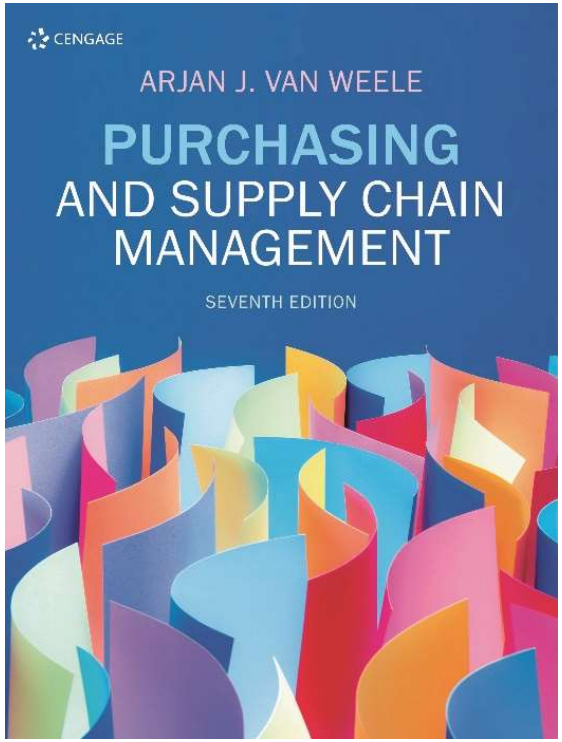

MASTER OF SCIENCE IN BUSINESS ADMINISTRATION

Procurement & Supply Chain

Prof. Corrado Cerruti

Chapter 2

Industrial buying behaviour: decision making in purchasing

CENGAGE Learning™

For use with Purchasing and Supply Chain Management 7th Edition by Arjan J. van Weele (9781473749443)

Learning objectives

- The major differences between organizational and consumer buying behaviour.
- The key elements of the purchasing process.
- The linear versus the extended purchasing process model.
- The various roles in a buying decision-making unit.
- The involvement of the purchasing department in the acquisition of various goods.
- How to model organizational buying behaviour

Organizational buying behavior:

- **Professional purchasing:** professional buyers with education and experience who know their tasks and responsibilities
- **Derived demand:** developments in industrial markets are often related to changes in the end-user markets upstream in the value chain
- **Inelastic, fluctuating demand:** due to the derived demand, price-elasticity in industrial markets is frequently lower than in consumer markets
- **Geographical concentration:** many industrial markets are geographical concentrated (e.g. Silicon Valley)
- **Large order quantities and large amounts of money involved**
- **Limited number of customers:** industrial suppliers often supply only a few companies compared to companies that deliver directly to consumers

Organizational buying behavior:

Table 2.1 Main differences between business-to-business and consumer marketing

Aspect	*Industrial market*	*Consumer market*
Buying objective	Enable production	Personal need satisfaction
Buying motive	Mainly rational	Also emotional
Purchasing function	Professional buying, predominantly men	Consumers, mainly women
Decision–making	Many persons involved, much discussion	Often impulsive, without consulting others
Characteristics	Negotiations, intense interaction	Often without negotiation, little interaction
Product and market knowledge	Large	Limited
Order size	Often large	Mostly small
Demand	Derived demand, may fluctuate strongly	Autonomous demand, relatively stable
Price elasticity	Rather inelastic	Rather elastic
Number of customers	Mostly limited	Very large
Spread of customers	Sometimes large geographic concentration	Large geographical spread

