Chapter 5

B2B E-Commerce:

Selling and Buying in Private E-Markets

Learning Objectives

1. Describe the B2B field.
2. Describe the major types of B2B models.
3. Discuss the characteristics of the sell-side marketplace, including auctions.
4. Describe the sell-side intermediary models.
5. Describe the characteristics of the buy-side marketplace and e-procurement.
6. Explain how reverse auctions work in B2B.

Learning Objectives

7. Describe B2B aggregation and group purchasing models.

8. Describe other procurement methods.

9. Explain how B2B administrative tasks can be automated.

10. Describe infrastructure and standards requirements for B2B.

11. Describe Web EDI, XML, and Web Services.

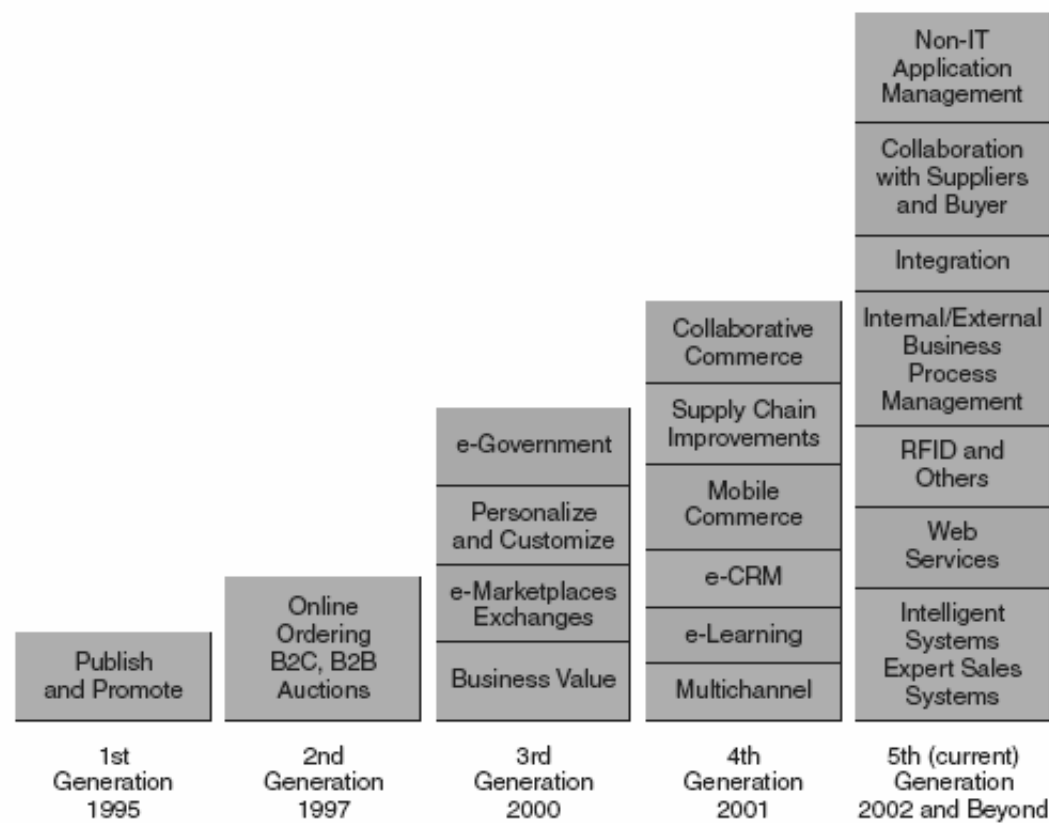# Concepts, Characteristics, and Models of B2B EC

- **business-to-business e-commerce (B2B EC)**

  Transactions between businesses conducted electronically over the Internet, extranets, intranets, or private networks; also known as *eB2B* (*electronic B2B*) or just *B2B*

