

An Overview of Reverse Auctions

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ABSTRACT

A reverse auction is defined as a dynamic, real-time negotiation between a purchasing organization and several pre-qualified suppliers competing against one another to win the opportunity to supply goods or services to the purchasing organization. This paper examines how and when to use reverse auctions and how to make them work for your business. Included are two examples of reverse auctions and an analysis of the bidding strategy. The benefits of reverse auctions for both the buyer and seller are examined.

INTRODUCTION

Strategic sourcing is an important component of successful supply chain management. Traditional sourcing methods are frequently time consuming exercises that yield inexact and often wildly fluctuating results. A typical buyer's dream scenario generally has volumes of spend data available for analysis, multiple qualified suppliers knocking on the door jockeying for business and an unlimited amount of time available for supplier selection, contract negotiation and eventual cost savings. Unfortunately, this is rarely, if ever, a realistic occurrence. Data collection is a time consuming process, often with imperfect results if data has been categorized incorrectly, if it's available at all. While suppliers are never lacking in quantity, are they qualified to the level your company demands? Finally, project schedules do not always give a buyer as much time as he or she would like to conduct the critical research needed to provide the best contract for their employer.

Leong, Tan, and Wisner (2005) state that as with many other areas of supply chain management, the use of Internet procurement systems has gained in popularity over the last several years. One such form of e-procurement is reverse auctions, which are also called procurement auctions, e-auctions, sourcing events, e-sourcing, or eRAs (Leong et al, 2005; Reverse Auction, n.d). Reverse auctions play a critical role in the overall procurement cycle (IBM Corporation, 2004).

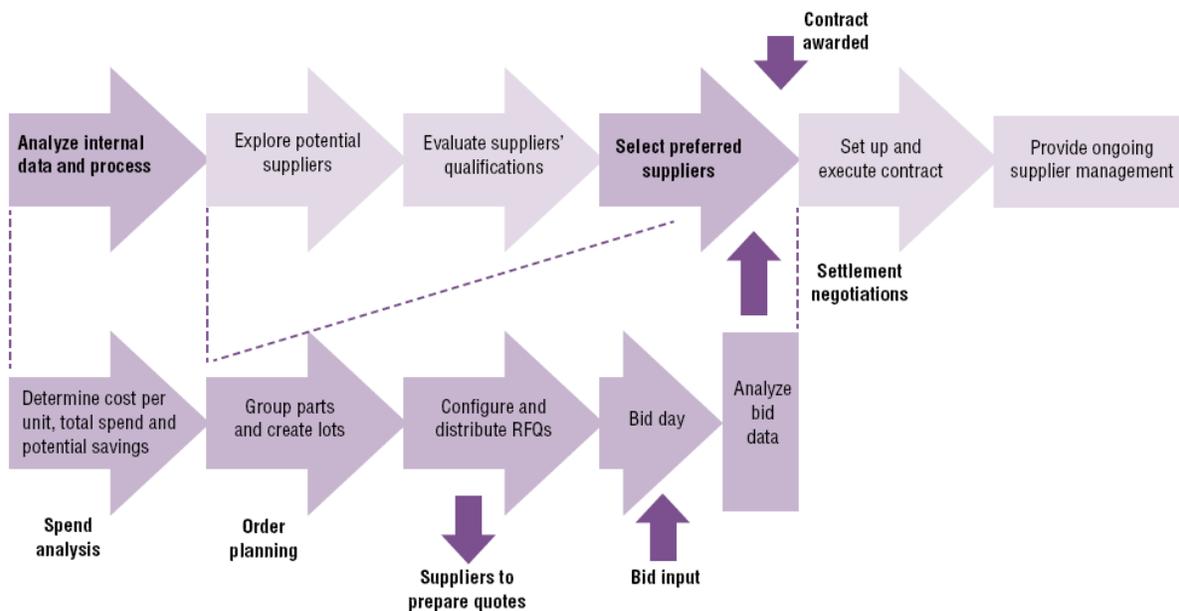
A reverse auction is defined as a dynamic, real-time negotiation between a purchasing organization and several pre-qualified suppliers competing against one another to win the opportunity to supply goods or services to the purchasing organization (What are Reverse Auctions, n.d., ¶ 1). While traditional auctions work to increase bids on an item for sale, reverse auctions work in the opposite manner: They instead work to drive prices down during the buying process so that the lowest bidder with the best services wins (Harris, 2001). They can be viewed as an alternative to one-on-one negotiation (Reverse Auction Best Practices, 2006).

