**CHAPTER -6**

**Pricing Decision and Cost Management**

**1, Major Influences on Pricing Decisions:** Consider for a moment how managers at Adidas might price their newest line of sneakers, or how decision makers at Microsoft would determine how much to charge for a monthly subscription of MSN Internet service. How companies price a product or a service ultimately depends on the demand and supply for it. Three influences on demand and supply are customers, competitors, and costs.

Customers, Competitors, and Costs

**Customers:** Customers influence price through their effect on the demand for a product or service, based on factors such as the features of a product and its quality. As the TATA Motors example illustrates, companies must always examine pricing decisions through the eyes of their customers and then manage costs to earn a profit.

**Competitors:** No business operates in a vacuum. Companies must always be aware of the actions of their competitors. At one extreme, alternative or substitute products of competitors hurt demand and force a company to lower prices. At the other extreme, a company without a competitor is free to set higher prices. When there are competitors, companies try to learn about competitors’ technologies, plant capacities, and operating strategies to estimate competitors’ costs—valuable information when setting prices. Because competition spans international borders, fluctuations in exchange rates between different countries’ currencies affect costs and pricing decisions. For example, if the yen weakens against the U.S. dollar, Japanese products become cheaper for American consumers and, consequently, more competitive in U.S. markets.

**Costs:** Costs influence prices because they affect supply. The lower the cost of producing a product, the greater the quantity of product the company is willing to supply. Generally, as companies increase supply, the cost of producing an additional unit initially declines but eventually increases. Companies supply products as long as the revenue from selling additional units exceeds the cost of producing them. Managers who understand the cost of producing products set prices that make the products attractive to customers while maximizing operating income.

**(2), Costing and Pricing for the Short Run and Long Run**

**Costing and Pricing for the Short Run**

Short-run pricing decisions typically have a time horizon of less than a year and include decisions such as (a) pricing a *one-time-only special order* with no long-run implications and (b) adjusting product mix and output volume in a competitive market.

Long-run pricing decisions have a time horizon of a year or longer and include pricing a product in a market where there is some leeway(freedom) in setting price. Consider a short-run pricing decision facing the management team at Aster Computers. Aster manufactures two brands of personal computers (PCs)—Desk point, Aster’s top-of-the-line product and Pro value, a less-powerful Pentium chip-based machine. Data tech Corporation has asked Aster to bid on supplying 5,000 Provalue computers over the last three months of 2010. After this three-month period, Data tech is unlikely to place any future sales orders with Aster. Data tech will sell Provalue computers under its own brand name in regions and markets where Aster does not sell Provalue. Whether Aster accepts or rejects this order will not affect Aster’s revenues— neither the units sold or the selling price— from existing sales channels.

**Relevant Costs for Short-Run Pricing Decisions**

Before Aster can bid on Data tech’s offer, Aster’s managers must estimate how much it will cost to supply the 5,000 computers. The relevant costs Aster’s managers must focus on include all direct and indirect costs throughout the value chain that will change in total by accepting the one-time-only special order from Data tech. Aster’s managers outline the relevant costs as follows:

 Direct materials ($460 per computer \* 5,000 computers) $2,300,000

Direct manufacturing labor ($64 per computer \* 5,000 computers) 320,000

Fixed costs of additional capacity to manufacture Provalue 250,000

Total costs $2,870,000\*

\*No additional costs will be required for R&D, design, marketing, distribution, or customer service.

The relevant cost per computer is $574 ($2,870,000 ÷ 5,000). Therefore, any selling price above $574 will improve Aster’s profitability in the short run. What price should Aster’s managers bid for the 5,000-computer order?

**Strategic and Other Factors in Short-Run Pricing**

Based on its market intelligence, Aster believes that competing bids will be between $596 and $610 per computer, so Aster makes a bid of $595 per computer. If it wins this bid, operating income will increase by $105,000 (relevant revenues, $595\* 5,000 = $2,975,000 minus relevant costs, $2,870,000). In light of the extra capacity and strong competition, management’s strategy is to bid as high above $574 as possible while remaining lower than competitors’ bids.

