

# MORE ON ELECTRONIC AUCTIONS

## FUNDAMENTALS OF DYNAMIC PRICING AND AUCTIONS

As described in Chapter 2, an **auction** is a market mechanism by which buyers make bids and sellers place offers. Auctions are characterized by the competitive and dynamic nature by which the final price is reached. Auctions, an established method of commerce for generations, deal with products and services for which conventional marketing channels are ineffective or inefficient.

The Internet provides an infrastructure for executing auctions at lower cost with many more sellers and buyers. Individual consumers and corporations alike can participate in this rapidly growing and very convenient form of electronic commerce.

**Electronic auctions (e-auctions)**, auctions conducted online, have been in existence for several years on local area networks (see Section 12.4) and were started on the Internet in 1995. Host sites on the Internet serve as brokers, offering services that enable sellers to post their goods for sale and allow buyers to bid on those items.

Although the majority of consumer goods are not suitable for auctions and are best sold through conventional sales techniques (i.e., posted-price retailing), the flexibility offered by online auction trading may offer innovative market processes. For example, instead of searching for products and vendors by visiting sellers' Web sites, a buyer may solicit offers from all potential sellers. Such a buying mechanism is so innovative that it has the potential to be used for almost all types of consumer goods, as will be shown later with the "name-your-own-price" concept.

The major characteristic of an auction is that it is based on dynamic pricing. **Dynamic pricing** refers to a transaction where the price is not fixed. In contrast, catalog prices are fixed, as are prices in department stores, supermarkets, and many other storefronts.

There are several types of auctions, each with its own motives and procedures. It is customary to classify dynamic pricing into four major categories depending on how many buyers and sellers are involved, as shown in Exhibit 2A.1 (reproduced from Exhibit 2.8 in the textbook) and described here. Each of these auction types can be done online or off-line.

### ONE BUYER, ONE SELLER

In the first configuration, each party can use negotiation, bargaining, or bartering. The resulting price will be determined by bargaining power, supply and demand in the item's market, and possibly business-environment factors.

#### **auction**

Market mechanism by which buyers make bids and sellers place offers; characterized by the competitive and dynamic nature by which the final price is reached.

#### **electronic auctions (e-auctions)**

Auctions conducted online.

#### **dynamic pricing**

Prices that change based on supply and demand relationships at any given time.

## EXHIBIT 2A.1 Types of Dynamic Pricing

Buyers	One	Negotiation, Bartering, Bargaining	Reverse auctions, RFQ, Tendering
	Many	Forward (regular) auctions	Dynamic exchanges
		One	Many
		Sellers	

### ONE SELLER, MANY POTENTIAL BUYERS

#### forward auction

An auction in which the price increases with time.

#### sealed-bid auction

Auction in which each bidder bids only once; a silent auction, in which bidders do not know who is placing bids or what the prices are.

#### Vickrey auction

Sealed-bid auction in which the item is awarded to the highest bidder, but at the second-highest price that was bid.

#### reverse auction

Auction in which the buyer places an item for bid (*tender*) on a request for quote (RFQ) system, potential suppliers bid on the job, with price reducing sequentially, and the lowest bid wins; used mainly in B2B and G2B e-commerce.

In the second configuration, the seller uses **forward auctions** (auctions where the price increases with time). There are four major types of forward auctions: English, Yankee, Dutch, and free-fall. (See text pages 69–71 for a description of each auction type.) Two examples of forward auctions are discussed in the nearby Insights and Additions box.

Sealed-bid auctions are also an example of one seller-many potential buyers auctions. In a **sealed-bid auction**, you bid only once. It is a silent auction, and the bidders do not know who is placing bids or what the prices are. In a first-price sealed-bid auction, the item is awarded to the highest bidder. In a second-price sealed-bid auction (**Vickrey auction**), the item is awarded to the highest bidder, *but at the second-highest price that was bid*. This is done to alleviate bidders' fears of significantly exceeding the item's true market value. (Sealed-bid auctions can also be conducted in the next category, with one buyer and many sellers.)

### ONE BUYER, MANY POTENTIAL SELLERS

Auctions in this category are tenderings (biddings), in which one buyer solicits bids from many sellers or suppliers (see examples of GE and GM in Chapter 5). An item the buyer needs is placed on an RFQ, and potential sellers bid on the item, *reducing the price sequentially*, as shown in Exhibit 2A.2 (reproduced from Exhibit 2.10 in the textbook). These auctions are called **reverse auctions** because the price reduces sequentially, and the lowest bid wins. These auctions are used mainly in B2B or G2B.

Another type of auction in the one-buyer, many potential sellers category is the *name-your-own-price model* pioneered by [Priceline.com](#). As described in Chapter 2, in this model, a would-be buyer specifies the price (and other terms) that they are willing to pay to any willing and able seller. This is basically a consumer-to-business (C2B) model, although it is also used by some businesses. Competitors offer several similar models.

### MANY SELLERS, MANY BUYERS

In this final configuration (see also Chapter 6), buyers and their bidding prices and sellers and their asking prices are matched based on the quantities on both sides. Stocks and commodities markets are typical examples of this type of configuration.

## Insights and Additions Two Examples of Forward Auctions: Dell Computer and eBay

### B2C FORWARD AUCTIONS: DELL AUCTION

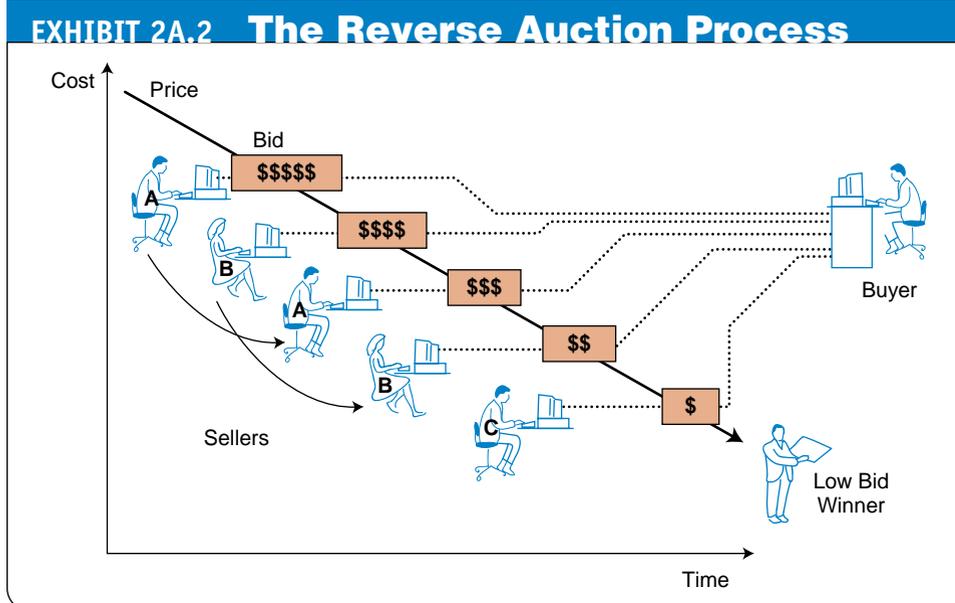
If you want to buy or sell a used or obsolete Dell product, go to *dellauction.com*. Buyers will find lots of information on the items that they are interested in. For example, a buyer can find out if the seller is Dell (B2C) or an individual (C2C). The buyer can also check product details, such as item warranty and condition. The site also offers general services, such as escrow. Everything on the site is organized for the buyers and sellers, from shopping carts and account management features to payment and shipping services.

### C2C FORWARD AUCTIONS: EBAY

A visit to eBay (*ebay.com*) is a must. It is the world's largest auction site, with a community of close to 50 million registered users as of summer 2002. The site basically serves individuals, but it caters to small businesses as well. According to company financial statements, in 2000, it transacted \$5 billion in sales, concentrating on collectibles. In 2001, eBay started to auction fine art in collaboration with *icollector.com* of the United Kingdom. The site also provides for fixed-price trading.

In addition, eBay operates globally, permitting international trades to take place. Country-specific sites are located in the United States, Canada, France, the United Kingdom, Australia, and Japan. Buyers from more than 150 other countries participate. eBay also offers a business exchange in which small- and medium-sized enterprises can buy and sell new and used merchandise in B2B or B2C modes.

eBay has 53 local sites in the United States that enable users to easily find items located near them and to browse through items of local interest. In addition, some eBay sites, such as eBay Motors, concentrate on specialty items. Trading can be done from anywhere, at any time. Wireless trading is also possible.



