chapter

9

New-Product Development and Product Life-Cycle Strategies

Previewing the Concepts

In the previous chapter, you learned how marketers manage individual brands and entire product mixes. In this chapter, we'll look into two additional product topics: developing new products and managing products through their life cycles. New products are the lifeblood of an organization. However, new-product development is risky, and many new products fail. So, the first part of this chapter lays out a process for finding and growing successful new products. Once introduced, marketers want their products to enjoy a long and happy life. In the second part of the chapter, you'll see that every product passes through several life-cycle stages and that each stage poses new challenges requiring different marketing strategies and tactics. Finally, we'll wrap up our product and services discussion by looking at two additional considerations, social responsibility in product decisions and international product and services marketing.

For openers, consider Apple Computer. An early new-product innovator, Apple got off to a fast and impressive start. But only a decade later, as its creative fires cooled, Apple found itself on the brink of extinction. That set the stage for one of the most remarkable turnarounds in corporate history. Read on to see how Apple's cofounder, Steve Jobs, used lots of innovation and creative new products to first start the company and then to remake it again 20 years later.

From the very start, the tale of Apple Computer has been a tale of dazzling creativity and customer-driven innovation. Under the leadership of its cofounder and creative genius, Steve Jobs, Apple's very first personal computers, introduced in the late 1970s, stood apart because of their user-friendly look and feel. The company's Macintosh computer, unveiled in 1984, and its LazerWriter printers, blazed new trails in desktop computing and publishing, making Apple an early industry leader in both innovation and market share.

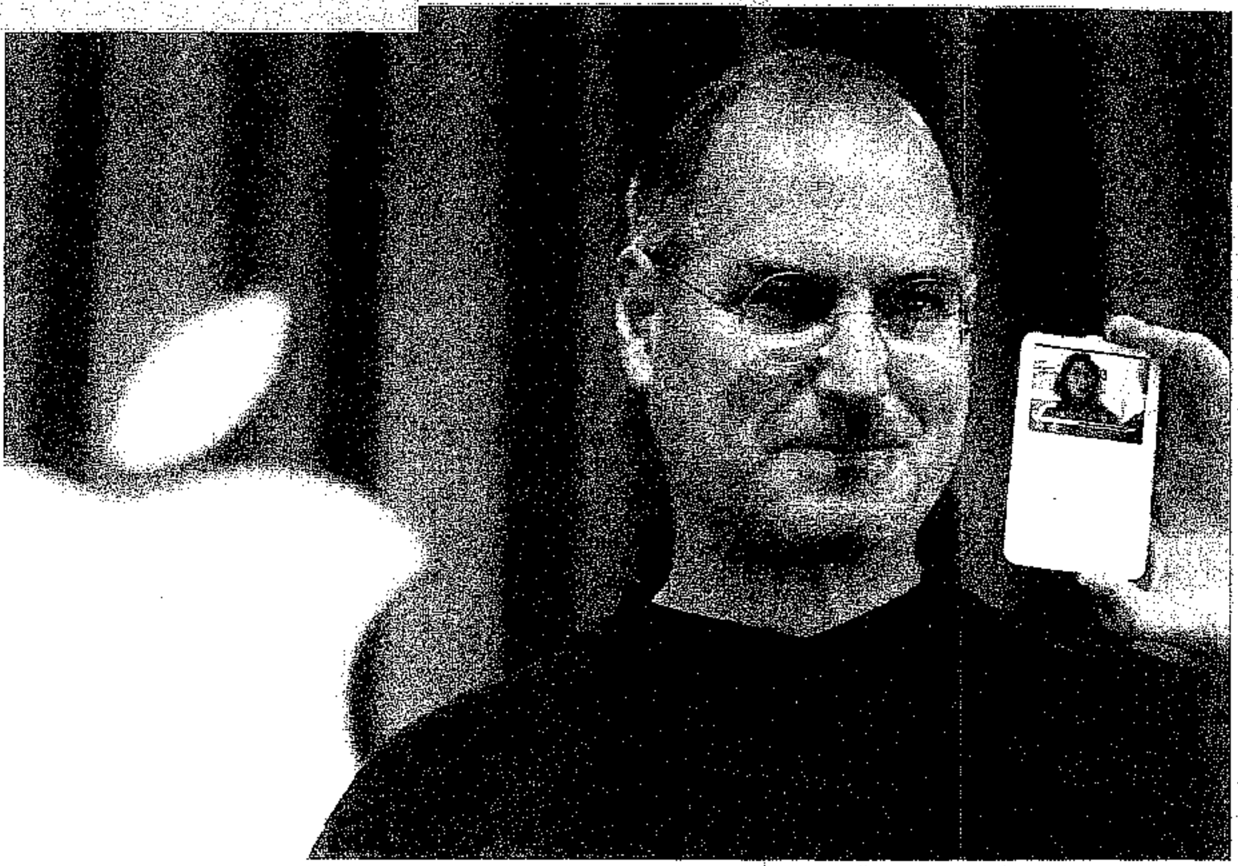
But then things took an ugly turn for Apple. In 1985, after tumultuous struggles with the new president he'd hired only a year earlier, Steve Jobs left Apple. With Jobs gone, Apple's creative fires cooled. By the late 1980s, the company's fortunes dwindled as a new wave of PC machines, sporting Intel chips and Microsoft software, swept the market. By the mid- to late-1990s, Apple's sales had plunged to $5 billion, 50 percent off previous highs. And its once-commanding share of the personal-computer market had dropped to a tiny 2 percent. Even the most ardent Apple fans—the "macolytes"—wavered, and the company's days seemed numbered.

