FUNDAMENTALS OF PRICING STRATEGY

Countering the winner's curse of pricing low and paying dearly

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"How much can I ask for it?" That is the question. A reasonable buyer would not offer the highest possible bid in an auction. A reasonable seller of professional services will not offer the lowest possible bid, either. In this article I will discuss client-provider engagement and pricing policy from the point of view of game theory. The article is intended both for clients, who are interested in getting the lowest price possible while retaining the best service providers, and for vendors, who are motivated to get a fair price for their services and to resist price pressure.

Pricing strategy has always been a major issue for market players on both sides of any transaction. In complex modern markets such as the professional services market, the drive to sell high and buy low explodes into a whole universe of sophisticated questions. Can I win the contract by offering a better price? What is my discount floor for this particular project or client? How should I carry out a tender between suppliers in an attempt to find the lowest and most reliable and highest-quality offer?

The search for the rules of winning goes deep into sophisticated economic applications of game theory. Potential customers sometimes query prospective suppliers only once, and then other factors are taken into account. However, in most cases the customer sets up the first round of the auction to narrow the search and select fewer suppliers to work with, then negotiates further with those initially pre-selected. A prospective customer typically accepts offers in several rounds. In each one of them, he or she communicates the lowest bid to potential suppliers and asks them whether they want to come up with a better offer. Such a mechanism of finding the true value of the item is called an auction. The auction mechanism is also *de facto* invoked to a significant extent even in the absence of a single active seller, but with the aggregate sellers of the professional service market. In this situation, the market itself communicates "the current lowest bid."

Mathematician John Nash, who was awarded a Nobel Prize in 1994, showed in 1950 and 1953 that suppliers competing for one and the same item can, in theory, try to negotiate with each other the limits of acceptable price. He also highlighted an important detail: an opportunity to make a last-minute better bid is always a more attractive alternative for an independent market player than losing the contract. This drives the price further and further down to the level that constitutes equilibrium, which is below the sustainability level. This is due to an amazing common consequence proven to be true for all auctions: Presuming that market players on average estimate the value of the item and their bids correctly, the winning bid produces lower than feasible or even negative profit.

This mind-boggling mathematical consequence is called the "winner's curse" (you win, you lose, and you curse). Winner's curse is an intrinsic property of auctions of all types. It exists regardless of whether the bidders realize this danger or not.

Specifically, bidders tend to base their bids on unconditional expected value of the item. These bids represent their own estimates of value. We reasonably assume that all bidders are professional service providers and therefore their estimates on average are correct. You only win, however, if your estimate happens to be the highest of those competing for the item. Winning against a number of rivals following similar bidding strategies therefore implies that the winner's estimate is an overestimate of the item's value (or underestimate of a feasible contract bid) conditional on the event of winning. This mind-boggling mathematical consequence is called the "winner's curse" (you win, you lose, and you curse).

The winner's curse results in less-than-acceptable or even negative profits for winners in all auctions. Winner's curse is an intrinsic property of auctions of all types. It exists regardless of whether the bidders realize this danger or not. It is a consequence of the problem definition itself, rather than the bidders' approach, tactics or behavior. At first glance, this conclusion evokes skepticism. It reveals the counter-intuitive fact

that bidders repeatedly commit mistakes in their own field. Laboratory experiments show, however, that even experienced executives immediately fall prey to the winner's curse in auctions in other fields. Numerous practical data show that the winner's curse is a pervasive phenomenon in the real world, reported in many industries, from oil and real estate contracts to publication and distribution rights and, of course, professional service contracts too. The winner's curse is an inherent consequence of adverse selection on the side of whoever owns the item to be sold, being the result of the seller's sole decision rule. It is therefore completely out of the buyer's control. Winner's curse is like a hurricane or other act of nature — to attempt to change it is useless. You can only learn how to live when the circumstances look like it is coming.

