Chapter 3:

Pricing & Revenue models

Electronic Commerce

Outline

- Price and Factors affecting pricing
- Determining price
- Dynamic pricing
- Auctions
- Revenue models

Price and Pricing

- *Price* is the amount of money charged for a product or service. (Philip Kotler)
- *Pricing* is the process whereby a business sets the price at which it will sell its products and services.
- Price is the result of a complex set of calculations, research and understanding and risk taking ability.

Factors affecting pricing

INTERNAL FACTORS

- Cost
- Company objectives
- Organisational factors
- Marketing mix
- Product differentiation

EXTERNAL FACTORS

- Demand
- Competition
- Suppliers
- Economic conditions
- Consumers
- Government

Factors affecting pricing

INTERNAL FACTORS

- Cost
- Company objectives
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Cost

- The amount spent on *production, promotion and distribution*.
- For a product to be *profitable* it must attain a *break even point*. Its where a company recovers the money it has spend on a product and start attaining profits

Factors affecting pricing

INTERNAL FACTORS

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Company objectives

- Pricing decisions must be in line with the overall predefined objectives.
  - profit maximization
  - wealth maximization
  - market share maximization

Factors affecting pricing

INTERNAL FACTORS

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- Product differentiation

Organisational factors

- Two levels:
  - Overall price strategy by top executives: the ranges of the product (market segments)
  - The actual mechanics of pricing are dealt with at lower levels in the firm and focus on individual product strategies.

Factors affecting pricing

INTERNAL FACTORS

- Cost
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Marketing mix

- Price is the important element of marketing mix.
- The promotional activity also determines the price.

Factors affecting pricing

INTERNAL FACTORS

- Cost
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- Marketing mix
- Product differentiation

Product differentiation

- Characteristics of the product (shape, color, size, packaging) attract the attention of the customers.
- Customers are willing to pay more if they like and value the characteristics of the product

Factors affecting pricing

Demand

- The market demand for a product or service obviously has a big impact on pricing
- Demand is affected by number and size of competitors, the prospective buyers, their capacity and willingness to pay, their preference etc.

EXTERNAL FACTORS

- Demand
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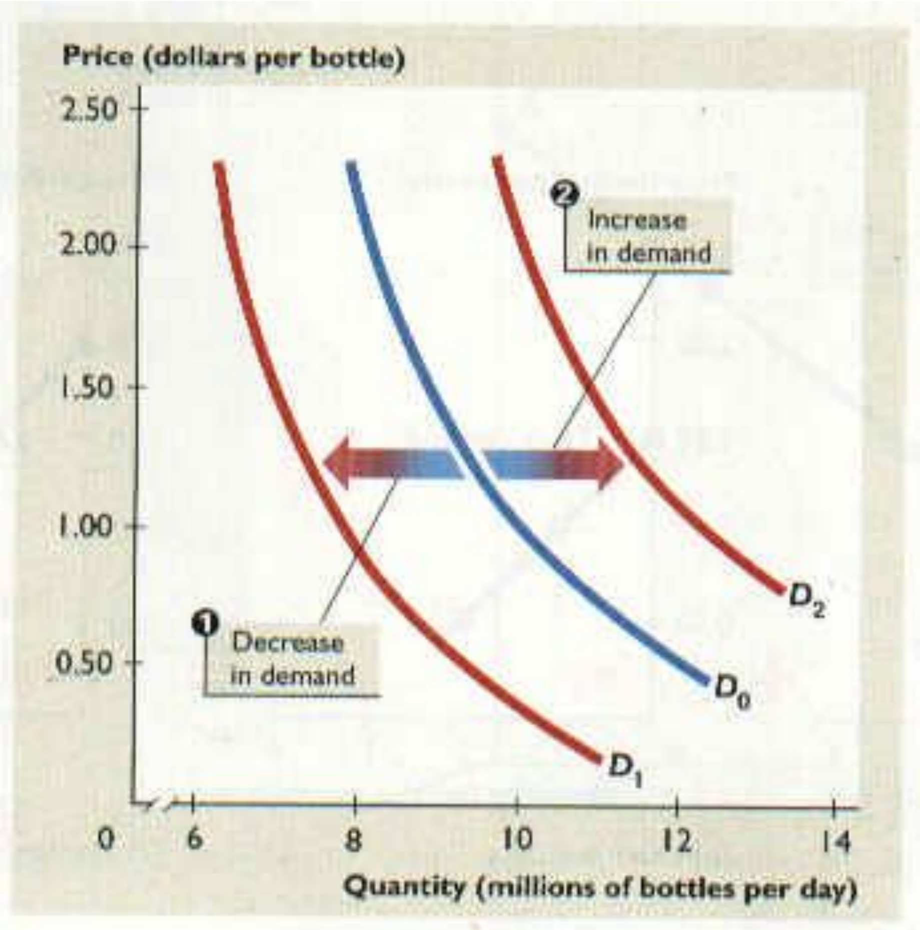
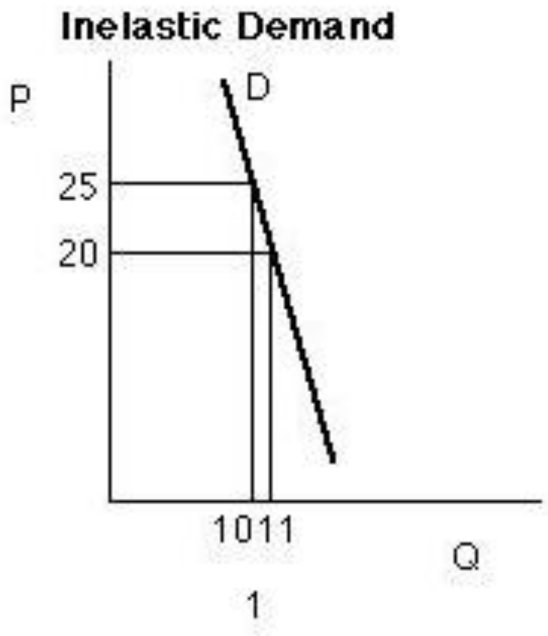
Factors affecting pricing