Yet Apple has engineered a remarkable turnaround. Last year's sales soared to a record $16 billion, more than double sales just two years earlier. Profits rose a stunning 20-fold in that same two-year period. "To say Apple Computer is hot just doesn't do the company justice," said one analyst. "Apple is smoking, searing, blisteringly hot, not to mention hip, with a side order of funky. . . . Gadget geeks around the world have crowned Apple the keeper of all things cool."

What caused this breathtaking turnaround? Apple rediscovered the magic that had made the company so successful in the first place: customer-driven creativity and new-product innovation. The remarkable makeover began with the return of Steve Jobs in 1997. Since leaving Apple, Jobs had started a new computer company, NeXT. He'd then bought out Pixar Animation Studios, turning it into an entertainment-industry powerhouse. Jobs returned to Apple determined to breathe new creative life and customer focus into the company he'd cofounded 20 years earlier.

Jobs' first task was to revitalize Apple's computer business. For starters, in 1998, Apple launched the iMac personal computer, which featured a sleek, egg-shaped monitor and hard drive, all in one unit, in a futuristic translucent turquoise casing. With its one-button Internet access, this machine was designed specifically for cruising the Internet (hence the "i" in "iMac"). The dramatic iMac won raves for design and lured buyers in droves. Within a year, it had sold more than a million units.

Jobs next unleashed Mac OS X, a ground-breaking new Apple operating system that one observer called "the equivalent of a cross between a Porsche and an



Abram's tank." OS X served as the launching pad for a new generation of Apple computers and software products. Consider iLife, a bundle of programs that comes with every new iMac. It includes applications such as iMovie (for video editing), iDVD (for recording movies, digital-photo slide shows, and music onto TV-playable DVDs), iPhoto (for managing and touching up digital pictures), GarageBand (for making and mixing your own music), and iWork (for making presentations and newsletters).

The iMac and Mac OS X put Apple back on the map in personal computing. But Jobs knew that Apple, still a nicher claiming less than a 5 percent share of the U.S. market, would never catch up in computers with dominant competitors Dell and HP. Real growth and stardom would require even more creative thinking. And it just doesn't get much more creative than iPod and iTunes, innovations that would utterly change the way people acquire and listen to music.

A music buff himself, Jobs noticed that kids by the millions were using computers and CD writers to download digital songs from then-illegal online services, such as Napster, and then burning their own music CDs. He moved quickly to make CD burners standard equipment on all Macs. Then, to help users download music and manage their music databases, Apple's programmers created state-of-the-art jukebox software called iTunes.

Even before iTunes hit the streets, according to Apple watcher Brent Schendler, Jobs "recognized that although storing and playing music on your computer was

Objectives

[illegible]

1. explain how companies find and develop new-product ideas
2. list and define the steps in the new-product development process and the major considerations in managing this process
3. describe the stages of the product life cycle
4. describe how marketing strategies change during the product's life cycle
5. discuss two additional product and services issues: socially responsible product decisions and international product and services marketing

pretty cool, wouldn't it be even cooler if there was a portable, Walkman-type player that could hold all your digital music so that you could listen to it anywhere?" Less than nine months later, Apple introduced the sleek and sexy iPod, a tiny computer with an amazing capacity to store digital music and an easy-to-use interface for managing and playing it. In another 18 months, the Apple iTunes Music Store opened on the Web, enabling consumers to legally download CDs and individual songs.

The results have been astonishing. The iPod now ranks as one of the greatest consumer electronics hits of all time. By January of 2006, Apple had sold more than 50 million iPods, and more than one billion songs had been downloaded from the iTunes Music Store. "We had hoped to sell a million songs in the first six months, but we did that in the first six days," notes an Apple spokesman. And the iPod has now created a whole new market for downloadable videos, everything from music videos to television shows. Since last year's debut of the video iPod, users have downloaded more 35 million videos. Both iPod and the iTunes Music Store are capturing more than 75 percent shares of their respective markets.

Apple's success is attracting a horde of large, resourceful competitors. To stay ahead, the company must keep its eye on the consumer and continue to innovate. So, Apple isn't standing still. It recently introduced a line of new, easy-to-use wireless gadgets that link home and business computers, stereos, and other devices. Its .Mac (pronounced dot-Mac) online subscription service has signed up more than 600,000 members. Apple has also opened more than 150 chic and gleaming Apple Stores. And observers see a host of new products just on or just over the horizon: an iHome (a magical device that powers all your digital home entertainment devices), an iPhone (a combination iPod and cell phone), and an iPod on Wheels (a digital hub that integrates your iPod with your car's entertainment system).

For the second straight year, Apple was named the world's most innovative company in Boston Consulting Group's "Most Innovative Company" survey of 940 senior executives in 68 countries. Apple received an amazing 25 percent of the votes, twice the number of runner-up 3M and three times that of third-place Microsoft.

Thus, almost overnight, it seems, Steve Jobs has transformed Apple from a failing niche computer maker to a major force in consumer electronics, digital music and video, and who knows what else in the future. And he's done it through innovation—by helping those around him to "Think Different" (Apple's motto) in their quest to bring value to customers. *Time* magazine sums it up this way:

> [Steve Jobs]'s recipe for success? He's a marketing and creative genius with a rare ability to get inside the imaginations of consumers and understand what will captivate them. He is obsessed with the Apple user's experience. . . . For every product his companies have released, it's clear that someone actually asked, How can we "think different" about this? . . . Whether it's the original Macintosh, the iMac, the iPod, the flat-panel monitor, even the Apple operating system, most of the company's products over the past three decades have had designs that are three steps ahead of the competition. . . . Jobs has a drive and vision that renews itself, again and again. It leaves you waiting for his next move.[1]

As the Apple story suggests, a company must be good at developing and managing new products. Every product seems to go through a life cycle—it is born, goes through several phases, and eventually dies as newer products come along that better serve consumer needs. This product life cycle presents two major challenges: First, because all products eventually decline, a firm must be good at developing new products to replace aging ones (the challenge of *new-product development*). Second, the firm must be good at adapting its marketing strategies in the face of changing tastes, technologies, and competition as products pass through life-cycle stages (the challenge of *product life-cycle strategies*). We first look at the problem of finding and developing new products and then at the problem of managing them successfully over their life cycles.