Concepts, Characteristics, and Models of B2B EC

EXHIBIT 5.1	Generations of B2B E-Commerce

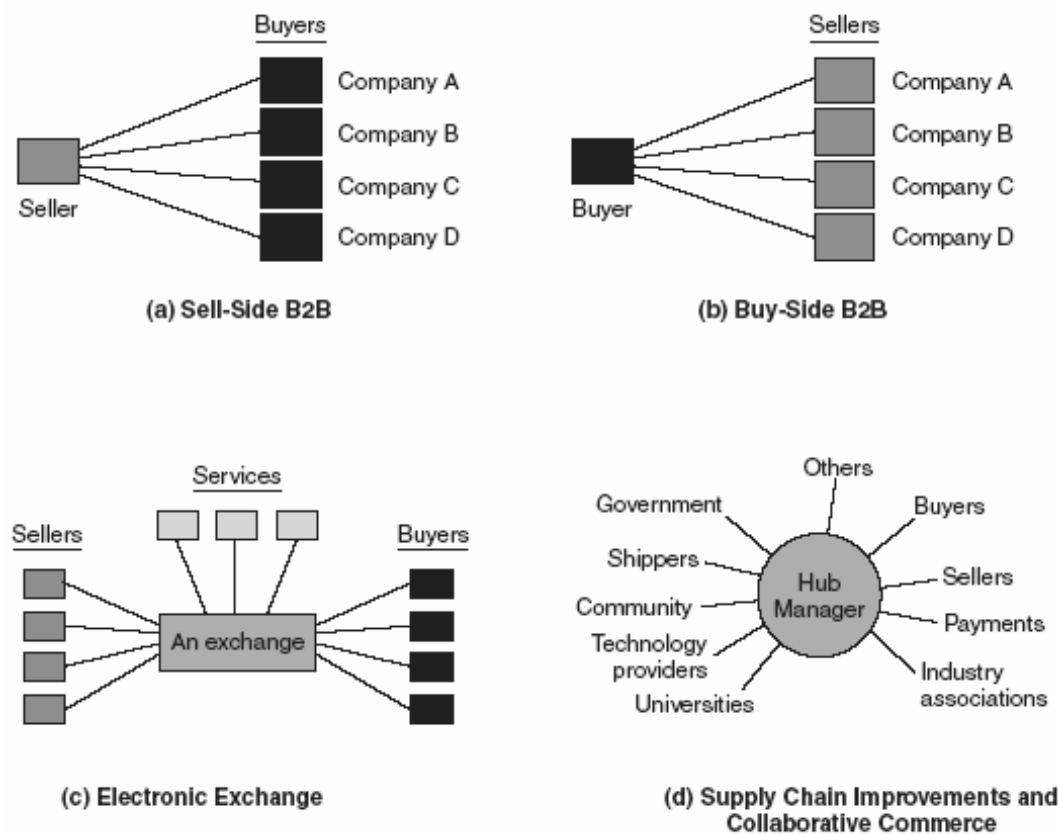| 1st Generation 1995	2nd Generation 1997	3rd Generation 2000	4th Generation 2001	5th (current) Generation 2002 and Beyond
				Non-IT Application Management
				Collaboration with Suppliers and Buyer
				Integration
			Collaborative Commerce	Internal/External Business Process Management
		e-Government	Supply Chain Improvements	
				RFID and Others
		Personalize and Customize	Mobile Commerce	
				Web Services
		e-Marketplaces Exchanges	e-CRM	
	Online Ordering B2C, B2B Auctions		e-Learning	Intelligent Systems Expert Sales Systems
Publish and Promote		Business Value	Multichannel	

Concepts, Characteristics, and Models of B2B EC

- **The Basic Types of B2B Transactions and Activities**
  - Sell-side
  - Buy-side
  - Exchanges
  - Supply chain improvements and collaborative commerce

Concepts, Characteristics, and Models of B2B EC

EXHIBIT 5.2 Types of B2B E-Commerce

Buyers

Seller
- Company A
- Company B
- Company C
- Company D

(a) Sell-Side B2B

Sellers

Buyer
- Company A
- Company B
- Company C
- Company D

(b) Buy-Side B2B

Services

Sellers — An exchange — Buyers

(c) Electronic Exchange

Hub Manager
- Others
- Government
- Buyers
- Shippers
- Sellers
- Community
- Payments
- Technology providers
- Universities
- Industry associations

(d) Supply Chain Improvements and Collaborative Commerce

Concepts, Characteristics, and Models of B2B EC

- **The Basic Types of B2B E-Marketplaces and Services**
  - One-to-many and many-to-one: private e-marketplaces
    - **company-centric EC**

      E-commerce that focuses on a single company's buying needs (many-to-one, or buy-side) or selling needs (one-to-many, or sell-side)
    - **private e-marketplaces**

      Markets in which the individual sell-side or buy-side company has complete control over participation in the selling or buying transaction

Concepts, Characteristics, and Models of B2B EC

- **Intermediaries**
- **Many-to-many: exchanges**
  - **exchanges (trading communities or trading exchanges)**

    Many-to-many e-marketplaces, usually owned and run by a third party or a consortium, in which many buyers and many sellers meet electronically to trade with each other
  - **public e-marketplaces**

    Third-party exchanges that are open to all interested parties (sellers and buyers)

Concepts, Characteristics, and Models of B2B EC

- **Supply chain activities and collaborative commerce**
- **B2B2C**
- **B2B Characteristics**
  - **Parties to the transaction: sellers, buyers, and intermediaries**
    - **online intermediary**