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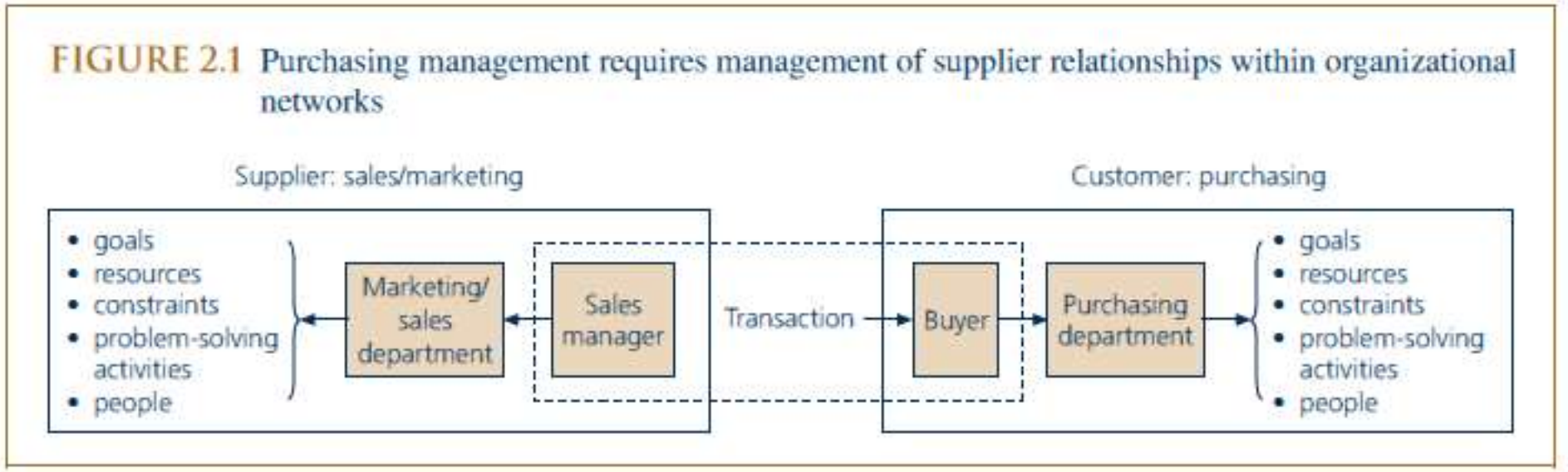
Managing supplier relationships



Business-to-business marketing, and professional purchasing, require active management of relationships within complex organizational networks

Models of industrial buying behaviour

Variables that affect the buying process:

- Characteristics of the product
- Strategic importance
- Sums of money involved
- Characteristics of the purchasing market
- Degree of risk
- Role of the purchasing department in the organization
- Affect of purchase on existing routines

FIGURE 2.2 Typology of buying situations

Low ← Product complexity → High

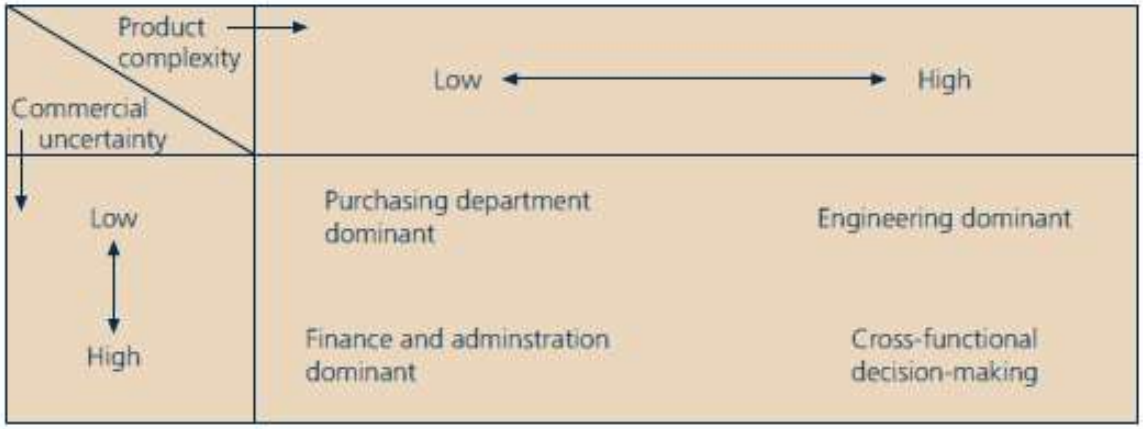
- Standard product
- Technically simple
- Existing product
- Repeat purchase
- Easy to install and use
- No after-sales service required

- Customized product
- Complex technology
- New product
- Initial purchase
- Difficult to install
- After-sales service required

Low ← Commercial uncertainty → High

- Limited investment
- Small order size
- Short-term impact
- No organizational adaptation required
- Low impact on financial results

- High investment
- Large order size
- Long-term impact
- Extensive organizational adaptation required
- High impact on financial results



Source: adapted from Fisher (1970)

According to Fisher (1970) the purchasing decision-making process is primarily determined by two aspects: product complexity and commercial uncertainty.