New-Product Development Strategy

New-product development
The development of original products, product improvements, product modifications, and new brands through the firm's own R&D efforts.

Given the rapid changes in consumer tastes, technology, and competition, companies must develop a steady stream of new products and services. A firm can obtain new products in two ways. One is through *acquisition*—by buying a whole company, a patent, or a license to produce someone else's product. The other is through **new-product development** in the company's own research-and-development department. By *new products* we mean original products, product improvements, product modifications, and new brands that the firm develops through its own research-and-development efforts. New products are important—to both customers and the marketers who serve them. "Both consumers and companies love new products," declares a new-product consultant, "consumers because they solve problems and bring variety to their lives, and companies because they are a key source of growth."[2]

Yet, innovation can be very expensive and very risky. For example, Texas Instruments lost $660 million before withdrawing from the home computer business. Webvan burned through a staggering $1.2 billion trying to create a new online grocery business before shutting its cyberdoors for a lack of customers. And despite a huge investment and fevered speculation that it could be even bigger than the Internet, Segway sold only 6,000 of its human transporters in the 18 months following its launch, a tiny fraction of projected sales. Segway has yet to do more than gain small footholds in niche markets, such as urban touring and police departments.[3]

New products face tough odds. Other costly product failures from sophisticated companies include New Coke (Coca-Cola Company), Eagle Snacks (Anheuser-Busch), Zap Mail electronic mail (FedEx), Premier "smokeless" cigarettes (R.J. Reynolds), Arch Deluxe sandwiches (McDonald's), and Breakfast Mates cereal-and-milk combos (Kellogg). Studies indicate that up to 90 percent of all new consumer products fail. For example, of the 30,000 new food, beverage, and beauty products launched each year, an estimated 70 to 90 percent fail within just 12 months.[4]

Why do so many new products fail? There are several reasons. Although an idea may be good, the company may overestimate market size. The actual product may be poorly designed. Or it might be incorrectly positioned, launched at the wrong time, priced too high, or poorly advertised. A high-level executive might push a favorite idea despite poor marketing research findings. Sometimes the costs of product development are higher than expected, and sometimes competitors fight back harder than expected. However, the reasons behind some new-product failures seem pretty obvious. Try the following on for size:[5]

> Strolling the aisles at Robert McMath's New Product Works collection is like finding yourself in some nightmare version of a supermarket. There's Gerber food for

Product failures: Visiting the New Product Showcase and Learning Center is like finding yourself in some nightmare version of a supermarket. Each product failure represents squandered dollars and hopes.

adults (pureed sweet-and-sour pork and chicken Madeira), Hot Scoop microwaveable ice cream sundaes, Premier smokeless cigarettes, and Miller Clear Beer. How about Richard Simmons Dijon Vinaigrette Salad Spray? Most of the 82,135 products on display were abject flops. Behind each of them are squandered dollars and hopes.

McMath, the genial curator of this Smithsonian of consumerism, gets lots of laughs when he asks his favorite question, "What were they thinking?" Some companies failed because they attached trusted brand names to something totally out of character. For example, when you hear the name Ben-Gay, you immediately think of the way Ben-Gay cream sears and stimulates your skin. Can you imagine swallowing Ben-Gay aspirin? Other misbegotten attempts to stretch a good name include Cracker Jack cereal, Smucker's premium ketchup, Fruit of the Loom laundry detergent, and Harley-Davidson cake-decorating kits. Looking back, what *were* they thinking? You can tell that some innovative products were doomed as soon as you hear their names: Toaster Eggs. Cucumber antiperspirant spray. Health-Sea sea sausage. Look of Buttermilk shampoo. Dr. Care Aerosol Toothpaste (many parents questioned the wisdom of arming their kids with something like this!). Really, what were they thinking?

The New-Product Development Process

So companies face a problem—they must develop new products, but the odds weigh heavily against success. In all, to create successful new products, a company must understand its consumers, markets, and competitors and develop products that deliver superior value to customers. It must carry out strong new-product planning and set up a systematic *new-product development process* for finding and growing new products. Figure 9.1 shows the eight major steps in this process.

Idea Generation

Idea generation
The systematic search for new-product ideas.

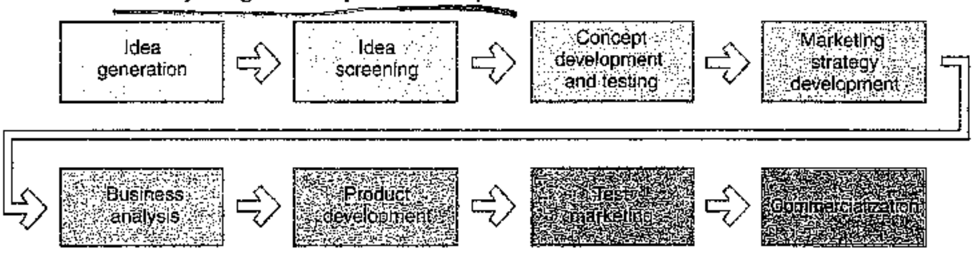
New-product development starts with **idea generation**—the systematic search for new-product ideas. A company typically has to generate many ideas in order to find a few good ones. According to one management consultant, on average, companies "will run through 3,000 ideas before they hit a winner." For instance, one brainstorming session for Prudential Insurance Company came up with 1,500 ideas and only 12 were considered even usable.[6]

Major sources of new-product ideas include internal sources and external sources such as customers, competitors, distributors and suppliers, and others.

