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# Do Relationships really Matter?
# A Study of Reverse Online Auctions

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**Abstract**

In an open bid reverse online auction, sellers bid downward in order to win an order from the buyer. This research attempts to study reverse online auctions from a relational perspective. We hypothesize that the relational antecedents to organizational usage of reverse online auctions are commitment, trust, interdependence and performance satisfaction and discuss the implications of our research.

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## Introduction

Today managers have a number of purchasing tools available to them. The Internet has not only introduced new purchasing mechanisms but also affected the nature of buyer-seller interaction. One of the purchasing mechanisms being adopted by many buying companies is the open bid reverse online auction. In this type of an auction, sellers bid downward in order to win an order from the buyer. While buyers tend to view reverse online auctions as a cost reducing mechanism, sellers tend to perceive it as a coercive tool. Buyer-seller relationships are extremely important in B2B transactions but there appears to be a lack of clarity regarding reverse online auctions and their impact on these relationships.

This paper is an attempt to understand reverse online auctions from a relational perspective. In the first section, we give an overview of the different types of online auctions . In the second section, we discuss reverse online auctions and present arguments on why they need to be viewed from a relational perspective. In the third section, we state our hypotheses regarding the relational antecedents to organizational usage of reverse online auctions and the methodology for our research. Finally, in the discussion section, we present the implications of our research as well as the limitations and future direction of our reseach.

## Online Auctions

Auctions have been used at least since ancient Rome for pricing and exchanging of goods (Smith 1989). Smith states that auctions serve as "social processes for establishing socially acceptable definitions of value and ownership". With the advent of the Internet more and more auctions are being held online. Jupiter Communications (http://www.jup.com) has predicted that the number of online auction buyers in the United States will reach 6.5 million in 2002 while Forrester Research (http://www.forrester.com/) has predicted that the number of online auction buyers will reach 14 million by 2003.

The advantages of an online auction over a traditional auction are many:- 1) Geographical barriers no longer exist, 2) All bidders need not participate at the same time and 3) Internet browsers, search engines etc. allow easier search for bidders interested in finding goods being auctioned online. There are also some disadvantages to online auctions as compared to traditional auctions. These include greater difficulty for the bidder in physically examining an item before bidding for it, and the potential for fraud (Lucking-Reiley 1999)

***Common Auction formats on the Internet***

Lucking-Reiley (1999) did an extensive survey of online auction sites on the Internet and found that the common Internet auction formats are the English auction, the Dutch auction and the sealed-bid auction.

**A. English Auctions**

In English auctions or ascending-bid auctions on the Internet, the bidder can see the current high bid for an item on the screen and can submit a higher bid any time before the close of the auction. The auction site will automatically update the status and display his bid as the current highest bid. The current highest bidder at the time the auction closes is declared the winner.

**B. Dutch Auctions**

A Dutch auction has a more unusual format. In this type of an auction, the price is set at a high level and it drops over a period of time. The first person who submits a bid is declared the winner and gets the item at the price displayed at that point in time.

**C. Sealed-Bid Auctions**

The two main types of sealed-bid auctions are:-

*First-price sealed-bid auction* – In this type of an auction a bidder cannot view the bids of the other bidders. The winning bidder is the person who submits the highest bid and he pays his bid amount.

*Second-price sealed-bid auction* – In this type of an auction, a bidder cannot view the bids of the other bidders. The winning bidder is the person who submits the highest bid and he pays one increment over the second-highest bid received

***E-Hubs***

E-Hubs are a concept relevant to any study on online auctions. Kaplan and Sawhney have defined e-Hubs as "neutral Internet-based intermediaries that focus on specific industry verticals or specific business processes, host electronic marketplaces, and use various market-making mechanisms to mediate any-to-any transactions among businesses". They distinguish between *neutral hubs* which do not favor one party over the other, as opposed to *biased* hubs which favor either buyers or sellers. Kaplan and Sawhney also distinguish between systematic sourcing and spot sourcing in the following manner :-

*Systematic sourcing* normally involves long-term contracts with qualified suppliers and can be said to be more relationship oriented. *Spot sourcing,* on the other hand, can be viewed as more transaction oriented since it involves the purchase of commodity like products on the spot market.