Buyers and sellers can be individuals or businesses. Such auctions are called double auctions (see the following section).

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## BENEFITS, LIMITATIONS, AND STRATEGIC USES OF AUCTIONS

Electronic auctions are becoming important selling and buying channels for many companies and individuals. Electronic auctions enable buyers to access goods and services anywhere auctions are conducted. Moreover, almost perfect market information is available to both buyers and sellers about prices, products, current supply and demand, and so on. These features provide benefits to all.

### BENEFITS OF E-AUCTIONS TO SELLERS

Electronic auctions provide the following benefits to sellers:

- ▶ **Increased revenues by broadening the customer base and shortening cycle time.** With e-auctions, sellers can reach the most interested buyers in the most efficient way and sell at a price equal to buyer valuation of the product. This eliminates the need to predict demand and the risk of pricing items too high or too low.
- ▶ **Optimal price setting.** Sellers can make use of the information collected about price sensitivity to set prices in other fixed-price markets.
- ▶ **Disintermediation.** Sellers can gain more customer dollars by offering items directly, rather than going through an expensive intermediary or by using an expensive physical auction.
- ▶ **Better customer relationships.** Buyers and sellers have more chances and time to interact with each other, thus creating a sense of community and loyalty. Additionally, by making use of the information gathered on customer interests, sellers can improve the overall e-commerce experiences of buyers and deliver more personalized content to buyers, thus enhancing customer relationships.
- ▶ **Liquidation.** Sellers can liquidate large quantities of obsolete items very quickly.

### BENEFITS OF E-AUCTIONS TO BUYERS

Electronic auctions provide the following benefits to buyers:

- ▶ Opportunities to find unique items and collectibles.
- ▶ Chance to bargain. Instead of buying at a fixed price, buyers can use the bidding mechanism to bargain with sellers for the price they are willing to pay.
- ▶ Entertainment. Participating in e-auctions can be entertaining and exciting. The interaction between buyers and sellers may create goodwill and positive feelings. Buyers can interact with sellers as much or as little as they like.
- ▶ Anonymity. With the help of a third party to the e-auction, buyers can remain anonymous.
- ▶ Convenience. Buyers can trade from anywhere, even with a cell phone (mobile commerce).

## LIMITATIONS OF E-AUCTIONS

E-auctions have several limitations, including the following:

- ▶ **Possibility of fraud.** Auction items are in many cases unique, used, or antique. Because buyers cannot see the item, they may get a defective product. Buyers can also commit fraud. Thus, the fraud rate in e-auctions is very high. (For specific fraud techniques and how to prevent them, see the discussion later in the appendix.)
- ▶ **Limited participation.** Some auctions are by invitation only, whereas others are open to dealers only.
- ▶ **Security.** Some of the C2C auctions conducted on the Internet are not secure, and some possible participants are scared away by the lack of security. On the other hand, some B2B auctions are conducted on highly secure private lines.
- ▶ **Software.** Unfortunately, only a few “complete” or “off-the-shelf” software solutions that can support the dynamic commerce functionality required for optimizing pricing strategies and that can be easily customized to the unique requirements of a company or industry are available. In short, dynamic commerce “best practices” are still being defined within industries and will continue to evolve as new business processes emerge online.

## STRATEGIC USES OF AUCTIONS AND PRICING MECHANISMS

Through dynamic pricing, buyers and sellers are able to optimize product inventory levels and adjust pricing strategies very quickly. For example, by using Web-based auctions and exchanges, suppliers can quickly flush excess inventory and liquidate idle assets. Buyers may end up with the power to procure goods and services at the prices they desire. The endgame is to accurately assess and exploit market supply and demand requirements faster and more efficiently than the competition.

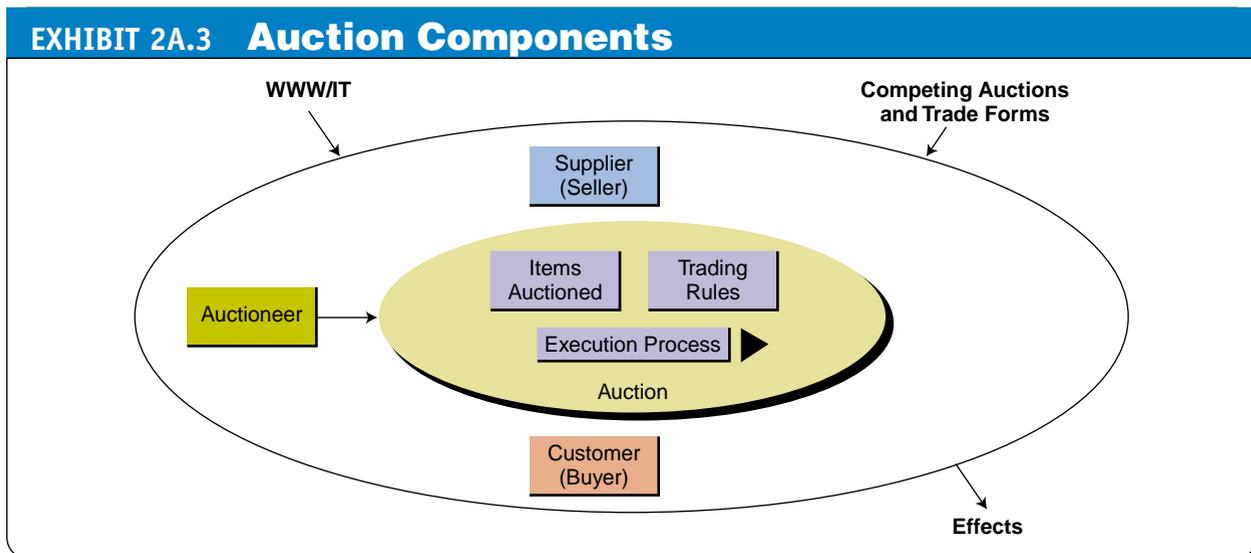
Aberdeen Group (2000) showed that market makers leveraging auction exchange models are reaching liquidity (“critical mass,” see Chapter 6) more rapidly than those utilizing only catalog-order-based trading environments. However, businesses are still struggling to understand how to truly implement dynamic pricing models to augment existing business practices. One suggestion of how to do so was provided by Westland (2000), who observed that e-auctions place much more power in the hands of the consumer than e-tailing. He suggested that the following 10 lessons can be applied to e-tailing auctions.

1. Customers are attracted to e-auction markets because they provide greater liquidity than traditional markets. This greater liquidity results directly from the greater geographical reach provided to commercial transactions by electronic networks.
2. Electronic auction markets can more efficiently discover the best price at which to trade in a product.
3. Electronic auction markets can, at low cost, provide exceptional levels of transparency of both market operations and product quality.

4. Electronic auction markets are more efficient than traditional markets. This efficiency allows e-auctions to better provide information required to correctly price assets traded in the marketplace.
5. Electronic auctions can provide a market that offers services at a lower transaction cost.
6. Customers will abandon a market that is not perceived as fair, even though they may initially profit from “unfair” transactions in that market. By distancing customers from the traders in a market, market managers can provide a false sense of legitimacy to a market that allows unfair and opaque trading practices.
7. Electronic auction systems must manage all aspects of trading activity, from initiation to settlement and delivery. Markets that fail to integrate both price discovery and order completion (settlement) into their operations can encourage unfair trading behavior and opaque trading practices.
8. Because the delay in price response may result in significantly faster completion and posting times, there is greater potential for feedback loops and instabilities that are a threat to orderly trading and to fair and efficient pricing of assets traded.
9. Electronic auctions may fuel unfair trading practices through different relative speeds of service through different parts of their networks linking trading to customers.
10. Order-driven e-auction markets demand that markets clearly define when a sale has been made.

## IMPACTS OF AUCTIONS

Some of the impacts of electronic auctions are presented in Exhibit 2A.3. The figure shows the components of the auctions, the participants, and the process. The impacts are summarized in Exhibit 2A.4.



Source: Modified from Klein, 1977, p. 4. Used with permission of Dr. Stefan Klein.

## EXHIBIT 2A.4 Summary of Impact Areas

Parameter	Impact of the Web
Auctioneer	Lower entry barriers; opportunity for direct sales
Access rules	Customizable; theoretically millions of potential customers can be reached.
Items auctioned	Focused product segments can be auctioned off; the technology extends the complexity of the product description.
Trading rules	The trading rules reflect the lack of a guaranteed service.
Execution process	For digital products, the entire trading cycle can be handled on the Web; for physical products the trading process and the physical logistics of the traded objects can be separated, leading to a reduction of costs.