Internal Idea Sources

Using *internal sources*, the company can find new ideas through formal research and development. It can pick the brains of its executives, scientists, engineers, manufacturing staff, and salespeople. Some companies have developed successful "intrapreneurial" programs that encourage employees to think up and develop new-product ideas. For example, 3M's well-known "15 percent rule" allows employees to spend 15 percent of their time "bootlegging"—

FIGURE 9.1 Major stages in new-product development



working on projects of personal interest, whether or not those projects directly benefit the company.

Samsung has even built a special center to encourage and support new-product innovation internally—its Value Innovation Program (VIP) Center in Suwon, South Korea. The VIP Center is the ultimate round-the-clock idea factory in which company researchers, engineers, and designers co-mingle to come up with new-product ideas and processes. The invitation-only center features workrooms, dorm rooms, training rooms, a kitchen, and a basement filled with games, a gym, and a sauna. Almost every week, the center announces a "world's first" or "world's largest" innovation. Recent ideas sprouting from the VIP Center include a 102-inch plasma HDTV and a process to reduce material costs on a multifunction printer by 30 percent. The center has helped Samsung, once known as the maker of cheap knock-off products, become one of the world's most innovative and profitable consumer electronics companies.[7]

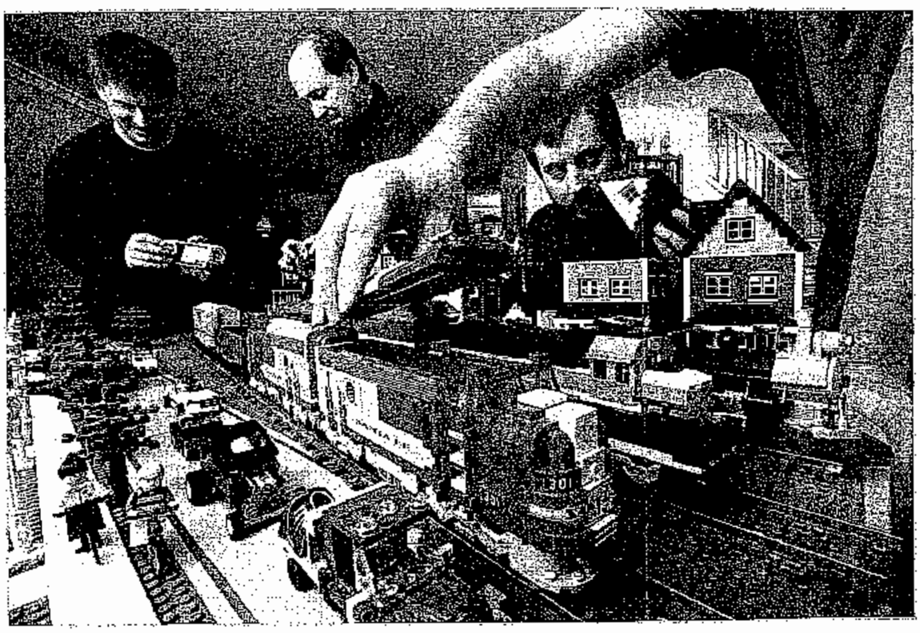
Not all companies have such "innovation incubators." However, any business can obtain new ideas from employees, even small businesses. A recent survey of small companies revealed that three-quarters of them directly encourage employees to make new-product and service suggestions. More than half of these small businesses give bonuses or other recognition to those whose ideas are used.[8]

Everyone in the company can contribute good new-product ideas. "Most companies operate under the assumption that big ideas come from a few big brains: the inspired founder, the eccentric inventor, the visionary boss," says one analyst. But in today's fast-moving and competitive environment, "it's time to invent a less top-down approach to innovation, to make it everybody's business to come up with great ideas."[9]

External Idea Sources

Good new-product ideas also come from *customers*. The company can analyze customer questions and complaints to find new products that better solve consumer problems. Or company engineers or salespeople can meet with and work alongside customers to get suggestions and ideas.

LEGO did just that when it invited 250 LEGO train-set enthusiasts to visit its New York office to assess new designs. "We pooh-poohed them all," says one LEGO fan, an Intel engineer from Portland. But the group gave LEGO lots of new ideas, and the company put them to good use. "We literally produced what they told us to produce," says a LEGO executive. The result was the "Santa Fe Super Chief" set. Thanks to "word-of-mouse" endorsements from the



Product ideas from customers: Advice from 250 train-set enthusiasts resulted in the LEGO Santa Fe Super Chief set, a blockbuster new product that sold out in less than two weeks.

250 enthusiasts, LEGO sold out the first 10,000 units in less than two weeks with no additional marketing.[10]

Consumers often create new products and uses on their own, and companies can benefit by putting them on the market. For example, for years customers were spreading the word that Avon Skin-So-Soft bath oil and moisturizer was also a terrific bug repellent. Whereas some consumers were content simply to bathe in water scented with the fragrant oil, others carried it in their backpacks to mosquito-infested campsites or kept a bottle on the decks of their beach houses. Avon turned the idea into a complete line of Skin-So-Soft Bug Guard products, including Bug Guard Mosquito Repellent Moisturizing Towelettes and Bug Guard Plus, a combination moisturizer, insect repellent, and sunscreen.[11]

Finally, some companies even give customers the tools and resources to design their own products. Notes one expert, "Not only is the customer king, now he is market-research head, R&D chief, and product development manager, too."[12] For example, computer games maker Electronic Arts (EA) noticed that its customers were making new content for existing games and posting it online for others to use freely. It began shipping basic game development tools with its games and feeding customer innovations to its designers to use in creating new games. "The fan community has had a tremendous influence on game design," says an EA executive, "and the games are better as a result."[13]

Companies must be careful not to rely too heavily on customer input when developing new products. For some products, especially highly technical ones, customers may not know what they need. "Merely giving people what they want isn't always enough," says one innovation management consultant. "People want to be surprised; they want something that's better than they imagined, something that stretches them in what they like."[14]

Beyond customers, companies can tap several other external sources. For example, *competitors* can be a good source of new-product ideas. Companies watch competitors' ads to get clues about their new products. They buy competing new products, take them apart to see how they work, analyze their sales, and decide whether they should bring out a new product of their own.

