Costs, Costing, Pricing, and Profit (Ch. 8, p. 225~256)

ADM4307 Apparel Manufacturing
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Objectives
- Explore the relationships among costs, costing, pricing, and profit.
- Understand stages of costing
- Understand the relationship of costs to pricing, volume, and profit

Costing and pricing
- Costing:
  - is the process of estimating the total resource investment required to merchandise, produce, and market a produce.
- Pricing:
  - Is the process of determining the exchange value of goods for sale.

Relationship of cost, price, and profit.
- Manufacturing Costs + Operating Expenses + Profit = Manufacturer’s price
  - $7 + $4 + $1 = $12
- Manufacturer’s price = Retailer’s cost
  - $12 = $12
- Retailer’s cost + Operating expenses + Profit = Retailer’s price
  - $12 + $10 + $2 = $24

Costs and Profits
- An income statement (3 sections): relates revenue (sales) to costs to determine profit. (See p. 227, Figure 8-2)

<table>
<thead>
<tr>
<th>Revenue</th>
<th>Direct labor costs</th>
<th>Fixed overhead</th>
<th>Total costs</th>
<th>Net profit margin - General operating expenses</th>
<th>Net profit or loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10,500,000</td>
<td>$4,000,000</td>
<td>$9,000,000</td>
<td>$13,000,000</td>
<td>$1,500,000</td>
<td>$8,500,000</td>
</tr>
</tbody>
</table>

Costs
- Manufacturing costs include all the expenditures:
  - Direct materials costs
  - Fabric, thread, trim, and findings used in garments.
  - Direct labor
  - Wages of employees, including cutters, sewers, and finishers.
  - Overhead
    - Indirect labor costs
    - Non variable overhead costs: Rent, depreciations, insurance, property taxes, and security.
    - Variable overhead costs: machine parts repairs, marker paper, and miscellaneous.
    - Other overhead costs
      - Material management, machinery and equipment costs, and cost of compliance with regulations.
  - General operating expenses (Administrative overhead)
    - Indirect costs including engineering, merchandising, marketing, accounting, Management Information System, secretarial, staff, and human resources.
Systems of Costing (Direct)

- Product costing systems (3 ways)
  - 1. Direct costing
  - 2. Absorption costing
  - 3. Activity-based costing

- 1. Direct costing:
  - Only consider variable costs
  - Production labor, material costs, and sales commission are variable costs.
  - Non-variable costs are considered as time period costs.
  - Contribution margin = Price of product – Cost of goods
  - Good for make or buy decision.

Systems of Costing (Absorption costing)

- 2. Absorption costing:
  (see p. 231, Figure 8-4)
  - Variable costs AND Non-Variable costs
  - Recovers overhead costs by assigning a percentage to some element of direct labor.
  - Example: Overhead cost (Admin. Expense) 3.23% x 0.808

Direct costing vs. absorption costing

- 3. Activity-Based Costing (ABC):
  (See p. 232, Table 8-2)
  - Treats all costs as variable elements of product cost.

Systems of Costing (ABC)

- Budgeted activity based costs (ABC): indirect + direct cost.
  - Fringe benefits = Total direct & indirect x 17.52% = $ 255,664
  - Grand total = Total direct & indirect + Expense + Fringe benefits = $2,083,103

Systems of Costing (ABC)

- ABC Breakdown of costs: Good to justify new equipment (style)
Stages of costing

- Costing stages
  - Preliminary (or precosting) during the creative design phase.
  - Weed out design
  - Cost estimating for line adoption.
  - Justification for accepting or rejecting a style in the line.
  - Detailed costing is done during the technical design phase.
  - Detailed costing is based on SAMs (Standard Allowed Minutes) for each component or operation.
  - Determining actual costs during production.
  - Rate adjustment.

Determining product costs (Material costing + Labor costing)

- Material costing (See p. 238, Table 8-5)
  - Materials are minimum quantities.
  - Example: 1000 yd minimum purchase. If only needs 600 units of a style, 1.7 yards per style: This means 1.7 x 600 or 850 yards will be needed. Therefore 1000 yd - 850 yd = 150 yards excess.

<table>
<thead>
<tr>
<th>Material Component</th>
<th>Unit Cost</th>
<th>Total Cost</th>
<th>% Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood</td>
<td>$1.00</td>
<td>$100</td>
<td>10%</td>
</tr>
<tr>
<td>Belt loops</td>
<td>$0.50</td>
<td>$50</td>
<td>5%</td>
</tr>
<tr>
<td>Fasteners</td>
<td>$0.20</td>
<td>$2</td>
<td>0.2%</td>
</tr>
<tr>
<td>Tacks</td>
<td>$0.10</td>
<td>$1</td>
<td>0.1%</td>
</tr>
<tr>
<td>Leather</td>
<td>$2.00</td>
<td>$200</td>
<td>20%</td>
</tr>
<tr>
<td>Other materials</td>
<td>$1.50</td>
<td>$150</td>
<td>15%</td>
</tr>
</tbody>
</table>

- Labor costing
  - Labor costing: Budgeting for production.
    - The basis of labor costing is time. (cutting, sewing, finishing, and pressing of styles)
    - Total direct labor cost = Number of operations x Hours per week x Wks per year x Average hourly earnings
    - Standard labor cost = % plant efficiency x Number of work hours x Weighted average base rate
    - Excess labor cost = Direct labor – standard labor (may be the result of machine downtime, being out of garments to work, etc.)

Material costing

- Material costs are affected by the % of utilization.
  - Usually Waste (3~10%)

Labor costing

- Labor costing: costing individual styles begins with a "breakdown" (a complete sequential list of all operations in assembling a style.)
Cost/volume relationships

- Cost/volume relationships: Production cost per unit increase with lower volume per style.
  - Start-up costs:
    - Include costs and expense of putting a new style.
  - Make-up costs:
    - The difference between what they are paid and what they earn based on the products.
    - Make-up costs are high the first weeks. (in learning curve)
  - Product development costs
  - Validation costs:
    - Include checking fit, set of graded patterns, correct notch placement, costing, specification development, data entry.
  - Break-even cost:
    - Is the dollar amount that must be recovered from sales of a style.
  - Cost control (budgets)
    - Cost variance = budgeted costs - actual costs.

Wholesale price and gross margin

- Validation Overhead costs: Include checking fit and garment measurements, checking graded patterns to verify seam alignment, specification, data entry.

Example: Costing for style development

- Break-even cost:
  - Is the dollar amount that must be recovered from sales of a style.

Make-up costs

- Make-up costs: are high the first weeks. (in learning curve)

Cost analysis/ break even point

- Pricing strategies
  - Basic pricing decisions
    - Wholesale price are based on list price
  - Price level
    - Defining price range (low-end, budget, moderate, better, bridge, and designer).
    - Downward-sloping demand curves:
      - Price increase, then demand decrease.
    - Elasticity of demand (see p. 250, figure 8-10)
Pricing strategies

- Cost- and demand-based pricing
  - Cost-based pricing strategies:
    - Consider ROI (Return on Investment)
    - Demand-based pricing strategies (3 types):
      - Status pricing:
      - Market penetration pricing:
      - Market pricing:

- Demand-based pricing strategies (3 types):
  - Status pricing:
  - Market penetration pricing:
  - Market pricing:

- Market pricing:
  - Match competitors’ prices.

Next Class…