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Information Technology Marketing



Pricing

Synonyms for Price

- Rent
- Tuition
- Fee
- Fare
- Rate
- Toll
- Premium
- Honorarium
- Special assessment
- Bribe
- Dues
- Salary
- Commission
- Wage
- Tax

Common Pricing Mistakes

- Determine costs and take traditional industry margins
- Failure to revise price to capitalize on market changes
- Setting price independently of the rest of the marketing mix
- Failure to vary price by product item, market segment, distribution channels, and purchase occasion

Objectives

- Setting the Price
- Adapting the Price
- Initiating & Responding to Price Changes

Types of Costs

**Fixed Costs
(Overhead)**

**Costs that don't
vary with sales or
production levels.**

**Executive Salaries
Rent**

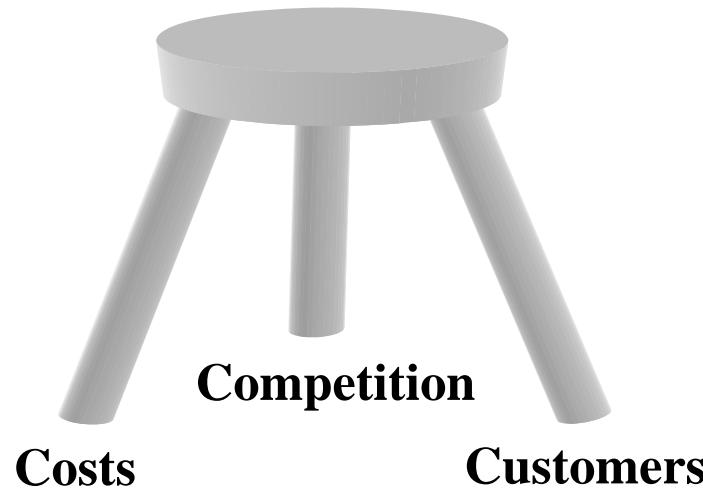
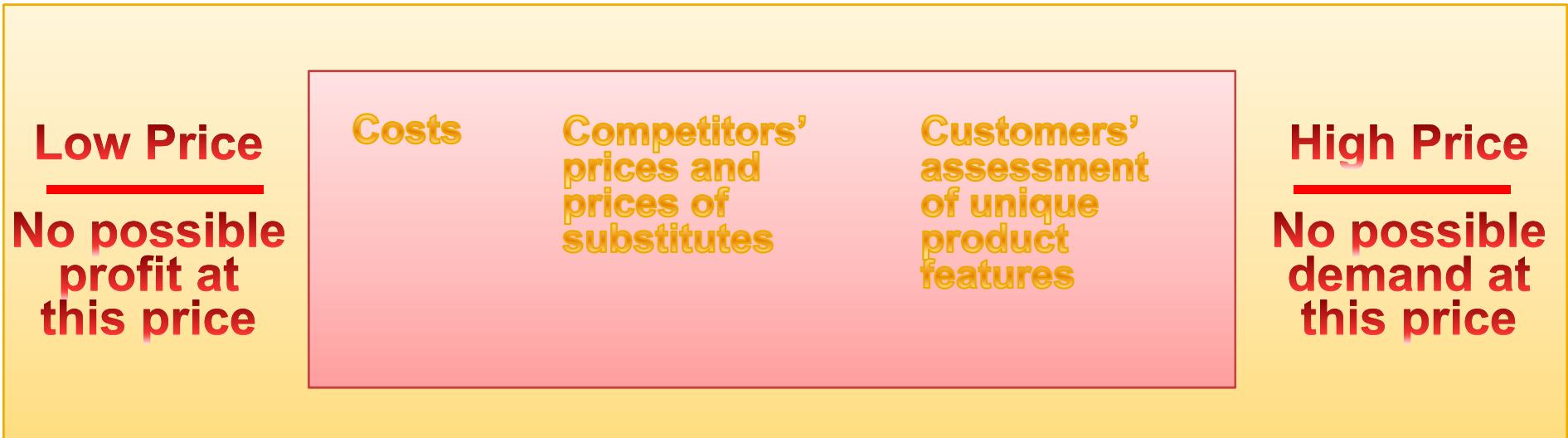
Variable Costs

**Costs that do vary
directly with the
level of production.**

Raw materials

TOTAL COSTS
**SUM OF THE FIXED AND VARIABLE COSTS FOR A GIVEN
LEVEL OF PRODUCTION**

The Three C's Model for Price Setting



Customer Perceptions of Benefits/Costs

- Benefits:
 - Functional
 - Operational
 - Financial
 - Personal
- Costs:
 - Monetary
 - Nonmonetary

Additional Customer Considerations

- Total Cost of Ownership (TCO)
 - Ex: Lifetime cost of owning a corporate PC is \$42,000 (in 1995)
 - Purchase price accounts for only 10% of total cost
- Implication:
 - Show total cost of ownership lower than competitor's, despite higher initial outlay

Customer-Oriented Pricing

- How will the customer use the product?
- What are the benefits the customer will receive from using the product?
- Calculate customer costs and understand customer's trade-off between **costs** and **benefits**.

View from IBM's Technology Expert

- One way to help customer **manage risks** is through **financing and leasing**
 - Assist with upgrades and replacement flexibility
 - Creates stepped payment streams allowing customer to **match results to cash outflow**
 - Way to capitalize or manage assets
 - Allows for scalability.