If these two aspects are combined, statements can be made about what disciplines will be involved in the decision-making process

Decision-making units (DMU)

- DMU relates to all those individuals and groups who participate in the purchasing decision-making process, who share some common goals and the risks arising from the decisions (identical to buying centre). These might include:
  - Users
  - Influencers
  - Buyers
  - Decision-makers
  - Gatekeepers (people who control the flow of information from the supplier towards the other members of the DMU and vice versa).

The purchasing process

Figure 2.3 Purchasing process approach: managing interfaces

	Define specification	Select supplier	Contract agreement	Ordering	Expediting	Evaluation
P&S role	• Get specification	• Assure adequate supplier selection	• Prepare contract	• Establish order routine	• Establish expediting routine	• Assess supplier
Elements	• Functional specification • Technical changes • Bring supplier knowledge to engineering	• Pre-qualification of suppliers • Request for quotation	• Contracting expertise • Negotiating expertise	• Develop order routines • Order handling	• Expediting • 'Trouble-shooting'	• Supplier evaluation • Supplier rating
Documents	• Functional specification • Norm/spec control	• Supplier selection proposal	• Contract	• Order	• Exception report • Due date listings • Invoices	• Preferred supplier list • Supplier ranking scheme

Purchasing process management

The linear purchase process model

- **Business needs are leading:** Business needs and requirements are the input for the purchasing process model
- **Process approach:** the various steps in the model are closely connected and the quality of the output of the preceding steps determines to a large extent the quality of the subsequent steps
- **Defining the interfaces:** the output of each phase has to be clearly defined, preferably with a document
- **Determining responsibilities:** purchasing is considered to be a cross-functional responsibility. Therefore, the tasks, responsibilities and authority of the parties involved should be clearly indicated in each phase
- **Combining different skills, different types of knowledge and expertise:** key question is how to combine the different types knowledge, skills and expertise in such way that all parties involved arrive at an optimal solution for the company

Purchasing situations

Three types of purchasing situations:

New task situation

- Completely new product from unknown suppliers
- High uncertainty regarding outcome
- (e.g. acquisition of capital goods)

Modified Rebuy

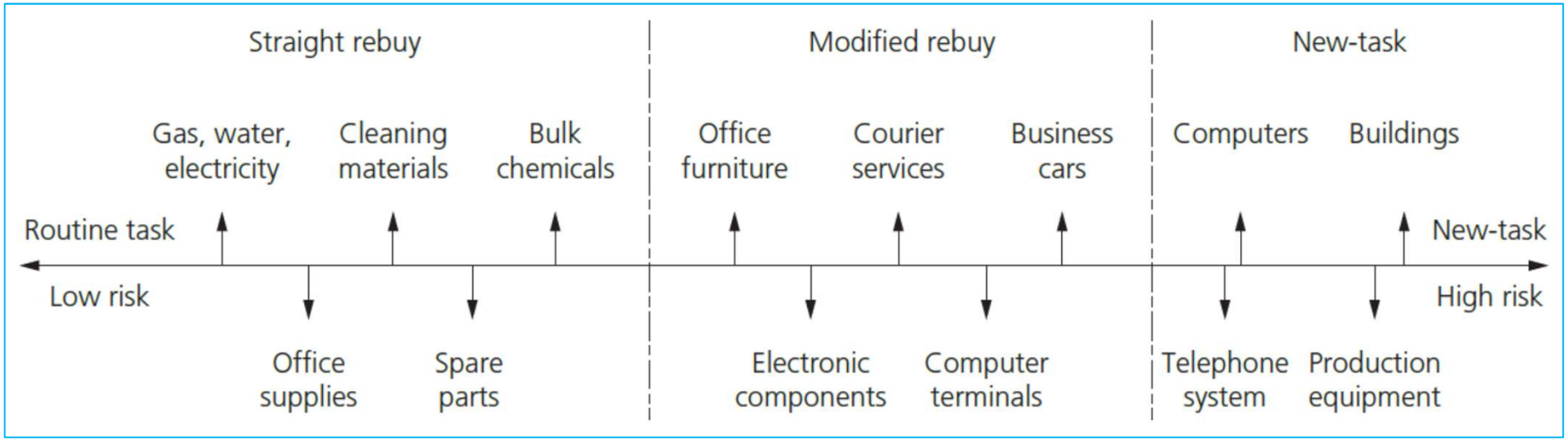
- New product from known supplier
- Existing product, new supplier
- Moderate uncertainty regarding outcome