**Source:** Modified from Klein, 1997, p. 5. Used with permission of Dr. Stefan Klein.

## THE NAME-YOUR-OWN-PRICE C2B MODEL

One of the most interesting e-commerce models is the **name-your-own-price model**. This model appears in several variations and is associated with [Priceline.com](http://Priceline.com). As described in Chapter 2, Priceline.com pioneered the name-your-own-price Internet pricing system that enables consumers to achieve significant savings by naming their own price for goods and services. Basically, the concept is that of a C2B reverse auction, in which vendors submit offers and the lowest-priced vendor gets the job. According to the market research firm Opinion Research Corporation International of Princeton, New Jersey, Priceline.com is the Internet's second-most-recognized e-commerce brand behind Amazon.com (Brand Institute 1999). Two-thirds of all adults in the United States have heard of Priceline.com and its name-your-own-price commercial formula.

Priceline.com either presents consumer offers to sellers who can fill as much of that guaranteed demand as they wish at "price points" requested by buyers or searches a Priceline.com database that contains vendors' minimum prices and tries to match supply against requests. Priceline.com asks customers to guarantee acceptance of the offer if it is at or below the requested price. This is guaranteed by having the buyer's credit card number. Priceline.com's "virtual" business model allows for rapid scaling, using the Internet for collecting consumer demand and trying to fill it. The approach is based on the fundamental concept of the downward-sloping demand curve in which prices vary based on demand. For example, airlines have about 500,000 empty seats every day, and Priceline helps to fill them.

Priceline.com is currently selling multiple products and services, mainly across the following product categories: a travel service that offers leisure airline tickets, hotel rooms, and rental cars; a personal finance service that offers home refinancing and home equity loans; and an automotive service that offers new cars. New services that were added in 2000 include credit cards and long-distance calling. (That same year, Priceline.com suspended the delivery of food, gasoline, and groceries due to accumulated losses.)

### name-your-own-price model

Auction model in which would-be buyers specify the price (and other terms) they are willing to pay to any willing seller; a C2B model, pioneered by Priceline.com.

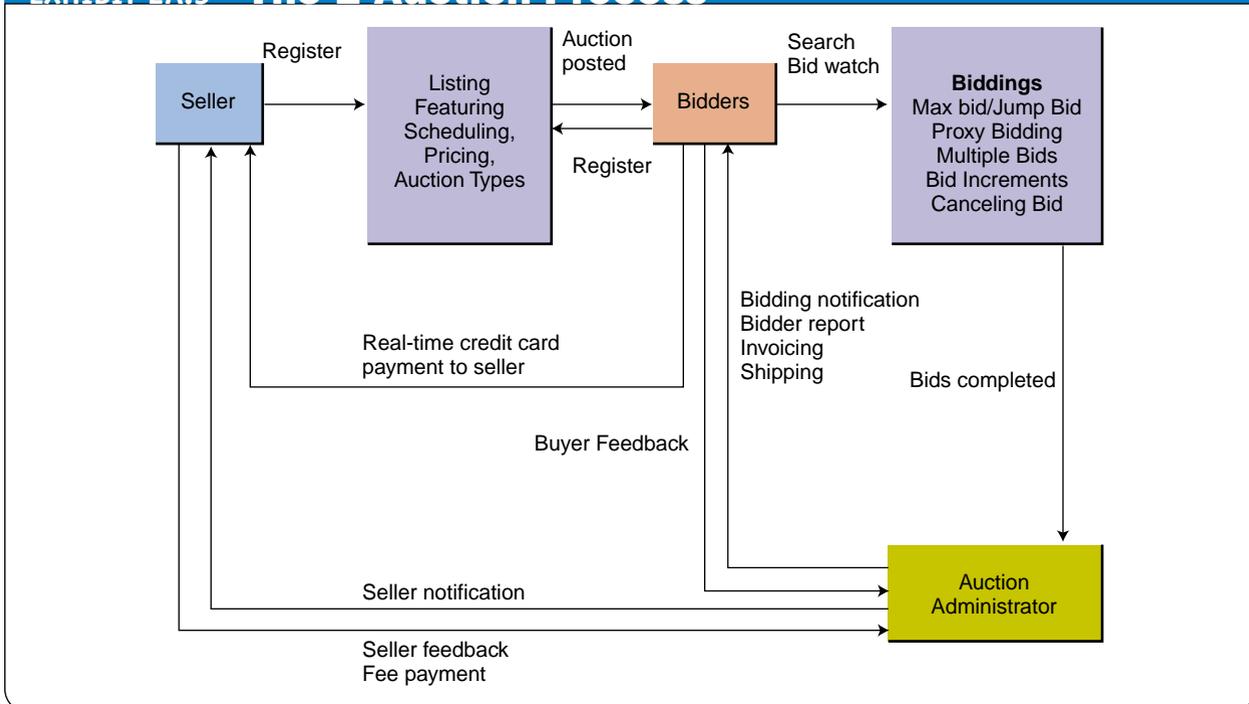
Also in 2000, the company teamed up with Hutchison Whampoa Limited, one of Asia's largest owners of telecommunications and Internet infrastructure, to offer a range of services in Asia, including China and Hong Kong, India, Taiwan, Indonesia, Singapore, Thailand, Korea, Malaysia, the Philippines, and Vietnam. Priceline.com also has offices in many other countries.

Priceline.com has initiated a new service for helping people get rid of old things that they no longer want. It is similar to an auction site with heavy emphasis on secondhand goods. However, the auction process is different. The new site, named Perfect YardSale, lets a user make an offer below the seller's asking price for an item, a system that is similar to the haggling that goes on at garage and yard sales. Also, the buyer and seller are expected to meet face-to-face. Priceline.com argues that its method leads to bargains for buyers that are better than at auctions, where the highest bidder wins. Buyers and sellers can swap goods in person, eliminating the expense of shipping. Perfect YardSale transactions are limited to local metropolitan areas.

## THE AUCTION PROCESS AND SOFTWARE SUPPORT

A number of software products and intelligent tools are available to help buyers and sellers find an auction or complete a transaction. In an auction, sellers and buyers usually complete a four-phase process: searching and comparing, getting started for an auction, actual bidding, and post-auction activities (see Exhibit 2A.5). Each phase has several support tools. Let's explore them by the auction phase in which they are used.

**EXHIBIT 2A.5 The E-Auction Process**



## PHASE 1: SEARCHING AND COMPARING

Auctions are conducted on hundreds of sites worldwide. Therefore, sellers and buyers need to execute extensive searches and comparisons to select desirable auction locations. The following support tools may be helpful in conducting these searches and comparisons.

### Searching and Comparing

Many Web sites offer links to hundreds of auction sites or they provide search tools for specific sites. The mega-searching utility not only helps sellers find suitable locations to list their items, but it also enables buyers to browse available auction sites efficiently. See the Insights and Additions box on page 2A-10 for an example of how to find when and where an item is being auctioned.

The following are some popular auction search tools:

- ▶ Online Auctions Network ([online-auctions.net](http://online-auctions.net)) contains a directory of auction sites organized by categories, as well as auction news.
- ▶ The Internet Auction List ([internetauctionlist.com](http://internetauctionlist.com)) is packed with news about e-auctions worldwide and features access to innumerable specialty auctions.
- ▶ Yahoo!'s auction list ([auctions.yahoo.com](http://auctions.yahoo.com)) contains a list of over 400 auction-related links.
- ▶ Bidder's Edge ([biddersedge.com](http://biddersedge.com)) conducts searches across multiple auction houses for specific auction products and pricing information. It provides detailed historical information on previous sales.
- ▶ Turbobid ([etusa.com](http://etusa.com)) provides a mega-search service that helps local bidders look for items they want from a pool of e-auction sites.

### Automated Search Services

Automated search services notify buyers when items they are interested in are available at one or more auction sites. Buyers fill out forms specifying the item they want. Then assistance tools, such as Auction Watch and [auctionservices.com](http://auctionservices.com), keep tabs on various auction sites and notify buyers by e-mail when the items they wish to bid on appear. CityAuction's Notify Me, Excite Auctions' Cool Notify, and eBay's Personal Shopper assist bidders at these sites.

Automated search engines are beneficial to users but may not be appreciated by the auction site, as discussed in the Insights and Additions box on page 2A-11.

### Browsing Site Categories

Almost all auction home pages contain a directory of categories. Buyers can browse a category and its subcategories to narrow a search. Some sites also enable users to sort items according to the time a specific auction is being conducted.

### Basic and Advanced Searching

Buyers can use search engines to look for a single term, multiple terms, or key words. To conduct an advanced search, buyers can fill in a search form to specify search titles, item descriptions, sellers' IDs, auction item numbers, price ranges, locations, closing dates, completed auctions, and so forth.