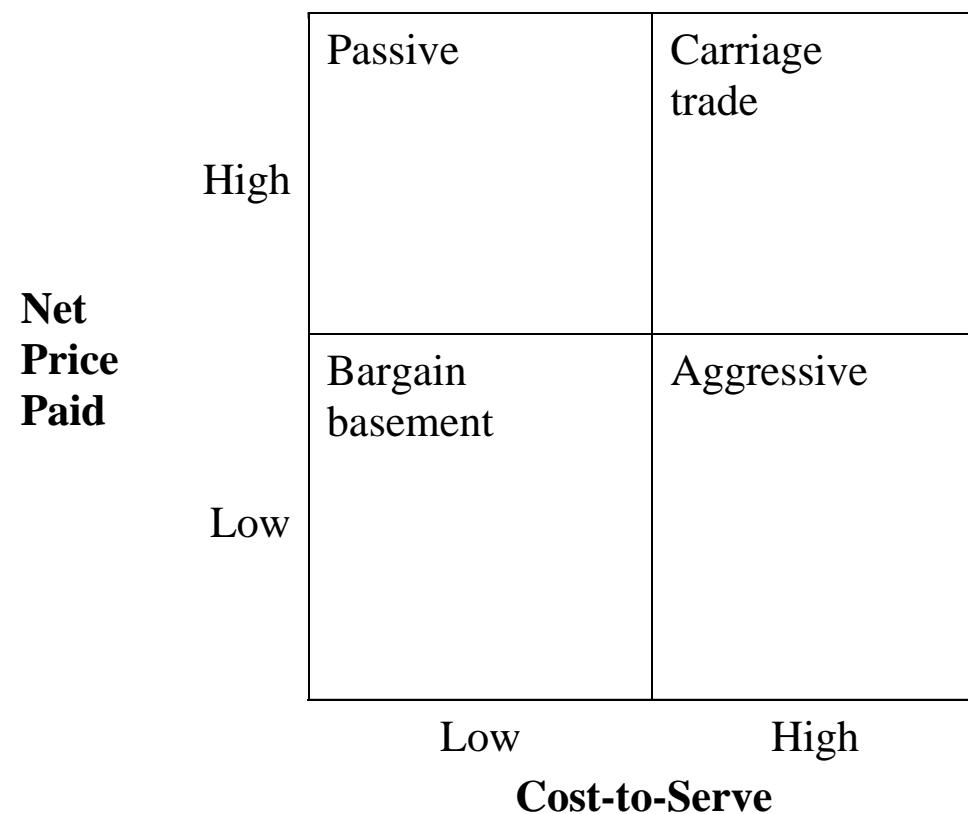
View from IBM's Technology Expert

- Advantages:
 - Forms long-term relationship
 - Avoids commodity trap
- Caveat:
 - Must understand customer risks and value components

Implications of Customer-Oriented Pricing

- Pricing decisions are part of product design decisions
- Different segments **value** the product **differently**
- Therefore, different customers yield **differential profitability**

Analyzing customers for profitability



Analyzing customers for profitability (Cont.)

- Implications:
 - Must track costs on a **per customer, or per segment** basis via accounting
 - Might decide NOT to serve some customers.

Pricing Methods

- Markup Pricing
- Target Return Pricing
- Perceived Value Pricing
- Value Pricing
- Going-Rate Pricing
- Sealed-Bid Pricing

Some important pricing definitions

- **Utility:** The attribute that makes it capable of want satisfaction
- **Value:** The worth in terms of other products
- **Price:** The monetary medium of exchange.

Value Example:

Caterpillar
Tractor is \$100,000 vs.
Market \$90,000
\$90,000 if equal
7,000 extra durable
6,000 reliability
5,000 service
2,000 warranty
\$110,000 in benefits -
\$10,000 discount!

Promotional Pricing

- Loss-leader pricing
- Special-event pricing
- Cash rebates
- Low-interest financing
- Longer payment terms
- Warranties & service contracts
- Psychological discounting

Consumer Psychology and Pricing

Reference Prices

Price-quality inferences

Price endings

Price cues

Psychological Pricing



\$2.19



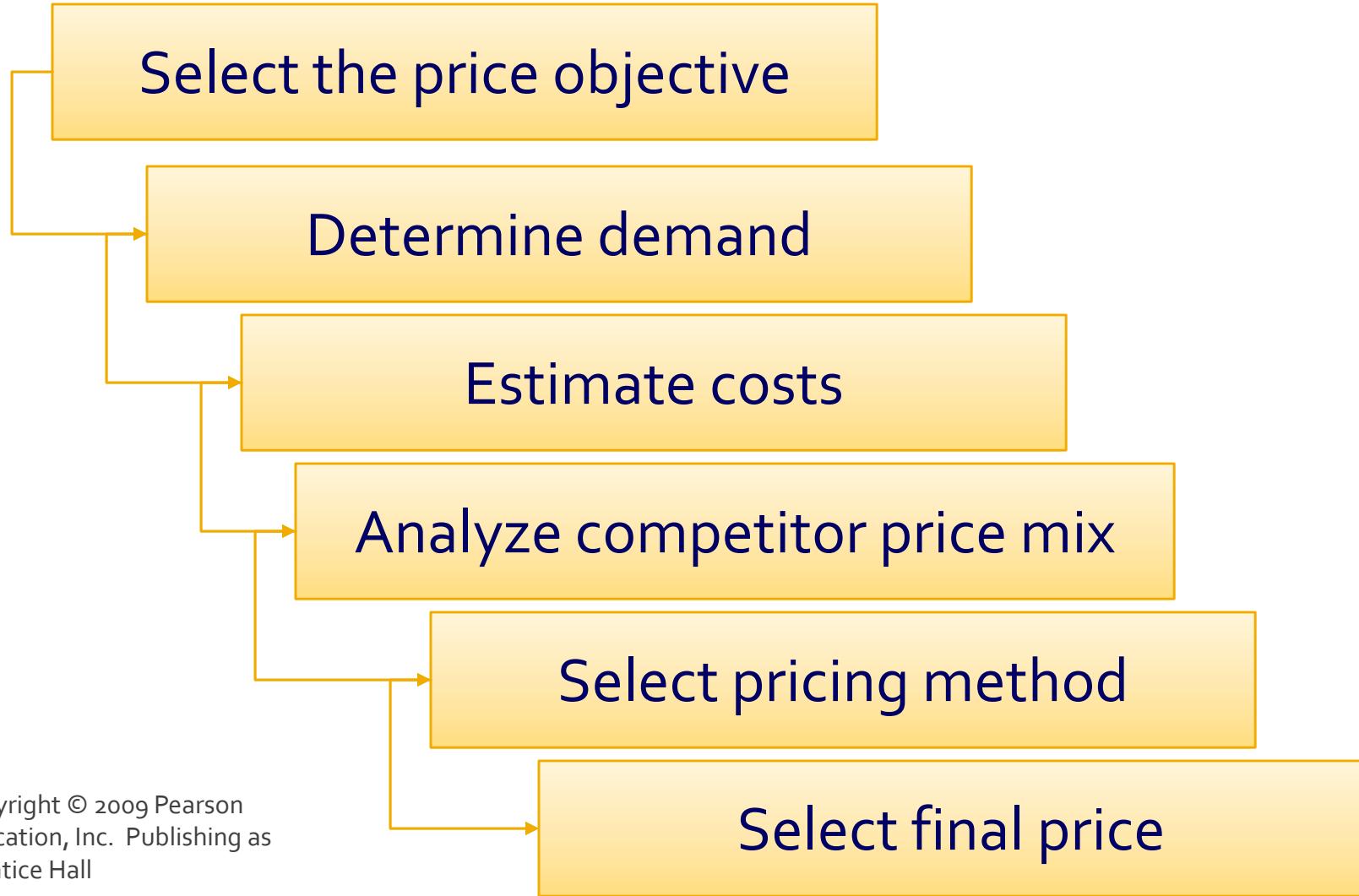
\$1.99

- ↗ Most Attractive?
- ↗ Better Value?
- ↗ Psychological reason to price this way?

