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# Does Procurement eAuction Design Matter?

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## Does Procurement eAuction Design Matter?

Electronic Reverse Auctions are well embedded as key procurement tools. From their origins delivering savings on commodity items, eAuctions have matured to the point where the vast majority of goods and services can now be sourced faster and at better value with an auction than without an auction.

However, in order to take advantage of the increased sophistication of Electronic Reverse Auctions, buyers must pay special attention to auction design, as this

paper will show. Getting it wrong can mean an ineffective auction and can upset suppliers. Getting it right almost certainly guarantees lower prices, and can be achieved without disruption to supplier relationships. This paper provides a practical guide to getting it right. Buyers who incorporate carefully designed, managed and run auctions into their sourcing projects will be those who achieve the best results for their organizations.



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## Introduction

This paper looks at real world examples of auctions to show that:

- (a) Auctions are generally a better way of purchasing goods and services than alternative sourcing approaches.
- (b) Auctions are not one-size-fits-all. Rather, auction design plays a pivotal role in the outcome of an auction event.

We start by looking at auctions in a wider context, to look at how auction rules drive the outcome and how successful auctions have also involved changing the specifications of what is being auctioned to produce an improved result.

Then we move to the procurement arena to see how auctions educate buyers not to rely on assumed market pricing but instead discover the true market price of goods and services. We also recognize that auctions include a human element and that the auction manager's skills play a key role in driving a successful outcome.

Finally, we look at the advantages and disadvantages of different auction variants, and the conditions in which these might be best deployed to deliver the best result possible.

# 1. eAuctions in a wider context

eAuctions have long been used to sell goods and services. This section looks at two frequently quoted examples to highlight how auction design impacts the results achieved.

First we look at the European 3G license sales of 2000 – 2001 to show how different countries achieved different results, and the role auction design played in achieving those results.

The second example, Cook County's experience with auctioning tax-collection rights, shows how bidders were able to turn the eAuction rules to their own advantage and sounds a warning bell to buyers who do not fully think through their auction rules.

## European 3G license sales 2000 - 2001

Several European governments auctioned the rights to 3G licenses during 2000 and 2001, a time of massive boom and bust in the telecoms market. Some of the auctions performed very well against this backdrop while others performed very badly compared to the market<sup>1</sup> - results due in no small part to the design of the auction.

Figure 1, below, compares the revenue generated from the license sales (per capita) against the relative performance of the telecoms market as a whole.

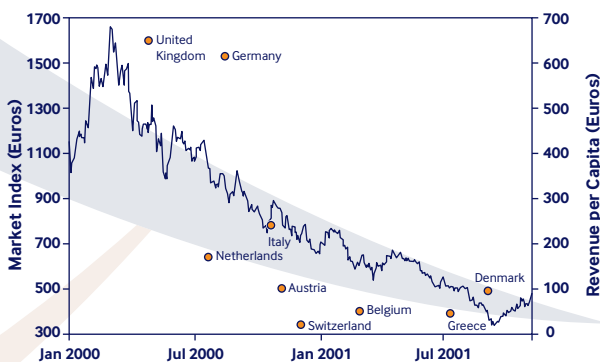


Figure 1: 2000 - 2001 3G license sales (Source: Klemperer 2004)

Countries such as the UK and Germany had very successful auctions whereas countries like the Netherlands and Switzerland experienced poor results. The difference in results was in large part driven by auction design.

## UK

The UK market had four licenses for sale. Each bidder could win at most one license. Since the UK marketplace already had four incumbent mobile phone companies, the market believed that new entrants would not stand a realistic chance of winning one of the licenses and that the four incumbents would effectively carve up the market among themselves.

Therefore the auction was designed to offer five licenses instead. This meant that at least one new entrant would win a license, which, in turn, generated enough interest for 13 bidders to take part, and, as a result, achieved a very high revenue.