      An online third party that brokers a transaction online between a buyer and a seller; may be virtual or click-and-mortar

Concepts, Characteristics, and Models of B2B EC

- **Types of transactions**
  - **spot buying**

    The purchase of goods and services as they are needed, usually at prevailing market prices
  - **strategic (systematic) sourcing**

    Purchases involving long-term contracts that usually are based on private negotiations between sellers and buyers

Concepts, Characteristics, and Models of B2B EC

- **Types of materials traded**
  - **direct materials**

    Materials used in the production of a product (e.g., steel in a car or paper in a book)
  - **indirect materials**

    Materials used to support production (e.g., office supplies or light bulbs)
  - **MRO (maintenance, repair, and operation)**

    Indirect materials used in activities that support production

Concepts, Characteristics, and Models of B2B EC

- **Direction of trade**
  - **vertical marketplaces**

    Markets that deal with one industry or industry segment (e.g., steel, chemicals)
  - **horizontal marketplaces**

    Markets that concentrate on a service, materials, or a product that is used in all types of industries (e.g., office supplies, PCs)

Concepts, Characteristics, and Models of B2B EC

- **SUPPLY CHAIN RELATIONSHIPS IN B2B**
  - The supply chain process consists of a number of interrelated subprocesses and roles
    - Acquisition of materials from suppliers
    - Processing of a product or service
    - Packaging it and moving it to distributors and retailers
    - The eventual purchase of a product by the end consumer
  - A B2B private e-marketplace provides a company with high supply chain power and high capabilities for online interactions

Concepts, Characteristics, and Models of B2B EC

- **Virtual Service Industries in B2B**
  - Travel and hospitality services
  - Real estate
  - Financial services
  - Online stock trading
  - Online financing
  - Other online services

Concepts, Characteristics, and Models of B2B EC

- **The Benefits of B2B**
  - Creates new sales (purchase) opportunities
  - Eliminates paper and reduces administrative costs
  - Expedites processing and reduces cycle time
  - Lowers search costs and time for buyers to find products and vendors
  - Increases productivity of employees dealing with buying and/or selling
  - Reduces errors and improves quality of services
  - Makes product configuration easier
  - Reduces marketing and sales costs (for sellers)

Concepts, Characteristics, and Models of B2B EC

- **The Benefits of B2B**
  - Reduces inventory levels and costs
  - Enables customized online catalogs with different prices for different customers
  - Increases production flexibility, permitting just-in-time delivery
  - Reduces procurement costs (for buyers)
  - Facilitates customization via configuration (e.g., at Cisco)
  - Provides for efficient customer service
  - Increases opportunities for collaboration

Concepts, Characteristics, and Models of B2B EC

- **The Limitations of B2B**
  - Channel conflict
  - Operation of public exchanges

