

# Cost Advantage

## LEARNING OBJECTIVES

Studying this chapter should provide you with the knowledge to:

1. Differentiate between economies of scale and scope and describe how both produce cost advantages.
2. Describe what an experience curve is and how it can be used to make effective business decisions.
3. Discuss sources of lower input costs and how they provide the basis of a cost advantage strategy.
4. Explain two changes in a firm's business model that can enable a cost advantage strategy.

### The World's Cheapest Car



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One rainy day in Mumbai, India, in 2003, Ratan Tata, former chairman of the Tata Group, noticed a man riding a scooter with an older child standing in the front, behind the handlebars. The man's wife sat sidesaddle on the back of the scooter with another child on her lap. All four were soaked to the bone. As Tata watched, he asked himself, "Why can't this family own a car and avoid the rain?" Then he realized that, like over 700 million Indians who made less than \$10,000 a year, they probably couldn't afford one. Tata could not get the sight of that family out of his mind. He began to dwell on the possibility of creating an affordable "people's car."

"The two-wheeler observation [with the family of four piled on the scooter] got me thinking that we needed to create a safer form of transport," Tata recalls. "My first doodle was to rebuild cars around the scooter, so that those using them could be safer if it fell. Could there be a four-wheel vehicle made of scooter parts?"<sup>1</sup> Tata gathered a small group of engineers to design a low-cost vehicle with four wheels. The initial design had two soft doors with vinyl windows, a cloth roof, and a metal bar as a safety measure. But after seeing the initial designs, Tata and his group concluded that the market wouldn't want a "half car." So Tata and his team spent the next several years designing a "real" car that would use the least expensive materials and the least expensive components, and could be assembled with minimal skill in the fewest possible labor hours.

Tata's dream became a reality in 2009, with the launch of the Tata Nano. Priced at \$2,500, Nano was launched as the world's cheapest car. Designed to only weigh 1,320 pounds and get 50 miles per gallon, the Nano is powered by a rear-mounted 35-horsepower engine. Yes, that's not a typo; only 35 horsepower.<sup>2</sup> Compare that to the 170 horsepower standard engine in the base-model Honda Accord, or even the 70 horsepower engine in a tiny US. Smart car. The Nano also sported numerous innovations (including 34 inventions for which Tata filed patent applications) that made it India's Car of the Year in 2010.<sup>3</sup>

Beyond designing a car that could be manufactured at low cost, Tata also thought about how these cars could be distributed at low cost. The Nano is designed to be assembled from kits at dealerships, much like motorcycles are in the United States. This approach alone could disrupt the entire automobile

distribution system in India. Tata needed a way to reach customers in the smaller villages in India, where Indians primarily drove scooters.

To be able sell its cars as inexpensively as possible in the smaller villages in India, Tata decided against building dealerships; there simply wasn't a large enough market. Instead Tata imitated the strategy of companies that sold scooters. Scooter dealers arrived on Sunday at farmers' markets or flea markets with big trucks filled with scooters and set out the scooters in rows for people to buy immediately. The Tata team brought 40 Nanos at a time to each open-air market and provided services so customers

could see the car, learn how to operate it, get a license, buy insurance, and drive it home the same day. This approach allowed Tata to eliminate the typical dealership overhead costs required to sell cars—savings it could then pass on to its customers.<sup>4</sup>

The Tata Nano case illustrates how a company can clearly define its unique value as being low cost, after which it then develops the resources and capabilities to deliver its product at the lowest possible cost. During the first few months after launching the Nano Tata received orders for almost 200,000 units—a solid start for an all new model. (For an update on the Tata Nano, see “Revisiting Tata” at the end of the chapter.)

Companies typically choose between one of two “generic” strategies for offering unique value to customers: *cost advantage* or *differentiation advantage* (the focus of Chapter 5)<sup>\*1</sup>. By designing cars to be manufactured at the lowest cost possible, and by designing a distribution system to get the cars to customers at the lowest cost possible, Tata has a cost advantage over every other carmaker in India, which allows it to sell the Nano at the lowest price. Like Tata, a firm that chooses a *cost advantage strategy* wins with customers by reducing its prices below all of its competitors, thereby allowing it to gain market share. Alternatively, a firm with a cost advantage may choose the same price as competitors, which results in greater profits rather than higher market share.

