obtained, it is generalized that by using intelligent bidder agents to participate in online auctions, it benefits the bidders. Besides that, market economy is reviewed based on the results obtained.