One-to-Many:
Sell-Side E-Marketplaces

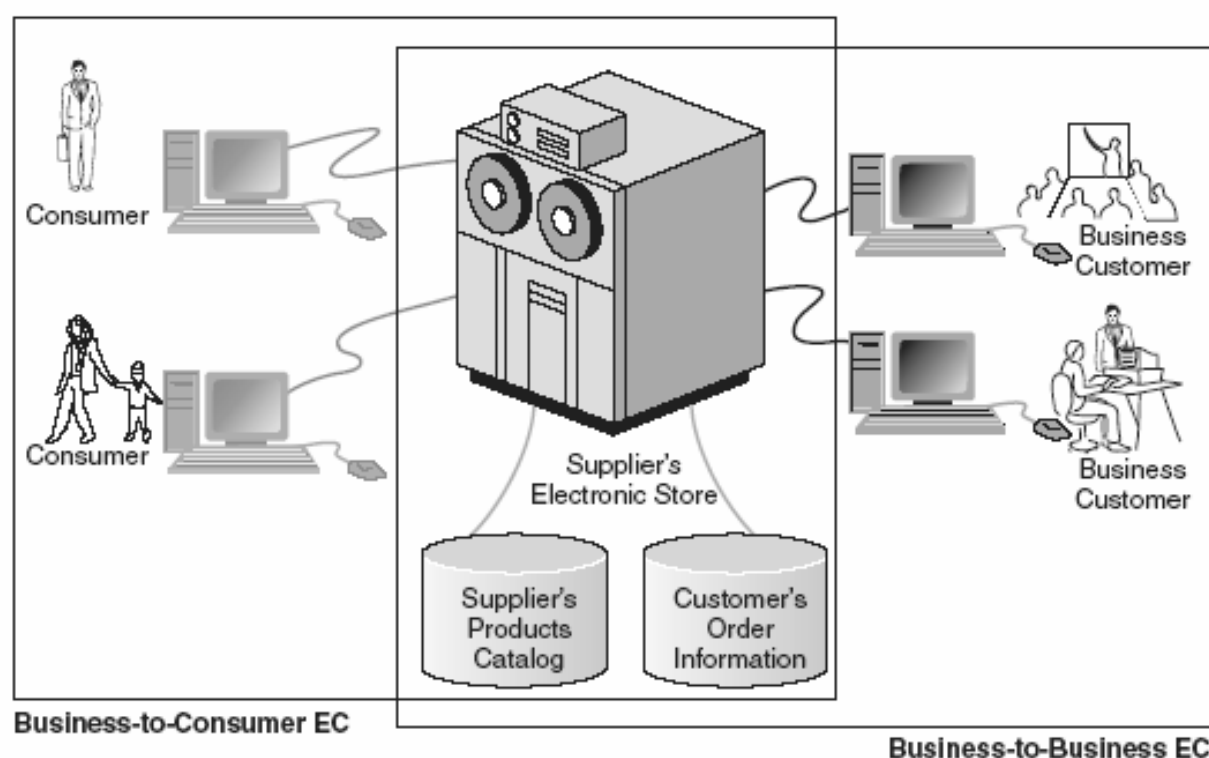- **sell-side e-marketplace**

  A Web-based marketplace in which one company sells to many business buyers from e-catalogs or auctions, frequently over an extranet
  - **B2B Sellers**
  - **Customer Service**

One-to-Many:
Sell-Side E-Marketplaces

EXHIBIT 5.3 **Sell-Side B2B Marketplace Architecture**

Consumer

Consumer

Supplier's Electronic Store

Supplier's Products Catalog

Customer's Order Information

Business Customer

Business Customer

Business-to-Consumer EC

Business-to-Business EC

One-to-Many:
Sell-Side E-Marketplaces

- **Direct Sales from Catalogs**
  - Configuration and customization
  - Benefits and limitations of direct sales from catalogs
    - The benefits of direct sales are similar to that of B2C
    - Limitations
      - How to find a buyer
      - Channel conflicts with their existing distribution systems
      - The cost to the customers can be high

One-to-Many:
Sell-Side E-Marketplaces

- **Direct Sales: The Example of Cisco Systems**
  - Customer service
  - Online ordering by customers
  - Tracking order status
    - **Benefits**
      - Reduced operating costs for order taking
      - Improved quality
      - Reduced technical support staff cost
      - Reduced software distribution costs
      - Faster service

Selling via Intermediaries and Distributors

- Manufacturers frequently use intermediaries to distribute their products to a large number of buyers, known as *distributors*
- The intermediaries usually buy products from many vendors and aggregate them into one catalog from which they sell
- Now, many of these distributors also are selling online

Selling via Auctions

- **Using Auctions on the Sell Side**
  - Revenue generation
  - Cost savings
  - Increased "stickiness"
  - Member acquisition and retention

Selling via Auctions

- **Auctioning from the Company's Own Site**
  - Why should a company pay a commission to an intermediary if the intermediary cannot provide the company with added value
  - If a company decides to auction from its own site, it will have to pay for infrastructure and operate and maintain the auction site

Selling via Auctions

- **Using Intermediaries in Auctions**
  - Benefits
    - No additional resources are required
    - No hiring costs or opportunity costs associated with the redeployment of corporate resources
    - Offer fast time-to-market
    - Billing and collection efforts, are handled by the intermediary rather than the company

One-from-Many: Buy-Side E-Marketplaces and E-Procurement

- **buy-side e-marketplace**

  A corporate-based acquisition site that uses reverse auctions, negotiations, group purchasing, or any other e-procurement method

One-from-Many: Buy-Side E-Marketplaces and E-Procurement

- **Six Main Types of E-Procurement**
  - e-sourcing
  - e-tendering
  - e-reverse auctioning
  - e-informing
  - Web-based ERP (electronic resource planning)
  - e-MRO (maintenance, repair and operating)

One-from-Many: Buy-Side E-Marketplaces and E-Procurement

- **Inefficiencies in Traditional Procurement Management**
  - **procurement management**