Table 14.1 Possible Consumer Reference Prices

- “Fair price”
- Typical price
- Last price paid
- Upper-bound price
- Lower-bound price
- Competitor prices
- Expected future price
- Usual discounted price

Steps in Setting Price



Step 1: Selecting the Pricing Objective



- Survival
- Maximum current profit
- Maximum market share
- Maximum market skimming
- Product-quality leadership

Step 2: Determining Demand

Price Sensitivity

Estimating
Demand Curves

Price Elasticity
of Demand



Figure 14.2 Inelastic and Elastic Demand

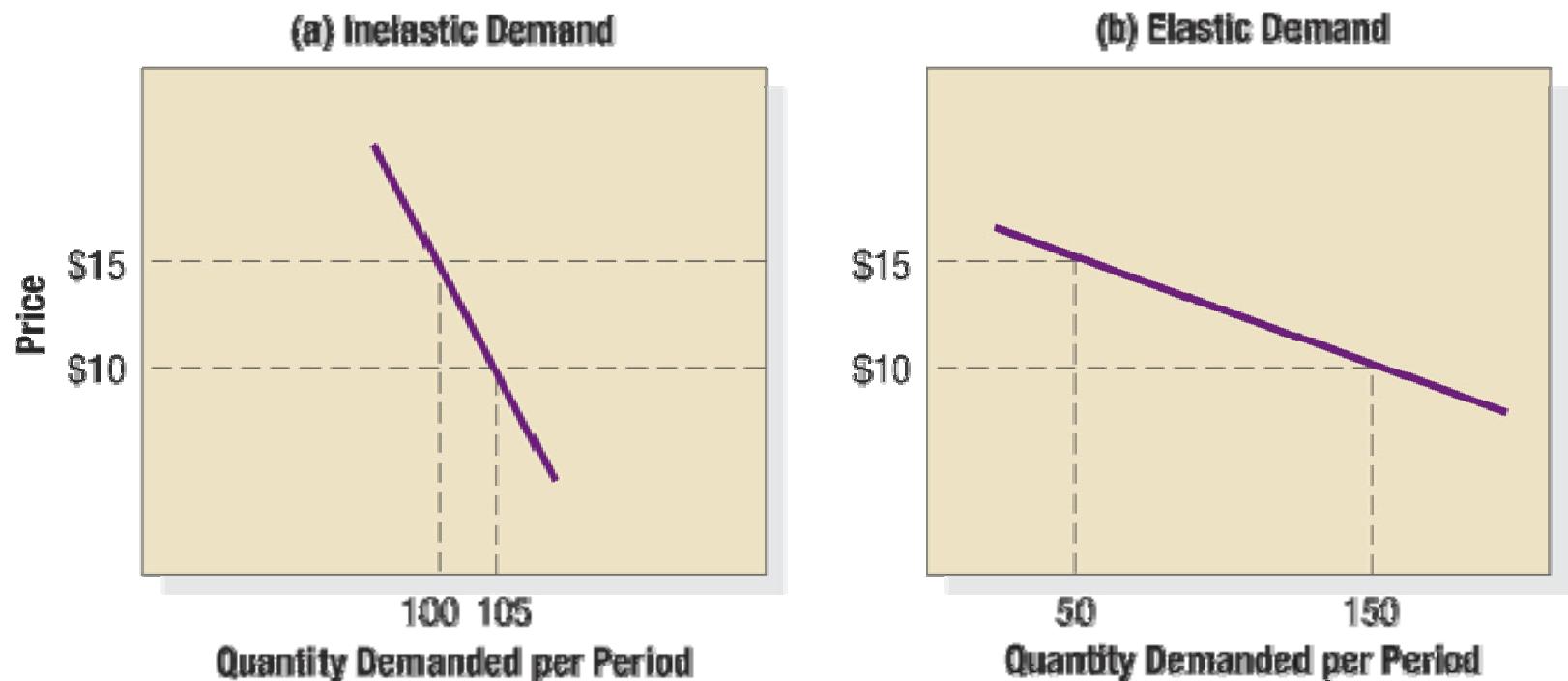
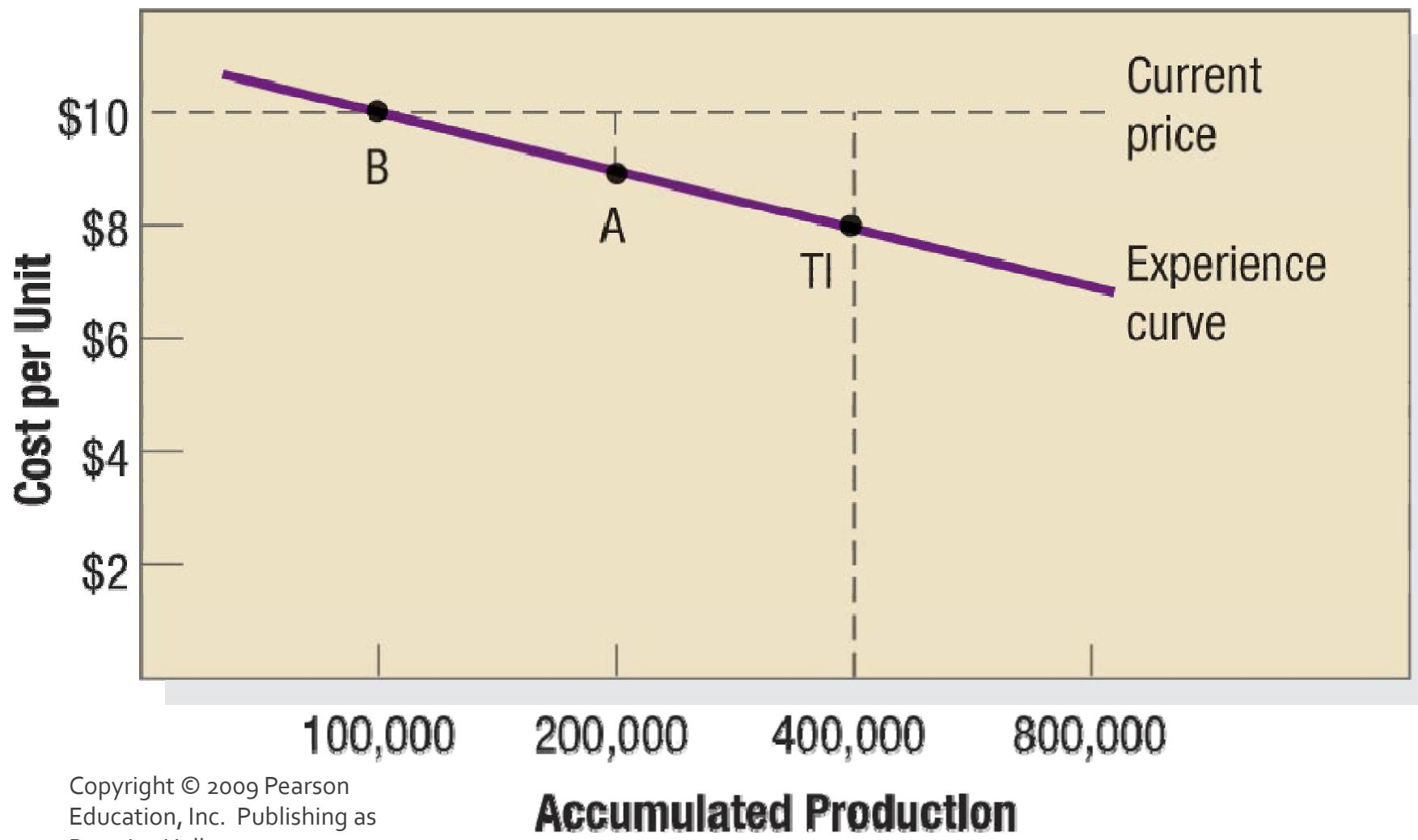