Reverse auctions were first introduced in 1995 by FreeMarkets, a company acquired by Ariba in 2004 (Ariba and Freemarkets, 2004; Emiliani & Giampietro, 2006). They gained popularity in the late 1990s with the Internet boom (Reverse Auction, n.d.), when more companies and even governments began using them for sourcing and procurement (Carbone, 2005; Harris, 2001), and today reverse auctions continue to be an increasingly important part of procurement (Reverse Auctions, n.d.).

HOW REVERSE AUCTIONS WORK

Reverse auctions are commonly not an open auction where any supplier can participate. Instead, they are often integrated into traditional RFX tools – such as a request for proposal (RFP) or a request for quote (RFQ) – to streamline the selection of suppliers accepted to participate in the auction (Reverse Auction Best Practices, 2006). Buyers post information about the desired product or service online, and then sellers can respond to these with some information about their own offerings (Epiq Web site, n.d.). Buyers then evaluate this information and select a discrete group of suppliers to participate in the auction (Epiq Web site, n.d.). Doing this enables buyers to see more suppliers without having to add a lot of additional work doing negotiations or evaluations (Sanborn, 2001).

A diagram of the process is as follows (IBM Corporation, 2004):



The reverse auction itself is usually completed in 20 to 120 minutes (Emiliani & Giampietro, 2006; Reverse Auction Best Practices, 2006), with duration and rules set by the buyer. During the auction, each supplier places a bid along with information about terms and other services that might be useful to the buyer for making a decision (Epiq Web site, n.d.). Suppliers can see other bids and then are allowed to underbid to try to win the contract. At the end of the reverse auction the buyer determines the winner, which is often based on a number of factors, price being an important one (Epiq Web site, n.d.).

WHEN TO USE REVERSE AUCTIONS

Reverse auctions often work well in industries where traditional RFX tools are used to gain information and pricing insights from potential suppliers (Sanborn, 2001). However, there are several conditions that can make using reverse auctions ideal.

Reverse auctions tend to work best when there is a large, qualified base of suppliers competing for business; a minimum of three to eight suppliers is ideal (Fein, 2004; IBM Corporation, 2004; Reverse Auction Overview, n.d.; What are Reverse Auctions, n.d.). When market capacity is greater than the demand for a product or service, reverse auctions can work well to drive prices down (IBM Corporation, 2004).

The cost of switching vendors is also an important consideration; if the cost of switching vendors is greater than the savings gained through a reverse auction the value of using a reverse auction has decreased (Fein, 2004; IBM Corporation, 2004). But the reverse auction should also be of value to the supplier, which makes reverse auctions ideal for expensive and bulk items (Epiq Web site, n.d.; IBM Corporation, 2004; Reverse Auction Overview, n.d.).

Because reverse auctions are a form of virtual negotiation, it is important that the product or service desired can be clearly defined in terms of technical, logical, and commercial requirements, or buyers run the risk of buying a product or service that is not up to specifications (Fein, 2004; Reverse Auction Overview, n.d.; What are Reverse Auctions, n.d.).

HOW TO MAKE REVERSE AUCTIONS WORK WELL

While reverse auctions, are easy to use, they do not work for every transaction. The most important action a company can take for ensuring the success of a reverse auction is to define the corporate goal for using reverse auctions prior to starting the process – targeted spend and savings, the number of auctions to be conducted, and the categories that will benefit from reverse auctions (Reverse Auction Best Practices, 2006). Buyers should then carefully review their situation and make sure that a reverse auction is the right choice for a particular transaction (Sanborn, 2001).

It is key that buyers and suppliers fully understand reverse auctions before undertaking one: watching several first and educating employees involved in the process can be useful (Sanborn, 2001). Buyers should be specific in dates and specifications, including such items as terms of payment, delivery terms, quantities desired, and technical specifications (Reverse Auctions, n.d.). They should also have developed policies and procedures for settling disputes and communicate them prior to the reverse auction's start (Reverse Auctions, n.d.). Suppliers, on the other hand, should do their homework and know

their specific limits around how low they will lower their price and the limit of the services they will extend (Sanborn, 2001).

At the end of the auction, buyers must get suppliers off on the right foot by moving past the transaction. They must immediately turn their attention towards relationship building and general supplier management: integration of the products or services into the company, conducting joint planning, and providing forecasts, among other activities (IBM Corporation, 2004).