Exactly how significant is the penalty of the winner's curse for those unaware of it? Studies show that overly aggressive bidding translates into negative average profits for inexperienced bidders and losses for winners in more than 50% of auctions. Experienced bidders are less likely to see losses, but laboratory experiments still show that 41.6% of bidders suffer from winner's curse.

So what is the strategy to follow for the supplier to work above the sustainability level on one side and for the customer to get a reliable supplier on the other side? The answer to this question is undoubtedly important for all parties. Nobody is interested in driving the price below sustainability level because in this scenario the supplier will be deprived of the capability to invest in business development, technology, quality and reliability improvement and will cease to exist. Customers, on the other side, will face considerable extra costs and risks.

At a Dublin Localization Summit carried out by The Localization Institute, a representative of a large, reputable and innovative client shared an amazing story of how the company tried to implement an auction model in an attempt to lower localization costs. Client engineers devised a web application where client managers could place localization contract lots and potential suppliers could place bids for these lots. Fortunately, the localization managers who "owned" the projects were left to make the final decision on whether actual sale of the lot was made, and they closely monitored the auction. Both regularly approved suppliers and new suppliers were allowed to participate. During the first auction round, bidders indeed went quickly down below the usual suppliers' price level. Regular suppliers soon left the auction, leaving only marginal and unknown providers to participate. Client managers discovered that the last round left only companies that were totally obscure and unknown to the project owners to compete with one another. Project owners protested against placing the order with them, and managers decided to suspend trading and cancel the lot. Notably, this decision was condemned as unfair and inappropriate by all auction participants, including even those who quit the game earlier.

To cure this problem, the rules were changed so that the auction would continue only if at least one of the regularly approved suppliers still participated. In this new setup, however, the regular supplier naturally won the auction because it offered the same price but had an advantage of much higher credibility with the client. Former outsiders were "used" in this setting only to draw the regular supplier lower than usual. This clearly defeated the purpose of the auction, which was strikingly demonstrated when the lot was "sold" to one of the regular suppliers at a lower-than-usual price. When the auction was completed, the winner called the client and complained that the "excitement of gambling" had unwillingly drawn him below feasibility level and he was not actually able to take the job on board on these terms. Could they please renegotiate?

The problems revealed by this case study fit into the picture from other fields and our own experience. The scope of participants is the first most sensitive issue. If you open an auction for everybody, then how do you ensure that the bidders qualify and actually are capable of meeting the quality and process requirements? If you pre-select the bidding audience with a limited scope of approved providers, then again you are running into the same problem because all service providers are actually different; their price floors reflect their scale, costs and capabilities; and you are not comparing apples to apples. The process repeats itself. Whoever offers lower cost most probably offers different service. Even if we totally disregard individual differences and assume that whoever wins among approved providers is capable of delivering, the most probable outcome would be approved providers taking bids to the lower level and then supplying lower quality at this lower price.

Other complications arise, such as global suppliers usually being located in many different time zones, which makes it difficult and uncomfortable for some of them to participate in the auction interactively. Yet even more than that — because an auction implies instant real-time decision-making process in a dangerous break-even zone for the company, only high-level executives can possibly be authorized to represent their companies as qualified participants. This fact brings significant overhead on any company in this bidding contract placement model.

Several important lessons can be learned both from the game theory and this scenario, as well as from other fields. First and foremost is that although auctions are attractive as an idea, they are very difficult to implement as a working model, especially in the field of professional services. There are issues of the scope of suppliers allowed to participate; of complex, changing and hard-to-formalize multifactor selection criteria; and of unwanted cooperative behavior.

UNWANTED COOPERATION

Undesirable cooperative behavior has been observed even in commodity auctions and may appear whenever a community of participants is formed. It is in the nature of humans to cooperate and make alliances, and it is in the nature of humans to use all means to achieve their goals. Unexpected cooperative behavior has been observed on large commodity auction marketplaces such as eBay.