Distributors and suppliers can also contribute many good new-product ideas. Distributors are close to the market and can pass along information about consumer problems and new-product possibilities. Suppliers can tell the company about new concepts, techniques, and materials that can be used to develop new products. Other idea sources include trade magazines, shows, and seminars; government agencies; new-product consultants; advertising agencies; marketing research firms; university and commercial laboratories; and inventors.

Some companies seek the help of outside design firms, such as IDEO or Frog Design, for new-product ideas and design. For example, Frog Design helped Tupperware find a new-product solution to a common customer problem—organizing that closet full of randomly stacked plastic storage containers and matching the lids with the bases. From idea generation to final prototypes, Frog Design developed Tupperware's FlatOut series, flexible containers that can be collapsed, stacked, and stored flat with the lid attached. The new product received several design awards.[15]

Idea Screening

Idea screening
Screening new-product ideas in order to spot good ideas and drop poor ones as soon as possible.

The purpose of idea generation is to create a large number of ideas. The purpose of the succeeding stages is to *reduce* that number. The first idea-reducing stage is **idea screening**, which helps spot good ideas and drop poor ones as soon as possible. Product development costs rise greatly in later stages, so the company wants to go ahead only with the product ideas that will turn into profitable products.

Many companies require their executives to write up new-product ideas on a standard form that can be reviewed by a new-product committee. The write-up describes the product, the target market, and the competition. It makes some rough estimates of market size, product price, development time and costs, manufacturing costs, and rate of return. The committee then evaluates the idea against a set of general criteria.

For example, at Kao Corporation, the large Japanese consumer products company, the new-product committee asks questions such as these: Is the product truly useful to consumers and society? Is it good for our particular company? Does it mesh well with the company's objectives and strategies? Do we have the people, skills, and resources to make it succeed? Does it deliver more value to customers than do competing products? Is it easy to advertise and distribute? Many companies have well-designed systems for rating and screening new-product ideas.

Concept Development and Testing

Product concept
A detailed version of the new-product idea stated in meaningful consumer terms.

An attractive idea must be developed into a **product concept**. It is important to distinguish between a product idea, a product concept, and a product image. A *product idea* is an idea for a possible product that the company can see itself offering to the market. A *product concept* is a detailed version of the idea stated in meaningful consumer terms. A *product image* is the way consumers perceive an actual or potential product.

Concept Development

After more than a decade of development, DaimlerChrysler is beginning to commercialize its experimental fuel-cell-powered electric car. This car's nonpolluting fuel-cell system runs directly on hydrogen, which powers the fuel cell with only water as a by-product. It is highly fuel efficient and gives the new car an environmental advantage over even today's superefficient gasoline-electric hybrid cars.

DaimlerChrysler's task is to develop its fuel-cell-powered F-Cell car into alternative product concepts, find out how attractive each concept is to customers, and choose the best one.

DaimlerChrysler has released 30 "F-Cell" cars in California and 100 more around the world so that they can be tested under varying weather conditions, traffic situations, and driving styles. Based on the tiny Mercedes A-Class, the car accelerates from 0 to 60 in 16 seconds, reaches speeds of 85 miles per hour, and has a 100-mile driving range, giving it a huge edge over battery-powered electric cars that travel only about 80 miles before needing 3 to 12 hours of recharging.[16]

Now DaimlerChrysler's task is to develop this new product into alternative product concepts, find out how attractive each concept is to customers, and choose the best one. It might create the following product concepts for the fuel-cell electric car:

Concept 1 A moderately priced subcompact designed as a second family car to be used around town. The car is ideal for running errands and visiting friends.

Concept 2 A medium-cost sporty compact appealing to young people.

Concept 3 An inexpensive subcompact "green" car appealing to environmentally conscious people who want practical, low-polluting transportation.

Concept 4 A high-end SUV appealing to those who love the space SUVs provide but lament the poor gas mileage.

Concept Testing

Concept testing
Testing new-product concepts with a group of target consumers to find out if the concepts have strong consumer appeal.

Concept testing calls for testing new-product concepts with groups of target consumers. The concepts may be presented to consumers symbolically or physically. Here, in words, is concept 3:

> An efficient, peppy, fun-to-drive, fuel-cell-powered electric subcompact car that seats four. This hydrogen-powered high-tech wonder provides practical and reliable transportation with virtually no pollution. It goes up to 85 miles per hour and, unlike battery-powered electric cars, it never needs recharging. It's priced, fully equipped, at $25,000.

For some concept tests, a word or picture description might be sufficient. However, a more concrete and physical presentation of the concept will increase the reliability of the concept test. After being exposed to the concept, consumers then may be asked to react to it by answering questions such as those in Table 9.1.