    The planning, organizing, and coordination of all the activities relating to purchasing goods and services needed to accomplish the mission of an organization
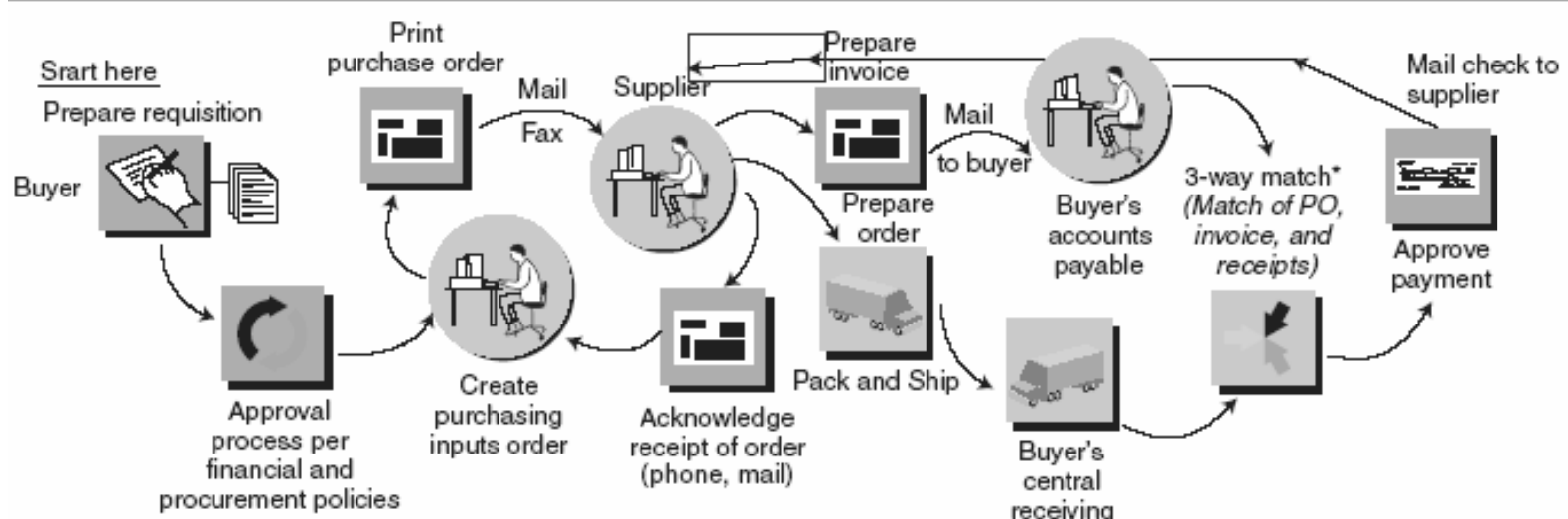 - **maverick buying**

    Unplanned purchases of items needed quickly, often at non-prenegotiated higher prices

One-from-Many: Buy-Side E-Marketplaces and E-Procurement
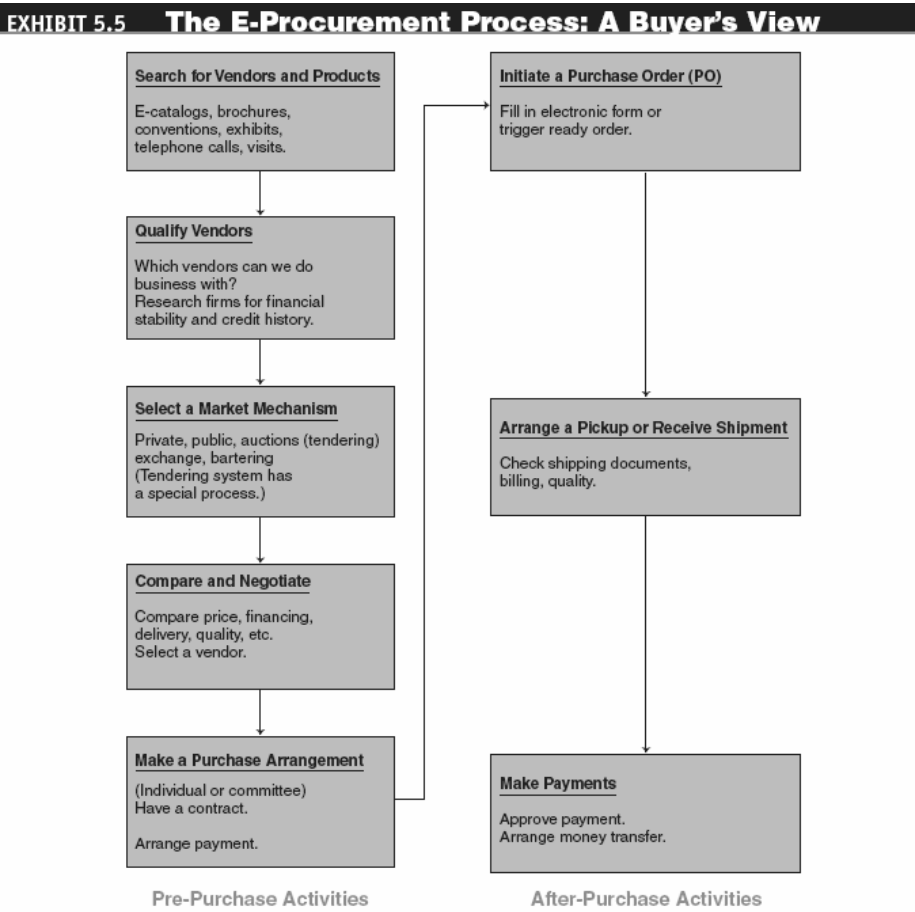