## Netherlands

The Netherlands, in contrast, used an auction design that offered five licenses in a marketplace that contained five incumbents. One new entrant showed up but was intimidated into bowing out by one of the incumbents. The incumbent wrote a letter to the new entrant threatening legal action on the grounds that a new entrant could not hope to compete seriously and was only taking part either to drive up the price artificially or to get access to the incumbent's network. Irrespective of the legality or not of this position, the new entrant dropped out of the bidding early on and the auction raised only a small amount more than the reserve price.

## Germany

Germany implemented a completely different auction design. Rather than specifying the number of licenses, Germany sold constituent blocks of spectrum that could be combined into licenses. 12 blocks of spectrum were

<sup>1</sup> See Klemperer (2004) for an analysis of the UK, Netherlands, Swiss and Austrian auctions and Grimm, Riedel and Wolfstetter (2001) for an analysis of the German auction.

sold, two or three of which were needed for a viable license. Therefore it was left up to the auction to decide whether the end result would be four bidders (each with three blocks) or six bidders (each with two blocks) or five bidders (with a combination of two or three blocks each). There were four incumbents, two of which dominated the market. Altogether seven bidders joined the auction. During the auction, Deutsche Telekom drove the price up repeatedly to try to crowd out new entrants. However in the end they gave up and the auction finally awarded six licenses to six bidders. This novel auction design was very successful in Germany, but it proved to be a fragile design when applied elsewhere.

### **Austria**

Auction design is not one-size-fits-all. The Austrians copied the German design and yet their auction produced a poor result. The bidders had already seen the results of the German design and the failure of the dominant bidders to crowd out the new entrants. Therefore, when six bidders started the auction there was no attempt to crowd out the new entrants and the bidding finished early with the six bidders each winning a license.

### **Switzerland**

The Swiss auction fared even worse. Switzerland used the same general auction design as the UK and the Netherlands. There were nine potential bidders bidding for four licenses, but a quirk in the auction rules allowed joint bidding arrangements. In the week running up to the auction the bidders joined forces so that by the auction date there were only four distinct bidding entities left! The Swiss government tried to cancel the auction but the bidders mounted a successful legal challenge and forced the Swiss government to sell the licenses at the very low reserve price.

### **Key points to learn:**

- **Contrasting the UK auction with that of the Netherlands shows that the first challenge in auction design is to ensure that the maximum number of bidders can and will participate in the auction. The auction must be as interesting as possible to as many bidders as possible and seek to encourage all bidders to bid aggressively for the business.**
- **Switzerland demonstrates that bidders expect the auction manager to stick to the terms of engagement and where possible will seek to find any advantage available within those rules – auction designers beware.**
- **Germany shows that novel auction designs can work well if tailored to the particular market – but the Austrian outcome offers a warning to anyone thinking that auction designs can simply be copied from one market to another.**

### **Cook County, Illinois, 1998 tax sale auctions**

In 1998, Cook County, Illinois was finding it difficult and costly to collect overdue property taxes. So they ran auctions to sell the rights to collect these taxes to tax collection companies. Tax collection companies were invited to bid on the fee they would charge to collect these taxes (Milgrom 2004). This fee was expressed as a penalty rate, in other words the percentage uplift that the tax collection company would charge.

The maximum allowable penalty rate was set at 18% and each property was auctioned separately. Bidders, who were all in the same room, would shout out decreasing bids until the lowest price was achieved. In the event of several bidders being tied at 18%, the rules stated that the contract for tax collection on that property would be awarded at random to one of the tied bidders.

As a result, if several bidders all found themselves opening at 18% on a property, they did not really have any incentive to bid lower. If a bidder was tied at 18% with five other bidders, he could sit tight and hope to be awarded the property at 18% (a one in six chance) or he could bid lower, thereby starting a bidding war that he would still only stand a roughly one in six chance of winning, but at a much lower rate.

About 80% of the properties went for the maximum 18%.

Cook County, realizing its mistake, attempted to change the auction rules so that if no bids were received below 18% the property would be withdrawn from the auction rather than being awarded at random. The rates soon dropped below 18%.