The answers to such questions will help the company decide which concept has the strongest appeal. For example, the last question asks about the consumer's intention to

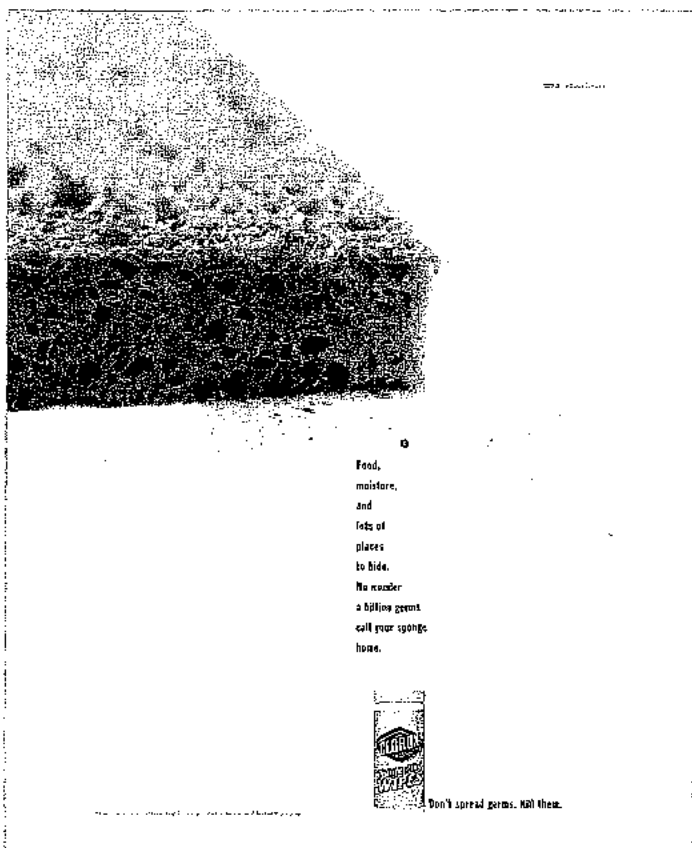
TABLE 9.1
Questions for Fuel-Cell-Powered Electric Car Concept Test

1. Do you understand the concept of a fuel-cell-powered electric car?
2. Do you believe the claims about the car's performance?
3. What are the major benefits of the fuel-cell-powered electric car compared with a conventional car?
4. What are its advantages compared with a battery-powered electric car?
5. What improvements in the car's features would you suggest?
6. For what uses would you prefer a fuel-cell-powered electric car to a conventional car?
7. What would be a reasonable price to charge for the car?
8. Who would be involved in your decision to buy such a car? Who would drive it?
9. Would you buy such a car (definitely, probably, probably not, definitely not)?

Marketing strategy development
Designing an initial marketing strategy for a new product based on the product concept.

buy. Suppose 10 percent of consumers say they "definitely" would buy, and another 5 percent say "probably." The company could project these figures to the full population in this target group to estimate sales volume. Even then, the estimate is uncertain because people do not always carry out their stated intentions.

Many firms routinely test new-product concepts with consumers before attempting to turn them into actual new products. For example, AcuPOLL, a global brand-building research company, tests thousands of new product concepts every year. In past polls, M&M Mini's, "teeny-tiny" M&Ms sold in a tube container, received a rare A+ concept rating, meaning that consumers thought it was an outstanding concept that they would try and buy. Other products such as Glad Stand & Zip Bags, Clorox Wipes, the Mead Inteli-Gear learning system, and Elmer's 3D Paint Pens were also big hits.



AcuPOLL tests thousands of new-product concepts every year. Its polls correctly predicted that CLOROX® Wipes would be a big hit with consumers.

Other product concepts didn't fare so well. Consumers didn't think much of Excedrin Tension Headache Cooling Pads. Nor did they care for Nubrush Anti-Bacterial Toothbrush Spray disinfectant, from Applied Microdontics, which received an F. Most consumers don't think they have a problem with "infected" toothbrushes. Another concept that fared poorly was Chef Williams 5 Minute Marinade, which comes with a syringe customers use to inject the marinade into meats. Some consumers found the thought of injecting something into meat a bit repulsive, and "it's just so politically incorrect to have this syringe on there," comments an AcuPOLL executive.[17]

Marketing Strategy Development

Suppose DaimlerChrysler finds that concept 3 for the fuel-cell-powered electric car tests best. The next step is **marketing strategy development**, designing an initial marketing strategy for introducing this car to the market.

The *marketing strategy statement* consists of three parts. The first part describes the target market; the planned product positioning; and the sales, market share, and profit goals for the first few years. Thus:

> The target market is younger, well-educated, moderate-to-high-income individuals, couples, or small families seeking practical, environmentally

> responsible transportation. The car will be positioned as more fun to drive and less polluting than today's internal combustion engine or hybrid cars. It is also less restricting than battery-powered electric cars, which must be recharged regularly. The company will aim to sell 100,000 cars in the first year, at a loss of not more than $15 million. In the second year, the company will aim for sales of 120,000 cars and a profit of $25 million.

The second part of the marketing strategy statement outlines the product's planned price, distribution, and marketing budget for the first year:

> The fuel-cell-powered electric car will be offered in three colors—red, white, and blue—and will have optional air-conditioning and power-drive features. It will sell at a retail price of $25,000—with 15 percent off the list price to dealers. Dealers who sell more than 10 cars per month will get an additional discount of 5 percent on each car sold that month. An advertising budget of $50 million will be split 50-50 between a national media campaign and local advertising. Advertising will emphasize the car's fun spirit and low emissions. During the first year, $100,000 will be spent on marketing research to find out who is buying the car and their satisfaction levels.

The third part of the marketing strategy statement describes the planned long-run sales, profit goals, and marketing mix strategy:

> DaimlerChrysler intends to capture a 3 percent long-run share of the total auto market and realize an after-tax return on investment of 15 percent. To achieve this, product quality will start high and be improved over time. Price will be raised in the second and third years if competition permits. The total advertising budget will be raised each year by about 10 percent. Marketing research will be reduced to $60,000 per year after the first year.

Business Analysis

Business analysis
A review of the sales, costs, and profit projections for a new product to find out whether these factors satisfy the company's objectives.

Once management has decided on its product concept and marketing strategy, it can evaluate the business attractiveness of the proposal. **Business analysis** involves a review of the sales, costs, and profit projections for a new product to find out whether they satisfy the company's objectives. If they do, the product can move to the product development stage.