EXHIBIT 5.4 A Traditional Procurement Process

One-from-Many: Buy-Side E-Marketplaces and E-Procurement

- **e-procurement**

  The electronic acquisition of goods and services for organizations

One-from-Many: Buy-Side E-Marketplaces and E-Procurement

EXHIBIT 5.5   The E-Procurement Process: A Buyer's View

Search for Vendors and Products

E-catalogs, brochures, conventions, exhibits, telephone calls, visits.

Qualify Vendors

Which vendors can we do business with?
Research firms for financial stability and credit history.

Select a Market Mechanism

Private, public, auctions (tendering) exchange, bartering
(Tendering system has a special process.)

Compare and Negotiate

Compare price, financing, delivery, quality, etc.
Select a vendor.

Make a Purchase Arrangement

(Individual or committee)
Have a contract.

Arrange payment.

Initiate a Purchase Order (PO)

Fill in electronic form or trigger ready order.

Arrange a Pickup or Receive Shipment

Check shipping documents, billing, quality.

Make Payments

Approve payment.
Arrange money transfer.

Pre-Purchase Activities   After-Purchase Activities

One-from-Many: Buy-Side E-Marketplaces and E-Procurement

- **The Goals and Benefits of E-Procurement**
  - Increasing the productivity of purchasing agents
  - Lowering purchase prices
  - Improving information flow and management
  - Minimizing the purchases made from non-contract vendors
  - Improving the payment process and savings due to expedited payments
  - Establishing efficient, collaborative supplier relations
  - Ensuring delivery on time, every time
  - Slashing order-fulfillment and processing times by leveraging automation

One-from-Many: Buy-Side E-Marketplaces and E-Procurement

- **The Goals and Benefits of E-Procurement**
  - Reducing the skill requirements and training needs of purchasing agents
  - Reducing the number of suppliers
  - Streamlining the purchasing process,
  - Streamlining invoice reconciliation and dispute resolution
  - Reducing the administrative processing cost per order
  - Finding new suppliers and vendors that can provide goods and services faster and/or cheaper (improved sourcing)
  - Integrating budgetary controls into the procurement process
  - Minimizing human errors in the buying or shipping processes
  - Monitoring and regulating buying behavior

One-from-Many: Buy-Side E-Marketplaces and E-Procurement

- **Implementing E-Procurement**
  - Fitting e-procurement into the company's EC strategy
  - Reviewing and changing the procurement process itself
  - Providing interfaces between e-procurement and integrated enterprisewide information systems, such as ERP or supply chain management
  - Coordinating the buyer's information system with that of the sellers
  - Consolidating the number of regular suppliers and integrating with their information systems and, if possible, with their business processes