## Insights and Additions Finding When and Where an Item Will Be Auctioned

Assume a potential buyer is interested in purchasing a pool table. The following process is one example of how that buyer might use the Internet to locate the desired pool table. To find auctions that feature pool tables, the potential buyer performs the following two steps:

1. Enter *biddersedge.com*
2. Request "Pool Table" on the key word option

The search engine claims that it searches at more than 200 auction sites. The buyer's key word search found 63 auctions, which were organized as shown here.

TOYS & BEANIES> PLUSH>OTHER	AUCTION SITE =TRUSTED	PRICE (APPROX.)	CLOSE (ETS) CHANGE ZONE	BUY TYPE
Hardvard 8' Oakwook I Slatron Pool Table w/Ball Return & FREE SHIPPING!	EGGHEAD.com	\$745.99	03/05, 05:52PM	Retailer
Voit Competition Table Soccer (New)	EGGHEAD.com	\$79.99	04/11 01:00PM	Retailer
Executive-Size Pool Table/Billards Set	BidBay	\$95.00	02/01, 09:06PM	P2P
Peters Sellers~Pool~Pool Table~16" × 20" Poster	Amazon	\$18.95	02/05, 12:44AM	P2P

The buyer can sort auctions by the type of seller ("Buy Type"), retailer, person-to-person (P2P), fixed price, and so on. Notice that eBay is not on the list, probably because eBay does not permit third-party agents to traverse its site. Next, the buyer should match categories. For example, one might decide to match the pool table with "jewelry." Assume that several matches were found in which people were selling a pool table and some jewelry together, then try the same search at eBay. This search on eBay resulted in 15 items, including pool tables, charms, and rings. Some of the items were new and at a fixed price. At that time the buyer has the option to add the search to their personal shopper page.

Assume now the buyer returns to *biddersedge.com* and searches for a Boeing 777. One auction notes a Herpa Wings Emirates Boeing 777-200 for \$18. This, of course, was not a real plane, but the buyer can register with the site's auction tracker, which promises to track the airplane. This free service, provided by the auction house, will "ping" the buyer with a notification alert if any similar merchandise becomes available.

To decide on a reasonable price for their pool table, the buyer can then check price histories. Price histories, however, were not available for a Boeing 777 or a pool table, but the buyer might find a great deal of price history on, for example, Barbie dolls, including price ranges at different times during the last 12 months.

## PHASE 2: GETTING STARTED AT AN AUCTION

To participate in an auction, one needs to register at the selected site. After registration, sellers can list, feature, schedule, and price their items on the site. Buyers can check sellers' profiles and other details, such as the minimum bid amount, the auction policy, and the payment method allowed, and then place their bids.

## Insights and Additions    Mobile Intelligent Agents: An Issue in Auction Aggregation

In September 1999, eBay initiated a drastic policy against third-party “predatory” search agents. These agents enter the major online auction sites and search for items that consumers are looking for, notifying consumers when and where an auction of interest is being held. The eBay policy prohibits third-party search sites from collecting and sharing information found on eBay’s site. The problem, as reported by eBay, was that the search agents were frequently accessing eBay, sifting through auction offers, harvesting the information, and placing it on alternate Web sites, such as *auctionwatch.com*, *auctions.bcentral.com*, and Ruby Lane (*rubylane.com*).

eBay claimed that these search agents were harmful in many ways. First, they slowed down eBay’s transaction processing systems, thus reducing performance for all other eBay visitors. Second, outside search agents might not show the most up-to-date information and thus reduce auction users’ purchases. Executives from the third-party companies were quick to point out that their systems were actually benevolent in that they served as “repeaters” of eBay information, thus actually lowering the load on the eBay site. Furthermore, they stressed that actual purchases were, after all, carried out at eBay’s site, so that business was not really taken away from the company, and that they, in fact, brought more bidders to eBay.

The culprits in this situation were mobile intelligent agents that can interact with host computers other than the one they originate on, move from host to host, and extract and store data in the process. In the eBay scenario, they were “harvesting” information and sending it to their company’s computer, which collected, analyzed, and redistributed that information.

Are agents truly culprits or predators as suggested? eBay’s response clearly suggests that they are predators, as did several readers’ comments following the policy announcement. Yet, Murch and Johnson (1999) claim just the opposite, stating that all companies wanting to sell over the Internet should be willing to format their information so that it can be easily accessed by intelligent agents. In other words, agents are viewed by some as having positive characteristics.

The incident created a debate in online chat rooms and discussion groups. Most customers criticized eBay. In early 2000, eBay licensed Channel Advisor to aggregate auctions from eBay. Channel Advisor had similar agreements with dozens of other auction sites.

**Source:** Wagner and Turban, 2002.

### Registration and Profiles

Sellers and buyers must register their names, user IDs, and passwords before they can participate at a specific auction site. The user’s page header (heading at the top of the screen) and the auction listing will display a basic description of sellers and their listings. Before submitting a bid, buyers can check a seller’s profile, including the seller’s membership ID and previous transactions. If the auction site provides voluntary verified-user programs such as BidSafe ([auctions.com](http://auctions.com)), buyers can check whether sellers are qualified auction community members as verified by the third-party security source.

### Listing and Promoting

Several software programs are available that can help sellers list and promote their items:

- ▶ **Advertisement Wizard** (see [illumix.com](http://illumix.com)). Helps users create attractive advertisements and auction postings. With a simple-to-use, fill-in-the-blank interface, users can create great-looking advertisements for e-auctions.
- ▶ **Auction Assistant** (see [tucows.com](http://tucows.com)). This tool and Ad Studio ([adstudio.net](http://adstudio.net)) can be used to create auction listings. It allows users to manipulate fonts, backgrounds, and themes on their listings. It also enables users to include

standard details, such as shipping policy and payment terms. The tools also can be used to track sales, payments, and shipping.

- ▶ **Auction ePoster2000.** This program, which interacts directly with eBay, makes it simple to add pictures to a listing. It also helps in adding backgrounds, photos, etc. The program can create up to 100 ads at a time, and it supports bulk listing.
- ▶ **Auction Wizard** (see [auctionwizard2000.com](http://auctionwizard2000.com)). This program can upload up to 100 items simultaneously. It is an auction-posting tool that saves cutting and pasting. Auction Wizard also enters user ID, password, auction title, location, opening bid, category, and auction duration.
- ▶ **Mister Lister** (see [ebay.com/services/buyandsell](http://ebay.com/services/buyandsell)). An eBay tool, sellers can upload the listings of many items at one time.
- ▶ **Bulk Loader** (see Yahoo! Auctions at [auctions.yahoo.com](http://auctions.yahoo.com)). Seller can load several auctions into a spreadsheet program such as Microsoft Excel.

## Pricing

To post an item for bid, sellers have to decide the minimum bid amount, the bid increment, and any reserve price (i.e., the lowest price for which a seller is willing to sell an item). Sellers can search for comparable guides with Web search engines such as [BidFind.com](http://BidFind.com), [freemerchant.com](http://freemerchant.com), [PriceScan.com](http://PriceScan.com), and [AuctionWatch.com](http://AuctionWatch.com). If an auction site allows searching for auctions closed in the past, the transacted prices of similar items can provide a benchmark for a buyer's bidding strategy or a minimum acceptable price for a seller.

## PHASE 3: THE ACTUAL BIDDING

In the bidding phase, buyers can submit bids themselves or make use of software tools that place bids on their behalf. They can also use tools to view the bidding status and to place bids across different sites in real time.

### Bid Watching and Multiple Bids

Buyers can visit the user page of an e-auction Web site at any time and keep track of the status of active auctions. They can review bids and auctions they are currently winning or losing or have recently won. Tools provided in the United States by Bid Monitor (see [bruceclay.com](http://bruceclay.com)), and EasyScreen Layout (see [auctionbroker.com](http://auctionbroker.com)) enable bidders to view their bids across different auction sites in an organized way. Bidders can also place their bids at multiple auction sites using a single screen without switching from one window to another.

### Sniping

**Sniping** is the act of entering a bid during the very last seconds of an auction and outbidding the highest bidder. *Auto-sniping* involves using electronic tools to watch the progress of an auction and perform the sniping automatically. In auctions that last a specific length of time, say, a day, the bidder's software agent can do the bidding automatically.