Figure 14.4 Cost per Unit as a Function of Accumulated Production

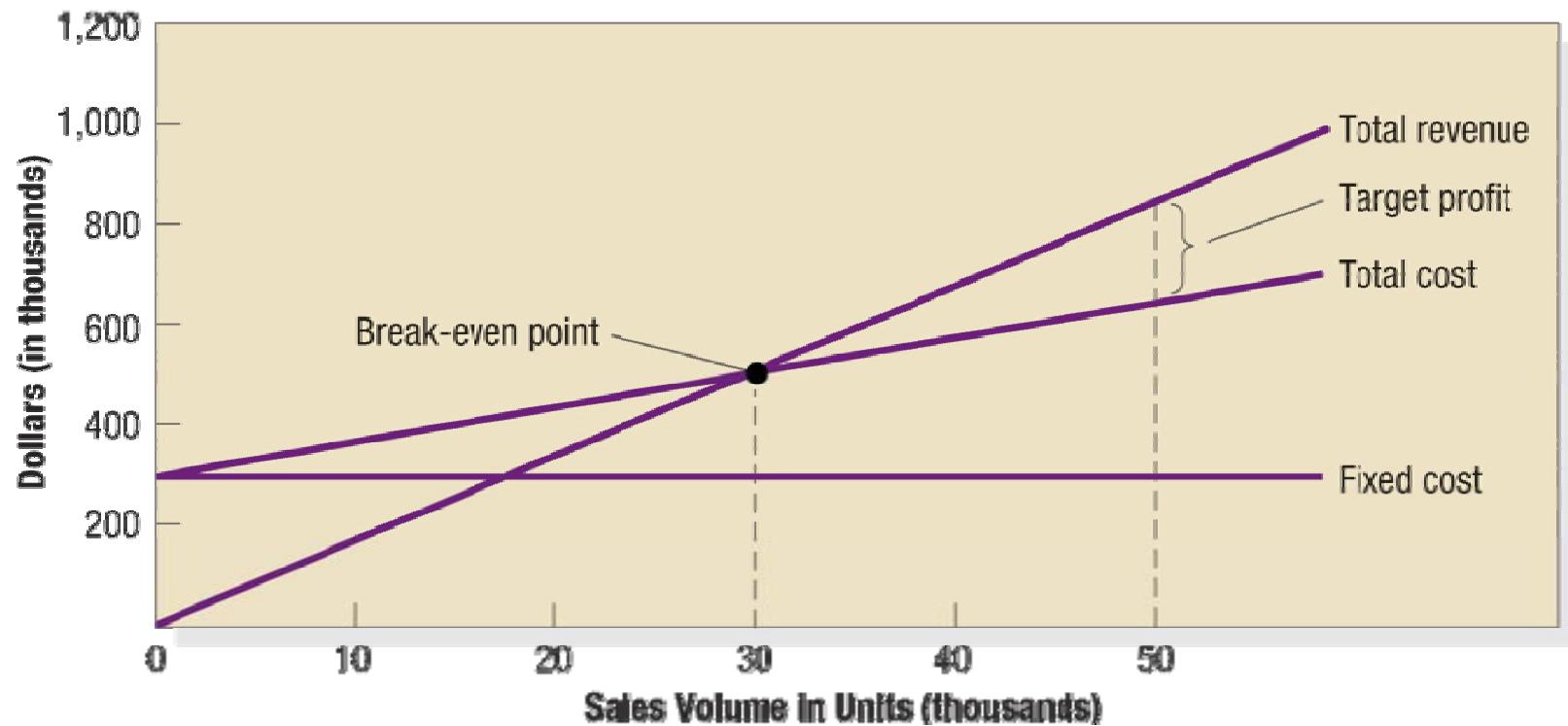


Step 5: Selecting a Pricing Method



- Markup pricing
- Target-return pricing
- Perceived-value pricing
- Value pricing
- Going-rate pricing
- Auction-type pricing

