Pricing and Product Mix Decisions

Role of product costs
- understanding how to analyze product costs
  - is important for making pricing decisions, as managers
    - make decisions about price for their products
    - decide the best mix of products to manufacture and sell
  - is significant when a firm is deciding how to deploy marketing and promotion resources
    - how much commission (or how many other incentives) to provide the sales force for different products
    - how large a discount to offer off list prices

Pricing considerations
- for short term decisions
  - the costs of many resources are likely committed costs
    - because firms cannot easily alter the capacities made available for many production and support activities
  - it is important to note whether
    - surplus capacity is available for additional production, or
    - shortages of capacity limit additional production choices
  - if production is constrained by inadequate capacity, managers need to consider whether
    - overtime production, or
    - the use of subcontractors can help augment capacity
Pricing and Product Mix Decisions

- Pricing considerations
  - for long term decisions
    - long term capacity commitment may
      - prevent the firm from deploying its capacity for more profitable products or orders, should demand arise
      - force the firm to add expensive new capacity to handle future sales increases
    - managers have considerably more flexibility
      - to adjust the capacities of activity resources to match the demand for them in producing various products
  - decisions have long term consequences
    - whether to introduce new products, or
    - eliminate existing products

- Ability to influence prices
  - price takers
    - if a firm is one of a large number of firms in an industry
    - if there is little to distinguish products of different firms
    - chooses its product mix given prices set in the market
  - price setters
    - firms in an industry
      - with relatively little competition, who enjoy large market shares and exercise industry leadership
      - in which products are highly customized or otherwise differentiated from each other
    - need to set the prices for their differentiated products
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- Short term decisions for price takers
  - it takes the industry prices for its products as given and then
    - decides how many units of each product it should produce and sell
    - should produce and sell as much as it can of all products whose costs are less than industry prices
  - managers
    - must decide which costs are relevant to the product mix decision
    - may have little flexibility to alter the capacities of some of the firm’s resources in the short run

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- Short term decisions for price takers
  - an example
    - Chunling company that sells five types of ready made garments to discount stores such as Kmart
    - it is operating at full capacity and is contemplating short term adjustments to its product mix
    - it is necessary to determine what costs will
      - vary with production levels in this period
      - remain fixed when change occurs in the production mix
    - costs of utilities, plant administration, maintenance, and depreciation for the facility will not alter because the plant is operating at full capacity
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- Short term decisions for price takers
  - an example (continued)
    - varying with the quantity of each garment produced are
      - the costs of direct materials
      - the direct labour that is paid on a piece rate basis
    - inspectors are paid a monthly fixed salary
      - but are employed as required to support the production
    - capacity is constrained, therefore the company
      - must decide how best to deploy this limited resource
    - capacity is fixed in the short term, so the company
      - must plan production to maximize the contribution to profit earned for every available machine hour used

- if it receives a special order request, it would have to decide the minimum price it would accept
- because its production capacity is limited
  - it must cut back the production of some other goods to enable it to produce the goods for the special order
  - results in an opportunity cost equals the lost profit, which would be the contribution on the goods it will not make
  - the product with the lowest contribution per limited resource should be sacrificed
  - the profit (contribution) lost on those products would need to be covered by the price of the special order
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- Short term decisions for price setters
- an example - determining a bid price
  - assume that the full costs for the job are estimated to be $28,500
  - setting the price of a product also means
    - determining a markup percentage above cost, an approach known as cost plus pricing
    - the markup percentage is determined by a company’s desired profit margin and overall rate of return
    - the company has decided the markup percentage is normally to be 40% of full costs
    - if the bid request came from a regular customer, the bid price would have been $39,900 ($28,500 \times 1.40)

- available surplus capacity
  - if incremental costs of filling the order is $22,000
  - the costs of supervision and other support activities will not increase if excess capacity is available
  - the company would likely add a profit margin depending on competitive and demand conditions but the bidding price must cover the incremental costs for the job to be profitable
Pricing and Product Mix Decisions

- Short term decisions for price setters
  - an example - determining a bid price (continued)
    - no available surplus capacity
      - companies often meet such short term requirements
        » by operating its plant overtime
        » but more machine maintenance and engineering activities will be necessary
      - assume management estimates the order would cause:
        » $5,100 of incremental overtime supervision costs
        » $5,400 of incremental business sustaining costs
      - thus, the total cost of overtime is $10,500
    - the minimum acceptable price must cover all incremental costs in this case, which is $32,500 ($22,000 + $10,500)

- Long term decisions for price setters
  - when setting prices
    - most firms rely on full cost information reports
  - it is justified in three circumstances
    - special types of contracts and regulated industries
    - a firm has greater flexibility in adjusting the level of commitment for all resources
      - most activity costs will depend on the production decisions under long term contract, hence, full costs are relevant for the decision
    - in many industries, firms make short term adjustments in prices instead of rigidly employing a fixed price
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- Long term decisions for price setters
  - fluctuating prices
    - because demand conditions fluctuate over time, prices also fluctuate with demand conditions over time
      - many amusement parks offer lower prices on weekdays when demand is expected to be low
      - long distance telephone rates are lower in the evenings and on the weekends when the demand is lower
      - although these are based on the appropriate incremental costs, over the long term their average tends to equal the price based on the full costs that will be recovered
      - most firms use full cost based prices as target prices, giving sales managers limited authority to modify prices as required by the prevailing competitive conditions

- Long term decisions for price setters
  - adjusting prices in the short run
    - when demand for their products is low, the firms
      - recognize the likelihood of surplus capacity
      - adjust the prices of their products downward to acquire additional business based on the lower incremental costs they incur when surplus capacity is available
    - when demand for their products is high, they
      - recognize the existing capacity of activity resources is inadequate to satisfy all of the demand
      - adjust the prices upward based on higher incremental costs they incur when capacity is fully utilize, thereby rationing available capacity to highest profit opportunity
Pricing and Product Mix Decisions

- Long term decisions for price takers
  - decisions to add or drop a product
    - usually have significant long term implications for a firm’s cost structure
    - product sustaining costs are relevant costs for such decisions
    - batch related costs are also likely to alter if a change occurs in the product mix either in favour of or against products manufactured in large batches