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PANEL 11

WEB-BASED AUCTIONS: THEORETICAL ISSUES AND PRACTICAL EXPERIENCE

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Panelists: **Eric van Heck**, Erasmus University Rotterdam, The Netherlands
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Auctions are formalized trading procedures in which the trading partners' interaction is governed by specific rules for competitive bidding and trade execution. Auction markets provide procedures for the exposure of purchase and sales orders to the market participants in order to determine the price of trade objects. Empirically, we find a multiplicity of auction types with different trade objects, access rules for participants, and trading rules.

During the 1980s, electronic auctions were developed and implemented that distributed not only information about the trade objects electronically but also executed the trading process itself as computer-mediated process. The extensive proliferation of electronic commerce on the Web has accelerated the diffusion of electronic auctions. While the classic examples of electronic auctions such as the Tele flower auction (Heck et al. 1997) or Aucnet (Lee 1997) have been designed as wholesale auctions with a dedicated communication infrastructure and relatively high entry costs, the Web has facilitated the rise of electronic consumer auctions. *AuctionNet* [<http://www.auction.net>], *NETIS auctionweb* [<http://www.auctionweb.com/online/>], *The Internet Auction List* [<http://www.usaweb.com/auction.html/>], *Bid Find WWW Auction Search* [<http://www.bidfind.com/>], *The Auction Hunter* [<http://www.auctionhunter.com>] are examples of Web sites with listings of numerous, altogether hundreds, of auctions. Individual auction sites like *ONSALE* [<http://www.onsale.com>] have gained worldwide attention.

This panel considers the impact that the Web is having on auctions: their economic rationale, strategic potential, and diffusion. This is done through a consideration of electronic auctions in light of the classical auction theory and the impact of the Web on the various players in an auction. The hypothesized impacts are compared with the experience of Lufthansa, with its Web-based ticket auctions, and other examples of Web-based auctions. The panelists will discuss economic, strategic, institutional, and technical aspects of Web-based auctions:

1. **Classical auction theory and the need for an electronic auction theory.** Face-to-face auctions are a well researched field. We will briefly present some of the theoretical foundations, major issues, and voids.

Based on a rough classification of electronic auction parameters (technical environment, participants, trade objects, auction rules [cf. Klein 1997]) we will consider open issues and necessary amendments or extensions to auction theory. The focus will be on consumer auctions.

2. **Electronic auctions from a seller's perspective.** Airlines have seen the transformation of ticket auctions from a marketing event, which was designed to draw attention to their Web site, into a distribution channel. For many vendors, auctions are but one of several distribution channels.

We will discuss the strategic positioning of electronic auctions in comparison to other sales and distribution channels: What are the interdependencies, and probably interference, between the different channels and which isolation mechanisms are available?

3. **Understanding customer behavior.** In order to assess the attractiveness of auctions from a customer's perspective, we will present a cost-benefit framework covering comparative search and transaction costs, price advantages, and the exposure to quality risks and collusion. The economic rationale will be complemented with motives such as bargain hunting, gambling, or charity. We will consider the influence of cultural patterns, like the habit of price negotiations in an Arabic bazaar, on the acceptance of auctions.

The availability of last-minute tickets has prompted customers to make their travel decisions and ticket purchases on short notice. In a similar way, the proliferation of Web-based auctions might influence customers' buying patterns and facilitate for example, the spread of price negotiations and competitive bidding into new domains.

4. **The changing role and challenges for intermediaries.** While traditional auction theory has focused mainly on buyers and sellers, intermediaries play a crucial role in electronic auctions. In the highly fragmented environment of the Web, intermediaries try to integrate multiple auctions in order to generate sufficient liquidity on the buyer and the seller side. In order to reduce the quality risk for the buyers they try to establish a good reputation and trust.

We will consider the range of functions for auction intermediaries and will assess institutional and technical (cf. Heck and Vervest 1998) success factors for electronic consumer auctions.

5. **The impact of electronic auctions on the market place.** Empirical evidence suggests that auctions are changing the market place. In markets with established auctions, such as flower auctions, online auctions are changing the roles of established players and the level of competition among the auctioneers (cf. Heck et al. 1997). In markets where auctions have been unknown, auctions are challenging established price structures and the role of established distribution channels. We will illustrate these trends with a few examples.

6. **Future development of electronic auctions.** A tentative analysis of the impact of Web technology on auctions suggests that
 - new trading rules, in most cases combinations of existing rules, are emerging;
 - auctions are applied to new business domains; and
 - automated (for example, agent-based) trading models are designed in order to make the search and bidding process more efficient.

We will explore these trends, give (preliminary) evidence of how some of the current shortcomings of electronic auctions can be overcome, and indicate future directions for research.

OBJECTIVES OF THE PANEL

The panel brings together practitioners and academics from Europe and the U.S. The panelists will address the questions asked above and issues from a practical as well as a theoretical perspective and will discuss and illustrate the influence of different national cultures.

Stefan Klein will give an introduction into web-based auctions.

Eric van Heck will present the state of the art on theoretical research related to auction theory. He will discuss strengths and weaknesses of these theories and their applicability to the field of web-based auctions.

Peer Lodbrok will present practical experiences of the Lufthansa ticket auction. He will discuss the emerging role of auctions within the Lufthansa marketing and distribution strategy.

Ajit Kambil will compare the European experiences with insights from U.S. examples and discuss the development of electronic auctions and directions for future research.

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