AUCTION EXAMPLES AND ANALYSIS

There are a number of steps that need to be taken in order to have a successful reverse auction. First, it needs to be determined whether or not it makes sense for that particular commodity to be sourced using the reverse auction format. A number of questions must be answered to make this determination.

1. Is the company willing to change suppliers?
2. At this time, is the market competitive?
3. Do I have enough suppliers to drive competition?
4. Is the spend large enough to make suppliers want to compete?
5. Can the requirements be specified?
6. Is there top level executive support for reverse auctions?
7. Is there internal stakeholder buy-in for the process?

If the answer to any of these questions is “no”, a reverse auction is unlikely to make sense as a pricing instrument (Ariba, 2004c).

If the decision is made to proceed with a reverse auction, a buyer needs to decide if they want to run the reverse auction themselves or pay a full service E-sourcing provider such as Ariba to run it for them. Most reverse auctions are run by individual companies as “full source” auctions are extremely expensive (\$60-100,000 per event). The expected savings needs to be considerable for a full source reverse auction to be of value (Martin, K., personal communication, March 7, 2007).

The next step is to categorize the commodity into either categorized groups called “lots” with each lot containing a “market basket” of products, or into a single line item format. The lot is a logical grouping of products within a commodity that may be more easily bid upon than a single line item. Examples of lots versus a single line item auction would be using a single lot for office supplies or a single line item format for different speeds and/or capabilities of multifunction office equipment. To carry the example further, rather than bid upon each individual item that will be ordered from an office supplies company, the top 100 items (either by quantity, price or both) could be grouped into a single lot. When the associated annual quantity of each item is factored in, the market basket is created. Item 1 has a quantity of 100 and a historical cost of \$1 ea, Item 2 has a quantity of 12,500 and a historical cost of \$0.10 ea., etc. until all 100 items contain quantity and historical price data. The sum total of each item's historical cost gives the overall historical cost of the lot and this figure is used as a baseline for bid comparison and savings. In the example of office supplies, there are obviously more than 100 potential items that would be purchased in a given year. However, being the most common items purchased, these 100 “contract” items are the items that a company would want with the steepest discounts. For other “non-

contract” items, a baseline discount could be negotiated as part of the overall agreement (30-50% off of list price, for example).

Finally, the auction strategy must be determined by the buyer. There are 2 primary strategies that are utilized: Rank only auctions in which the supplier only sees their own positional rank based on their current bid. Rank only auctions have the following characteristics:

- This strategy typically sees more bidding activity as suppliers “hunt” for first place (Ariba, 2004c).
- Better compression usually results as suppliers are more likely to drop to their best price looking the next ranking (Ariba, 2004c).
- This is the best option for small supply bases or collusive markets (Ariba, 2004c).
- The bid graph usually starts with a wide spread of opening bids. It takes some time for bidders to find the market lead (Ariba, 2004c).
- Typically, 1st, 2nd, and 3rd place bidders will trigger “overtime” to allow the most competitive supplier’s time to find first place (Ariba, 2004c).

Standard auctions are where the supplier is able to see everyone’s position at all times (although each company is represented by a symbol and their name is confidential). These auctions have the following characteristics:

- Less bidding usually takes place as each supplier can see the positioning of everyone else even if they do not know who each supplier is (Ariba, 2004c).
- The buyer may see less bidding from noncompetitive suppliers. These suppliers can see the lead and may stop bidding if they can’t take it or think it’s out of reach (Ariba, 2004c).
- This method is the best choice for large supply bases (10+ suppliers) (Ariba, 2004c).
- Bid graphs tend to be narrower as the lead bids are usually the bids being responded to (Ariba, 2004c).
- Most intuitive form of bidding (Ariba, 2004c).
- Only market leading bids trigger “overtime” periods (Ariba, 2004c).