Some of the bidders became disgruntled by this change in the rules, however, and took Cook County to court to prevent them from changing the rules part way through the auction program. The court agreed and issued an order preventing Cook County from changing the rules. The old rules were re-instated and the winning bids quickly rose back up to 18%.

***Key points to learn:***

- **Bidders expect the auction manager to live by the rules in the same way that they are expected to stick to the rules.**
- **Beware though: given the opportunity, bidders will try to find a way of taking advantage of those self-same rules.**

## 2. Auctions in a procurement environment

Buyers who use well-designed auctions can expect to achieve better results than those who rely purely on traditional offline sourcing techniques.

Research shows that this is often because buyers who do not use auctions are negotiating based on an assumed market price. However those buyers who open up the market to competition will find that the true market price is often far lower than this assumed market price.

### Should buyers run eAuctions at all?

In late 2006 TradingPartners took part in an eAuction benchmarking exercise for a major UK retailer to compare the results of an auction against the results from traditional sourcing techniques.

The sourcing project was for pest control services and the process took place in two parts:

1. The buyer contacted potential suppliers and requested paper quotes. There was no indication that an auction might take place and potential suppliers had no reason to submit anything other than genuine prices. Once the quotes had been returned the buyer achieved an impressive 17% saving.
2. TradingPartners then entered the process, used an auction to open up the market to competition, found additional suppliers to further stimulate competition and increased the savings to 39.7%.

Although the buyer may have been able to negotiate a few percentage points of additional savings over the 17% gained with traditional methods, the 39.7% saving could not have been achieved without the use of an auction.

Why is this the case?

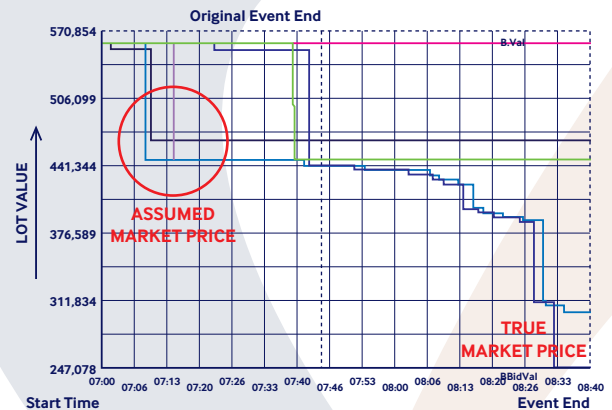


Figure 2: Bid Graph - Assemblies

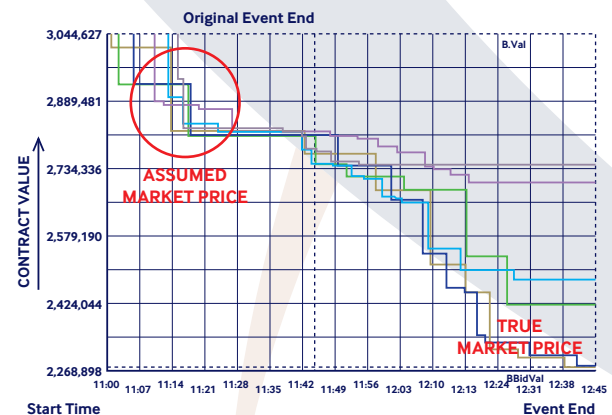


Figure 3: Bid Graph - IT Consumables

Figure 2 and Figure 3 show sample bid graphs from real auctions. The red circle shows how in a typical auction the suppliers fairly soon reach a plateau where they stay for a while. We call this the assumed market price.

Typically, one supplier will then take a leading position and sure enough most of the remaining suppliers follow suit. Auctions can reach several plateaus, each time with fewer suppliers remaining in the auction, until the true market price is reached.

In real world negotiations each supplier knows the lowest price he could go to. The buyer doesn't know this price, nor do competing suppliers know each others' prices. This asymmetry of information means that, without an auction, buyers and suppliers are forced to assume a market price. The assumed market price will often be based on arbitrary criteria like "what we paid last year" – when for example new production techniques may have had a dramatic impact on supplier margins.