Straight rebuy

- Known product from known supplier
- Low uncertainty regarding outcome
- (e.g. consumable items like MRO)

Examples of purchasing situations

Figure 2.4 New-Task situation, modified rebuy and straight rebuy illustrated by some examples



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The extended purchasing model

Extended purchasing model: Three key processes:

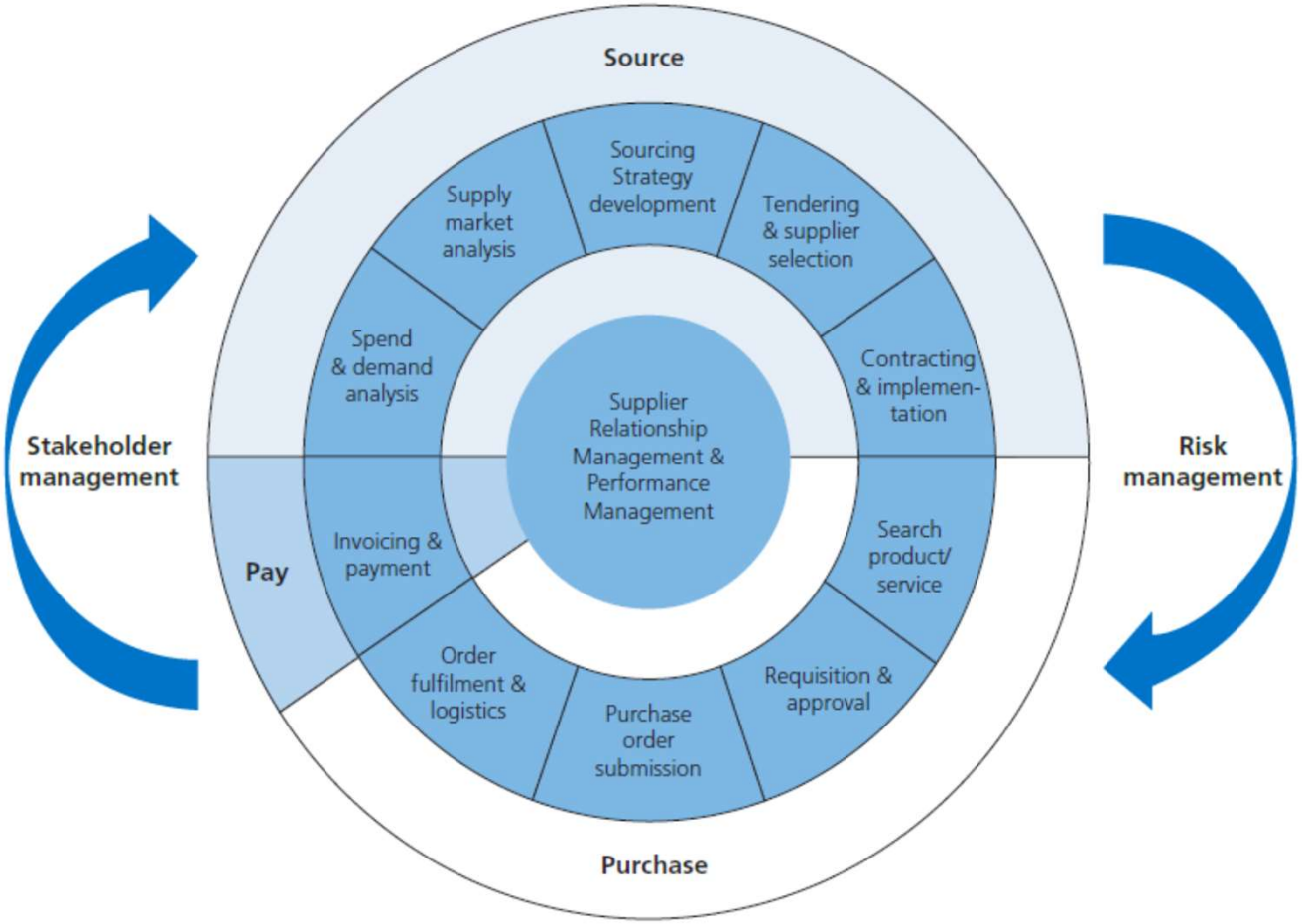
1. Source (spend and demand analysis, supply market analysis, sourcing strategy development, tendering and supplier selection, contracting and implementation)
2. Purchase (search for specific product/service in a product catalogue, prepare purchase order and submit to supplier, follow up to secure on time supply)
3. Pay (receiving and checking invoice, paying amount due to supplier, respecting payment terms)