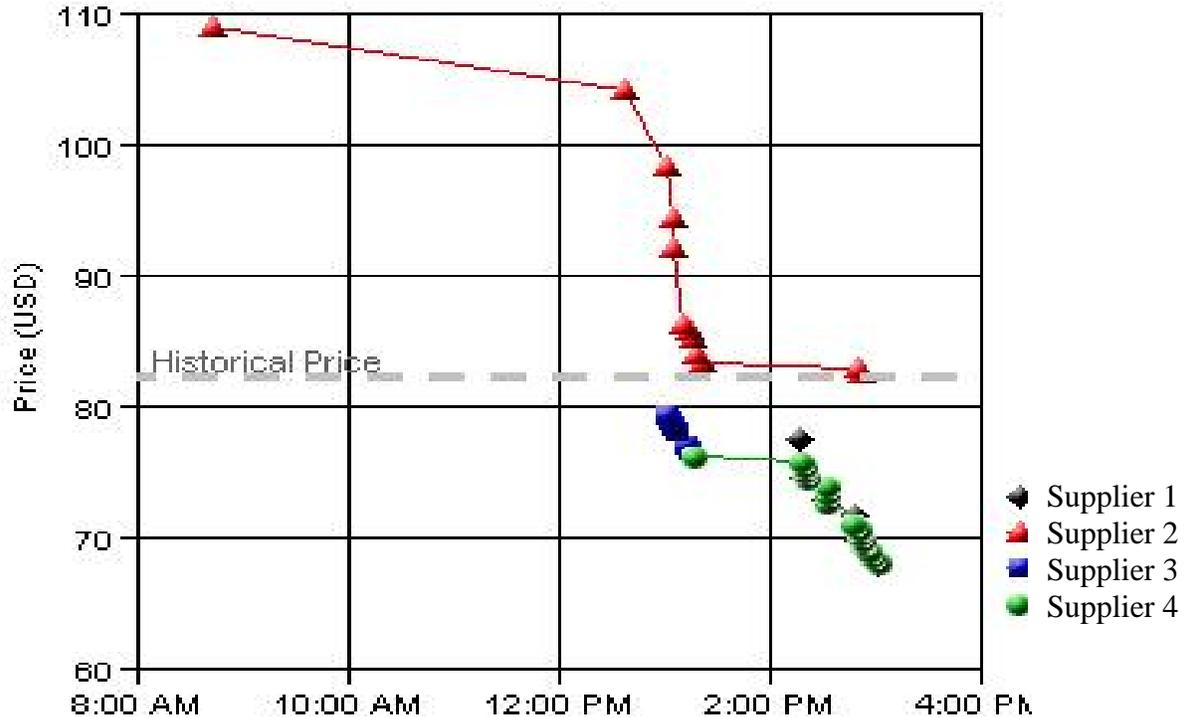
Once all these factors have been considered and completed, the reverse auction can take place, usually as part of a formal RFP process.

Below are two examples of reverse auctions. For confidentiality purposes, the bid graphs have been cropped to eliminate both the participating supplier names as well as the commodity involved.

This lot was one of several related lots that were bid on that day. The first bid was made at approximately 9am by Supplier 2, although none of the other suppliers made any bids until other lots had closed and this lot became the primary focus at close to 1pm. Notice the dotted gray line at the \$82,000 point. This represents the purchaser’s historical price for the lot in question. Obviously, the goal was to reduce the cost below this line in order to get a savings benefit from this project (Temple-Inland, 2006b).

Supplier 1 did not enter a bid until past 2pm, which dropped Supplier 2 to fourth place. Their initial bid put them in third place despite their bid being below the initial bid price. Subsequent bids put them in second place, then first as they “hunted” for the best price by utilizing the minimum bid feature (usually 0.25-0.50% per bid). As the auction closed, Supplier 1 and Supplier 4 traded first and second place until one or both suppliers hit their best price and neither made any further bids (Temple-Inland, 2006b).

Example One



(Temple-Inland, 2006b)