One-from-Many: Buy-Side E-Marketplaces and E-Procurement

- **e-sourcing**
- The process and tools that electronically enable any activity in the sourcing process, such as quotation/tender submission and response, e-auctions, online negotiations, and spending analyses
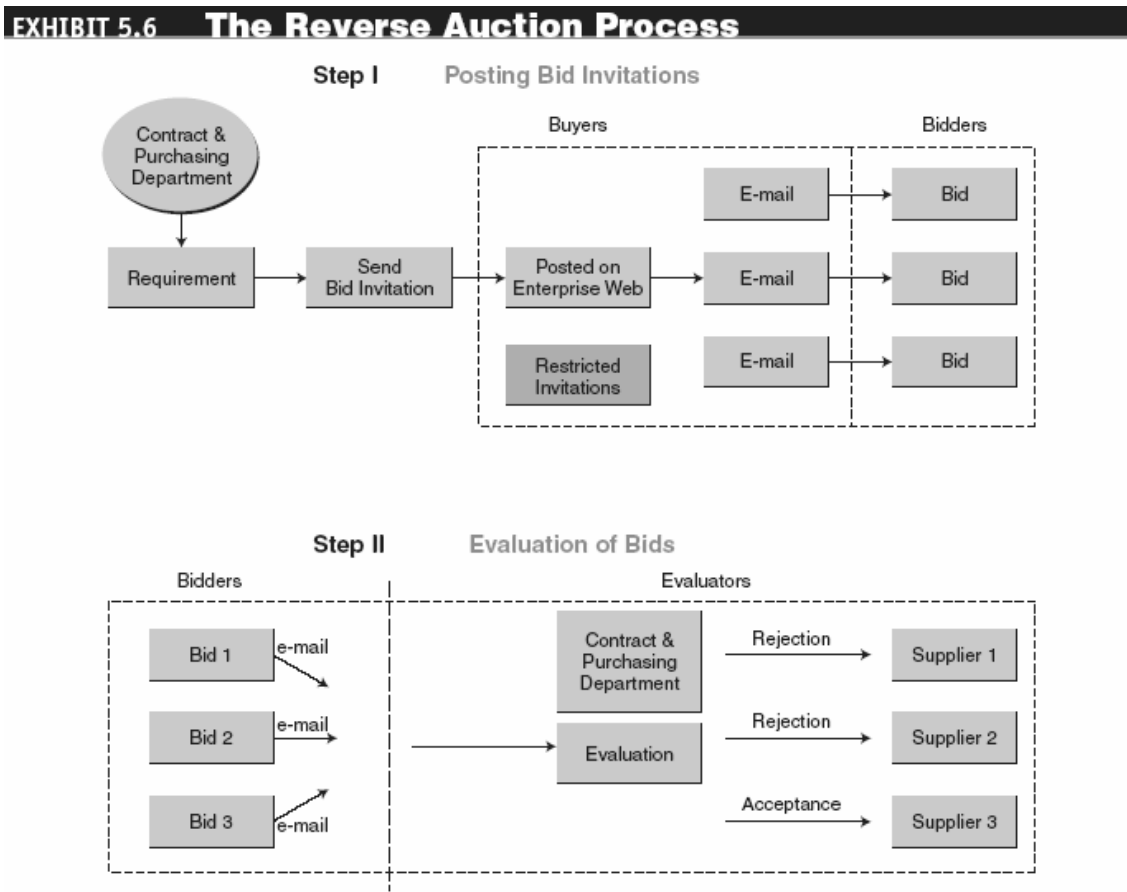
Buy-Side E-Marketplaces: Reverse Auctions

- **request for quote (RFQ)**

  The "invitation" to participate in a tendering (bidding) system

Buy-Side E-Marketplaces: Reverse Auctions

EXHIBIT 5.6　The Reverse Auction Process

Step I　Posting Bid Invitations

Step II　Evaluation of Bids

Other E-Procurement Methods

- **internal procurement marketplace**

  The aggregated catalogs of all approved suppliers combined into a single *internal* electronic catalog

- **desktop purchasing**

  Direct purchasing from internal marketplaces without the approval of supervisors and without the intervention of a procurement department