**Reverse Online Auctions**

The reverse online auction has sparked a lot of interest among academicians and practitioners alike and is increasingly being used in the business-to-business area for purchasing. This auction is called a ‘reverse auction’ because suppliers are bidding to supply an object or service to a buyer and are pushing the prices down (Jap 2000,2001). Reverse online auctions are likely to be most used where standardization of products/services is desired, markets are fragmented, transactions costs are high and global sourcing expertise is required (Purchasing Magazine Mar 2000).

Some of the ways in which buyers could use a reverse online auction are :-

1) As a playoff auction – The buyer might start with a large number of suppliers and use the auction to bring down the number of suppliers to three or four.
2) As a final price auction – The buyer may shortlist three or four suppliers and use this auction to award business.
3) For recurring business – The auction maybe used on a recurring basis for commodity-like materials among a pre-determined group of suppliers (Purchasing Magazine Mar 2000).
In the automobile industry, where a few powerful buyers have the option of choosing from a large number of suppliers, reverse online auctions can be termed ' buyer biased', as they tend to favor the buyer. A number of companies have started adopting this tool for procurement. General Motors, Ford and Daimler Chrysler have formed Covinsint, a B2B Internet exchange to conduct business with their suppliers, This single exchange aims to bring together the major suppliers and the manufacturers of automobiles in a virtual marketplace.

Jap (2000, 2001) reports interesting empirical results on comparing an open bid reverse online auction with a sealed bid auction. The research shows that the open bid reverse auction results in cost savings for the buyer. However, a large number of suppliers feel the buyer is being much more opportunistic in an open bid reverse auction than in a sealed bid auction. The suppliers feel that the buyer is ignoring the relationship aspect of the interaction. Jap (2000, 2001) also finds that the process of open bidding seems to cause a number of suspicions about the buyer such as the buyer is simply trying to get an idea of the market price and does not really intend to award the contract, the other suppliers are not really viable competitors, and that the buyer is "shilling" bids i.e. the buyer is also bidding to push down the price. Though in the auctions studied, none of these suspicions were actually true, it appears sellers had an inherent lack of trust in the buyers that led to their suspicions about the buyer's intentions.

The research shows that, regardless of the type of auction, once the contract is awarded the seller is willing to make dedicated investments. The participants in the auction feel that when they make dedicated investments the chances of the buyer going in for an auction in the future will decrease. They hope that the buyer will make his subsequent decisions based on factors other than price (Jap 2000, 2001).

***Reverse online auctions - a relational perspective***
Grewal, Comer and Mehta rely on the motivation-ability framework (Merton 1957) to develop a conceptual model for organizational participation in B2B electronic markets. In their framework, the antecedents for organizational participation are a function of the firm's *motivation* and *ability*. Based on the literature, the authors believe that the motives a firm emphasizes when entering an electronic market will effect the firm's operations in that market for some time to come. They posit that the motivating factors for the organization include an expectation of enhancing economic e*fficiency* and an expectation of gaining *legitimacy*. The ability of a firm is an outcome of *organizational learning* and *information technology capabilities.* Their results reveal that though motivation and ability are both important factors, the level of their influence varies with the nature of participation.

While the motivation-ability model seems to explain general organizational participation in B2B electronic markets, we believe that a phenomenon like reverse online auctions needs to be viewed from a relational perspective. We shall now draw upon existing literature to understand the relational aspects involved in the usage of reverse online auctions

Reverse online auctions are being advocated by a number of firms as a tool to reduce *transaction costs* and as a more efficient purchasing tool than sealed bids or negotiated prices. However Zajac and Olsen (1993) argue that a transaction cost approach neglects the interdependence between exchange partners to increase joint value as well as important process issues. Some B2B situations, in which a reverse online auction may be used, involve substantial interdependence between the buyer and the supplier and we believe it is inappropriate to view a reverse online auction as a stand-alone purchasing mechanism.

Reverse online auctions are an important tool for sourcing. Sourcing can be of two types viz. direct and indirect. *Direct sourcing* is used to procure materials used directly in the production of other goods while *indirect sourcing* is used to procure materials not directly used in the production of other goods. The procurement of office supplies like paper clips by an automobile manufacturer is an example of indirect sourcing. Direct sourcing involves more complex relationships with suppliers than indirect sourcing (Jap 2000, 2001). Our research focuses on reverse online auctions being used for direct sourcing.