To estimate sales, the company might look at the sales history of similar products and conduct surveys of market opinion. It can then estimate minimum and maximum sales to assess the range of risk. After preparing the sales forecast, management can estimate the expected costs and profits for the product, including marketing, R&D, operations, accounting, and finance costs. The company then uses the sales and costs figures to analyze the new product's financial attractiveness.

Product Development

Product development
Developing the product concept into a physical product in order to ensure that the product idea can be turned into a workable product.

So far, for many new-product concepts, the product may have existed only as a word description, a drawing, or perhaps a crude mock-up. If the product concept passes the business test, it moves into **product development**. Here, R&D or engineering develops the product concept into a physical product. The product development step, however, now calls for a large jump in investment. It will show whether the product idea can be turned into a workable product.

The R&D department will develop and test one or more physical versions of the product concept. R&D hopes to design a prototype that will satisfy and excite consumers and that can be produced quickly and at budgeted costs. Developing a successful prototype can take days, weeks, months, or even years.

Often, products undergo rigorous tests to make sure that they perform safely and effectively or that consumers will find value in them. Here are some examples of such product tests:[18]

> Thunk. Thunk. Thunk. Behind a locked door in the basement of Louis Vuitton's elegant Paris headquarters, a mechanical arm hoists a brown-and-tan handbag a half-meter off the floor—then drops it. The bag, loaded with an 8-pound weight, will be lifted and dropped, over and over again, for four days. This is Vuitton's test laboratory,

a high-tech torture chamber for its fabled luxury goods. Another piece of lab equipment bombards handbags with ultraviolet rays to test resistance to fading. Still another tests zippers by tugging them open and shutting them 5,000 times. There's even a mechanized mannequin hand, with a Vuitton charm bracelet around its wrist, being shaken vigorously to make sure none of the charms fall off.

At Gillette, almost everyone gets involved in new-product testing. Every working day at Gillette, 200 volunteers from various departments come to work unshaven, troop to the second floor of the company's gritty South Boston plant, and enter small booths with a sink and mirror. There they take instructions from technicians on the other side of a small window as to which razor, shaving cream, or aftershave to use. The volunteers evaluate razors for sharpness of blade, smoothness of glide, and ease of handling. In a nearby shower room, women perform the same ritual on their legs, underarms, and what the company delicately refers to as the "bikini area." "We bleed so you'll get a good shave at home," says one Gillette employee.

Product testing: Gillette uses employee-volunteers to test new shaving products—"We bleed so you'll get a good shave at home," says a Gillette employee.

A new product must have the required functional features and also convey the intended psychological characteristics. The fuel-cell electric car, for example, should strike consumers as being well built, comfortable, and safe. Management must learn what makes consumers decide that a car is well built. To some consumers, this means that the car has "solid-sounding" doors. To others, it means that the car is able to withstand heavy impact in crash tests. Consumer tests are conducted in which consumers test-drive the car and rate its attributes.

Test Marketing

Test marketing
The stage of new-product development in which the product and marketing program are tested in more realistic market settings.

If the product passes concept and product tests, the next step is **test marketing**, the stage at which the product and marketing program are introduced into more realistic market settings. Test marketing gives the marketer experience with marketing the product before going to the great expense of full introduction. It lets the company test the product and its entire marketing program—positioning strategy, advertising, distribution, pricing, branding and packaging, and budget levels.

The amount of test marketing needed varies with each new product. Test marketing costs can be high, and it takes time that may allow competitors to gain advantages. When the costs of developing and introducing the product are low, or when management is already confident about the new product, the company may do little or no test marketing. In fact, test marketing by consumer-goods firms has been declining in recent years. Companies often do not test-market simple line extensions or copies of successful competitor products.

However, when introducing a new product requires a big investment, or when management is not sure of the product or marketing program, a company may do a lot of test marketing. For instance, for more than two years, McDonald's has tested the *redbox* concept of automated DVD rental kiosks in its own restaurants and in supermarkets throughout major U.S. markets. Using the kiosks, consumers can rent DVDs for $1 per night using their debit or credit cards. Based on the success of these test markets—in Denver tests alone, the *redbox* kiosks now command more than a 15 percent share of all DVD rentals.[19]

Although test-marketing costs can be high, they are often small when compared with the costs of making a major mistake. Still, test marketing doesn't guarantee success. For example, Procter & Gamble tested its Fit produce rinse heavily for five years and Olay cosmetics for three years. Although market tests suggested the products would be successful, P&G pulled the plug on both shortly after their introductions.[20]

Test marketing: Based on two years of test marketing in six major U.S. cities, McDonald's now plans to roll out Redbox DVD rental kiosks in all of its restaurants and in a slew of supermarkets across the country.

When using test marketing, consumer products companies usually choose one of three approaches—standard test markets, controlled test markets, or simulated test markets.

Standard Test Markets

Using standard test markets, the company finds a small number of representative test cities, conducts a full marketing campaign in these cities, and uses store audits, consumer and distributor surveys, and other measures to gauge product performance. The results are used to forecast national sales and profits, discover potential product problems, and fine-tune the marketing program.

Standard test markets have some drawbacks. They can be very costly and they may take a long time—some last as long as three to five years. Moreover, competitors can monitor test market results or interfere with them by cutting their prices in test cities, increasing their promotion, or even buying up the product being tested. Finally, test markets give competitors a look at the company's new product well before it is introduced nationally. Thus, competitors may have time to develop defensive strategies, and may even beat the company's product to the market. For example, while Clorox was still test marketing its new detergent with bleach in selected markets, P&G launched Tide with Bleach nationally. Tide with Bleach quickly became the segment leader; Clorox later withdrew its detergent.

Despite these disadvantages, standard test markets are still the most widely used approach for major in-market testing. However, many companies today are shifting toward quicker and cheaper controlled and simulated test marketing methods.