On eBay Motors, for example, car dealers initially used open auctions where buyers could chat and exchange information on the item and seller with one another. What happened, however, is that buyers started to develop unfair cooperative behavior to exert extra money from dealers on extras and to threaten and actually carry out defamation attacks — even to blackmail and intimidate sellers. Experienced eBay sellers now generally use only closed auctions on high-price-tag items, protecting themselves from buyers' learning and cooperative behavior which is often employed to bend the rules of the game in the buyers' favor.

Does this mean that auctions should not be an instrument in professional service industries? Yes and no. Competitive sealed-bid auctions are commonly used in the commercial construction industry in the United States. But a considerable amount of private sector work, particularly for larger, more unusual jobs, is awarded through "negotiated" contracts rather than through auctions. This proves that with complex services and large projects buyers do appreciate the complexity of the problem and carry out a multi-factor analysis taking into account other considerations and complex indirect costs and values.

As mentioned before, the first key difference between services and commodity trading is that a service transaction is not completed until the project is over and services are delivered and accepted, while commodity auction deals are done as soon as payment transaction and physical transfer of the purchase are completed. This extensive project duration basically means that the deal (and therefore renegotiation opportunity) remains *de facto* open for quite some time. Another important difference is that there is an ongoing relationship between client and service provider. These two differences provide at least three mechanisms of escaping the winner's curse, either by claiming that "arithmetic errors" have been made, by asking for "help" from the customer or else by submitting "change orders." All three mechanisms allow the winner to escape winner's curse when bidding too low and immediately regretting his or her bid. These mechanisms are well known in the construction industry and are well described and developed, so the outcome in the mentioned case study is not an evidence of model deficiency, but rather a natural correction mechanism.

The relationship existing between buyer and supplier in the professional services industry is not a marketing pitch. It truly represents a quite tangible economic value. This value, specific to a particular client, may vary and is difficult to estimate and quantify, but it can be evaluated. One can distinguish three channels where dollar value emerges.

First, the customer wants a professional service supplier to be experienced and have a track record with the customer's industry or company because it saves time and money on training and endgame quality improvement.

Second, the customer wants the supplier to be reliable and to deliver on time and with good quality so as to minimize the risk of rework, non-delivery and delays.

Third, it is also comfortable for a client in professional services to trust the supplier, and

uncomfortable to wait to see whether the project will succeed or fail.

It would be rather shortsighted for the customer to believe that the winner's curse is a mathematical incarnation of the fact that interests of the buyer and seller of professional services are not the same and that the buyer is not interested at all in any excessive indirect investment in supplier's business. Such a statement from the customer side would mean that the customer does not understand the economic value of the relationship between supplier and contractor and therefore is not fully realizing all the risks and costs that are invoked when selecting the supplier on price only.

Points for Customers and for Suppliers

The conclusions we draw from all this concern both buyers and sellers. The customers should take into account several points.

First, correct implementation of the auction contract placement mechanism requires significant research, extensive field experimenting and numerous safety checks and adjustment mechanisms. If developed correctly, this is going to be a very expensive "toy" which requires careful fine-tuning. If taken lightly, the auction idea will immediately discredit itself due to a number of industry-specific and human factors which will invalidate the results. In the absence of a fully developed and qualified engine, it's best to stop the auction at some point where providers are short-listed and place the contract manually, weighting all the factors.

Second, if you do not have yet well developed software or even the process to take in and evaluate a competitive bid, take into account the following "rule of thumb": the lowest price offer is definitely not the best one in service industries. Globalization went far enough to destroy the tenfold price difference in different regions, and now professional services are roughly of the same hourly price in Bombay and Hong-Kong, Moscow and Jakarta. You can buy multilingual desktop publishing services at anything between $3 and $10 per page, for example, but the lower you accept below $3 per page, the more chance that you are running into risks that you do not realize. A lower price often means that the supplier overestimated his or her capabilities, is probably working below sustainability level and therefore has no reliability reserve or guarantee. This means that the quality will be lower than you expect and the work will take longer than planned. There is a risk that the work will not be delivered at all. It is not in the nature of the average professional services supplier to admit being unable to fulfill the contract with due quality in this timeframe and within this particular budget. In most cases, the supplier will simply deliver at his or her best, leaving you to deal with this "deliverable." It is then your own fault alone that you have underestimated the true cost of the required quality and actually ordered something less than you expected.