Figure 14.6 Break-Even Chart

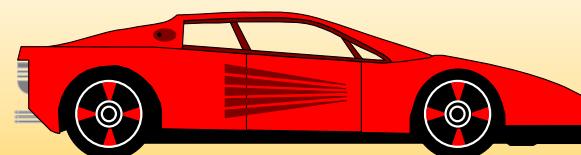


Discriminatory Pricing

Customer Segment



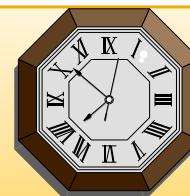
Product-form



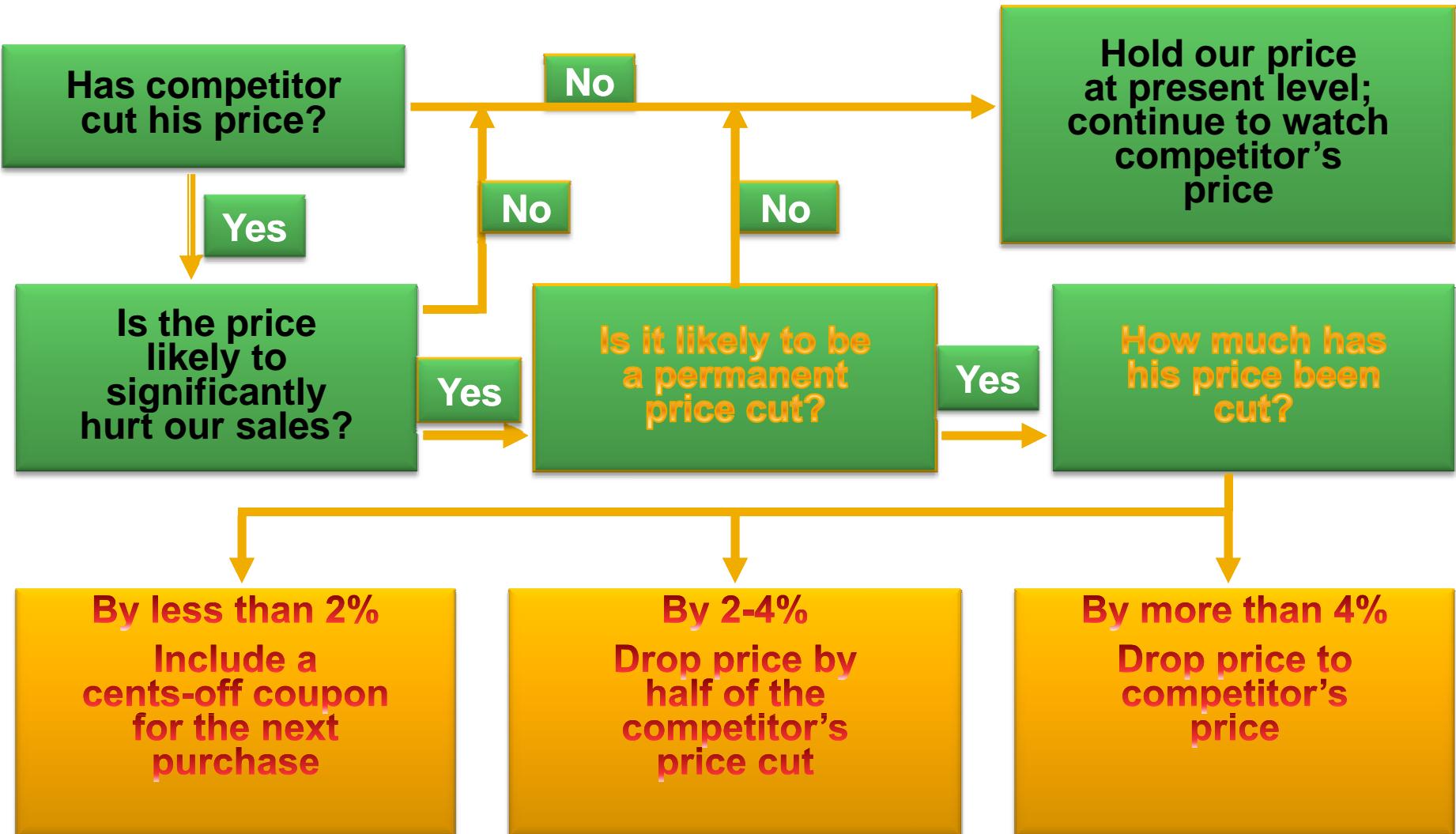
Location



Time



Price-Reaction Program for Meeting a Competitor's Price Cut



Brand Leader Responses to Competitive Price Cuts

- Maintain price
- Maintain price and add value
- Reduce price
- Increase price and improve quality
- Launch a low-price fighter line

Price-Adaptation Strategies



Geographical Pricing

Discounts/Allowances

Promotional Pricing

Differentiated Pricing

The High-Tech Pricing Environment

- Need to re-coup R&D investments in light of:
 - Rapid pace of change
 - Short, volatile product life cycles
 - Pressure on Price/Performance Ratios: Moore's law
 - Network externalities
 - Unit-one costs