Even when skilled negotiators improve on the assumed market price, they are still operating based on the assumed market price. In the pest control services example on the previous page the buyer may well have increased the savings to about 20% from the 17% initially offered by the suppliers. This buyer may then have thought they had achieved an excellent deal, even though the true market price, as revealed by the auction, was still far below this 20% saving<sup>2</sup>. Unless you use an auction, you will never be sure whether you have achieved the true market price or not.

However, good auctions do not simply run themselves. Negotiation during an auction between buyer and bidders is key to encouraging the activity that drives competition and reveals the true market price. Buyers and auction managers who actively communicate with bidders and encourage them to bid through instant messaging achieve better results than auction managers who treat auctions as purely technical exercises that can run themselves.

### ***Key points to learn:***

- **Buyers who do not use auctions can expect to achieve a price somewhere around the assumed market price. Buyers who use auctions can expect to get a more competitive price for exactly the same goods or services.**

<sup>2</sup> In rare cases, a buyer may have a relationship with a supplier who over-estimates the competitiveness of other potential suppliers. This would mean the assumed market price, between buyer and incumbent supplier, is actually lower than the true market price. In this case, opening up the market to further competition would actually result in raised prices. However, as Section 3 shows, there is a special auction design – the Japanese auction – which can work well in this kind of scenario.

### 3. Procurement eAuction variants

Section 2 shows how buyers who use auctions can expect to achieve a more competitive price than those who do not.

This is not to say that auctions are purely about price. Furthermore, as with the sales auctions discussed on the previous page, procurement auction design is not one-size-fits-all. As the technology, process and experience in the marketplace improve, not only are buyers able to achieve better results on commodity items, but they are also able to apply auctions to categories that they might not have considered for auction in the past.

In this section we will look at the major types of auction that buyers can use and when they should use those to deliver the best results.

There are four main types of auction used in procurement:

- Reverse English
- Reverse Japanese
- Reverse Dutch
- Weighted/Multi-Attribute

Many commentators also consider Sealed Bids as a fifth kind of auction design, so we also discuss its role in this section.

The first three auction types: English, Dutch and Japanese are typically used in a price-only environment. Weighted and Multi-Attribute auctions bring non-price attributes into play, and can deliver even better results in the right categories. Sealed Bids are most useful where the goods or services being sourced cannot be specified clearly, and therefore bidders would not be able to compete meaningfully on a like-for-like basis.

<sup>3</sup> This is not a shortcoming of auctions per se, rather it is a facet that needs to be considered as part of good auction design. Some readers may be tempted to think that, because the first-placed bidder in a reverse English auction could have gone lower, English auctions do not reach the best possible price, and therefore they are better off negotiating without using an auction. It is worth recalling that without an auction, a buyer will start negotiations from the assumed market price. A well designed auction can go further than this by revealing the true market price.

#### Reverse English eAuctions

A reverse English auction is the most common type of procurement auction. In this type of auction the suppliers all open the bidding at a particular price and bid against each other to drive the price down.

The graphs shown in Figure 2 and Figure 3 on page 8 are taken from English auctions.

English auctions are most effective when:

- (a) They include several suppliers who share a similar cost base.
- (b) The suppliers are competing to win.

#### **(a) Include several suppliers who share a similar cost base**

Many commentators state that an English auction should contain at least four suppliers. The reality is a little more subtle: an English auction should contain several suppliers who *share a similar cost base*.

This is important to remember because to win a reverse English auction, a bidder does not need to place his best possible bid. It is sufficient to marginally beat the second best bid<sup>3</sup>.

Imagine an auction pitting suppliers from a region with a higher cost base against suppliers from a region with a lower cost base. The market prices (both assumed market prices and true market prices) would differ significantly between these two regions.

Suppose this auction pits five higher-cost-base suppliers against one lower-cost-base supplier. The lower-cost-base supplier will only need to beat the higher-cost region's true market price, and so may well end up winning the auction with a price far higher than the true market prices prevailing in the lower-cost-base region.