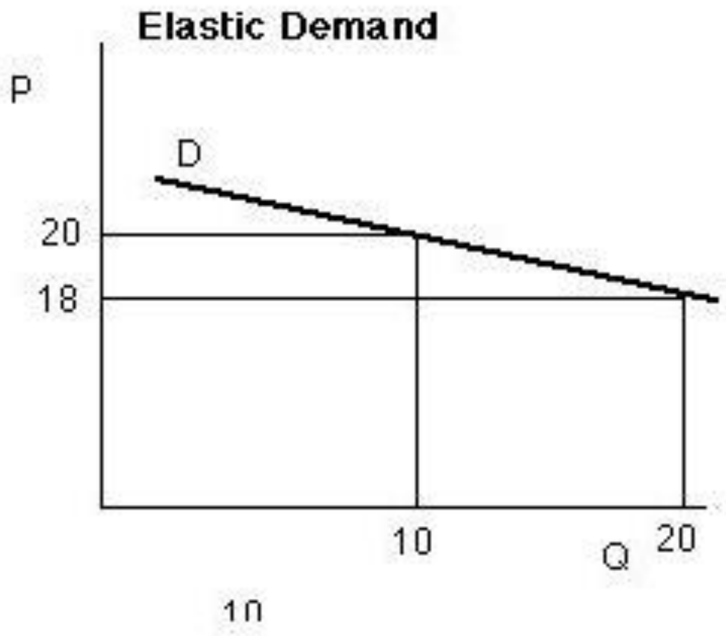
Demand

- Price vs Quantity



Elasticity of Demand





Factors affecting pricing

Competition

- Consider competitors' costs, prices, and possible reactions.
- High competition → low prices
- Low competition → high prices

EXTERNAL FACTORS

- Demand
- Competition
- Suppliers
- Economic conditions
- Consumers
- Government

Factors affecting pricing

Suppliers

- The price of a finished product is intimately linked up with the price of the raw materials from the suppliers.
- Scarcity or abundance of the raw materials also determines pricing.

EXTERNAL FACTORS

- Demand
- Competition
- **Suppliers**
- Economic conditions
- Consumers
- Government

Factors affecting pricing

Economic conditions

- The inflationary or deflationary tendency affects pricing.
- In recession (period, the prices are reduced to a sizeable extent to maintain the level of turnover.
- In boom period, the prices are increased to cover the increasing cost of production and distribution.

EXTERNAL FACTORS

- Demand
- Competition
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- **Economic conditions**
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Factors affecting pricing

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EXTERNAL FACTORS

- Demand
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- Government

Factors affecting pricing

Consumers

- Consumers may have an influence in the pricing decision.
- Their nature and behaviour for the purchase of a particular product, brand or service etc. affect pricing when their number is large.