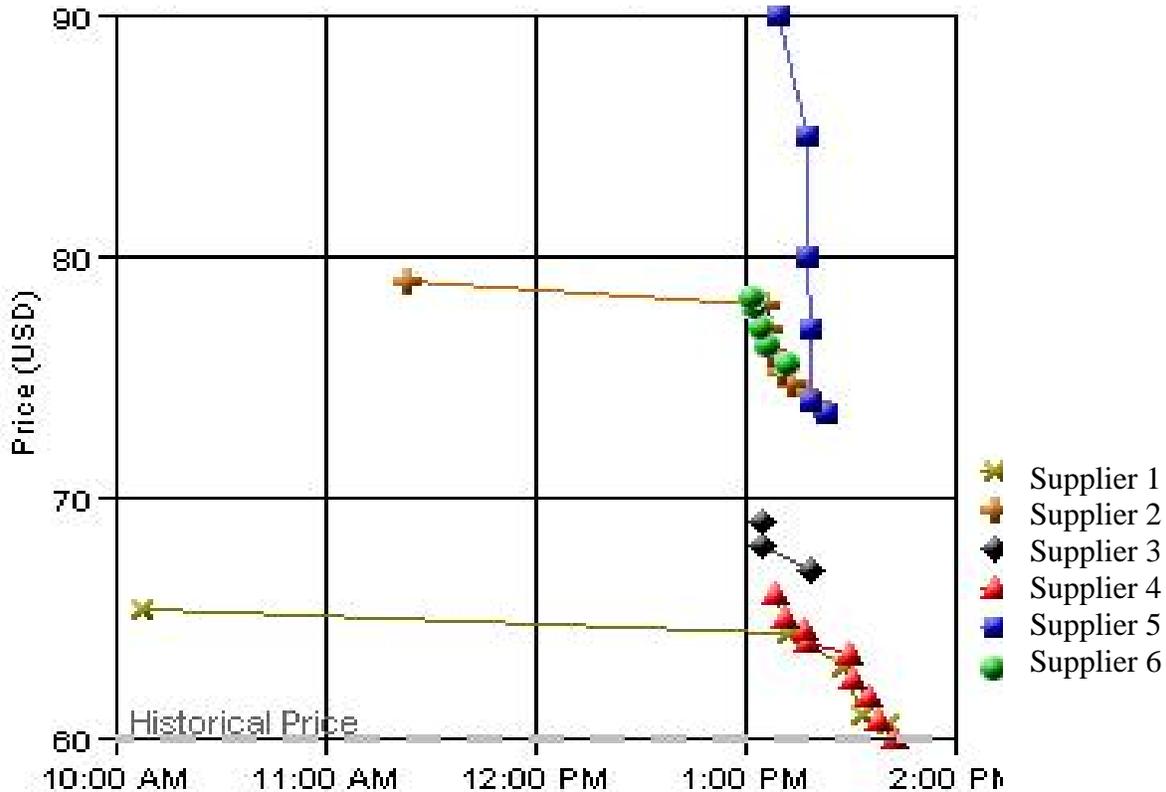
At approximately 1 pm, Suppliers 3 and 4 entered their first bid, below the historical cost. At this point, Supplier 2 would have shown a drop from first to third place. Ultimately, Supplier 2 was not price competitive with the other three suppliers and it is evident that their best price was the historical price in the end (Temple-Inland, 2006b).

Supplier 3 made several bids in a search of first place but quickly appeared to have reached their low while still in second place and ceased bidding (Temple-Inland, 2006b).

Supplier 4's first bid put them in first place and they fought to maintain that position until the end of the auction. Each time they slipped into second place, they would make a new bid to return them in first place. This continued until the auction was completed (Temple-Inland, 2006b).

When this lot was finished, the low bid price was approximately \$68,000, a 17% savings over the historical cost. The purchasing company does not have to accept the low bidder and in theory they could choose any of the four suppliers. For instance, if the purchasing company valued their relationship with their incumbent, but the incumbent was third place in the bidding, the purchaser could choose the incumbent and the pricing they offered, rather than either of the two suppliers who had a lower bid. This is an example of the buyer not necessarily accepting the lowest price on a reverse auction, one of the primary concerns of many suppliers.

Example Two



(Temple-Inland, 2006b)

This lot was in the same auction as Example One. In this case, the historical price was \$60,000. Going into the auction, there were concerns about a price increase with this lot due to higher costs in transportation.

Supplier 1 placed the first bid of the auction early in the day, just after 10 am, while most of the activity in this lot took place after 1pm. Their bid was approximately \$66,000, a 10% increase on the historical price. They were inactive until falling into second place at which point they traded first and second place with Supplier 4 until they settled for second place just above the historical cost (Temple-Inland, 2006b).

Supplier 2 made the second bid of the auction at 11:20 am and did not react until they had fallen to fifth place. They made several bids trading fourth and fifth place before reaching their best price, which ultimately left them in fifth place (Temple-Inland, 2006b).

Supplier 3 opened their bidding in second place, made a small incremental bid, then a larger bid when they fell to third place. Still in third place, they ceased bidding (Temple-Inland, 2006b).