However, if the same auction contained three higher-cost-base suppliers and three lower-cost-base suppliers then the lower-cost-base suppliers would find themselves competing against others with a similar cost base and would therefore be challenged to move their prices closer to the true market prices prevailing in their regions.

For this reason, buyers are well-advised to look beyond their familiar supplier lists in order to increase the number of bidders taking part in an eAuction and to ensure that those suppliers are carefully qualified to maximise effective competition.

***(b) The suppliers are competing to win***

Few buyers would be so bold as to award an entire contract to a completely unknown supplier who happens to come in at a very low price. In reality there are many more factors to take into account as well as price.

However, if the buyer uses an auction purely as an information-gathering exercise, there is no incentive for the bidders to compete aggressively, and so savings will be less, and the value of the auction decreases. This is especially the case if suppliers believe that coming in second or third is as good as coming in first or if suppliers believe that they will have an opportunity to offer a more attractive price after the auction.

To benefit from a successful auction, the buyer must make winning the auction a sufficiently attractive prize, while at the same time reserving the right to award the contract to a supplier at the buyer's discretion, not necessarily the supplier who came in first<sup>4</sup>.

In order to be able to do so, bidders need to be absolutely clear on what parameters they are bidding for (e.g. is the volume a one-year or a three-year volume). Buyers should therefore take the time to communicate regularly with bidders through the

whole project to ensure they are clear and comfortable with the process.

Buyers will improve the result they can expect from an auction if they:

- (a) Guarantee to meet the first placed bidder promptly after the auction. This is usually sufficient to encourage bidders to try their best to win the event.
- (b) Make it very clear that no post-auction price negotiation will take place and therefore bidders must place their most competitive price during the auction.

***Key points to learn:***

- **English auction designers should:**
  - (a) **Maximise the number of suppliers bidding who share a similar cost base.**
  - (b) **Ensure enough significance is attached to winning the auction.**

<sup>4</sup> This does not apply to EU Public Procurement, in which the winner of the auction must be awarded the business (subject to protection from abnormally low bids).

### Japanese eAuctions

In a reverse Japanese auction, the auction manager states a price and bidders have to accept that price level or withdraw from the auction. Acceptance indicates that the bidder is prepared to supply at the stated price. When one bidder accepts a certain price level, the auction manager lowers the price level by a defined amount and again asks bidders to accept or withdraw at that level. This kind of auction continues until there are no more bids placed.

Japanese auctions work well in the following environments:

- (a) If there are significant differences in cost base among bidders then a Japanese auction will deliver a better result than an English auction.
- (b) If the contract is of different value to the different bidders then a Japanese auction will deliver a better result than an English auction. For example a supplier targeting increased market share, or trying to break into a new geography, might accept a lower price than would otherwise be the case. Such an asymmetry of value has the same kind of effect as a difference in cost base.

Japanese auctions also have advantages for suppliers because:

- (a) Incumbent suppliers cannot shadow the leading bid because they need to accept each price level as it is offered.
- (b) Bidders do not have to reveal their market prices to competitors.

Japanese auctions have the following disadvantages:

- (a) They are still relatively unfamiliar in the marketplace and so bidders may be uncomfortable with the format.
- (b) They do not give suppliers any useful competitor information, therefore an over-confident supplier may choose to hold back during the auction and miss out on being awarded the contract.

Japanese auctions are recommended where there are large differences in cost base among suppliers, or where there are three or fewer suppliers.

The following table shows some examples from TradingPartners experiences with Japanese auctions:

Category	# Suppliers	# Lots	Savings from first placed bidder	Savings from second placed bidder
Bakery Products	3	3	17.6%	2.5%
Containers	2	2	5.4%	2%
Air Conditioners	5	2	4.4%	0.4%
Dairy Products	3	2	11.9%	6%

The uplift in savings between the second and first place can be attributed to the Japanese auction<sup>5</sup>.