What if Aster was the only supplier and Data tech could undercut Aster’s selling price in Aster’s current markets? The relevant cost of the bidding decision would then include the contribution margin lost on sales to existing customers. What if there were many parties eager to bid and win the Data tech contract? In this case, the contribution margin lost on sales to existing customers would be irrelevant to the decision because the existing business would be undercut by Data tech regardless of whether Aster wins the contract.

In contrast to the Aster case, in some short-run situations, a company may experience strong demand for its products or have limited capacity. In these circumstances, a company will strategically increase prices in the short run to as much as the market will bear.

We observe high short-run prices in the case of new products or new models of older products, such as microprocessors, computer clips, cellular telephones, and software.

**Effect of Time Horizon on Short-Run Pricing Decisions**

**Two key factors affect short-run pricing.**

1. Many costs are irrelevant in short-run pricing decisions. In the Aster example, most of Aster’s costs in R&D, design, manufacturing, marketing, distribution, and customer service are irrelevant for the short-run pricing decision, because these costs will not change whether Aster wins or does not win the Data tech business. These costs will change in the long run and therefore will be relevant.

2. Short-run pricing is opportunistic. Prices are decreased when demand is weak and competition is strong and increased when demand is strong and competition is weak. As we will see, long-run prices need to be set to earn a reasonable return on investment.

**Costing and Pricing for the Long Run** Long-run pricing is a strategic decision designed to build long-run relationships with customers based on stable and predictable prices. A stable price reduces the need for continuous monitoring of prices, improves planning, and builds long-run buyer–seller relationships. But to charge a stable price and earn the target long-run return, a company must, over the long run, know and manage its costs of supplying products to customers.

As we will see, relevant costs for long-run pricing decisions include *all* future fixed and variable costs.

**Calculating Product Costs for Long-Run Pricing Decisions**

Let’s return to the Aster example. However, this time consider the long-run pricing decision for Provalue. We start by reviewing data for the year just ended, 2011. Aster has no beginning or ending inventory of Provalue and manufactures and sells 150,000 units during the year. Aster uses activity-based costing (ABC) to calculate the manufacturing cost of Provalue. Aster has three direct manufacturing costs, direct materials, direct manufacturing labor, and direct machining costs, and three manufacturing overhead cost pools, ordering and receiving components, testing and inspection of final products, and rework (correcting and fixing errors and defects), in its accounting system. Aster treats machining costs as a direct cost of Provalue because Provalue is manufactured on machines that only make Provalue II Aster uses a long-run time horizon to price Provalue. Over this horizon, Aster’s managers observe the following:

\_ Direct material costs vary with number of units of Provalue produced.

\_ Direct manufacturing labor costs vary with number of direct manufacturing labor hours used.

\_ Direct machining costs are fixed costs of leasing 300,000 machine-hours of capacity over multiple years. These costs do not vary with the number of machine-hours used each year. Each unit of Provalue requires 2 machine-hours. In 2011, Aster uses the entire machining capacity to manufacture Provalue (2 machine-hours per unit150, 000 units = 300,000 machine-hours).

\_ Ordering and receiving, testing and inspection, and rework costs vary with the quantity of their respective cost drivers. For example, ordering and receiving costs vary with the number of orders. In the long run, staff members responsible for placing orders can be reassigned or laid off if fewer orders need to be placed, or increased if more orders need to be processed.

**Alternative Long-Run Pricing Approaches**

How should managers at Aster use product cost information to price Provalue in 2012?

Two different approaches for pricing decisions are as follows:

1. Market-based

2. Cost-based, which is also called cost-plus

The market-based approach to pricing starts by asking, “Given what our customers want and how our competitors will react to what we do, what price should we charge?”

Based on this price, managers control costs to earn a target return on investment.

The cost-based approach to pricing starts by asking, “Given what it costs us to make this product, what price should we charge that will recoup our costs and achieve a target return on investment?”

Companies operating in *competitive* markets (for example, commodities such as steel, oil, and natural gas) use the market-based approach. The items produced or services provided by one company are very similar to items produced or services provided by others.

Companies in these markets must accept the prices set by the market.

