

THE IMPLEMENTATION OF REVERSED ELECTRONIC AUCTION SYSTEM: THE CASES IN TAIWAN HIGH-TECH INDUSTRY

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ABSTRACT

Traditional auction is initiated by the seller and the buyers send out their bids. Recently, more and more auctions are initiated by the buyers and the sellers send out their bids. The lowest price bid would obtain the purchase order. This is the reversed electronic auction. Taiwan is the major manufacturing base for global IT products and many manufacturers began to participate in the reverse internet auctions held by the global OEMs. Meanwhile, several Taiwan manufacturers also requested their suppliers to do the same thing. In this study, the literature review and case study would be carried out to analyze the reasons to implement the reversed electronic auction or not. We found that not all procurement items are suitable to put in the reversed electronic auction system.

INTRODUCTION

More and more transactions are done through internet and the internet auctions are also play an important role to stimulate the growth of electronic business. Traditional internet auctions are initiated by the sellers but recently many auctions are guided by the buyers, namely reverse internet auctions or reverse electronic auctions. Reverse electronic auctions require sellers to send their bids through the internet and the bidder with the lowest price will get the purchase order [2]. In this paper, we focus on the reverse electronic auctions adopted by enterprises and in the rest of this article we named it as reverse auctions for convenience. Taiwan is a major manufacturing base for global IT and communication products. In 2001, Nokia , Motorola, Sony Ericsson began to request Taiwan's contract manufacturers such as manufacturers of printed circuit boards to compete for purchase orders through the reverse auctions. Besides, Dell and HP required their suppliers to do the same thing. Therefore, many Taiwan high-tech companies suffered the pressure of cost reductions and turn to ask their own suppliers to do the same thing. Undoubtedly, the relationships in the whole supply chain began more nervous than before.

LITERATURE REVIEW ON ELECTRONIC PROCUREMENT

Johnson and Klassen compiled the past research in electronic procurement and proposed that one could discuss the electronic procurement form three perspectives including E-Sourcing, E-Coordination, and E-Communities [1]. Yu et al. classified E-marketplaces into five categories based on different characteristics of the operators including E-marketplace of a single enterprise, E-marketplace operated by a third party outside the industry, E-marketplace organized by several vendors in the same industry, E-marketplace operated by a competing vendor in the same industry, and E-marketplace operated by a complementary vendor in the same industry [4]. Talluri and Ragatz compared the advantages and disadvantages of different auction types in table1 [3].

Table 1 Advantages and Disadvantages of Different Auction Types

Auction Type	Advantages	Disadvantages
English Auction	Encourages aggressive bidding	Bidder collusion possible Bidder concern about revealing cost information to competitors
Single round, sealed bid auction	Simplicity Little opportunity for bidder collusion	Does not encourage aggressive bidding to the same degree as the English auction
Multiple round, sealed bid auction	Encourages more aggressive bidding than single round auction	Bidder collusion possible to a lesser degree
Vickery auction	Better at determining “true” market price	Less familiar format for most bidders

Source: [3]

RESEARCH METHOD

In this research, we use literature review and case study to compile and analyze how to establish successful reverse auction for Taiwan high-tech companies. In addition to academic papers and industry reports, we also interviewed the experts in procurement to understand the current status of reverse auction. After the literature review and case study, we propose our findings to help enterprises to have a more clear understanding of reverse auction. From November, 2004 to April, 2005, we had 8 interviews with procurement departments in three high-tech companies. Each interview cost us about one hour. The purposes of interviews are to understand the procurement process, the adoption of reverse auction, how to quality suppliers, the competition atmosphere creation, and the barriers to implement reverse auction.

CONCLUSIONS

It is really useful to reduce purchasing costs and increase operation efficiency by using reverse auction system. However, we should not neglect the possibility to destroy the good relationships with suppliers. In this paper, two cases adopted reverse auction systems and one case is not. The purpose is to uncover the pros and cons to use reverse auction system. Combing the literature review and case studies, we proposed the following conclusions.

- (1) The enterprise could take the opportunity of building reverse auction system to re-exam the qualifications of current suppliers. Reduce poor suppliers and add good and new suppliers.
- (2) Not all current suppliers can join the auction system without technical problems.
- (3) The motivations of enterprises to use reverse auctions include reducing cost, time, inventory and frauds, making good use of human resources, and responding to the requirements of customers. Besides, more sophisticated tools and global sourcing trend are also important drivers for enterprises to use reverse auction system.
- (4) Clear specification, room for price negotiation, no brand preference, and many sources are helpful to implement reverse auction system successfully.
- (5) The big enterprise has higher probability to implement reverse auction system successfully than the small enterprise.
- (6) The switching cost would be high if the supplier with long-term partnership had been replaced by a new supplier.
- (7) The sourcing function of procurement can not be replaced by the reverse auction system.
- (8) The commitment of top managers would be helpful to the deployment of reverse auction system.

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