EXTERNAL FACTORS

- Demand
- Competition
- Suppliers
- Economic conditions
- Consumers
- Government

Factors affecting pricing

Government

- Price discretion is also affected by the price-control by the government through enactment of legislation.

EXTERNAL FACTORS

- Demand
- Competition
- Suppliers
- Economic conditions
- Consumers
- Government

Determining price

- Game theory model
  - Consists of: players, strategies, payoffs
  - Prisoners' dilemma

		Prisoner B	
		Confess	Keep Quiet
Prisoner A	Confess	Both go to jail for 5 years	Prisoner B goes to jail for 10 years, Prisoner A goes free
	Keep Quiet	Prisoner A goes to jail for 10 years, Prisoner B goes free	Both go to jail for 1 year

Determining price

- Game theory model
  - A player's **best response** is the strategy that maximizes the player's payoff, given the strategies of the other players
  - A strategy is a **dominant strategy** for a firm if it is optimal, no matter what strategy is used by the other players
  - The firms are in a **Nash Equilibrium** if the strategy of each firm is the best response to the strategies of the other firms. Equivalently, in a Nash equilibrium, none of the firms have any incentive to unilaterally deviate from its strategy

Determining price

- Game theory model
  - Companies A and B both produce phones

Price	Unit contribution margin at that price	Number in segment
High	$800	2,000,000
Low	$300	2,000,000

  - What price companies A and B will set for their phones?

Determining price

- Game theory model
  - Companies A and B both produce phones

		B Chooses…	
		High	Low
A Chooses…	High	8 8	12 0
	Low	0 12	6 6

Dynamic pricing

- Determining the right prices to charge a customer for a product or a service: complex task
- Customers’ information is increasingly recorded with the advances of the Internet and e-commerce technologies
- The cost of changing products’ prices: menu cost
  - Is very large for companies with many products and services
  - Reduced significantly in e-commerce

Dynamic pricing

- Definitions
  - Price dispersion
  - Price discrimination
- Price dispersion
  - Spatial
  - Temporal
- Price discrimination
  - First degree (perfect) differentiation: different prices for different units sold and people
  - Second degree price differentiation: different prices for different units sold
  - Third degree price differentiation: different prices for different people

Dynamic pricing

- Price differentiation through product differentiation
  - Dell computer
- Dynamic pricing methods
  - Posted price mechanism
  - Price discovery mechanism
- Example of dynamic pricing: airline industry
  - Consumer segmentation
    - Business class: date and time are more important
    - Economy class: fare is more important
  - Available seats adjustment in specific periods

Auctions

- From Babylon to the Roman Empire to Buddhists
- Auction: seller offering item for sale
  - **Bids:** price potential buyer willing to pay
  - **Bidders:** potential buyers
  - **Private valuations:** amounts bidders willing to pay
  - **Auctioneer:** manages auction process
  - **Shill bidders:** bidder who seller or auctioneer employees

Auctions

- English auctions
  - Bidders publicly announce their successive higher bids until no higher bid is forthcoming
  - The item sold to the highest bidder at that bidder’s price
  - Known as
    - Ascending-price auction
    - Open auction (open-outcry auction)
  - Minimum bid
    - The price at which an auction begins
    - If not met: item removed (not sold)

Auctions

- English auctions
  - Reserve price
    - Seller’s minimum acceptable price
    - Not announced
    - If not exceeded: item withdrawn (not sold)
  - Yankee auctions
    - Multiple items are offered
    - Highest bidder allotted bid quantity
    - Remaining items allocated to next highest bidders until all items distributed
    - Bidders pay lowest successful bidder price

Auctions

- English auctions
  - English auction seller drawback
    - May not obtain maximum possible price
  - English auction buyer drawback
    - **Winner's Curse**
      - Psychological phenomenon
      - Caught up in competitive bidding excitement
      - Bidders risk bidding more than their private valuations

Auctions

- Dutch auctions
  - Open auction
    - Bidding starts at a high price
    - Drops until bidder accepts price
  - Also called descending-price auctions
  - Seller offers number of similar items for sale
  - Common implementation
    - Use a clock (price drops with each tick)
    - If items remain: clock restarted

Auctions

- Dutch auctions
  - Advantages
    - Seller obtains close to highest private valuation
    - Quickly move large numbers of commodity items
  - Disadvantages
    - Sales or product interest generated: does not justify cost of operation
    - Customer confusion
  - Successful examples
    - Google initial public offering stock sale (2004)

