Online job auctions are more successful when bids are open for all to see

Open-bid auctions are more likely to result in a contract, write **Yili Hong** *and* **Paul A. Pavlou** *.*

The "gig" economy is here. Companies like Freelancer.com and Upwork connect millions of freelancers with employers for on-demand work. According to a national survey conducted by research firm Edelman Berland in partnership with Upwork, 34 million people in the U.S. — approximately one in three workers — now work as freelancers. Those freelancers work as software developers, graphical designers, copy editors, and even accountants.

Today, online labour markets are thriving and filled with promise for freelancers and employers. As a prominent example, Freelancer.com successfully launched its IPO in November 2013 and boasts nearly 19 million users. Freelancer also boasts over 9 million posted projects.
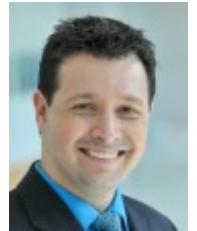
Therefore, if you are trying to hire a software developer for a one-time job, you will most likely end up on Upwork or Freelancer.com, which we call "online labour markets". In such labour markets, you post your project with a brief description, your requirements, your budget and a call for bids. Most of these markets follow reverse auctions: freelancers will bid for your project to offer their services. In these auctions, employers have the option of using either a sealed bid or an open bid model. In the sealed model, only the employer, but not the freelancers, can see the bids and the people who submitted them; however, in the open model, both the employer and all freelancers can observe the bids and other bidders.

Open versus sealed bid auctions, which works better for employers? It is a classic question in many disciplines, such as economics, that we seek to answer. In a recent paper, my coauthors and I examine this question using data from one of the largest online labour markets.

People would typically assume that those freelancers who win the contracts are free of risk. In the end, they deliver the product and get paid the amount they asked for in their bids. However, things like software development projects – that constitute the majority of projects on Freelancer, can be trickier than they seem, in particular, their cost estimation part. Even an experienced software developer may not know exactly how much work a project will entail. We term this as "valuation uncertainty," because it reflects several questions like "How much is the job worth?", "How much time will it take to complete?", and "How much will the employer be willing to pay for this project?" Clearly, in open bid (versus sealed bid) auctions, the bidders could infer the value of the software development projects from other bidders they observe during the bidding process.

In tandem with valuation uncertainty, the freelancers also face "competition uncertainty." Competition uncertainty refers to freelancers' difficulty in assessing the intensity of the competition from other freelancers. Obviously, this uncertainty reigns when bidders participate in sealed-bid auctions versus those with an open-bid design.

Working with a leading online labour marketplace, we were able to acquire a proprietary database with 71,000 open-bid auctions and 7,500 sealed bid auctions. These were posted by 22,000 buyers, who paid an extra dollar amount to use a sealed-bid auction design. Results yielded a few surprises. While sealed-bid auctions averaged 18 per cent more bids, they didn't result in better results for buyers. Several measures indicate that open bids were actually more effective.

Why would sealed bid auctions attract more bids from freelancers? To probe the mechanisms underlying these findings, we believe sealed-bid auctions inspire more freelancers to bid because they eliminate the intimidation factor of observing the competition. Freelancers may decide not to bid at all if they see competitors with far more

experience and knowledge bidding on the job. Along with eliminating competition uncertainty, open bid auctions also eliminate valuation uncertainty. The auction process really becomes a collective price-discovery mechanism. When freelancers feel comfortable with a value of the project (when valuation uncertainty is reduced), they are more likely to offer a lower price that compensates for the reduced valuation uncertainty.

With econometric analyses of our data, we estimate that on average, compared with sealed bid auctions, open bid auctions offered a $11 higher surplus per project. Also, they were 55.3 per cent more likely to result in a buyer selecting a bidder for the project. That choice, however, doesn't guarantee a contract. Bidders can still walk away from an offer. Nevertheless, open-bid auctions were 22.1 per cent more likely to result in a contract than sealed bid auctions. Along with getting employers better deals, open-bid auctions also resulted in higher employer satisfaction, as measured by the ratings freelancers and employers gave each other after the project was completed.

Interestingly, combining the evidence on number of bids and the other outcomes such as buyer surplus, we find that more bids are <u>not</u> necessarily better, particularly now that these online labour markets have matured and have millions of freelancers bidding for projects. During the period of observation (2009-2010), each project averaged about 15 bids. Currently, because online labour markets are developing so fast, many projects will get significantly more bids. Therefore, the number of bids would not matter that much for employers, and reducing valuation uncertainty and competition uncertainty with open bid auctions is likely to prevail as a preferred design for online labour markets compared to sealed bid auctions.

This post appeared originally at LSE Business Review, and is based on the authors' paper Comparing Open and Sealed Bid Auctions: Evidence from Online Labor Markets, co-authored with Chong Wang, in Information Systems Research, Vol. 27, No. 1, March 2016, pp. 49–69, ISSN 1047-7047 (print), ISSN 1526-5536 (online)

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About the authors

Yili Hong – *Arizona State University*
Yili Hong is an assistant professor of information systems at the W. P. Carey School of Business, Arizona State University. His research focuses online markets and consumer uncertainty. His works appeared or are forthcoming in *MIS Quarterly*, *Information Systems Research*, *Journal of the Association for Information Systems* and *Journal of Consumer Psychology*. He is the winner of the 2014 *ACM SIGMIS Best Dissertation Award*, runner up of the *INFORMS ISS Nunamaker-Chen Dissertation Award* and 2012 *ICIS Best Paper Award*. He received his Ph.D. in information systems from the Fox School of Business at Temple University.

Paul A. Pavlou – *Temple University*
Paul A. Pavlou is the Milton F. Stauffer Professor of Information Technology and Strategy at the Fox School of Business at Temple University. He is also the Associate Dean of Research, Doctoral Programs, and Strategic Initiatives. He was ranked first in the world in publications in the two top MIS journals (MIS Quarterly and Information Systems Research) for 2010–2014; his work has been cited over 17,000 times by Google Scholar. He was recognized among the "World's Most Influential Scientific Minds" by Thomson Reuters based on analysis of "Highly Cited" authors. He
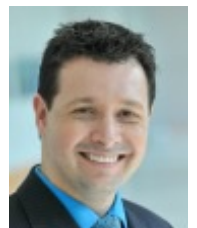
has won several best paper awards for his research, including the ISR Best Paper award in 2007.