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Chapter 13:
Target Costing, Strategic Pricing & Theory of Constraints

Target Costing

Target costing is a tool for analyzing the cost structure to help management identify the proper design features and manufacturing methods to allow the firm to meet a competitive price.

Target costing has five steps:

1. Determine market price.
2. Determine desired profit.
3. Calculate target cost.
4. Use value engineering to identify ways to reduce costs
5. Use kaizen and operational control to further reduce costs

Benefits of Target Costing

- Focus the organization toward the customer values
- Reduces costs, through more effective and efficient design.
- Helps the firm achieve desired profitability on new or redesigned products.
- Can decrease the total time required for product development
- Can increase communication and cooperation among departments.
- Can improve overall product quality

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Target Costing - Example

Touchstone Manufacturing makes parts used in many Cars and Trucks in North America. The part sells for $610, and sales volume averages 25,000 units per year. Recently, a major competitor reduced the price of its equivalent unit to $550. The market is very competitive, and Touchstone needs to lower its price as well or lose significant market share. Management has begun paying closer attention to costs and has reconfirmed the existing manufacturing budgeted data. The following cost and usage data for the most recent year of production of 25,000 units:

	Budgeted Cost	**Actual Cost**	**Variance**
Direct Materials	6,500,000	7,000,000	(500,000)
Direct Labor	2,500,000	2,625,000	(125,000)
Indirect Labor	2,500,000	2,400,000	100,000
Inspection Cost	300,000	350,000	(50,000)
Materials Handling Cost	500,000	485,000	15,000
Machine Setups	750,000	725,000	25,000
Returns & Rework	80,000	130,000	(50,000)
	$ 13,130,000	**$ 13,715,000**	**$ (585,000)**

Required:

- 1. Calculate the target cost for maintaining current market share and profitability.
- 2. Can the target cost be achieved? How?

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Target Costing - Example

Touchstone Travel Company offers spring break travel packages to Toronto Colleges. For the coming season, the company plans to offer two of the following packages:

1. 6-night trip to Miami
2. 4-night trip to New York

The Miami trip sells for $1,450 and the NYC trip sells for $1090. The following are the details:

Package Specifications	Miami	NYC	Cost Data	
One bedroom Suite	6	4	$130/night	
Meals:				
Breakfasts	6	4	$5/each	
Lunches	6	4	$7/each	
Dinners	6	0	$10/each	
Taxi Vouchers	0	4	$15/each	
Site-seeing tour	2	2	$10/each	
Airfare	1		$275	Miami
		1	$250	NYC
Airport Transportation	2		$15	Miami
		2	$10	NYC

Required

1. What are the current profit margins and profit margins percentages on both trips?
2. Management believes that it must drop the price on the Miami and NYC trips to $1,100 and $950, respectively, in order to remain competitive in the market. Recalculate profit margins and percentages for both packages at these price levels.
3. Compute the target cost needed for each trip to maintain the current gross profit margin percentages.

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Target Costing – Example

Touchstone is an auto parts manufacturer. The company recently received an order for 100 auto parts from a large domestic auto manufactured at a proposed selling price of $1,500 per part. Touchstone usually earns a 20% operating margin as a percent of sales. Management decided to use target costing principles in pricing its products. A breakdown of standard full life-cycle cost of $1,425 per part (this includes $1,000 production, $200 marketing, and $225 general and administration costs per part).

In order to bring costs within target, value engineering principles were utilized to analyze certain costs. The $1,000 production costs included a normal defective cost of $85 per part. Group leaders suggested that production changes could reduce defective cost to $25 per part. Furthermore, by using less expensive tools, there would be an additional savings of $105 of production cost per part. By studying other problem areas, the group found that general and administration costs could be reduced by $50 per unit by streamlining processes and adopting more efficient inventory management software. Management also believes the proposed price was a starting point for negotiations.

Required

1. What is the target cost per auto part?
2. As a result of the Value Engineering Analysis, determine Touchstones estimated cost for the auto part. Will the company meet the target cost for the part? Do you recommend that Management accept the offer?

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Strategic Pricing - Example

Touchstone Co. produces a single product, a part used in common household thermostats. Known for its quality and performance, the part is sold to higher-end manufacturers around the world. Because this is a quality product, Touchstone has some flexibility in pricing the part. The firm calculates the price using a variety of pricing methods and then chooses the final price based on strategic information. A summary of the key cost information follows. Touchstone expects to manufacture and sell 50,000 parts in the coming year.

Total Costs	
Variable manufacturing	$ 4,680,000
Variable selling and administrative	$ 855,650
Facility-level fixed overhead	$ 2,345,875
Fixed selling and administrative	$ 675,495
Batch-level fixed overhead	$ 360,000
Total investment in product line	$ 22,350,000
Expected sales (units)	50,000

Required

1. Determine the price for the part using a markup of 45% of full manufacturing cost.
2. Determine the price for the part using a markup of 25% of full life-cycle cost.
3. Determine the price for the part using a desired gross margin percentage to sales of 40%.
4. Determine the price for the part using a desired life-cycle cost percentage to sales of 25%.
5. Determine the price for the part using a desired before-tax return on investment of 15%.

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Strategic Pricing - Example

Touchstone offers guided tours out of Banff National Park. Following are the costs involved in providing this service each year:

	Fixed Costs	Variable Costs
Maintenance	2,300	2.50
Advertising	6,000	0.50
Operating costs	21,000	0.50
Licenses and permits	3,000	0
Vehicle leases	5,400	0
Rent lease	6,920	0

The company began business with a $25,000 expenditure for required outdoor equipment. Bookings have been stable at about 6,400 per year.

Required Touchstone is happy with the steady booking average of 6,400 per year. What price should they charge per booking for the business to make an annual 20% before-tax return on assets using life-cycle costs?

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Theory of Constraints

The Theory of constraints (TOC) is a tool that assists managers in identifying bottlenecks (constraints) and scheduling production to maximize throughput and profits.

TOC analysis has five steps:

1. Identify the constraint.
2. Determine the most efficient product mix given the constraint
3. Maximize the flow through the constraint
4. Add capacity to the constraint
5. Redesign the manufacturing process for flexibility and fast throughput.

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Theory of Constraints – Example

Colton Furniture Co. manufactures end tables and sofas. The flow diagram for the manufacturing at Colton follows. Colton's manufacturing involves five processes:

1. Cutting the lumber
2. Cutting the fabric
3. Sanding
4. Staining
5. Assembly

One employee cuts fabric and two do the staining. These are relatively skilled workers who could be replaced only with some difficulty. Two workers cut the lumber, and two others perform the sanding operation. There is some skill to these operations, but these skills are less critical than those for staining and fabric cutting. Assembly requires the lowest skill level, and there is currently a total of 175 hours of working time per week provided by a single full-time employee plus some part-timers. The other employees work a 40-hour week, with 5 hours off for breaks, training, and personal time. Assume a 4-week month and that, by prior agreement, none of the employees can be switched from one task to another. The current demand for Colton's products and sales prices are as follows:

	End Tables	**Sofas**
Price	$250	$450
Demand	400 units	150 units