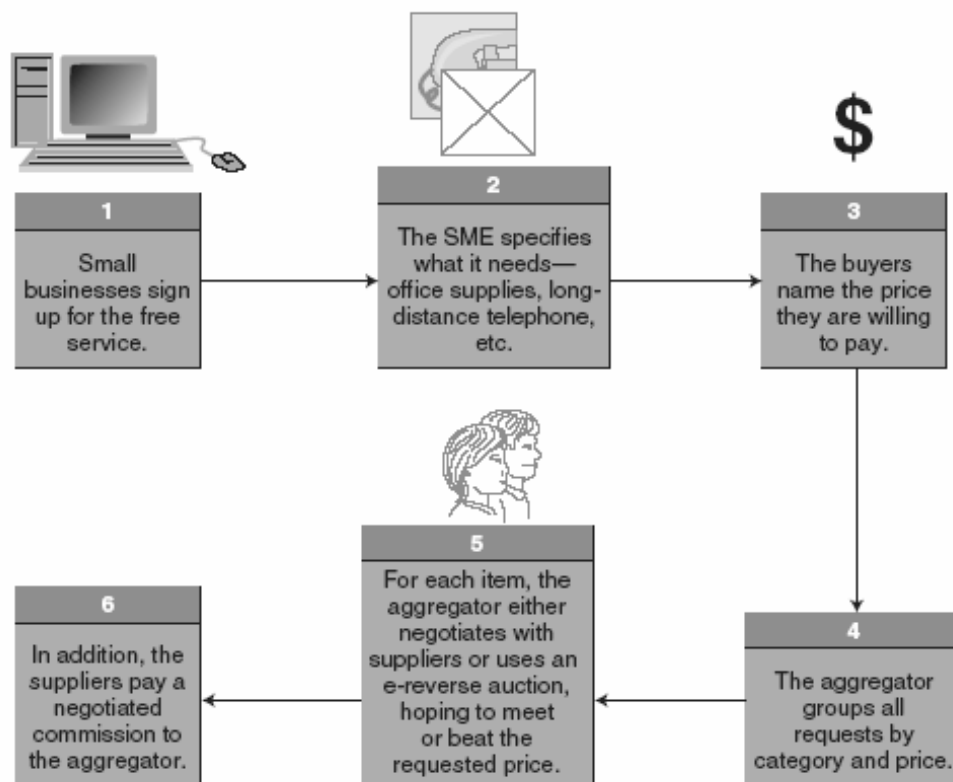# Other E-Procurement Methods

- **group purchasing**

  The aggregation of orders from several buyers into volume purchases so that better prices can be negotiated

  - Internal aggregation
  - External aggregation

Other E-Procurement Methods

EXHIBIT 5.7   **The Group Purchasing Process**

1. Small businesses sign up for the free service.
2. The SME specifies what it needs—office supplies, long-distance telephone, etc.
3. The buyers name the price they are willing to pay.
4. The aggregator groups all requests by category and price.
5. For each item, the aggregator either negotiates with suppliers or uses an e-reverse auction, hoping to meet or beat the requested price.
6. In addition, the suppliers pay a negotiated commission to the aggregator.

Other E-Procurement Methods

- **Buying from E-Distributors**
- **Purchasing Direct Goods**
- **Electronic Bartering**
  - **bartering exchange**
  - An intermediary that links parties in a barter; a company submits its surplus to the exchange and receives points of credit, which can be used to buy the items that the company needs from other exchange participants
- **Buying in Exchanges and Industrial Malls**

Automating B2B Tasks

- **Contract Management**
  - Contract-management software can:
    - Reduce contract negotiation time and efforts
    - Facilitate inter- and intracompany contract analysis and development
    - Provide for proactive contract compliance management
    - Enable enterprisewide standardization of contracts
    - Improve understanding of contract-related risks
    - Provide a more efficient approval process

Automating B2B Tasks

- **Spend Management**
  - Tools and features may be found in spend-management software include:
    - A data warehouse repository designed to manage data from multiple data sources
    - Data management of contracts, supplier catalogs, and product content
    - Data management of pricing
    - Detailed standard and ad-hoc purchasing activity analysis and report tools
    - Updates, notifications, and alerts regarding purchasing

Automating B2B Tasks

- **Sourcing Management and Negotiation**
  - Tools and features may be found in sourcing management software include:
    - Bid comparison, including exports of detailed bid data
    - User management functions that eliminate data redundancy, simplify data management, and reduce risk to data integrity
    - Weighted scoring of parameters to calculate the total value offered by suppliers
    - Total merchandise purchased cost model with bids winners selection and ranking
    - Reverse auctions and sealed bids, with a full set of features such as proxy bids and bid-time extensions
    - Negotiation support tools

Infrastructure, Integration, and Software Agents In B2B EC

- **Infrastructure for B2B**
  - **electronic data interchange (EDI)**
    The electronic transfer of specially formatted standard business documents, such as bills, orders, and confirmations, sent between business partners
  - **value-added networks (VANs)**
    Private, third-party managed networks that add communications services and security to existing common carriers; used to implement traditional EDI systems
  - **Internet-based (Web) EDI**
    EDI that runs on the Internet and is widely accessible to most companies, including SMEs

Infrastructure, Integration, and Software Agents In B2B EC

- **Integration**
  - Integration with the existing internal infrastructure and applications
  - Integration with business partners

Infrastructure, Integration, and Software Agents In B2B EC

- **The Role of Standards, Especially XML, in B2B Integration**
  - **XML (eXtensible Markup Language)**

    Standard (and its variants) used to improve compatibility between the disparate systems of business partners by defining the meaning of data in business documents

Infrastructure, Integration, and Software Agents In B2B EC

- **XBRL**

  A version of XML for capturing financial information throughout a business's information processes. XBRL makes it possible to format reports that need to be distributed to shareholders, SOX regulators, banks, and other parties. The goal of XBRL is to make the analysis and exchange of corporate information more reliable (trustworthy) and easier to facilitate

- **Web Services**

  An architecture enabling assembly of distributed applications from software services and tying them together

Managerial Issues

1. Can we justify the cost of B2B?
2. Which vendor(s) should we select?
3. Which B2B model(s) should we use?
4. Should we restructure our procurement system?
5. What are the ethical issues in B2B?
6. Will there be *massive* disintermediation?
7. How can trust and loyalty be cultivated in B2B?
8. How is mobile B2B done?