Occasionally, sellers use sniping in a fraudulent way: When the bidding price seems to be too low, they may enter the auction and bid for their own goods or ser-

#### sniping

Entering a bid during the very last seconds of an auction and outbidding the highest bidder.

vice, pretending they are buyers. In this way, they hope to inspire other bidders to join in at higher prices. (Being aware of this possible activity should help you avoid overpaying in an online auction.)

### Proxy Bids

A software system can operate as a *proxy* to place bids on behalf of buyers. In such **proxy bidding**, a buyer should determine their maximum bid, then place the first bid manually. The proxy will then execute the buyer's bids, trying to keep the bids as low as possible. When someone enters a new bid, the proxy will automatically raise the bid to the next level until it reaches the predetermined maximum price. This function is not applicable in a Dutch auction.

#### **proxy bidding**

Use of a software system to place bids on behalf of buyers; when another bidder places a bid, the software (the proxy) will automatically raise the bid to the next level until it reaches the predetermined maximum price.

## PHASE 4: POST-AUCTION FOLLOW-UP

When auctions are completed, post-auction activities take place. These activities include e-mail notifications and arrangements for payment and shipping. A typical post-auction tool is Easy! Auction ([saveeasy.com](http://saveeasy.com)).

### Post-Auction Notifications

Typical post-auction activities include the following:

- ▶ **Bidding notifications.** Buyers receive e-mail messages or beeper messages notifying them while the bidding is going on (English auctions), each time they are outbid, or when they win an auction.
- ▶ **End-of-auction notices.** When an auction closes, the seller receives an e-mail message naming the highest bidder. End-of-auction e-mails provide seller and buyer IDs; seller and winner e-mail addresses; a link to the auction ad, auction title, or item name; the final price; the auction ending date and time; the total number of bids, and the starting and highest bid amounts.
- ▶ **Seller notices.** After an auction ends, the seller generally contacts the buyer via e-mail. The seller's notice typically provides the auction number and item name, total purchase price (winning bid plus shipping), payment preferences, mailing address, etc.
- ▶ **Postcards and thank-you notes.** Sites such as [AuctionWatch.com](http://AuctionWatch.com) help sellers create a customized close-of-auction or thank-you note for winning bidders.

### User Communication

User-to-user online communication provides an avenue by which auction participants can share information about goods and services being offered and about the process of online auctions. User communication appears in a number of forms:

- ▶ **Chat groups.** Areas on e-auction sites and auction-related sites where people can post messages in real time to get quick feedback from others.
- ▶ **Mailing lists.** A group of people talking about a chosen topic via e-mail messages.
- ▶ **Message boards.** Areas on e-auction and auction-related sites where people can post messages that other users can read at their convenience. Other message board participants can post replies for all to read.

## Feedback and Ratings

Most e-auction sites provide a feedback and rating feature that enables auction community members to monitor each other. This feature enables users to rank sellers or bidders and add short comments about sellers, bidders, and transactions.

## Invoicing and Billing

An invoicing tool (invoicing utility) can e-mail and print one or all invoices, search and arrange invoices in a number of ways, edit invoices, and delete incorrect invoices. This utility automatically calculates shipping charges and sales tax. It can also automatically calculate and charge the seller with the listing fees and/or a percentage of the sale as commission. An example of this tool is Accounting 2002 from Billboardnet International ([billboardnet.com](http://billboardnet.com)).

## Payment Methods

Sellers and winning bidders can arrange payment to be made by cashier's check, C.O.D. (cash on delivery), credit card, electronic transfer, or through an escrow service (see Chapter 10). A number of online services are available for electronic transfer, escrow services, and credit card payment, including the following:

- ▶ **Electronic transfer service.** Buyers can pay electronically via [PayByWeb.com](http://PayByWeb.com), [PayPal.com](http://PayPal.com), or [BidPay.com](http://BidPay.com).
- ▶ **Escrow service.** An independent third party holds a bidder's payment in trust until the buyer receives and accepts the auction item from the seller. This service charges a fee and is usually reserved for high-end transactions. Examples of escrow service providers are [tradenable.com](http://tradenable.com), [guzooescrow.com](http://guzooescrow.com), and [escrow.com](http://escrow.com).
- ▶ **Credit card payment.** [Billpoint.com](http://Billpoint.com) and [CCNow.com](http://CCNow.com) facilitate person-to-person credit card transactions. Billpoint's payment processing system offers many of the same protections as escrow services, such as payment processing, shipment tracking, and fraud protection.

## Shipping and Postage

Finally, to complete the auction process, the purchased goods must be shipped from the seller to the buyer. Shipping and postage services are offered as follows:

- ▶ **Internet shippers.** Shipping providers such as [iship.com](http://iship.com), and [auctionship.com](http://auctionship.com) help sellers by providing a one-stop integrated service for processing, shipping, and packing e-commerce goods.
- ▶ **Internet postage.** Postage service providers such as [stamps.com](http://stamps.com) enables users to download postage, print "stamped" envelopes and labels, and arrange shipments via the U.S. Postal Service. These providers charge sellers both fixed and transaction fees for services.

## ADDITIONAL TERMS AND RULES

Each auction house has its own rules and guides. The following are some examples:

- ▶ **Reserve price auction.** In a reserve price auction, the seller establishes the lowest price (the reserve price) at which he or she is willing to sell an item.

- ▶ **Vertical auction.** A vertical auction is one that takes place between sellers and buyers in one industry or for one commodity (e.g., flowers, cars, or cattle). It is considered vertical because activity goes up and down the supply chain in a single industry, rather than horizontally between members of supply chains in different industries. These specialized auctions are sometimes referred to as “auction vortals.” Vertical auctions are particularly useful in B2B. At eBay “anything goes” (that is, you can sell almost anything at eBay), but many auction sites specialize in one area. For example, TechSmart Inc. specializes in selling used or outdated PCs in B2B auctions.
- ▶ **Bid retraction.** This is the cancellation of a bid by a bidder. It is used only in special circumstances. Usually a bid is considered to be a binding contract.
- ▶ **Featured auctions.** Auctions that get added exposure on the auction Web site. Sellers pay extra for this service.

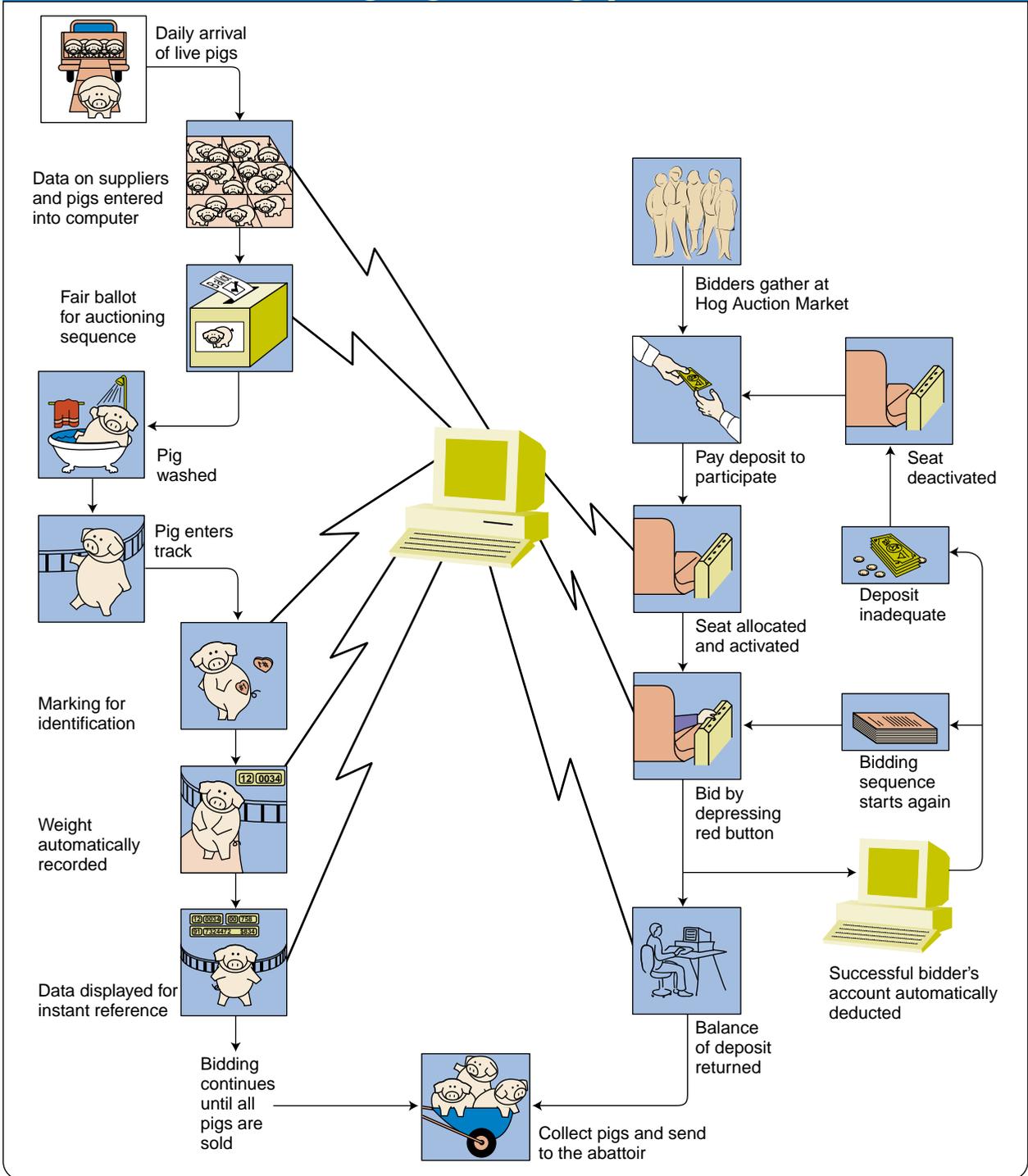
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## AUCTIONS ON PRIVATE NETWORKS