<sup>5</sup> It may also be the case that the savings from the second placed supplier are increased in a Japanese auction because suppliers have to commit to accepting a price level without waiting to see what their competitors do first.

## The trouble with Dutch eAuctions

Dutch auctions were originally invented in the flower markets of Holland where they were found to speed up the sale of flowers. Dealers would sit in a room with a clock rapidly ticking down the current sale price. The clock started at a very high price, too high for a dealer to buy at, and would then decrease until one dealer stopped the clock. The dealer would be allowed to buy as many flowers as he wanted at that price. If there were any flowers left, the clock would continue downwards until all the flowers were sold.

In a reverse Dutch auction, the buyer offers a very low price, lower than suppliers would accept. The price gradually increases until a supplier chooses to supply at that price. The buyer has to award the contract to the lowest priced supplier because this is the only price revealed during the auction process.

Therefore Dutch auctions are limited to those categories where price is genuinely the only differentiating factor among bidders.

The key to success in a Dutch auction is a lightning fast connection speed so that the clock can tick relatively quickly and the bidder can stop the clock at exactly the right moment. The best auctions involve an element of anticipation and excitement to drive the bidders' competitive spirits.

Even with the increasing speed of internet connections worldwide, the internet is still far too slow to be able to run a true Dutch auction. Therefore most implementations of online reverse Dutch auctions allow suppliers to submit their best price before the event starts. The clock then ticks up and places a "bid" on behalf of the lowest priced supplier. The excitement of watching the clock and deciding at which point exactly to place a bid is completely bypassed.

The net result is that online Dutch auctions are in effect the same as traditional sealed bids but with the negative factor that only the lowest priced supplier's bid is shown to the buyer. Therefore the buyer is left with no alternative price options in the event that the lowest priced supplier is not awarded the contract.

### ***Key points to learn:***

- **An online reverse Dutch auction is no better, and in some respects is a lot worse, than a sealed bid.**

## Weighted/Multi-Attribute eAuctions

Although the technology for these kinds of auction is not new, they have only really started being used on any significant scale in the last twelve months.

In these kinds of auctions non-price factors are rolled up into a merit score (represented relative value add) that is then subtracted from the supplier's price bid to arrive at a comparator score. This comparator score represents the relative value of each supplier's bid, taking into account price and non-price attributes. Suppliers are ranked based on their comparator score.

The difference between weighted and multi-attribute auctions is in the negotiability of non-price parameters during the auction itself. In a weighted auction, suppliers cannot modify the non-price elements of their bid. In a multi-attribute auction suppliers can modify certain non-price elements of their bid (e.g. shortening lead time) to improve their overall offering.

These kinds of auctions can have the following benefits:

- (a) Post-auction decision making is made simpler, because the differences in non-price elements of the different suppliers has already been factored in.
- (b) Potential for increasing savings - if there is a large difference in quality and cost base among suppliers, weighting the bids levels the playing field, therefore requiring the lower quality suppliers to bid more aggressively on price.
- (c) Potential to allow higher-quality and higher-price suppliers to compete on a level playing field in the auction.

The following two examples show how incorporating non-price weightings into auctions can increase the overall value for money achieved by the buyer<sup>7</sup>.

In the first example, the savings were increased from the 11% - 12% range to almost 18% by forcing the lower scoring supplier to bid lower in order to beat the value for money presented by the higher scoring supplier.

In the second example the price achieved was only marginally higher than the price that would have been achieved in an English auction, yet was won by one of the highest scoring bidders.

### **Example 1: Non-price factors drive increased savings**

The organization was sourcing consultancy services. The decision was based 35% on price and 65% on a combination of non-price attributes including: best practice, supply chain management, methodology, contract and account management.

If this auction had been run as an English auction the results would probably have been similar to the following:

Rank	Saving	Non-Price Score
1	A little over 11.42%	77.2 / 100
2	11.42%	81.0 / 100

The eAuction was run as a weighted auction however, and the results were as follows:

Rank	Saving	Non-Price Score
1	17.89%	77.2 / 100
2	11.42%	81.0 / 100

The uplift in savings from 11.42% to 17.89% in this case can be attributed to the incorporation of non-price attributes into the auction. The lower scoring of the two top suppliers was forced to bid lower to compete on a total value basis with the higher scoring supplier.