High fixed/sunk R&D cost, low marginal cost

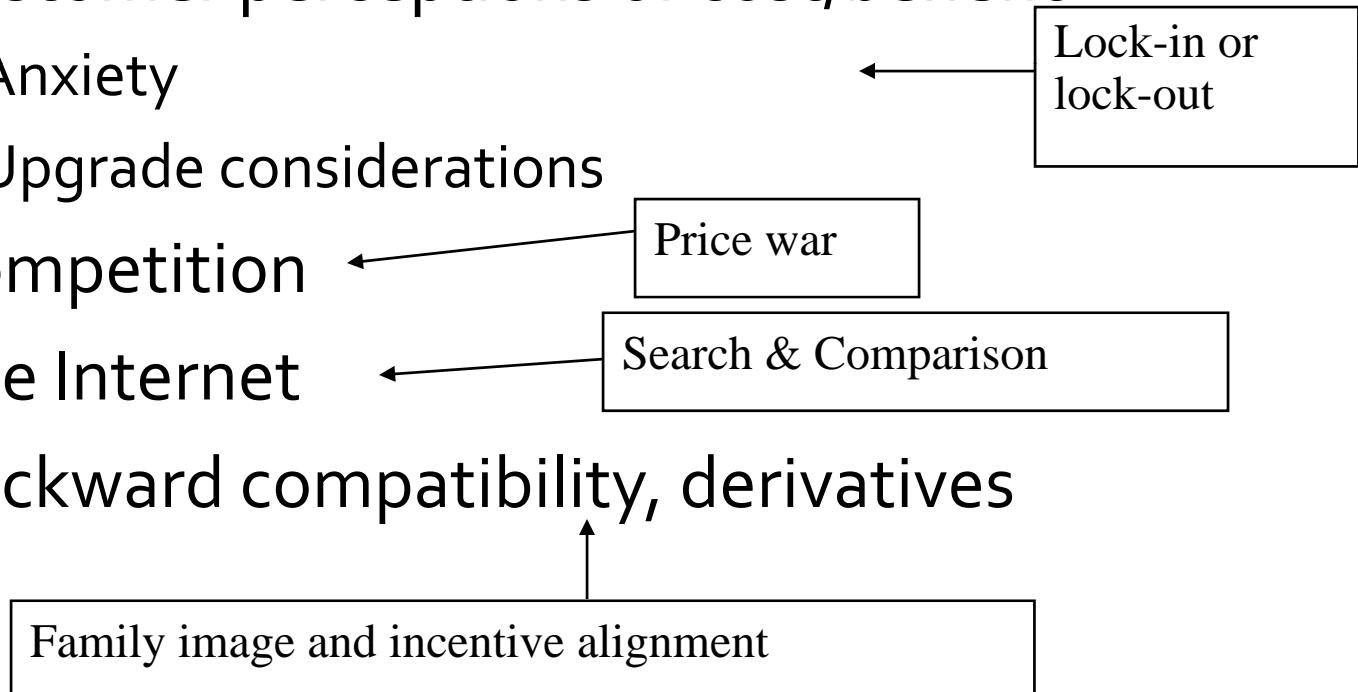
Market share
matters

Compete
fiercely

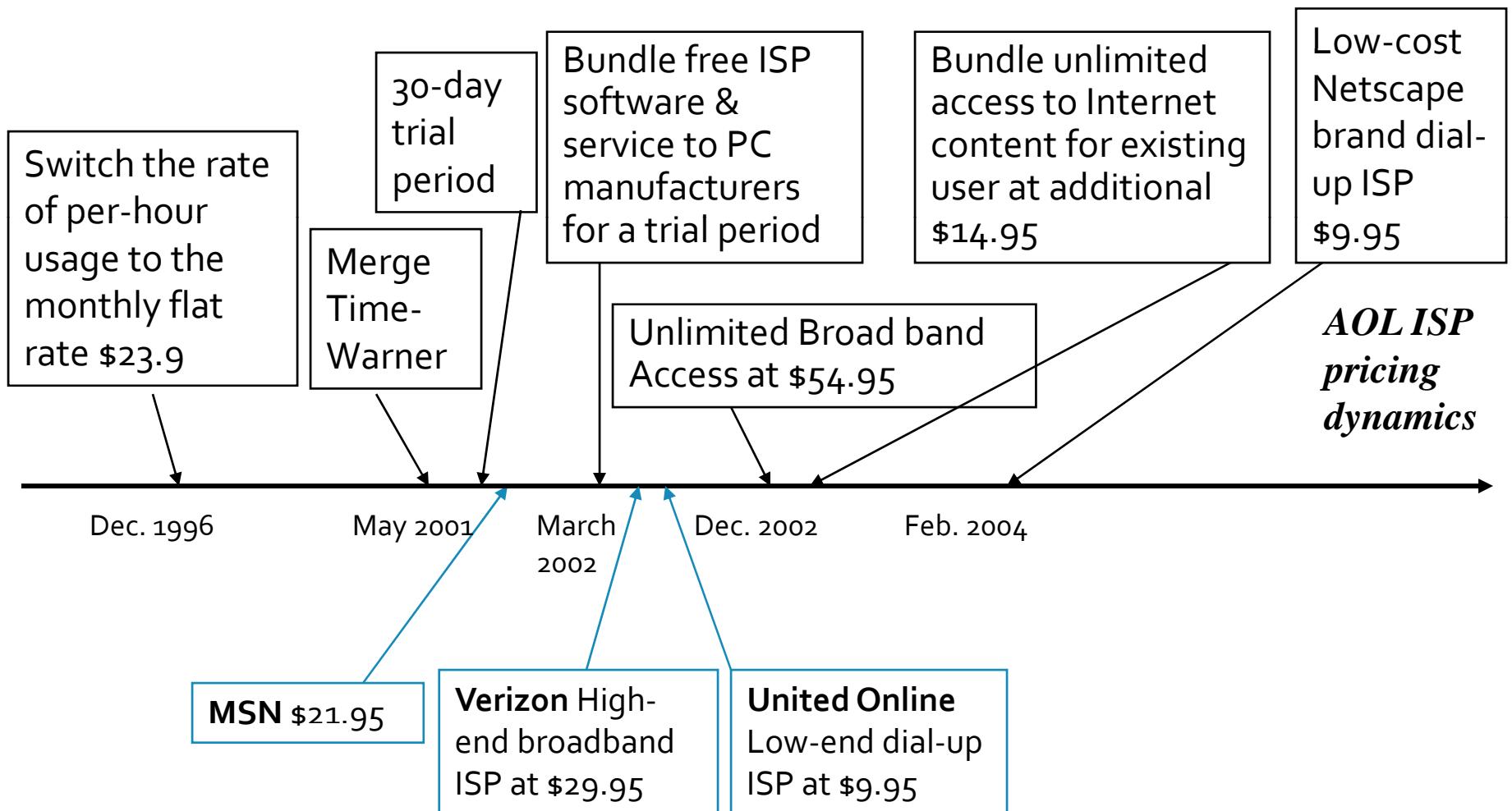
Technology
cannibalizes &
obsoletes soon

The High-Tech Pricing Environment (Cont.)

- Customer perceptions of cost/benefit
 - Anxiety
 - Upgrade considerations
- Competition
- The Internet
- Backward compatibility, derivatives



Pricing dynamics of AOL



Pricing of After-Sales Service

- Price services based on segmentation
- “Basic needs” want standard service with basic inspections and periodic maintenance
- “Risk avoiders” want to avoid big bills but don’t care about response time
- “Hand-holders” need high level of service and are willing to pay

Technology Paradox

- Rapid pace of price declines
- At the extreme, technology is “**free**” and companies literally give products away.
- How can businesses thrive when their prices are falling?
 - Requires exponential growth of market to be faster than the exponential decline of prices
 - Requires new skills: **ingenuity, agility, and speed**

Possible Solutions to the Technology Paradox

- Keep costs falling faster than prices
 - Offshore outsourcing
- Innovate, don't get stuck making commodities
 - Differentiation
- Agility and speed
 - Sense & response
- Find new uses for the product
 - Expand the coverage
- Develop long-term relationships with customers
 - After-sale service & loyalty management

Possible Solutions to the Technology Paradox

- Innovate?
 - Make products easy to use, exciting, or both
- Two extremes:
 - Market domination: **own the standards** and charge a premium for them
 - Intel and Microsoft
 - **Sell a commodity** and hope for **volume**
- Middle-of-the-road: Learn new tricks

“Middle of the Road” Solutions to the Technology Paradox

- Try to avoid making commodity goods
 - Provide value beyond competition
 - Mass Customize?
- Agility and Speed
 - Focus on “best possible solution” (vs. best solution possible)
- Find new uses for products
 - Collaborate with complementary providers

“Middle of the Road” Solutions to the Technology Paradox

- Develop **long-term relationships** with customers with low/free pricing
 - Goal is **life-time value** rather than margin
 - Establish a market-hold to grab “**mind share**” (eyeballs; personalized customer knowledge)
 - Capitalize on that knowledge as a form of **switching cost**
 - Establish an installed customer base to sell **ancillary products** and services
 - “Captive product pricing”
 - Offer **complete solution** (“end-to-end;” whole product)
 - Rely on **advertising** and **marketing revenue**

Effect of Internet on Pricing

- Cost Transparency

- Solutions:

- Pricing lining/versioning
 - Innovate

Additional Pricing Considerations from Embedded Nature of Know-How

- Outright Sale of Knowledge vs. Licensing
 - With high levels of technological uncertainty, easier to value know-how in the short-term
 - Leads to more licensing rather than outright sale
- One-time/single Use vs. Multiple Users
 - Depends on customer's cost of sharing the product relative to the manufacturer's cost
 - If easy for customer, then price (higher) for site licenses (multiple users)
 - If difficult, then price (lower) for individual use

Additional Pricing Considerations

- Pay-Per-Use vs. Subscription Pricing
 - Network externalities favor subscription pricing
 - Generate more users to increase the value of the network
 - Technological uncertainty favors **subscription pricing**
 - Risk averse customers prefer flat rates to avoid uncertainty

More on Leasing to Finance Purchase of Technology Infrastructure

- Can generate savings through tax benefits
- Can minimize balance sheet impacts
- Can maintain operating flexibility with respect to equipment
- Can attract investors with residual value of leased assets

Price Bundling

- Pure price bundling
 - Components not available separately (complements)
 - Value from **synergistic** use of components
- Mixed price bundling
 - Bundle and separate components available
 - Value from discount over sum of component prices

Promotion
purpose

What is an auction?