Supplier 4 opened in second place and aggressively bid downward until reaching first place. They then traded bids and places with Supplier 1 until they reached the historical price of the lot where Supplier 1 stopped bidding. Supplier 4 ended with the low bid (Temple-Inland, 2006b).

Supplier 5 opened with by far the highest bid and made steep drops in their bidding to find their competition. They eventually found themselves in fourth place, well above the top 3 bidders, although they did not know this (Temple-Inland, 2006b).

Supplier 6 opened in second place and quickly dropped to fifth position. They “hunted” for a better position, making several bids as they alternated between fourth, fifth and eventually sixth place. They quickly reached a point where they did not want to continue and ended with the worst priced bid (Temple-Inland, 2006b).

In the end, if the purchaser had chose the best priced bid, they would avoid a price increase. Any other supplier selection would result in additional cost for the company.

BENEFITS FOR BUYERS

Within the context of strategic sourcing, reverse auctions are a useful tool in getting good, fast results within the sourcing and negotiation phase of a project. There are several reasons why a buyer would consider using a reverse auction to assist in sourcing a commodity.

Reverse auctions can provide benefits to both buyers and suppliers, with the primary benefit being time savings (Reverse Auction Overview, n.d.; Sanborn, 2001; SO77 Using the Reverse Auction, n.d.; What are Reverse Auctions, n.d.). By using reverse auction software, months of negotiations can be reduced to days, and even the prevalidation work is faster than the traditional RFX process (Fein, 2004). This makes reverse auctions ideal for industries that have traditionally relied on RFX processes to share information about products and services.

Cost savings is another important advantage, as buyers are able to obtain the lowest possible price from a prevalidated set of suppliers (SO77 Using the Reverse Auction, n.d.; What are Reverse Auctions, n.d.). In the US, average savings on reverse auctions is about 15% -- three to five times that of traditional bidding – but can range anywhere from five to 90% depending on the product or service (Emiliani & Giampietro, 2006; Fein, 2004). In the UK, savings is about 18% over traditional bidding (Reverse Auction Overview, n.d.). Companies have found that using reverse auctions can play an important role in corporate cost reduction programs (Reverse Auctions, n.d.), and have found that by using reverse auctions they get greater insight into overall market pricing (Reverse Auction Best Practices, 2006., What are Reverse Auctions, n.d.). “Considering that purchasing in a majority of companies comprises the largest portion of annual spend, even a small percentage saved in a reverse auction event can mean a much greater impact on the company” (What are Reverse Auctions, n.d., ¶ 1).

Reverse auction software is also inexpensive to install and easy to operate (Fein, 2004). While many reverse auction software providers do not show pricing on their Web sites, Procuri’s reverse auction software costs about \$15,000 per month for 15 users – considerably lower than the price of other enterprise software packages (ReverseAuctioneer Web site, n.d.). Some companies have also found that by using reverse auction software, the total cost of ownership of the product or service decreases: “The Chartered Institute of Purchasing & Supply have also indicated from their research that supplier performance improves significantly after a reverse auction event” (Reverse Auction Overview, n.d., 1.0).

Wisner, Leong, and Tan (2005) indicate that the trend in supply chain management has been to reduce the number of suppliers. Reverse auction software makes it possible to more quickly consolidate suppliers by enabling buyers to easily expand their reach to new

potential suppliers who may be able to supply a more diverse set of products or services (Epiq Web site, n.d.; Luthringer, n.d.; SO77 Using the Reverse Auction, n.d.). Conducting reverse auctions also increases competition among suppliers to provide the best value of products and services to outbid competitors (eDynaQuote Web site, n.d.).

When possible, it is advantageous to have a reverse auction. However, not all commodities are suitable for auctioning. Some industries have large companies that refuse to participate, thus making a reverse auction impossible.

BENEFITS FOR SELLERS

While reverse auctions may lower purchasing prices, sellers can also benefit from participating. Like buyers, reverse auctions save suppliers time in negotiations and bidding (Reverse Auction Overview, n.d.; Sanborn, 2001; SO77 Using the Reverse Auction, n.d.). Furthermore, the prevalidation process is faster for suppliers than the traditional RFX process, as they do not have to spend as much time typing up formal RFPs or RFQs (Reverse Auction Overview, n.d.; Sanborn, 2001; SO77 Using the Reverse Auction, n.d.). It also takes fewer resources to win a contract (SO77 Using the Reverse Auction, n.d.).