<sup>7</sup> A note of caution: these kind of auctions require more up front work than a price-only auction, and so are only suitable for categories where there are significant and relevant non-price differences.

**Example 2: Higher quality suppliers can win – even with a higher price**

The organization was sourcing furniture. The decision was based on 60% price and 40% on a combination of non-price attributes including: operating ability, quality and style of goods, health and safety, environmental issues and contribution to the buying organization’s policies and working practices.

If this auction had been run as an English auction the results achievable would have been similar to the following:

Rank	Saving	Non-Price Score
1	A little over 18.60%	61.9 / 100
2	18.60%	75.4 / 100

Because the auction was run as a weighted auction the results were as follows:

Rank	Saving	Non-Price Score
1	18.60%	75.4 / 100
2	26.50%	61.9 / 100

In this auction design the higher scoring supplier was able to compete on a level playing field with lower scoring suppliers.

If this auction had been run as a price-only English auction then the lower scoring supplier would probably have won the auction by marginally beating the 18.60% saving.

**Key points to learn:**

- **Incorporating non-price attributes into an auction is not to be taken lightly. But for the right categories where there are significant, relevant, differences in non-price attributes among suppliers, buyers are well advised to consider these kinds of auctions in order to get the best overall value for money.**

**Sealed Bids**

With the increased take up of Japanese and Weighted/Multi-Attribute eAuction types, auction design has advanced to the point where there are now auction types available for more categories of goods and services than ever before. More and more categories that may previously have been considered unsuitable for auction (consultancy services, legal services etc) are now being auctioned successfully.

However, for an auction to succeed, specifications need to be clear and unambiguous. If the buyer’s requirements are open ended and need to be left largely to the supplier, then an auction would not be appropriate. For example, although it would be possible to auction architect day rates, auctioning the design of an entire building would probably not be feasible<sup>8</sup>.

Under circumstances such as this, a sealed bid would be the most appropriate format to use.

<sup>8</sup> This statement is based on the current types of auction designs in general use, and so this statement may well become obsolete in the future!

## 4. Conclusions

Supply markets generally have an *assumed market price*. However, buyers should work toward the *true market price* through the use of an eAuction.

Without an eAuction, skilled negotiators can usually beat the *assumed market price* by either extracting a lower price from their suppliers or by procuring a higher quality or service, or by a combination of both. However, they are flying blind with respect to the *true market price* achievable.

The buyer should remember that the *true market price* is often significantly lower than the *assumed market price* and can only be reached through an eAuction.

Furthermore, not all auctions are created equal. Procurement auction design and the tools available to buyers are now maturing to a level where more categories are auctionable now than ever before. Additionally, there are special kinds of auction tailored to different categories and supply market environments. If buyers think carefully about the optimum design of the auction and make sure the auction is managed by an experienced procurement auction manager, they will achieve the best result.

In a nutshell: if you can specify it, you can auction it. And if you design the auction well and make sure it is managed well, you will get a better result than if you do not use an auction.

## 5. Further information

To discuss any issues raised in this document, or to find out how TradingPartners can help you with any of the following procurement needs,