Enabling activities of the extended model:

1. **Risk management**
   - Risk management - Assessing the impact and likelihood of unknown factors that may affect availability of business critical supplies.
   - External factors – Are those which determine the degree of availability of a certain product and which cannot be influenced by individual companies.
2. **Stakeholder management**
   - Assessing the interests and impact of influential parties on purchasing decision-making outcomes.

The extended purchasing model

Figure 2.5 Extended purchasing process model



Role of the buyer (I)

The added value of the professional buyer lies in the ability to act as a facilitator for the supply process:

- Involvement, preferably in all stages of the linear or extended purchasing process model.
- Support/lead multidisciplinary purchasing teams.
- Conducting a risk analysis upfront and manage risk during the different stages of the purchasing process
- Awareness of the complexity of a specific purchase and being able to engage stakeholders actively in the purchasing process
- Conducting internal and external analyses in order to design an effective category sourcing strategy
- Preventing specifications being defined in such a way that products or services can only be delivered by one supplier.
- Involvement in new product development projects and investment projects at an early stage, to suggest technical solutions and suppliers based on proven expertise

Role of the buyer (II)

- Identifying new, potential suppliers and business partners for the company's changing business needs
- Preparing a list of approved suppliers in co-operation with the internal customer, drawing up requests for quotations and preparing their evaluation together with the user, selecting a supplier by mutual agreement
- Preparing and carrying out the contract negotiations, drawing up and reviewing the terms and conditions of the contract
- Reviewing contract compliance regularly with internal stakeholders and suppliers
- Setting up requisitioning and ordering routines, resulting in full contract compliance in case orders cannot be placed by users themselves, taking care of order handling
- Expediting or following up outstanding orders to secure on-time delivery and monitoring outstanding financial obligations
- Conducting objective supplier performance evaluations in order to substantiate future supplier selection decisions

The specification phase

Purchase order specification

contains

Functional specifications
Technical specifications

- Quality specifications
- Logistics specification
- Maintenance specification
- Legal and environmental requirements
- Target budget

Supplier selection and assessment

The **selection** step contains a number of separate steps:

1) Determine the method of subcontracting
2) Preliminary qualification ⇨ draw up bidders list
3) Prepare request for quotation and analysis of the bids
4) Supplier selection

Negotiation and contracting

- After a supplier is selected the contract is drawn up. It can refer to specific additional terms and conditions.
- The technical contents of a purchase agreement is project/product specific.
- There is only limited use of standard purchase contracts due to the fact that commercial and legal terms vary by contract.
- Differences are caused by:
  - Purchasing policy
  - company culture
  - market situations
  - product characteristics etc.