There is strong evidence to support the notion that *direct sourcing* activities are *relational exchanges* rather than stand-alone phenomena. Relationship literature distinguishes between a discrete exchange and a relational exchange. Dwyer (1987) defines discreteness as " the separation of a transaction from all else between the participants at the same time and before and after". A relational exchange on the other hand occurs over time with the participants gaining complex satisfactions and engaging in social exchange (Macneil 1978, 1980; Dwyer 1987). In business-to-business direct sourcing there are strong relational aspects since the process involves interaction at different levels between partners. *Hence, reverse online auctions in direct sourcing will have antecedents as well as consequences on relational aspects of the buyer- seller interaction.*

The existing literature shows us that the main variables that determine the nature of buyer-seller relationships include commitment-trust, interdependence and performance satisfaction. Morgan and Hunt (1994) show that commitment and trust are key variables in relational exchanges. Sriram, Krapfel and Spekman demonstrate that perceived buyer dependence is an important antecedent to close buyer-seller cooperation. Ganesan (1994) also states that the determinants of long-term orientation in a buyer-seller relationship include trust, dependence and satisfaction.

We theorize that commitment, trust, interdependence and performance satisfaction act as antecedents to the usage of reverse online auctions by a buying firm in a given purchasing situation. Figure 1 describes the model.

**Antecedents to organizational usage of reverse online auctions**

***Commitment***

Morgan and Hunt (1994) posit that commitment and trust are the key variables that mediate a relational exchange. One common underlying theme in the literature on commitment is that "parties identify commitment among exchange partners as key to achieving valuable outcomes for themselves, and they endeavor to develop and maintain this precious attribute in their relationships" (Morgan and Hunt 1994). Dwyer, Schurr, and Oh (1987) define commitment as an "implicit or explicit pledge of relational continuity between exchange partners". Similarly, Moorman, Zaltman, and Deshpande (1992, p.316) define commitment as an enduring desire to maintain a valued relationship. If a seller is highly committed to a relationship, the seller is likely to make efforts to strengthen ties by investing in the relationship. Similarly, if a buyer is highly committed to a relationship, the buyer will endeavor to maintain continuity and is less likely to look outside the relationship for the next purchase order.

Conversely, if the level of commitment of the buyer is not high, the buyer is more likely to consider other options for future requirements. In this situation, a buyer may find a tool like a reverse online auction appropriate since it brings together a number of qualified suppliers and results in initial cost savings. This leads us to formulate our first hypothesis: -

**H1** : The lower the commitment between a buyer and a current seller, the greater the likelihood of the buyer using reverse online auctions.

***Trust***

Trust has been defined as a willingness to rely on an exchange partner in whom one has confidence. (Moorman, Zaltman, and Deshpande 1992). Trust can also be defined as the *perceived credibility* and *benevolence* of a target of trust (Doney). Perceived credibility refers to the expectancy that the partner's word or written statement can be relied on (Lindskold 1978). Benevolence is the extent to which one partner is genuinely interested in the other partner's welfare and motivated to seek joint gain (Doney).

Ganesan (1994) suggests that a retailer's trust in a vendor lowers the transaction costs in the exchange relationship, reduces the risk of the vendor engaging in opportunistic behavior and increases the likelihood of a long-term orientation towards the vendor. Granovetter (1985) posits that partners in ongoing relationships that are characterized by high trust will have a strong desire to continue these relationships. Ganesan (1994) shows

empirically that a significant positive relation exists between trust in a vendor's credibility and a retailer's long-term orientation.

Since trust is an antecedent to a long-term relationship, we can theorize that if a buyer has a high trust in an existing vendor, the buyer will be keen on maintaining that relationship. However, there are a number of possible situations where the level of buyer-seller trust may not be very high. When the trust level is low, the supplier may not invest much in the relationship for fear of opportunistic behavior by the buyer. The buyer, on the other hand, is likely to be open to the idea of taking on board other suppliers. In these situations, a reverse online auction is an attractive option for the buyer.