**please contact us at 312. 857. 3000  
or email us at [info@tradingpartners.com](mailto:info@tradingpartners.com)**

- eAuctions
- Emerging markets sourcing

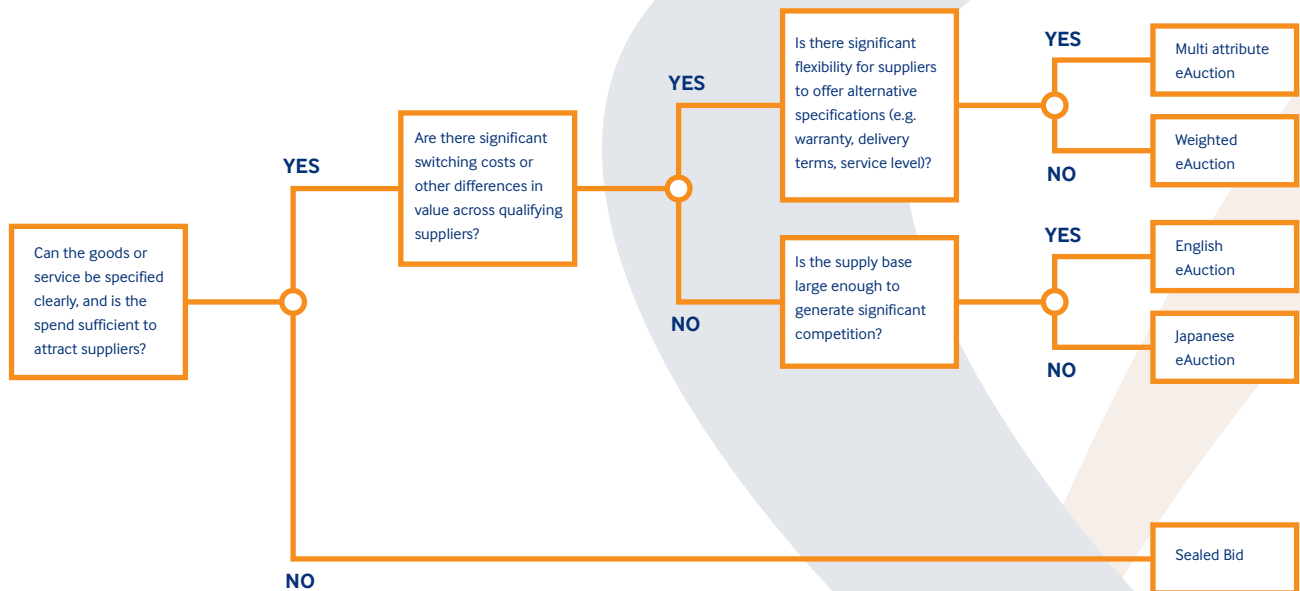
# Appendices

## i. Summary of key auction types

The table below summarizes the benefits of effective eAuction design in selected procurement auctions discussed in this paper.

Category	Pest control services	Dairy products	Consultancy services	Furniture
<b>Spend</b>	\$2.2m	\$2.4m	\$22.2m	\$18m
<b>Auction type</b>	English	Japanese	Weighted (35% price)	Weighted (60% price)
<b>Reason</b>	Sufficiently competitive supply base	Limited supply base	Include all award criteria in the auction	Include all award criteria in the auction
<b>Saving</b>	39.7% \$873,400	11.9% \$285,600	17.9% \$3.8m	18.6% \$3.3m
<b>Benefits from effective auction design</b>	Dramatic increase in savings compared to offline approach. Offline negotiation would have achieved around 20% savings.	Significant increase in savings compared to an English auction due to limited supply base. Around 6% achievable through an English auction.	Increase in savings compared to a price-only auction: lower quality suppliers had to bid more aggressively to achieve best value. Around 12% achievable through a price-only auction.	This saving was from the highest quality supplier. If this auction had been run on a price-only basis the expected result would have been a saving marginally over 18.6% but from a lower quality supplier.
<b>Summary</b>	Well designed auctions deliver greater savings than offline negotiations.	Japanese auctions are best with a limited supply base.	Leveling the playing field by including non-price factors can lead to increased savings.	Leveling the playing field by including non-price factors can lead to increased quality.

## ii. Auction types decision tree



## iii. References and further reading

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TradingPartners work with customers to reduce the costs of externally purchased goods and services by deploying a unique combination of specialist procurement expertise, advanced eProcurement technology and up-to-date market information.

Our philosophy is to provide a seamless, consistent global service, delivered by local teams, that enables customers to achieve process efficiencies, save time and extract maximum value from their procurement projects.

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