Companies operating in *less competitive* markets offer products or services that differ from each other (for example, automobiles, computers, management consulting, and legal services), can use either the market-based or cost-based approach as the starting point for pricing decisions. Some companies first look at costs because cost information is more easily available and then consider customers or competitors: the cost-based approach. Others start by considering customers and competitors and then look at costs: the market-based approach. Both approaches consider customers, competitors, and costs. Only their starting points differ. Management must always keep in mind market forces, regardless of which pricing approach it uses. For example, building contractors often bid on a cost-plus basis but then reduce their prices during negotiations to respond to other lower-cost bids.

Companies operating in markets that are *not competitive* favor cost-based approaches.

That’s because these companies do not need to respond or react to competitors’ prices. The margin they add to costs to determine price depends on the value customers place on the product or service.

We consider first the market-based approach.

**Target Costing for Target Pricing**

Market-based pricing starts with a target price. A **target price** is the estimated price for a product or service that potential customers are willing to pay. This estimate is based on an understanding of customers’ perceived value for a product or service and how competitors will price competing products or services. This understanding of customers and competitors is becoming increasingly important for three reasons:

1. Competition from lower-cost producers is continually restraining prices.

2. Products are on the market for shorter periods of time, leaving less time and opportunity to recover from pricing mistakes, loss of market share, and loss of profitability.

3. Customers are becoming more knowledgeable and incessantly demanding products of higher and higher quality at lower and lower prices.

Understanding Customers’ Perceived Value

A company’s sales and marketing organization, through close contact and interaction with customers, identifies customer needs and perceptions of product value. Companies such as Apple also conduct market research on features that customers want and the prices they are willing to pay for those features for products such as the iPhone and the Macintosh computer.

Doing Competitor Analysis

To gauge how competitors might react to a prospective price, a company must understand competitors’ technologies, products or services, costs, and financial conditions. In general, the more distinctive its product or service, the higher the price a company can charge. Where do companies like Ford Motors or PPG Industries obtain information about their competitors? Usually from former customers, suppliers, and employees of competitors, Another source of information is *reverse engineering*—that is, disassembling and analyzing competitors’ products to determine product designs and materials and to become acquainted with the technologies competitors use. At no time should accompany resort to illegal or unethical means to obtain information about competitors.

For example, a company should never pay off current employees or pose as a supplier or customer in order to obtain competitor information.

**Implementing Target Pricing and Target Costing**

There are five steps in developing target prices and target costs. We illustrate these steps using our Provalue example.

**Step 1: Develop a product that satisfies the needs of potential customers.** Customer requirements and competitors’ products dictate the product features and design modifications for Provalue for 2012. Aster’s market research indicates that customers do not value Provalue’s extra features, such as special audio features and designs that accommodate upgrades to make the PC run faster. They want Aster to redesign Provalue into a no-frills but reliable PC and to sell it at a much lower price.

**Step 2: Choose a target price.** Aster expects its competitors to lower the prices of PCs that compete with Provalue to $850. Aster’s management wants to respond aggressively, reducing Provalue’s price by 20%, from $1,000 to $800 per unit. At this lower price, Aster’s marketing manager forecasts an increase in annual sales from 150,000 to 200,000 units.

**Step 3: Derive a target cost per unit by subtracting target operating income per unit from the target price. Target operating income per unit** is the operating income that a company aims to earn per unit of a product or service sold. **Target cost per unit** is the estimatedlong-run cost per unit of a product or service that enables the company to achieveits target operating income per unit when selling at the target price.3 *Target cost per unit*is the target price minus *target operating income per unit* and is often lower than the existing*full cost of the product.* Target cost per unit is really just that—a target—somethingthe company must commit to achieve.To attain the target return on the capital invested in the business, Aster’s managementneeds to earn 10% target operating income on target revenues.

**Step 4: Perform cost analysis.** This step analyzes the specific aspects of a product or service to target for cost reduction.

**Step 5: Perform value engineering to achieve target cost. Value engineering** is a systematic evaluation of all aspects of the value chain, with the objective of reducing costs and achieving a quality level that satisfies customers.

**Cost-Plus Target Rate of Return on Investment**

We illustrate a cost-plus pricing formula for Provalue II assuming Aster uses a 12% markup on the full unit cost of the product when computing the selling price.

Cost base (full unit cost of Provalue II) $720.00

Markup component of 12% (0.12 \* $720) $86.40

Prospective selling price $806.40

***THE END OF COST AND MANAGERIAL ACCOUNTING II***