An important advantage for sellers is the transparency of the process. They can see what is happening throughout the bidding process as well as where they stand relative to others competing for business (Fein, 2004; Reverse Auction Overview, n.d.; What are Reverse Auctions, n.d.), and they can opt out of the auction at any time (Sanborn, 2001). It also allows suppliers to keep track of trends in pricing and bundled services, allowing them to react to competitor pricing quickly by lowering their bid (Reverse Auction Overview, n.d.; Sanborn, 2001; SO77 Using the Reverse Auction, n.d.).

Reverse auctions can also open new doors for suppliers. Small companies can participate in reverse auctions to learn more about their larger competition, and how to effectively compete against larger businesses (Sanborn, 2001; SO77 Using the Reverse Auction, n.d.). Suppliers who win auctions in one division or unit of a company can have the opportunity to gain business in other parts of the company or enterprise-wide (Reverse Auction Best Practices, 2006; What are Reverse Auctions, n.d.).

Some claim that reverse auctions take much of the “sales” out of a salesperson’s job and for this reason, suppliers dislike them. There are a number of erroneous assumptions generally made by suppliers about reverse auctions, the two most common assumptions being that the low bid always wins and that value added services aren’t considered when a decision is being made. Some suppliers who view themselves as contributing a considerable amount of value added service refuse to take part in reverse auctions as a “matter of principle”. Other reasons given for dislike of reverse auctions are the perceived discounted value of after the sale service, a personal business relationship with the supplier and other value added services (Nowlan, J. 2006). One article goes so far to say that reverse auctions are unethical and go against many corporate codes of conduct (Emiliani, M. & Giampetro, C., 2006).

While some organizations do use price as the sole determining factor in awarding business, such as government entities or some international clothing manufacturing (Hirsch, S., 2005), many companies have incorporated reverse auctions into a total cost of ownership model which factors in supplier quality, delivery performance, availability, technical support and other criteria (Carbone, J., 2005). Proper communication from the buyer is vital to the

success of reverse auctions. By sharing the company's overall strategy and keeping the supplier informed, a buyer can ensure a healthy level of competition to get the best overall value for the event in question.

REVERSE AUCTION SOFTWARE PROVIDERS

Today there are at least 50 reverse auction software companies on the market, including a stripped down, free version introduced in 2006 by procurement consultancy Source One (Busch, 2006; Reverse Auction Overview, n.d.). There are two basic models for reverse auctions: buyer-paid and seller-paid (What are Reverse Auctions, n.d.). In the buyer-paid model, the buyer has complete control over the process and which sellers are allowed to participate (What are Reverse Auctions, n.d.). The buyer pays all fees and participation is free to the supplier (What are Reverse Auctions, n.d.). This model tends to have better participation rates from the supplier base (What are Reverse Auctions, n.d.). In the seller-paid model, buyers posts requirements for free to a network of suppliers, and suppliers in the network place bids for the business (What are Reverse Auctions, n.d.). Suppliers pay a subscription fee to be part of the network and a percentage of the winning sell (What are Reverse Auctions, n.d.). This format is better for lower value, highly competitive commodities (What are Reverse Auctions, n.d.).

Some of the main providers of reverse auction software are Ariba, Iasta, Oracle, Orbis Online, Procuri, and SAP (Emiliani & Giampietro, 2006). Other providers of reverse auction software and services include AuctionAnything.com, eDynaQuote, Epiq, Reverse Auctioneer, and UK-based eSourcing Solutions.

CONCLUSIONS

Reverse auctions are a dynamic tool for driving cost reductions with suppliers when used properly. However, if the reasoning and methodology of the buyer's company are not explained properly or if the supplier is taken advantage of, reverse auctions can lead to mistrust and relationship breakdowns between buyer and supplier. Going forward, strategic sourcing organizations will continue to use reverse auctions and if utilizing some or all of the communication methods discussed in this paper, will be able to succeed on a significantly larger scale than in previous times.

Since its introduction, reverse auction software has greatly increased in popularity, being used by governments and businesses worldwide. It can greatly simplify the procurement process for both buyers and sellers, save time and money, and introduce new suppliers to the procurement cycle.

However, reverse auction software is not ideal for every situation, and it is important that buyers evaluate their business and procurement strategies to discover if reverse auctions will be beneficial to them. Furthermore, "to remain successful over a period of time across several events, reverse auctions require high business ethics and mutual trust from all participants" (IBM Corporation, 2004, p. 5).

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