- An auction is a market institution with an explicit set of rules **determining** resource allocation and prices on the basis of bids from the market participants, including both seller of offering and buyer of bidding.
- The word “auction” is derived from the Latin ***augere***, which means “to increase.”

The purpose of auction

- Why are auctions used rather than other selling approaches such as the fixed/menu price?
 - Heterogeneous value—the price, that is the **willingness-to-pay**, depends on the demand and supply conditions at a specific moment of time, and a specific spot of place
 - Resolution of information asymmetry—promote many competitors to **reveal truth**

Some auctioning mechanisms

- English auction
- Dutch auction
- Reverse auction
- First-price sealed-bid auction
- Second-price sealed-bid auction
- Multi-unit auction
- Yankee auction
- Double auction
- met de borden—arbitrational auction

English- vs. Dutch auction

■ Repeated, multi-staged, competitive games

- English auction—an ascending-bid auction that is usually used for selling goods through raising and posting price openly.
 - E.g., antiques and artwork
- Dutch auction—a descending-bid auction that starts by the auctioneer's initial high price and then lowers the price until one bidder accepts the current price.
 - E.g., flowers in Netherlands, fish in Island, tobacco in Canada

English Auction options

- Initiate price
 - Does the \$1 bidding game extract more benefit?
- Reserved price—the seller's bottom line
 - Is it proper to reserve the draw-back right at the end of game?
- Buy-out price—in other words, an *open* reserved price
 - The effect of forestall?
- Markup range
 - % of initiate price or arbitrary setting
- History-tracing—the whole historical log or the latest?
- Snipping agents
 - The influence of automatic price snipping?

Reverse auction

- A repeated descending-bid auction is launched by the buyer to invite the sellers' participation.
 - E.g., Priceline.com,
 - The lower bidding price competed by the sellers, the better buyers' utility
- *cf.*, **Dutch auction**
 - the lower auctioning price announced by the seller, the inferior sellers' benefit

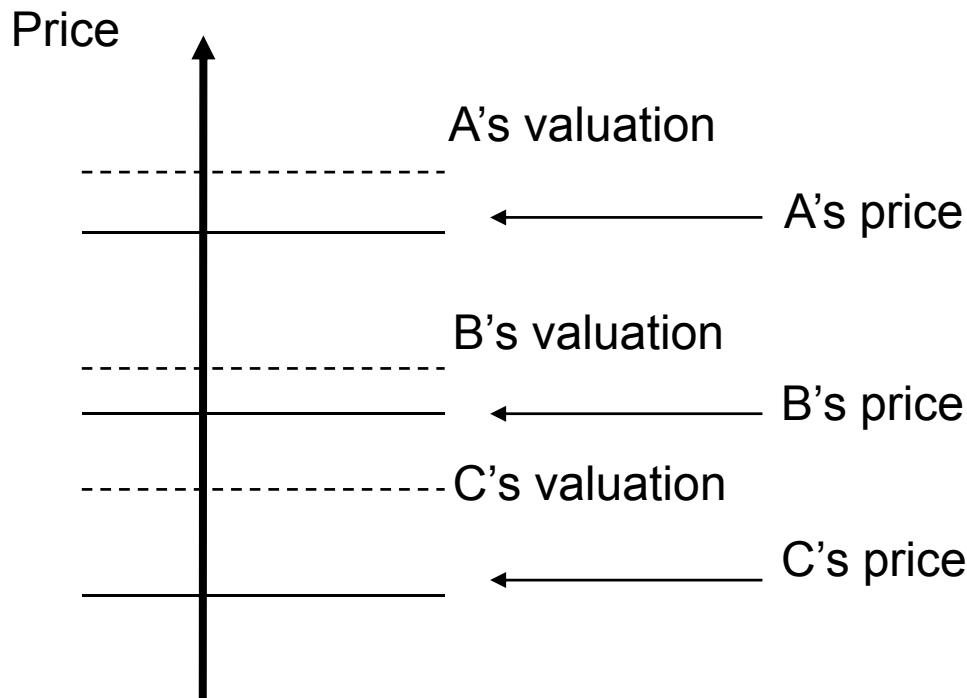
First-price vs. second-price sealed bidding

■ ***One-shot*** game simultaneously

- First-price sealed-bid auction—the bidder is awarded the sold object in expense of submitting the highest price.
(Dutch equivalence) (the winner's curse)
 - E.g., the government sells the land or the mineral right
- Second-price sealed-bid (or **Vickrey**) auction—the bidder is awarded the sold object by submitting the highest price but in expense of the submitted second-highest price.
 - This approach was seldom used in practice even though it possessed a theoretical efficient property—much less incentive for bidders

The efficiency of Vickrey auction

- The bidding criteria: valuation \geq bidding price
 - A will win and always be charged less than his own valuation even though he had issued his maximum valuation price as long as his **valuation** is the **highest** among the competitors.