Electronic auctions that run on private networks have been in use for about 15 years. Chapter 6 introduced the flower market in the Netherlands as a B2B example of a private auction. The following are additional B2B examples of auctions on private networks.

- ▶ **Pigs in Singapore and Taiwan.** Pig auctioning in Singapore and Taiwan (see Neo 1992) has been conducted on private networks for more than 10 years. Growers bring the pigs to one area where they are washed, weighed, and prepared for display. The pigs are auctioned (via a forward auction) one at a time, while data on each pig is displayed to about 40 approved bidders who bid on a displayed price. If bids are submitted, the price is increased by 20 cents per kilogram. The process continues until no one bids. The bidders’ financial capability is monitored by a computer (the computer verifies that the bidder has available funds in the prepaid account that was opened for the auction). The process is illustrated in Exhibit 2A.6.
- ▶ **Cars in Japan: Aucnet.** Started in Japan, Aucnet began auctioning used cars to dealers on television in the mid-1980s. In 1992 it opened Aucnet USA Inc. and started auctioning cars in the United States. In 1996 Aucnet moved to a private network, and in 1998 it moved to the Internet, expanding to flowers, antiques, and more. In 1998 Aucnet USA was closed. Today, Aucnet still operates in Japan, auctioning cars as well as computer hardware and software and services such as insurance and leasing. (For more details, see [aucnet.co.jp/english](http://aucnet.co.jp/english).)
- ▶ **Livestock in Australia.** ComputerAided Livestock Marketing (CALM) is an online system for trading cattle and sheep that has been in operation since 1986. In contrast with the pig-auctioning system in Singapore, livestock do not have to travel to CALM, a feature that lowers stress in the animals and reduces sellers’ costs. The buyers use PCs or Vt100 terminals to connect to the auction. The system also handles payments to farmers.

## EXHIBIT 2A.6 Auctioning Pigs in Singapore



**Source:** Information Technology for Management, 2nd ed. Turban et al., p. 163. © 2001 John Wiley & Sons. Reprinted by permission of John Wiley & Sons, Inc.

## DOUBLE AUCTIONS, BUNDLE TRADING, AND PRICING ISSUES

Other issues to be considered in a discussion of auctions are single versus double auctions, bundling of goods or services to attract buyers, and pricing.

### DOUBLE AUCTIONS

Auctions can be single or double. In a **single auction**, an item is either offered for sale and the market consists of multiple buyers making bids to buy or an item is wanted to buy and the market consists of multiple sellers making offers to sell. In either case, one side of the market consists of a single entity. In a **double auction**, multiple buyers and sellers may be making bids and offers simultaneously. An example of a double auction is stock trading. In double auctions, multiple units of a product may be auctioned off at the same time. The situation becomes complicated when the quantity offered is more than one and buyers and sellers bid on varying quantities.

Although most online auctions are single, double auctions are the form used for transactions such as corporate stocks and commodities (grains, metals, live-stock, etc.). In a given trading period, any seller may make an offer while any buyer makes a bid. Either a seller or a buyer may accept the offer or bid at any time. The difference between the cost and price paid is the seller's profit; the difference between the price paid and valuation is the buyer's surplus. If the quantities vary, as in a stock market, a market maker also needs to match quantities.

### Prices in Double Auctions

According to Choi and Whinston (2000), double auction markets tend to generate competitive outcomes. Simply put, a double auction is an interactive form of market in which both buyers and sellers are competitive. In contrast, in a single auction, contract prices may be much higher or much lower than in a competitive format. This conclusion will have a significant effect on the future use of double auctions in the digital economy.

Ideally, any effort to promote competitiveness should include expanding online double auctions and similar market mechanisms because they offer an opportunity to raise economic efficiencies that is unsurpassed by any physical market organization. For auctioneers, however, single auctions generate substantially more revenue than double auctions.

### BUNDLE TRADING

One of the major characteristics of the digital economy is the ability of businesses to personalize and customize products and services. Many e-businesses do this by offering their customers a collection of complementary goods and services. For example, airline tickets, hotel rooms, a rental car, meals, and amusement park admission tickets can be *bundled* as a packaged leisure product. Some bundled products that are vertically related (e.g., a computer operating system and a Web browser) may be provided by different vendors, requiring buyers to deal with multiple sellers. **Bundle trading** involves selling (auctioning) several related products and/or services together. Although a purchase that involves multiple sellers may be

#### **single auction**

Auction in which at least one side of the market consists of a single entity ( a single buyer or a single seller).

#### **double auction**

Auction in which multiple buyers and sellers may be making bids and offers simultaneously; buyers and their bidding prices and sellers and their asking prices are matched, considering the quantities on both sides.

#### **bundle trading**

The selling of several related products and/or service together.

carried out through a series of transactions or auctions, bundle trading offers a simplified and efficient alternative solution.

The management and operation of a bundle market is complex, and it differs considerably from those of single or double auction markets. For a discussion of the bundle market, see Choi and Whinston (2000).

## PRICES IN AUCTIONS: HIGHER OR LOWER?

Compared to competitive markets, prices in auctions tend to be higher, reaching monopoly level when there is only one seller (Choi and Whinston 2000). In general, the auction seller is in a better position to maximize revenues than is the seller in a competitive (nonauction) market. When the auction seller is selling a product among multiple bidders, the expected price is often higher than the competitive level. Conversely, when the auction seller is buying from multiple offers, they may choose the lowest offer, which is usually lower than the competitive market price. This result is largely due to the simple fact that there is competition among bidders.

However, in many instances prices in auctions are lower. This may happen in cases of liquidation, where the seller's objective is to sell as quickly as possible. Alternatively, buyers go to online global markets where they can get products more cheaply than those imported by intermediaries. In general, buyers expect online prices to be lower. For example, truckers or airlines selling unused capacity at the last minute usually do so at a lower price. Also, considering the fact that most C2C auctions are for used merchandise, and surplus B2B auctions may include used or obsolete products, bargain prices are likely to prevail.

Finally, a more fundamental reason for lower online auction prices is that an online auction is usually an alternative selling channel rather than an exclusive selling arrangement. Therefore, buyers can always revert to physical markets if bids exceed posted prices. In short, few people in online auctions are willing to pay what they are expected to pay in physical markets. However, if products are sold exclusively through online auctions, the average price will certainly increase.

### Pricing Strategies in Online Auctions

Both sellers and buyers may develop pricing strategies for online auctions. Sellers have the option to use different auction mechanisms, such as English, Dutch, sealed-bid first price, and sealed-bid second price. Buyers need to develop a strategy regarding how much to increase a bid and when to stop bidding. These topics are relevant to off-line auctions as well and will not be dealt with here.

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## AUCTION FRAUD AND PREVENTION

According to Internet Fraud Watch, of all e-commerce activities conducted over the Internet, fraud is most serious in e-auctions. E-auction fraud accounted for 70 percent of the e-commerce fraud that occurred in 2001 (down from 87 percent in 1999). The average auction loss is \$518 per complaint, and roughly \$6.1 million was lost due to fraudulent activity in 2001.