**H2** : The lower the buyer's trust in an existing seller the higher the likelihood that the buyer will use reverse online auctions.

***Interdependence***

Dependence is a firm's need to maintain an exchange relationship to achieve desired goals (Frazier 1983). Ganesan (1994) shows that dependence of a retailer on a vendor is positively related to the retailer's long-term orientation. Two properties of interdependence are magnitude and relative asymmetry. *Magnitude* can be defined as the sum of dependence in an exchange and high magnitude relationships depict involved or established exchange associations (Gundlach and Cadotte 1994). *Relative asymmetry* refers to comparative level of dependence in an exchange and can be said to be the difference in the dependence levels from the point of view of the firm under consideration (Gundlach and Cadotte 1994). It is similar to the concept of "power advantage" proposed by Emerson's (1962).

Using a simulated market channel, Gundlach and Cadotte (1994) show that for two firms A and B, A's use of non-coercive strategies toward B will be positively related to the magnitude of their interdependence. Hence, if the interdependence is high in magnitude the likelihood of the buyer using a coercive purchasing tool will be low. Most suppliers see reverse online auctions as a coercive tool. We can therefore theorize that if the interdependence is low in magnitude, the chance of the buyer using a tool like a reverse online auction is high. We can state our hypothesis as follows: -

**H3a :** A buyer's use of reverse online auctions will be inversely related to the magnitude of buyer-seller interdependence

Kumar, Scheer and Steenkamp show that decreasing asymmetry and increasing total interdependence have positive effects on relationship quality. Gundlach and Cadotte (1994) theorize that the party that is more dependent is more likely to use non-coercive strategies and is less likely to use coercive strategies. They find partial support for the hypothesis that A's use of coercive strategies toward B will be negatively related to their asymmetry of interdependence. Hence if a buyer is more dependent on a supplier the buyer is more likely to use non-coercive strategies and less likely to use tools like reverse online auctions to award contracts. This forms the basis for our next hypothesis, which is stated below: -

**H3b :** A buyer's use of reverse online auctions will be positively related to the asymmetry of the buyer-seller interdependence

***Performance Satisfaction***

The role performance of an exchange partner affects the management and structure of exchange (Kumar, Stern, and Achrol 1992). There are a number of measures of performance that may include financial measures and even measures of technological contribution. Gundlach and Cadotte (1994) refer to the broader dimensions of relationship performance such as competence of a party's decisions, knowledge of markets and competition, and ability to work effectively with a partner.

Frazier, Spekman and O'Neal study Just In Time (JIT) exchange relationships in Industrial Markets which are characterized by close buyer-seller interaction and suggest that the success of the JIT exchange is enhanced when satisfaction levels are high in each firm.Wilson (1995) states that in the search and selection stage of the relationship process, performance satisfaction is an active construct. Thus, when a buyer has to select a supplier, satisfaction with past performance plays an important role. If the performance satisfaction is high, the buyer is more likely to persist with the same supplier. If the performance satisfaction is not high, the buyer may terminate the relationship and/or look at other supplier options. In this scenario, an online auction may be appealing since it will expose the buyer to a number of qualified suppliers and result in initial cost savings.

**H4 :** The lower the performance satisfaction perceived by a buyer the higher the likelihood that the buyer will use reverse online auctions.

**Methodology**

Our study will be empirical in nature. The research will consist of a cross-sectional industry survey using key-informant data and will be conducted in two phases. The first phase will consist of interviews with 10 to 12 purchasing managers. We will design a self-administered questionnaire for the second phase based on relationship literature as well as inputs from the first phase.

We will use measures, drawn from the existing literature, in the questionnaire to capture the focal constructs of commitment, trust, interdependence and performance satisfaction. The dependent variable will be the level of usage of reverse online auctions (as a percentage of the total value of goods purchased via direct sourcing) by the buying firm. We will pre-test the questionnaire and modify it - based on the pre-testing. In the second phase we will mail a self-administered questionnaire to purchasing managers of member firms of the National Association of Purchasing Managers (NAPM).

**Discussion**

***Implications of the Research***

This research makes a significant addition to the current understanding of reverse online auctions. Reverse online auctions have been the subject of debate in academic and

corporate circles. This paper is the first attempt to understand this phenomenon from a relationship framework. There are a number of managerial implications for buying firms as well as selling firms.

