

Acceptance of E-Reverse Auction From the Buyer Perspective

Cigdem Altin Gumussoy

Istanbul Technical University, Turkey

Bilal Gumussoy

Shell and Turcas Petrol Inc., Turkey

INTRODUCTION

With the advances in internet technologies, an e-reverse auction becomes a popular way of procurement of products and services. E-reverse auction is “an online, real-time dynamic auction between a buyer organization and a group of pre-qualified suppliers who compete against each other to win the business to supply goods or services that have clearly defined specifications for design, quantity, quality, delivery, and related terms and conditions” (Beall et al., 2003, p.7). E-reverse auction is first introduced in 1995 by FreeMarkets Online and since then the number of users has dramatically increased.

E-reverse auction initiates with the preparation of a request for quotation (RFQ) by the buyer, which includes the information about the specifications of the products or services to be auctioned. The format of the auction such as historical price, bid decrement and auction starting time is discussed and agreed with the suppliers and the buyer before the auction (Mithas and Jones, 2007). Suppliers all over the world without any geographical limitation can participate to the auction if qualified by the buyer to join. This increases the competition and the chance to find most capable supplier with unique capabilities (Hartley et al., 2004; Lucking-Reiley, 2000). At the starting time, all the potential suppliers log in to the system, start to compete and bid against each other. However, the participants do not see their

identity and generally see the lowest bid value and their rank with respect to the other participants or their rank only. Each participant may submit multiple bids during the auction. This competitive environment can lead to great price reductions for the items auctioned. In addition, cycle-time savings for buyers and suppliers, growing markets, accessing to a larger pool of suppliers can be the other advantages of e-reverse auction use (Schoenherr and Mabert, 2007; Mithas et al., 2008).

On the other hand, using e-reverse auction includes risks such as damaging supplier relationships, switching to a supplier who cannot satisfy the quality requirements, increasing the total cost of procurement, the need to invest in technology, distrust to a new supplier about the responsiveness and flexibility to the changes in demand (Schoenherr and Mabert, 2011; Mithas et al., 2008; Hartley et al., 2006). Therefore, there may be resistance from internal users and suppliers for possible risks or underestimation of the benefits of e-reverse auction use (Schoenherr and Mabert, 2007).

In the current study, a research model including risks and benefits of using e-reverse auction is proposed in order to reveal the important factors in the decision to use e-reverse auction. Furthermore, the effect of organizational characteristics such as firm size, information technology (IT) capability and managerial support on the usage decision are discussed in the research model. The next section discusses the literature on e-reverse auction use.

This section is followed with a research model on the use of e-reverse auction use, and the chapter concludes with the possible future research areas and conclusion.

BACKGROUND

The empirical research on e-reverse auction reveals that the main reason to use e-reverse auction is to maximize the savings in the procurement of products or services. One of the popular service provider, Ariba StartSourcing indicates that they are delivering “value for organizations for all sizes and industries by- sourcing \$340 billion spend in annual across 500 categories, saving \$30 billion annually and cutting process and cycle times by 50-70 percent” (Ariba StartSourcing Solution, 2015).

In contrast to price decrease, switching to a new supplier may increase the transaction cost. The basic principle of Transaction Cost of Economics (TCE) is that “people like to conduct transactions in the most economical way” (Teo and Yu, 2005, p. 452). It explains the reason for selecting one transaction over another. In that transaction the costs are minimized and the benefits are maximized. With e-reverse auction, buyers may procure the products or services with less prices and search costs. Whereas, the supplier change may lead to an uncertainty, which is the principal factor of TCE (Teo and Yu, 2005). Mithas et al. (2008) define uncertainty in the element of non-contractible dimensions. Non-contractible dimensions include situations that cannot be estimated at the start of the contract. Task-based non-contractibility includes uncertainty about the quality, technological investment requirement and prosperity in information exchange, whereas interaction-based dimensions include responsiveness, trust and flexibility of the suppliers for the possible changes in the demand. They revealed that non-contractibility presents an obstacle in the decision to use e-reverse auction. To mitigate risks of the non-contractibility dimensions, buyer can identify a value for the cost

of vendor change. During the e-reverse auction, incumbent supplier loses the auction if the gap between the bids is higher than that pre-identified cost of supplier change factor.

The literature on reverse auction show that larger organizations, using Internet for businesses, also prefer to use e-reverse auction (Hartley et al., 2004; Mithas et al., 2008). IT capability is a prerequisite in order to determine to use such a system (Mithas et al., 2008). The characteristics of a purchased product or services also become important in the decision to use the system. Some products or services require investment in order to produce. These products are generally special products, in which description of such products require close coordination between the supplier and the buyer (Mithas et al., 2008; Schoenherr and Mabert, 2011).

In addition, use of e-reverse auction has negative effects on supplier-buyer relationship (Löscher and Lambert, 2007). Especially the behaviors and practices of buyer during auction may deteriorate the relationship. Furthermore, the lack of clarity in product specifications and requirements of contract create concern among suppliers (Tassabehji et al., 2006)

Our aim in this study is to understand the factors affecting e-reverse auction use. According to the Technology Acceptance Model (TAM), the final decision to use a system is determined by intention to use. Potential users first intend to use and then actually use the system. Therefore, behavioral intention to use is the immediate predictor of actual usages. Perceived usefulness and perceived ease of use are two important beliefs that explain usages and considered as the human related factors. TAM is taken as the base model in constructing the research model since the TAM is a widely used and robust model for predicting and explaining user behavior in IT usage (Davis, 1989; Legris et al., 2003). Several studies related with e-reverse auction also confirmed the significant effect of both perceived usefulness and perceived ease of use on usage (Gumussoy and Calisir, 2009; Gumussoy and Calisir, 2012).

7 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/acceptance-of-e-reverse-auction-from-the-buyer-perspective/183768

Related Content

Digital Literacy

Heidi Julien (2015). *Encyclopedia of Information Science and Technology, Third Edition* (pp. 2141-2148).
www.irma-international.org/chapter/digital-literacy/112623

Sustainability Design Applied to the Digital Signature of Documents

Bárbara Ovelheiro, Clara Silveira and Leonilde Reis (2021). *Handbook of Research on Multidisciplinary Approaches to Entrepreneurship, Innovation, and ICTs* (pp. 349-374).
www.irma-international.org/chapter/sustainability-design-applied-to-the-digital-signature-of-documents/260565

On the Study of Complexity in Information Systems

James Courtney, Yasmin Merali, David Paradice and Eleanor Wynn (2008). *International Journal of Information Technologies and Systems Approach* (pp. 37-48).
www.irma-international.org/article/study-complexity-information-systems/2532

Optimization of Cogging Torque Based on the Improved Bat Algorithm

Wenbo Bai and Huajun Ran (2023). *International Journal of Information Technologies and Systems Approach* (pp. 1-19).
www.irma-international.org/article/optimization-of-cogging-torque-based-on-the-improved-bat-algorithm/323442

Design of Health Healing Lighting in a Medical Center Based on Intelligent Lighting Control System

Yan Huang and Minmin Li (2023). *International Journal of Information Technologies and Systems Approach* (pp. 1-15).
www.irma-international.org/article/design-of-health-healing-lighting-in-a-medical-center-based-on-intelligent-lighting-control-system/331399