## TYPES OF E-AUCTION FRAUD

Fraud may be conducted by sellers or buyers. The following are some examples of fraud:

- ▶ **Bid shielding (a buyer's action).** The use of phantom bidders to bid at a very high price when an auction begins is called **bid shielding**. The phantom bidders pull out at the last minute, and the bidder who bids with a very low price wins. The bogus bidders were the shields, protecting the low bid of the bidder in the stack. By bid shielding, a ring of dishonest bidders can target an item and inflate the bid value to scare off other real bidders.
- ▶ **Shilling (a seller's action).** In **shilling**, sellers arrange to have fake bids placed on their items (either by associates or by using multiple user IDs) to artificially jack up high bids. If they see a legitimate high bid that doesn't meet their expectations as the end of an auction draws near, they might pop in to manipulate the price.
- ▶ **Fake photos and misleading descriptions.** In reaching for bidders' attention, some sellers distort what they can truly sell. Borrowed images, ambiguous descriptions, and falsified facts are some of the tactics that sellers might employ to convey a false impression of the item.
- ▶ **Improper grading techniques.** Grading items is often the most hotly debated issue among buyers and sellers. A seller might describe an item as 90 percent new, whereas the bidder, after receiving the item and paying the full amount, feels it is only 70 percent new. Condition is often in the eye of the beholder. Although many grading systems have been devised and put to use, condition is still subject to interpretation.
- ▶ **Selling reproductions (a seller's action).** A seller sells something that the seller claims is original, but it turns out to be a reproduction.
- ▶ **High shipping costs and handling fees (a seller's action).** Some sellers just want to get a little more cash out of bidders. Postage and handling rates vary from seller to seller. Some charge extra to cover "handling" costs and other overhead intangibles, whereas others charge to cover the cost of packaging supplies, even though such supplies are often available for free.
- ▶ **Failure to ship merchandise (a seller's action).** This is the old collect-and-run routine. Money was paid out but the merchandise never arrives.
- ▶ **Loss and damage claims (a buyer's action).** Buyers claim they never received an item or received it in damaged condition and then ask for a refund. They might be trying to get a freebie. The seller sometimes cannot prove whether the item ever arrived or whether it was in perfect condition when shipped.
- ▶ **Switch and return (a buyer's action).** The seller has successfully auctioned an item, but when the buyer receives it, the buyer is not satisfied. The seller offers a cheerful refund. However, what the seller gets back is a mess that doesn't much resemble the item that was originally shipped. Some buyers might attempt to swap out their junk for someone else's jewels.

### **bid shielding**

Having phantom bidders bid at a very high price when an auction begins; they pull out at the last minute, and the bidder who bid a much lower price wins.

### **shilling**

Placing fake bids placed on auction items to artificially jack up the bidding price.

## PROTECTING AGAINST E-AUCTION FRAUD

The largest Internet auctioneer, eBay, has introduced several measures in an effort to reduce fraud. Some are free, some are not. The company has succeeded in its goal: less than one-tenth of 1 percent of the transactions at eBay were fraudulent in 2001 (Konrad 2002). The following are some of eBay's antifraud measures:

- ▶ **User identity verification.** eBay uses the services of Equifax to verify user identities for a \$5 fee. Verified eBay User, a voluntary program, encourages users to supply eBay with information for online verification. By offering their Social Security number, driver's license number, and date of birth, users can qualify for the highest level of verification on eBay.
- ▶ **Authentication service.** Product authentication is a way of determining whether an item is genuine and described appropriately. Authentication is very difficult to perform because it relies on the expertise of the authenticators. Because of their training and experience, experts can (for a fee) often detect counterfeits based on subtle details. However, two expert authenticators may have different opinions about the authenticity of the same item.
- ▶ **Grading services.** Grading is a way of determining the physical condition of an item, such as "poor quality" or "mint condition." The actual grading system depends on the type of item being graded. Different items have different grading systems—for example, trading cards are graded from A1 to F1, whereas coins are graded from poor to perfect uncirculated.
- ▶ **Feedback Forum.** The eBay Feedback Forum allows registered buyers and sellers to build up their online trading reputations. It provides users with the ability to comment on their experiences with other individuals.
- ▶ **Insurance policy.** eBay offers insurance underwritten by Lloyd's of London. Users are covered up to \$200, with a \$25 deductible. The program is provided at no cost to eBay users.
- ▶ **Escrow services.** For items valued at more than \$200 or when either a buyer or seller feels the need for additional security, eBay recommends escrow services (for a fee). With an easy-to-access link to a third-party escrow service, both partners in a deal are protected. The buyer mails the payment to the escrow service, which verifies the payment and alerts the seller when everything checks out. At that point, the seller ships the goods to the buyer. After an agreed-upon inspection period, the buyer notifies the service, which then sends a check to the seller. (An example of a provider of online escrow services is [tradenable.com](http://tradenable.com).)
- ▶ **Nonpayment punishment.** eBay implemented a policy against those who do not honor their winning bids. To help protect sellers, a first-time nonpayment results in a friendly warning. A sterner warning is issued for a second-time offense, a 30-day suspension for a third offense, and indefinite suspension for a fourth offense.
- ▶ **Appraisal services.** Appraisers use a variety of methods to appraise items, including expert assessment of authenticity and condition and reviewing what comparable items have sold for in the marketplace in recent months. An appraised value is usually accurate at the time of appraisal but may change over time as an item becomes more or less popular in the marketplace.

- **Verification.** One way of confirming the identity and evaluating the condition of an item is through verification. With verification, neutral third parties will evaluate and identify an item through a variety of means. For example, some collectors have their item “DNA tagged” for identification purposes. This provides a way of tracking an item if it changes ownership in the future.

In addition to the antifraud measures discussed here, one can use the general EC fraud protection measures suggested in Chapter 9.

## BARTERING AND NEGOTIATING ONLINE

In addition to the common type of auctions, in which some form of money is exchanged between buyer and seller, auctions can also take the form of online bartering. Also, prices in e-commerce can be arrived at through a process of negotiation.

### BARTERING

As discussed in Chapter 2, **bartering** is an *exchange* of goods and services. The oldest method of trade, today, bartering is usually conducted between organizations. The problem with bartering is that it is often difficult to find partners. *Bartering exchanges*, in which an intermediary arranges the transactions, were created to address this problem. The process works as follows: You tell the intermediary what you offer. The intermediary assesses the value of your surplus products or services and offers you certain “points” (or “bartering dollars”). You use the “points” to buy the things you need. However, when manual matching is done by a third party, it may take a long time to complete a transaction, and commissions typically are high (30 percent or more).

**Electronic bartering (e-bartering)**—bartering conducted online, usually by a bartering exchange—can improve the matching process by attracting more customers to the exchange. The matching can be done faster, and better matches can be found. As a result, the commission is much lower (5 to 10 percent). Items that are frequently bartered electronically include office space, storage, factory space, idle facilities and labor, products, and banner ads. E-bartering may have tax implications that need to be considered.

Bartering Web sites include [Bartertrust.com](http://Bartertrust.com), [ubarter.com](http://ubarter.com), and [whosbartering.com](http://whosbartering.com) (see Lorek, 2000). (For more on online bartering, see [fsb.com](http://fsb.com) and search for “virtual bartering 101”.)

### NEGOTIATION AND BARGAINING

Dynamic prices can also be determined by **online negotiation**, a back-and-forth process of bargaining until buyer and seller reach a mutually agreeable price. Negotiation is a well-known process in the off-line world, especially for expensive or specialized products such as real estate, automobiles, and jewelry. Much like in auctions, negotiated prices result from interactions and bargaining among sellers and buyers. However, in contrast with auctions, negotiations also deal with non-pricing terms, such as payment method and credit. E-markets allow negotiations to be used for virtually all products and services.

#### **bartering**

The *exchange* of goods and services.

#### **e-bartering**

Bartering conducted online, usually by a bartering exchange.

#### **online negotiation**

A back-and-forth electronic process of bargaining until the buyer and seller reach a mutually agreeable price; usually done by software (intelligent) agents.

Three factors may facilitate negotiated prices:

1. Intelligent agents that perform searches and comparisons
2. Computer technology that facilitates the negotiation process
3. Bundling and customization of products

### Technologies for Bargaining

According to Choi and Whinston (2000), negotiation and bargaining involve a bilateral interaction between a seller and a buyer who are engaged in the following five-step process that is necessary to complete a transaction:

1. **Search.** The buyer or seller gathers information about products and services and locates potential vendors or customers.
2. **Selection.** The buyer or seller processes and filters information in order to select a product and/or trading partner.
3. **Negotiation.** The two parties interact with bids and offers until an agreement is made.
4. **Continuing selection and negotiation.** The previous steps are repeated sequentially, if necessary, until an agreement is reached and a contract is written.
5. **Transaction completion.** The buyer pays for the product and the seller ships the product to the buyer.

