

# Developing and Producing Goods and Services

After studying this chapter, you will be able to:

- 1 Define *product* and explain where product ideas come from.
- 2 Explain how to research an industry and forecast demand for a product.
- 3 Describe the process of developing a product that meets customer needs.
- 4 Define *operations management* and discuss the responsibilities of the operations manager in planning and managing the production process in a manufacturing company.
- 5 List the characteristics that distinguish service operations from manufacturing operations and explain the nature of operations management for service providers.
- 6 Explain how both manufacturing and service companies use technology, total quality management, and outsourcing to provide value to customers.

## RIDING THE CREST OF INNOVATION

Have you ever wanted to go surfing but couldn't find a body of water with decent waves? You no longer have a problem: The newly invented PowerSki Jetboard makes its own waves. This innovative product combines the ease of waterskiing with the excitement of surfing. A high-tech surfboard with a 40-horsepower, 40-pound watercraft engine, the PowerSki Jetboard has the power of a small motorcycle. Experienced surfers use it to get to the top of rising ocean waves, but if you're just a weekend water-sports enthusiast, you can get your adrenaline going by skimming across the surface of a local lake at 40 miles an hour. All you have to do is submerge the tail of the board, slide across on your belly, and stand up (with the help of a flexible pole). To innocent bystanders, you'll look like a very fast water-skier without a boat.



Where do product ideas like the PowerSki Jetboard come from? How do people create products that meet customer needs? How are *ideas* developed and turned into actual *products*? How do you forecast demand for a product? How do you protect your product ideas? These are some of the questions that we'll address in this chapter.



To see the PowerSki Jetboard in action, visit the company's Web site at [www.powerski.com](http://www.powerski.com). Watch the streaming videos that demonstrate what the Jetboard can do.

## What Is a Product?

Basically, a **product** is something that can be marketed to customers because it provides them with a benefit and satisfies a need. It can be a physical *good*, such as the PowerSki Jetboard, or a *service*, such as a haircut or a taxi ride. The distinction between goods and services isn't always clear-cut. Say, for example, that a company hires a professional to provide an in-house executive training program on "netiquette" (e-mail etiquette). Off the top of our heads, most of us would say that the company is buying a service. What if the program is offered online? We'd probably still argue that the product is a service. But what if the company buys training materials that the trainer furnishes on DVD? Is the customer still buying a service? Probably not: We'd have to say that when it buys the DVD, the company is buying a tangible good.

In this case, the product that satisfies the customer's need has both a tangible component (the training materials on DVD) and an intangible component (the educational activities performed by the seller). Not surpris-

ingly, many products have both tangible and intangible components. If, for example, you buy a Dell computer, you get not only the computer (a tangible good) but certain promises to answer any technical questions that you might have and certain guarantees to fix your computer if it breaks within a specified time period (intangible services).

## WHERE DO PRODUCT IDEAS COME FROM?

Product ideas can come from almost anywhere. How many times have you looked at a product that just hit the market and said, "I could have thought of that"? Just about anybody can come up with a product *idea*; basically, you just need a little imagination. Success is more likely to result from a truly remarkable product—something that grabs the attention of consumers. Entrepreneur and marketing consultant Seth Godin refers to truly remarkable products as "purple cows."<sup>1</sup> He came up with the term while driving through the countryside one day. As he drove along, his interest was attracted by the hundreds of cows dotting the countryside. After a while, however, he started to ignore the cows because looking at them had become tedious. For one thing, they were all brown, and it occurred to him that a glimpse of a *purple* cow would be worth writing home about. People would tend to remember a purple cow; in fact, they might even want one.

Who thinks up "purple cow" ideas? Where do the truly remarkable business ideas come from? As we pointed out in Chapter 2, entrepreneurs and small business owners are a rich source of new product ideas (according to the Small Business Administration, 55 percent of all new product innovations come from small businesses). Take Dean Kamen, inventor of the Segway Human Transporter, a battery-operated vehicle that responds to the rider's movements: Lean forward and you can go straight ahead at 12.5 miles per hour; to stop, just tilt backward. This revolutionary product is only one of Kamen's many