Third, in any case, the price should not be the only criterion for selecting the supplier. You must remember that different suppliers actually provide very different services. They differ in all aspects, from communication (or lack thereof) to experience, knowledge and scalability, to quality of deliverables and many other aspects that are difficult to quantify. This simply means that a more expensive, overqualified supplier can prove to be actually more profitable to work with because he or she is more experienced, reacts better to unexpected situations or offers some unexpected benefit that you may suddenly need. Extra costs are involved in working with cheaper suppliers — the cost of additional monitoring, the risk of rework cost and the cost of product release delays.

Fourth, by selecting an offer above the lowest you are not overpaying. You actually increase the reliability of project completion, decrease your indirect costs and manage the risks.

Last, you *have* to know your supplier well. Invest into research of the supplier's actual capabilities. If you like the supplier but think that the price is a little bit high, work with him or her further to negotiate the price to the level that is acceptable for you.

Suppliers, on their side, have to remember the following points.

First, generally, the answer to overcoming the winner's curse is to determine the value of the prospective contract conditional on the event of winning, rather than to try to determine its value unconditionally. This means that the experienced supplier avoids winner's curse, watching vigilantly for the bid price being above sustainability level as internally defined to be acceptable for his or her business. This slightly decreases the probability of winning, but in return offers reliable protection against financial losses due to the ill-set prices. This experienced supplier knows that he or she is not willing to win the contract if it means working below sustainability level.

Second, experienced bidders learn a set of situation-specific rules of thumb that help avoid overbidding in the real field setup. As noted before, however, these rules are situation- and industry-specific to the extent that experienced bidders in one field fall prey to winner's curse in auctions in other fields. This is well demonstrated in laboratory experiments.

Third, by all means try to avoid the "bare," commodity-like auction where the price is the only criteria. A company with a sensible pricing policy has little chance of winning on price only, and trying to win by price dumping is a self-destructive practice. You may well find yourself going further and further down only to discover suddenly that you have descended below sustainability level before you knew how you did it. I would even say that the client who regards that the price is the only criterion is not worth working with and fighting for.

Fourth, it is extremely important to acknowledge your costs correctly and under no circumstances accept contracts that are below profitability level. Whatever the customer says, there is no guarantee whatsoever that the contract will be extended, and therefore the attempt to "buy in" to a client relationship by offering the price below sustainability is an extremely risky investment. And it is next to impossible to increase rates and return to an acceptable level. Even if you manage to preserve the relationship, chances are that you will have to work with that client at the same lower prices.

Last, whenever possible, try to explain to the prospective customer how your services are different from the others. A truly strong and lasting relationship between customer and provider and a stable equilibrium market is based on those unique features that make providers different from one another. It is the variety of services that helps to create a stable and mutually profitable equilibrium of parties pursuing different interests of their own. It is of critical importance to position yourself in the market correctly, actively demonstrating to customers and competitors the unique features that you have and that actually make it legitimate for you to charge what you charge and continue to be engaged in your field in the situation of fierce competition.

We cannot possibly cover all possible setups in all their details, as well as their models and numerous details and conclusions. We have only attempted to come up with very general principles applicable to noncooperative setups in professional services markets. I believe that this field will develop further and that new software will be created soon to demystify and automate the multifactor decision-making process of proper contract placing for complex professional services, taking into account specific details. It is time to prepare yourself, regardless of which side you may find yourself on in an auction.

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