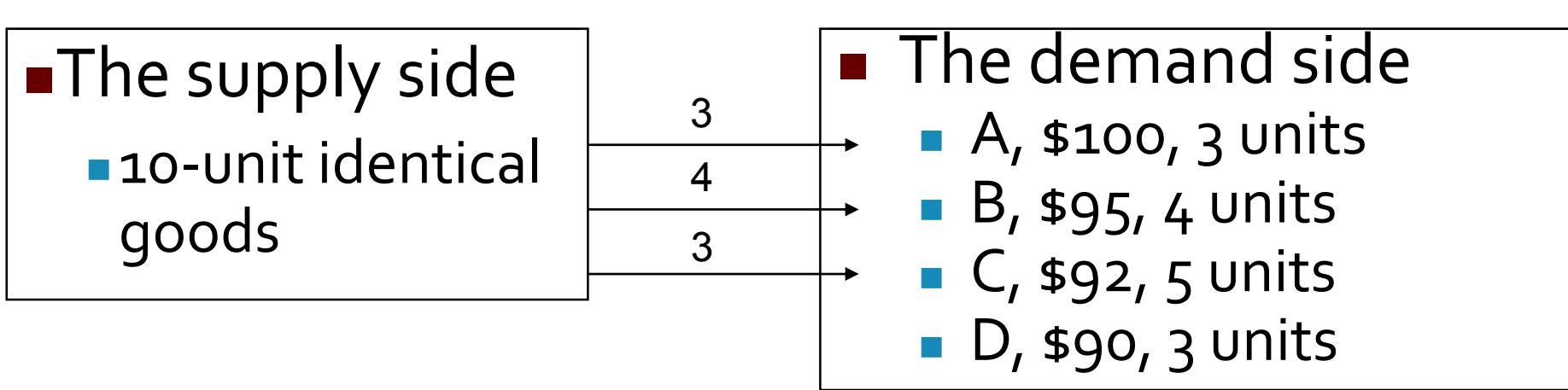


The failed design of auctions

- **First-price sealed-bid auction**
 - Revealed prices under the bidders' true valuation—
bidding price=[(n-1)/n] × valuation, n=# of participants
 - more participants may close the gap
 - Second-price sealed-bid auction (facilitated by some incentives) may cure the fallacy
- **Dutch auction**—the bidding price is usually less than the true valuation of bidder
 - Partitioning the game of one price for total objects into **discriminatory** sale for smaller number units

Multi-unit auctions

- A repeated auction mechanism for exchanging several identical goods is used to be conducted on the **commodity market**
- For a multi-unit auction, the necessary condition is the amount of **bidders** must be more than the auctioned objects



Different incentives of multi-unit auctions

- The individual bidding price vs. the last exchanged price

- The supply side
 - 10-unit identical goods

A, \$100 X 3

B, \$95 X 4

C, \$92 X 3



- The demand side
 - A, \$100, 3 units
 - B, \$95, 4 units
 - C, \$92, 5 units
 - D, \$90, 3 units

→ Conservative & lower-valuation bidding behavior

or

A, B, C, \$92 X 10

→ Truth revelation on individual bidding price

Dutch multi-unit auction

- An descending-bid multi-unit auction that starts by the initial high price and then lowers the price until all products had been selected by the bidders' prices.
 - The agricultural commodity auction—immediate demand and short-duration goods

■ The supply side

- 10-unit identical goods



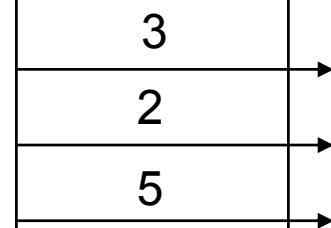
■ The demand side

- \$100, —, 10 units
- \$99, —, 10 units
- \$98, (A/5 units), 5 units
- \$97, —, 5 units
- \$96, (B/3 units), 2 units
- \$95, (C/2 units), 0 units

Yankee auction

- A multi-criteria matching mechanism
 - Prioritize the allocation by the quantity, the issued time, **credit rating**, or **other signals**
 - Apply especially on the multi-unit auctions

- The supply side
 - 10-unit identical goods

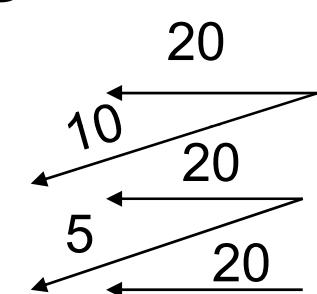


- The demand side
 - A, \$100, 3 units
 - B, \$95, 4 units
 - C, \$95, 5 units
 - D, \$90, 3 units

Double auction (i)

- Several sellers and several buyers submit bids **simultaneously**, especially on the stock exchanges and *commodity markets*
- A **sealed-bid matching** process promotes transactions to occur only when the sellers' prices less than the buyers' prices.
- The sellers could not raise their own prices too high to match the buyers' expectation, while the buyers would not post too low bidding prices to attract the sellers
- E.g., B2B Internet auction for industry materials

Double auction (ii)

- The demand side
 - A, \$100, 20 units
 - B, \$90, 30 units
 - C, \$85, 40 units
 - D, \$80, 30 units
 - The supply side
 - a, \$75, 30 units
 - b, \$80, 25 units
 - c, \$85, 20 units
 - d, \$90, 30 units
 - The matched outcomes
 - A-a, \$87.5, 20 units
 - B-a, \$82.5, 10 units; B-b, \$85, 20 units
 - C-b, \$82.5, 5 units; C-c, \$85, 20 units
- 

Double auction (iii)

- If there are *sufficiently many buyers and sellers*, there would be no other trading mechanism the could increase some traders' expected gains from trade without lowering the others' expected gains down—an efficient state so called "*Pareto Optimality*"

met de Borden auction

■ Arbitrational auction

- Both sellers and buyers can be the auction initiators to issue the bidding to the arbitrator
- Announce the auction item (property and quantity)
 - Selling auction—looking for the candidate buyer
 - Buying auction—looking for the candidate seller
- Compromise the disperse prices between the seller's and the buyer's based on the general market price
- Open the arbitrated price and charge the arbitration commission even though the initiator had retreated the auction at the end

■ Immediately timely auction

Internet online auction

- Product category—primarily limited to **standardized** consumer products
 - Computer h/w & accessories, computer s/w, consumer electronics, sporting goods, toys,...
 - More than 5 products offered on a general auction site
- Business model—most focused on C2C(eBay) or B2C(uBid), less for B2B
 - Special case—C2B, a reverse call for auction, e.g., **Priceline.com** & TravelBids

Internet auctioning rules and webs

- Most adopted the ***English/straight*** type of auction for a specific single item, or Yankee type multi-unit auctions
- Few adopted the ***Dutch*** auction
 - Intermodal Exchange for vessel container
 - Klil-Klok for three-minute auction
- The most innovative & popular auction rule is ***reverse*** auction driven by the buyer
 - A high potential business of mobile commerce
- Few adopted the **double** auction on B2B model (only for specialty trading)
 - FastParts for electronics parts
 - LabX for laboratory experimental equipments
 - Dallas Gold for jewelry

Bidding agents

- The clients setup the maximum bidding amount to the agent without monitoring the auction activities, then the latter will continue to enter the lowest winning bid until the maximum bid is met.
- **Cross-website swapping** agents (but the infringement issue of copyright)
- E.g., BidFind.com, BidSmart.com, Bidder'sEdge.com, RU sure.com, etc

The revenue flow of Internet auction site

- As an intermediary for aggregating information
 - e.g., eBay on C2C, or FairMarket on B2B for computer electronics
 - Insertion fee for listing an item
 - **Commission of final value fee**—charged only when goods had been successfully sold
- As a seller for online retailing, e.g., uBid
 - Quantity discount compensation
 - Advertisement fee