Auctions

- Sealed-bid auctions
  - Bidders submit bids independently
  - Prohibited from sharing information
- First-price sealed-bid auction
  - Highest bidder wins
  - If multiple items auctioned: next highest bidders awarded remaining items at their bid price
- Second-price sealed-bid auction (Vickrey auctions)
  - Highest bidder awarded item at second-highest bidder price
  - William Vickrey: 1996 Nobel Prize in Economics

Auctions

- Double Auctions
  - Sealed bid or open outcry
  - Good for: items of known quality traded in large quantities
  - No item inspection before bidding
  - Auctioneer
    - Matches sellers' offers starting with lowest price and then goes up
    - To buyers' offers starting with highest price and then goes down until all quantities offered are sold
  - Example: New York Stock Exchange

Auctions

- Reverse (Seller Bid) Auctions
  - Multiple sellers submit price bids
    - Auctioneer represents single buyer
  - Bids for given amount of specific item to purchase
  - Prices go down as bidding continues
    - Until no seller is willing to bid lower
  - Used by consumers
  - Largest dollar volume
    - Businesses: both buyers and sellers
      - Buyer acts as auctioneer
      - Screens sellers before participation

Auctions

Auction type	Key characteristics
English auction	Starting from a low price, bidding increases until no bidder is willing to bid higher.
Dutch auction	Starting from a high price, bidding automatically decreases until the bidder accepts the price.
First-price sealed-bid auction	Secret bidding process; the highest bidder pays the amount of the highest bid.
Second-price sealed-bid auction (Vickrey auction)	Secret bidding process; the highest bidder pays the amount of the *second*-highest bid.
Double auction (open-outcry)	Buyers and sellers declare combined price–quantity bids. The auctioneer matches seller offers (lowest to highest) with buyer offers (highest to lowest). Buyers and sellers can modify bids based on knowledge gained from other bids.
Double auction (sealed-bid)	Buyers and sellers declare combined price–quantity bids. The auctioneer (specialist) matches seller offers (lowest to highest) with buyer offers (highest to lowest). Buyers and sellers cannot modify their bids.
Reverse auction (seller-bid)	Multiple sellers submit price bids to an auctioneer that represents a single buyer. The bids are for a given amount of a specific item that the buyer wants to purchase. Prices go down as the bidding continues until no seller is willing to bid lower.

FIGURE 6-1 Key characteristics of seven major auction types

Revenue models

- Revenue model: how businesses generate revenue?
  - Web catalog
  - Digital content
  - Advertising-supported
  - Advertising-subscription mixed
  - Fee-for-transaction
  - Fee-for-service
- These models are not exclusive and can combine together
- Work for both B2B and B2C categories

Revenue models

- Web catalog
  - Adapted from traditional catalog-based model
    - Seller established brand image
    - Sold through printed information mailed to prospective buyers
  - Web sites expand traditional model
    - Replace or supplement print catalogs
    - Offer flexibility
      - Order through Web site or telephone
      - Payment though Web site, telephone, or mail
  - Creates additional sales outlet
  - Suitable for: computers and consumer electronics, books, music, videos, luxury goods, clothing retailers, etc.

Revenue models

- Digital content
  - Sell subscriptions for access to the information
  - Most of these digital content providers specialize in legal, academic research, business, or technical material
- Advertising-Supported
  - Free content with advertising messages
  - Stickiness
    - Keeping visitors at site and attracting repeat visitors
    - Exposed to more advertising in sticky site
  - Large visitors vs. targeted visitors (demographic information)
  - Web portal: Yahoo!

Revenue models

- Advertising-subscription mixed
  - Used for many years by traditional print newspapers and magazines: subscribers pay a fee, but also accept some level of advertising
  - Subscribers: typically less advertising
  - Suitable for: newspapers and magazines sites
  - Variations: different levels of accesses
- Fee-for-transaction
  - Service fee based on transaction number or size
  - Removal of an intermediary: disintermediation
  - New intermediary: reintermediation
  - Used in: travel, automobile sales, event tickets, online banking, music, video, books, etc.

Revenue models

- Fee-for-service
    - Fee based on service value
    - Used in: online games, professional services
- Revenue Strategy Issues
    - Channel conflict and cannibalization
        - Company Web site sales activities interfere with existing sales outlets
    - Strategic alliances
        - Two or more companies join forces undertake activity over long time period