Negotiation and contracting

- **Prices and terms of delivery:**
  - Competitive bidding/negotiation used to arrive at fixed price buyer and supplier are happy with.
  - Financial obligations defined unequivocally.
  - Supplier should accept all risks
  - Fixed price best for cost control and budget management

- **Terms of payment:**
  - Preferred method of payment = performance bond
  - Advance payments should be covered by bank guarantee where supplier agrees to fulfil their obligations.
  - Milestone payments are sometimes used when installations or capital goods are purchased.

Negotiation and contracting

- **Penalty clauses and warranty conditions:**
  - Supplier guarantees goods are of good quality, new and without defects.
  - Important decision is which legal system contract will be subject to.
  - Agreement made with supplier about performance of goods delivered.
    - If goods do not meet requirements corrective measures can be discussed.
    - If these don't work any resulting costs are met by the supplier.
  - A penalty clause may not be effective in certain circumstances.
  - Can only limit damages after execution or delivery not solve problems before these stages.
  - Period which the supplier is liable for reliability and adequate functioning of goods should be established in contract.
  - Investment goods are a special case and often the supplier will be responsible for maintaining the product during its lifespan.

Ordering and expediting

Three types of expediting:

- **Exception expediting:** buyer only takes action when the organization sends out signals of material shortages
- **Routine status check:** preventing materials supply and quality problems – few days before promised delivery, the buyer contacts the supplier to confirm delivery date
- **Advanced status check:** for critical purchase parts – a detailed production plan will be handed over to the buyer and during the process the buyer will carry out periodic checks

Follow up and evaluation

The **buyer's role continues** after the new product has been taken into production or the installation has been put into operation.

- Compare invoice with the original order
- Solve delivery issues
- Supplier assessment:
  - Keep track of supplier's quality, delivery record, competitiveness and innovativeness

E-procurement solutions

- **Electronic market places:** make searching for suppliers more easy like www.chemconnect.com for chemicals and plastics or www.aeroxchange.com for the aviation industry
- **Electronic auctions:** the electronic trade exchange is the most popular e-solution
- **Electronic catalogue and ordering systems:** offer buyers greater opportunities for more efficient order handling.
  - Efficient order processing, logistics and payment systems
  - Transactions without human interference
  - Substantial cost reduction because of a.o. transaction costs

E-procurement solutions

Forms of E-auctions:

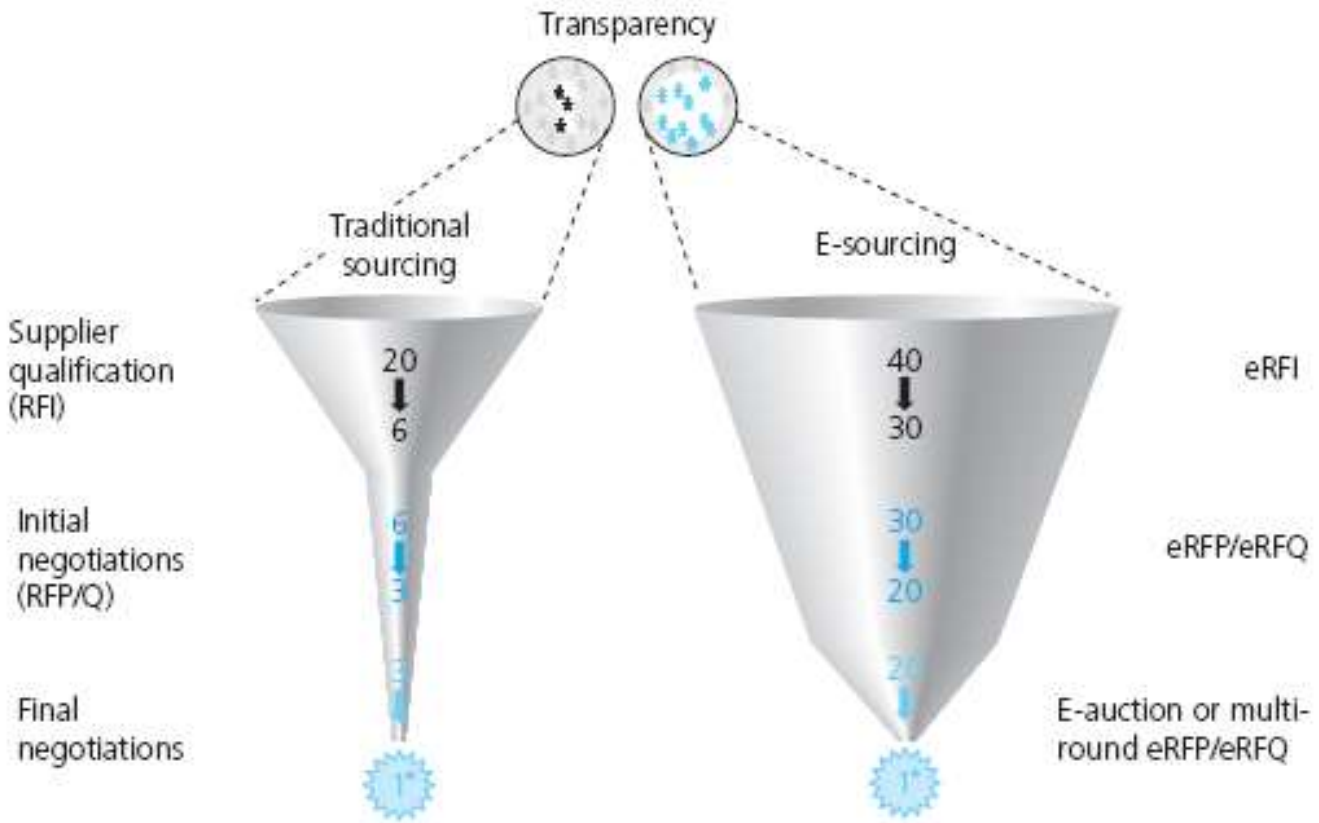
- Open Request for information (RFI) / request for proposal (RFP):
  - Qualification before auction
  - Supplier is invited based on the offer
- Reversed auction
  - input price determined by buyer
  - offers are visible, suppliers can see how far away they are from the best offer
- Forward auction:
  - Vendor determines the price
  - Several buyers announce their offer to the auctioneer

E-procurement solutions

- Most popular method under buyers is the **reversed auction**:
  - High volumes to cover the auction costs
  - ☐ Sufficient competition
  - Equal opportunities for all suppliers
  - The buyer has to be interesting for the supplier
- Generally e-auctions realize a cost reduction between 5% and 40%
- Suppliers do not like these methods because their margins will decrease

E-procurement solutions

FIGURE 2.9 E-Sourcing facilitates competition among more suppliers



Source: adapted from IBX, Sweden

Major bottlenecks and problems (1)

- **Too detailed specification:** The specifications of the user are sometimes written to the capabilities of specific suppliers
- **Inadequate supplier selection:** Failure to check the supplier's (bank) references, can produce very unpleasant surprises like bankruptcy
- **Personal relationships:** Purchase orders are placed with suppliers with whom the user has a friendly relationship; As a result such suppliers may not be as competitive.
- **Contract are too general**, incomplete, drafted up by the supplier or not present at all.

Major bottlenecks and problems (2)

- **Too much emphasis on price:** Especially buying capital equipment buying decisions need to be based upon total-cost-of-ownership (TCO) rather than on price only.
- **Poor administrative processes:** Putting a sound administrative system in place could lead to significant savings.
- **Problems in delivery phase:** over time or incomplete delivery, quality problems can put the continuity of the business process in danger.
- **Suppliers are not systematically assessed:** This results in unprofessional suppliers and repeating problems.

Summary

- **Industrial buying behaviour** was discussed from different perspectives:
  - Organizational perspective
  - Models that regard the interaction between two or more parties
- Purchase process model offers organizations a tool for structuring their purchasing processes.
- E-procurement solutions offer the purchasing professional many opportunities to deal with problems.