If our first hypothesis is supported, then firms need to examine their level of commitment in a relationship carefully. If a long-term relationship is not the objective, then the seller firm and the buyer firm may want to reduce their level of commitment. This could result in an increase in use of tools like reverse online auctions. Similarly, our second hypothesis implies that the level of trust in a relationship may influence the choice of the purchasing tool. If a seller is keen on a long-term relationship with the buyer, the seller may indulge in trust building activities. As the level of buyer-seller trust increases, there is a greater chance that the buyer will use a tool like 'negotiated prices' rather than a reverse online auction.

Morgan and Hunt (1994) posit that some ways for firms to increase commitment and trust are by contributing resources and benefits that are superior to the offerings of alternative partners, ensuring transfer of valuable information, maintaining high standards of corporate values and not "malevolently" taking advantage of their exchange partners. Jap (2000, 2001) in her experimental study of reverse online auctions finds that suppliers are willing to make dedicated investments after winning a contract in order to show their commitment to the relationship and avoid future reverse online auctions. This finding tends to reinforce our hypotheses.

Our third hypothesis has two subparts and relates to interdependence in the relationship. If the buyer and seller are uncertain about the future of their relationship, they may look for ways to reduce dependence. As the level of interdependence decreases, the buyer is more likely to use tools like reverse online auctions. On the other hand, when interdependence is high we may see greater use of a tool like 'negotiated prices'.

The fourth hypothesis relates to performance satisfaction. If the seller is keen on a long-term relationship, it is important for the seller to try to ensure that the buyer's performance satisfaction is high. This will result in a lesser chance of the buyer looking outside the relationship for the next purchase order. In this context, it is relevant to note the concept of norm development. Dwyer, Schurr and Oh (1987) have mentioned norm development as an important component of the exploration phase of the relationship development process. Once norms are developed, performance evaluation becomes an easier task. Thus, it is in the interest of both partners to develop norms early in the relationship.

***Reverse Online Auctions vs. Collaborative Relationships***

Wilson (1995) has suggested that cost reductions can be obtained by either an *adversarial model* in which buyers pit suppliers against one another to lower costs or by a *cooperative model* in which buyers and suppliers work together to lower both their costs. The Resource Based Theory predicts that long-term relationships based on close collaboration with a core group of suppliers can lead to a stronger advantage than those on a bid-buy system.

The success of concepts like JIT II has shown that buyer-seller relationships, which involve close collaboration, can add value to both partners. The cooperative model is also emphasized by Hoyt and Huq (2000) who point out that over the years there has been a shift from arms-length to collaborative relationships in the supply chain. Wilson (1995) has developed a useful method of classifying potential partners based on a two by two grid. On the horizontal axis we have *value added to the buyer's product by the seller* (Low to High) and on the vertical axis we have *amount of operating risk associated with doing business with the seller* (High to Low). It is our belief that a buyer is least likely to use reverse online auctions with a seller who adds high value and for whom risk is low. It seems likely that in the coming years, reverse online auctions in direct sourcing will be used of the form of a playoff auction during the initial supplier short-listing process.

***Limitations and future direction***

The limitation with our study is that it is cross sectional in nature. Longitudinal studies or experimental studies generally provide stronger basis for inferring causality. One interesting direction for future research is studying reverse online auctions in the context of the stages of an exchange. Zajac and Olsen (1993) describe inter-organizational exchange processes in three separate stages. In the *initializing* stage a firm formulates its plans, evaluates different exchange alternatives and starts participation in inter-organizational exchange. In the *processing* stage, both firms engage in value creating behaviors. In the third stage called the '*reconfiguring*' stage, the partners may re-evaluate their relationship. In this framework, we theorize that a buying firm is more likely to use reverse online auctions when it is in the initializing stage and in the reconfiguring stage than when it is in the processing stage.

In conclusion, we do believe that reverse online auctions are here to stay. We feel that they are particularly useful in indirect sourcing and spot purchases but their use in direct sourcing is likely to be influenced significantly by buyer-seller relationship factors.

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## APPENDIX

**Figure 1 Antecedents to organizational usage of reverse online auctions**