Adopting a cost advantage strategy does not mean that the company focuses on cost to the exclusion of everything else. Having a single-minded focus on making a low-cost product or service can result in an offering that no one wants to buy. Although Tata wins with customers primarily because it sells a car that is cheaper than competitor offerings, it must still worry about producing a car that works and is at least somewhat reliable. In fact, some of the early Nanos caught fire, which scared off many buyers until Tata fixed the problem by beefing up the heat shield in the exhaust system.

However, a company that wins by providing low-cost products or services must focus *most* of its resources and capabilities on keeping its costs as low as possible. In this chapter, we'll explore the five potential sources of cost advantage summarized in Table 4.1: economies of

**TABLE 4.1 Sources of Cost Advantage**

#### Economies of Scale or Scope

Greater unit volume allows firms to have lower costs by:

- spreading fixed costs across more units
- specialization of equipment and people

#### Learning and Experience

Greater cumulative volume drives cost differences due to greater learning and experience within companies with more cumulative experience in production.

#### Proprietary Knowledge

Some companies develop proprietary knowledge in the production of their product or service, which leads to a cost advantage.

#### Input Costs

Some companies may have lower input costs than others due to:

- greater bargaining power over suppliers or labor
- superior cooperation with suppliers (including lower transaction costs)
- sourcing from low-cost locations (e.g., country comparative advantage)
- preferred access to inputs

#### Different Business Model

Eliminating activities or steps in the value chain or using a different set of activities altogether may allow a firm to deliver a product or service at lower cost.

scale or scope, learning or experience effects, proprietary know-how, lower-cost inputs, and using a different business model.

## Economies of Scale and Scope

One of the primary reasons large companies dominate many manufacturing and service industries is because of economies of scale. **Economies of scale** exist when an increase in company size (measured as volume of production) lowers the company's average cost per unit produced.<sup>5</sup> For example, if Tata can sell a volume of 100,000 cars instead of 10,000 cars, the cost to produce each car will fall as the total volume or scale of production increases. When there are significant economies of scale in manufacturing, research and development, marketing, distribution, or service, large firms have a cost advantage over smaller firms.

Economies of scale arise from four principal sources: the ability to spread fixed costs of production, the ability to spread nonproduction costs, specialization of equipment, and specialization of people.

### Ability to Spread Fixed Costs of Production

High volumes of production enable firms to spread the **fixed cost of production**, such as the costs of plant and equipment, thereby lowering their cost per unit. A simple way to think about this is to imagine two roommates who decide to share the \$3,000 cost of purchasing a big-screen TV. In this case, the cost per roommate is \$1,500. If, however, another roommate joins in on the purchase, the cost per roommate will decrease to \$1,000, because there are now three roommates. If there were five roommates, the cost would drop still more, to \$600 per roommate. The more roommates with whom to spread the cost of the TV, the lower the cost per roommate.

In similar fashion, companies can spread the costs of their plant and equipment when they have more customers to share the cost. For example, it might cost a company \$1 million to purchase equipment and a plant with the capacity to produce one thousand units of a particular product; but it might cost that company only \$2 million to build a plant with the capacity to produce *five* thousand units. This happens because, in many activities, increases in output do not require proportionate increases in input. For example, building an auto plant that can produce 100,000 cars does not cost Tata five times the cost of a 20,000-car plant. The larger plant would typically only cost two to three times as much as the smaller one.<sup>6</sup>

### Ability to Spread Nonproduction Costs

High volumes of production also enable firms to spread the cost of nonproduction functions across more units, thereby lowering the cost per unit. Large volumes enable companies to spread the cost of research and development (R&D), advertising, and general and administrative expenses.

**Research and Development** Firms that incur high R&D expenses—such as in the pharmaceutical industry—have a strong incentive to expand operations globally to as many customers as possible. Once a pharmaceutical company has made the R&D investment to develop a new drug, those costs essentially become a fixed cost to spread across as many consumers as possible. In fact, some research has shown that the best predictor of whether an industry is *global* (meaning that firms in the industry expand to compete on a global basis) is the company's R&D costs as a percentage of sales. The higher a firm's R&D costs as a percentage of sales, the more incentive the firm has to expand globally to spread those costs across more customers.<sup>7</sup>

**economies of scale** A reduction in costs per unit due to increases in efficiency of production as the number of goods being produced increases.

**fixed cost of production** Costs such as plant and equipment, which are relatively fixed, meaning that they do not increase with an increase in the number of units produced.