The hidden messages behind “jump bidding” in auctions

In some auctions, bidders raise their offer significantly to intimidate competitors, resulting in lower revenue for the seller.

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By Hester Zhang

Not all auctions are held by a fast-talking man with a gavel.

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Some of them are held quietly, online, by bidders who are not individuals but entire companies. And often what is bought and sold are intangible objects — such as online advertisements or stocks, licenses for cell-phone services and electricity tariffs.

In fact, auctions — and understanding how they work — are so important that, in 2020, two auction-theory scholars won the Nobel Prize in Economic Sciences. (Their research helped the Federal Communications Commission in the U.S. create a new way of auctioning off radio frequencies, resulting in billions of dollars in sales.)

In my recent research, I look specifically into what's called "jump bidding" in "English auctions" — when a bidder, instead of raising the offering price incrementally, suddenly raises the price significantly. This is often used to intimidate other bidders, signaling the bidding has a high valuation and that the informed bidder is, therefore, willing to take the risk of upping their offer.

I found that this tactic works: bidders who use this "signaling method" tend to pay a lower price than the seller expected to get in revenue. As a result, I recommend that in auctions where transaction costs are low, government entities and businesses should ban jump bidding to make the most of their auction sales.

Underlying messages among bidders in "English auctions"

Jump bidding can only happen in an ascending bid auction, more commonly known as an "English auction," where bidders interact with each other by raising the price. (This is as opposed to a "seal-bid auction," where bidders place their bids privately through sealed envelopes and can't compete with others by increasing their offers.)

In English auctions, there can be underlying information in each offer made, interpreted as if bidders were saying: "This is the value of the item based on my expertise and analysis." Bidders may make decisions based on how their competitors act in the process. In this way, allowing participants to jump bid (instead of limiting the price increment from round to round) enables them to send encrypted messages to each other, which can lead to the auction ending faster. However, from the seller's perspective, a quick sale is not always beneficial: the longer an English auction goes on for, the more likely the seller will get a higher price for their item.

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Effect of jump bidding depends on transaction costs

However, jump bidding doesn't *always* result in lower revenue for the seller. In auctions where the transaction cost is high, jump bidding could actually incentivize more companies to participate.

Transaction costs refer to the costs incurred during the auction — for example, the time and human resources it takes to monitor the results from each round, decide on how much to bid and submit the corresponding offer. Because jump bidding accelerates the auction, resulting in fewer rounds, a bidder who anticipates high transaction costs is more likely to engage if they are allowed to jump bid — in other words, if they can anticipate fewer rounds. And a high participation rate can result in greater revenue for the seller.

It's in auctions with low transaction costs that businesses should be wary of the use of jump bidding to end an auction prematurely. These types of fast-paced and dynamic auctions are seen more frequently these days — especially in auctions involving online advertising space (ascending bid auctions with multiple objects, instead of just one), where AI and algorithms are used by companies to reduce their transaction costs. That's why getting rid of jump bidding in these settings could encourage participants to bid more competitively and result in higher revenue for the seller.

I often get asked: Do bidders really use this tactic to "play the game" (that is, signal to other bidders and get a lower price) or could such big price hikes be attributed to things like ego or simply showing off?

Because the majority of bidders tend to be companies, and because oftentimes they hire external advisers for auctions, there's too much to lose for bidders to make decisions based on anything but rationale. Companies jump bid because they feel confident it could be beneficial to them.

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