**Search** Bargaining starts with the collection of all relevant information about products and sellers or buyers. Computer-mediated markets excel in raising the search efficiency. Once information has been gathered, the next step is to process it into a usable data set that is employed for decision making. (Search tools are described in Chapters 3 and 4.)

**Selection** Selection filters retrieve screened information that helps each party determine what to buy (sell) and from whom to buy (sell). This encompasses the evaluation of product and seller alternatives based on consumer-provided criteria such as price, warranty, availability, delivery time, and reputation. The selection process results in a set of names of products and partners to negotiate with in the next step. Software agents, such as Pricemix ([bizrate.com](http://bizrate.com)), and other tools can facilitate the selection (see Chapter 4).

**Negotiation** The negotiation stage focuses on establishing the terms of the transaction, such as price, product characteristics, delivery, and payment terms. Negotiation varies in duration and complexity depending on the market. In online markets, all stages of negotiation can be carried out by automated programs or software agents.

Negotiation agents are software programs that make independent decisions to accept or reject offers or make bids within predetermined constraints. The agents might be bound by negotiation rules or protocols that control how sellers and buyers interact. For example, price negotiation may start with a seller's list price as a starting point or it may start with any bid or offer depending on the rule. (For an overview of electronic negotiation and comparison, see Beam et al. 1999.)

The following are the major benefits of electronic negotiations:

- ▶ Buyers and sellers do not need to determine prices beforehand, and thereby do not have to engage in the difficult process of collecting relevant information. Negotiating prices transfers the burden of determining prices (i.e., market valuation) to the market itself. Insofar as the market process is efficient, the resulting negotiated prices will be fair and efficient.
- ▶ Intelligent agents can negotiate both price and nonprice attributes such as delivery time, return policy, and other transactions that add value. In addition, intelligent agents can deal with multiple partners (see Appendix D at the book's Web site). An example of such an application is several freight dispatch centers of different companies negotiating a solution to their vehicle routing problems. Other applications include a factory-floor-scheduling domain, where different companies in a subcontracting web negotiate over a joint scheduling problem, as well as an airport resource management domain, where negotiations take place for the servicing of airplanes between flights. (For further discussion, see Esmahi and Bernard 2000.)



**Transaction Completion** After product, vendor, and price are determined, the final step is to complete the transaction. This involves online payment and product delivery in accordance with the terms determined in the negotiation phase. Other characteristics, such as customer service, warranty, and refunds, may also be implemented.

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## MOBILE AUCTIONS AND THE FUTURE OF AUCTIONS

Research institutions have estimated that 1.4 billion people will be using digital devices over mobile networks by 2004, and by 2003 the number of mobile commerce users is expected to surpass the number of fixed e-commerce users worldwide (Delichte 2001). Mobile phones and other wireless devices will be the primary way for people to access the Internet, resulting in large-volume m-commerce. In response, auctions are implementing m-commerce applications.

In the United States, eBay went wireless in October 1999, and uBid and FairMarket followed in 2000. Yahoo! and other auction sites have been scrambling to go wireless. In the United Kingdom, [bluecycle.com](http://bluecycle.com), which conducts auctions on used cars for dealers, allows dealers to bid from anywhere by using their cell phones.

The use of cell phones for online auctions presents a number of limitations and benefits.

## BENEFITS AND LIMITATIONS OF MOBILE AUCTIONS

The benefits of mobile auctions are as follows:

- ▶ **Convenience and ubiquity.** People can conduct auction business on the go and from any location via mobile phone.
- ▶ **Privacy.** The Internet cell phone is more private than a PC and will always be within range. One can auction anything from anywhere and search for information in the middle of a discussion around a café table. Bids can be checked on the run. All this can transpire in a secure and private environment.

- ▶ **Simpler and faster.** Because online auctions require a limited amount of information, it is relatively easy to adapt WAP-enabled phones, even if they can only handle limited bandwidth and data.

The limitations of mobile auctions are as follows:

- ▶ **Visual quality.** The screen on Internet-enabled phones is very small. One cannot read through the same amount of information as on a computer. Also, the screen quality is not as good as on a PC monitor. One can send pictures of desired products to bidders via a cell phone, but if the images are too complicated they will appear as blurs. It is also much more difficult to send information about products via the phone than via a PC.
- ▶ **Memory capacity.** Internet-enabled phones have little memory capacity. In the near future, the development of new WAP services will probably press hardware producers to come up with better memory systems for mobile terminals.
- ▶ **Security.** Security issues particular to wireless application protocol (WAP), such as protecting personal data transmitted via wireless communications and avoiding computer viruses, are being tackled through new security standards, such as SIM Toolkit and wireless transport layer security.

For more on these and other benefits and limitations of m-commerce, see Chapter 8.

## THE FUTURE OF AUCTIONS

The online auction industry is growing. The following are areas of potential growth.

### Global Auctions

Many of the auction companies that sell products and services on the Web are extending their reach. One way to do so is by going global. However, companies that seek to serve the international market may face all the regular problems of selling online in foreign countries (see Chapter 11).

### Selling Art Online in Real-Time Auctions

As of January 2001, collectors in the United Kingdom can bid online in live showroom auctions using an application provided by eBay and [icollector.com](http://icollector.com). Icollector provides real-time access to 300 independent auction houses, such as London's Phillips. The largest art auction houses, Sotheby's and Christie's, have online sites, but (as of spring 2002) they were not allowing online bidding for live showroom auctions. In the United States, [Butterfields.com](http://Butterfields.com) allows for real-time auction bidding and partners with eBay (see Beer 1999).

### Strategic Alliances

Auctions may have a major impact on competition and on industry structure, as they put sellers and buyers together more directly, cutting out intermediaries in a market. In addition, auctions may be used as a strategic tool by both online and off-line companies. An example of such a strategy is provided in EC Application Case 2A.1. It appears that this type of strategic alliance will be very popular in the future due to its win-win possibilities.

## EC APPLICATION CASE 2A.1

## Individuals and Communities

## SOLD OF AUSTRALIA



SOLD (*sold.com.au*) is a pioneer in the online marketplace, where classified advertising and sales merge with the auction process to create a dynamic, fast-growing e-commerce community. It is Australia's biggest online auction site. SOLD is a partnership between two leaders in the Internet industry—Fairfax Interactive Network (*fxj.com.au*) and Auctions Universal (*auctions.com*).

On September 13, 1999, SOLD and CitySearch (*citysearch.com.au*), the most popular Australia online leisure and lifestyle guide, launched a B2C program that provides small- to medium-sized businesses (SMEs) with a Web-based sales channel. This program enables SMEs to use Australia's leading auction site as an outlet to sell general stock lines, excess stock, and discounted items.

For example, Auction Shop, a division of SOLD, is offering new computer products from leading manufacturers and top-quality equipment and household appliances. The offer gives online consumers the chance to snare heavily discounted merchandise with warranties for a greater range of new products, including both excess stock and special price promotions.

SOLD had over 75,000 registered members by the end of 2000 and has had 40,000 sales for merchan-

dise worth over \$6 million dollars in its first 6 months of operation. By late 2000, there were 140,000 auction items on the site in over 170 categories, such as collectibles and memorabilia, business goods, sporting equipment, household items, travel and/or accommodations, millennium event tickets and venues, computer products, and Olympic pins.

As of late 2000 listings were free. The commission fee was 3.5 percent of the final selling price.

SOLD's B2C service offers users Merchant Manager—an inventory management and bulk-loading software that greatly reduces item listing time, assists in inventory management and profit analysis, and provides additional invaluable post-auction services. Merchant Manager allows up to 4,000 items to be listed on the site in 30 minutes.

**Source:** Compiled from *sold.com.au*.

### Questions

- ▶ List the benefits of SOLD to buyers.
- ▶ Why is SOLD engaged in alliances?

## KEY TERMS

<b>auction,</b>	p. 2A-1	<b>electronic auctions</b>		<b>reverse auction,</b>	p. 2A-2
<b>bartering,</b>	p. 2A-21	<b>(e-auctions),</b>	p. 2A-1	<b>sealed-bid auction,</b>	p. 2A-2
<b>bid shielding,</b>	p. 2A-19	<b>forward auction,</b>	p. 2A-2	<b>shilling,</b>	p. 2A-19
<b>bundle trading,</b>	p. 2A-17	<b>name-your-own-price</b>		<b>single auction,</b>	p. 2A-17
<b>double auction,</b>	p. 2A-17	<b>model,</b>	p. 2A-7	<b>sniping</b>	p. 2A-12
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