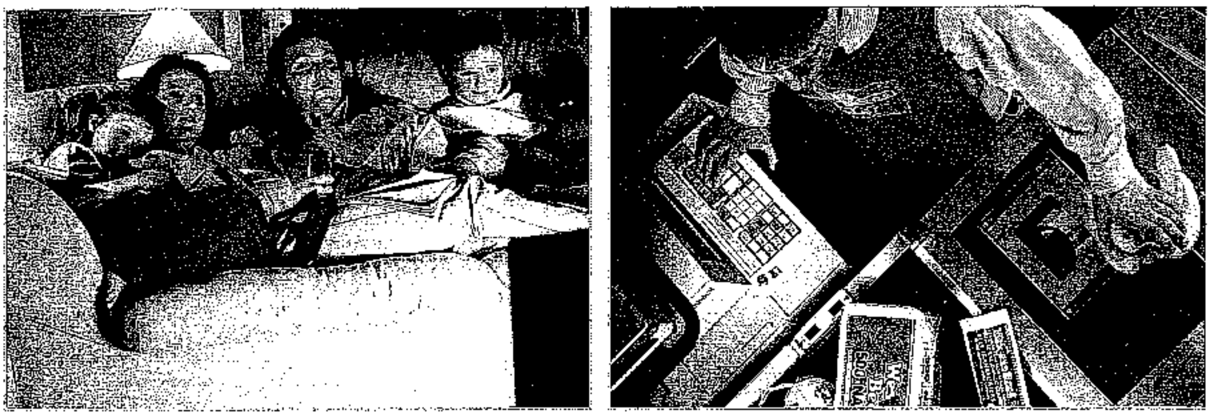
Controlled Test Markets

Several research firms keep controlled panels of stores that have agreed to carry new products for a fee. Controlled test marketing systems such as ACNielsen's Scantrack and Information Resources Inc.'s (IRI) BehaviorScan track individual consumer behavior for new products from the television set to the checkout counter.

In each BehaviorScan market, IRI maintains a panel of shoppers who report all of their purchases by showing an identification card at check-out in participating stores and by using a handheld scanner at home to record purchases at nonparticipating stores.[21] Within test stores, IRI controls such factors as shelf placement, price, and in-store promotions for the product being tested. IRI also measures TV viewing in each panel household and sends special commercials to panel member television sets. Direct-mail promotions can also be tested.

Detailed scanner information on each consumer's purchases is fed into a central computer, where it is combined with the consumer's demographic and TV viewing information and reported daily. Thus, BehaviorScan can provide store-by-store, week-by-week reports on the sales of tested products. Such panel purchasing data enables in-depth diagnostics not possible with retail point-of-sale data alone, including repeat purchase analysis, buyer demographics, and earlier, more accurate sales forecasts after just 12 to 24 weeks in market. Most importantly, the system allows companies to evaluate their specific marketing efforts.

Controlled test markets, such as Behaviorscan, usually cost less than standard test markets. Also, because retail distribution is "forced" in the first weeks of the test, controlled test markets can be completed much more quickly than standard test markets. As in standard test markets, controlled test markets allow competitors to get a look at the company's new product. And some companies are concerned that the limited number of controlled test markets used by the research services may not be representative of their products' markets or target consumers. However, the research firms are experienced in projecting test market results to broader markets and can usually account for biases in the test markets used.



Controlled Test Markets: IRI's BehaviorScan system tracks individual consumer behavior for new products from the television set to the checkout counter.

Simulated Test Markets

Companies can also test new products in a simulated shopping environment. The company or research firm shows ads and promotions for a variety of products, including the new product being tested, to a sample of consumers. It gives consumers a small amount of money and invites them to a real or laboratory store where they may keep the money or use it to buy items. The researchers note how many consumers buy the new product and competing brands.

This simulation provides a measure of trial and the commercial's effectiveness against competing commercials. The researchers then ask consumers the reasons for their purchase or nonpurchase. Some weeks later, they interview the consumers by phone to determine product attitudes, usage, satisfaction, and repurchase intentions. Using sophisticated computer models, the researchers then project national sales from results of the simulated test market. Recently, some marketers have begun to use interesting new high-tech approaches to simulated test market research, such as virtual reality and the Internet.

Simulated test markets overcome some of the disadvantages of standard and controlled test markets. They usually cost much less, can be run in eight weeks, and keep the new product out of competitors' view. Yet, because of their small samples and simulated shopping environments, many marketers do not think that simulated test markets are as accurate or reliable as larger, real-world tests.

Still, simulated test markets are used widely, often as "pretest" markets. Because they are fast and inexpensive, they can be run to quickly assess a new product or its marketing program. If the pretest results are strongly positive, the product might be introduced without further testing. If the results are very poor, the product might be dropped or substantially redesigned and retested. If the results are promising but indefinite, the product and marketing program can be tested further in controlled or standard test markets.

Commercialization

Commercialization
Introducing a new product into the market.

Test marketing gives management the information needed to make a final decision about whether to launch the new product. If the company goes ahead with **commercialization**—introducing the new product into the market—it will face high costs. The company may have to build or rent a manufacturing facility. And, in the case of a major new consumer packaged good, it may spend hundreds of millions of dollars for advertising, sales promotion, and other marketing efforts in the first year. For example, when Procter & Gamble introduced its new Fusion six-blade razor, it spent an eye-popping $1 billion on global marketing support, $300 million in the United States alone.[22]

The company launching a new product must first decide on introduction *timing*. If DaimlerChrysler's new fuel-cell electric car will eat into the sales of the company's other cars, its introduction may be delayed. If the car can be improved further, or if the economy is

Commercialization: Procter & Gamble introduced its new Gillette Fusion six-blade razor with an eye-popping $1 billion of global marketing support. It spent $300 million in the United States alone, complete with Super Bowl ads and star-studded launch spectaculars.

down, the company may wait until the following year to launch it. However, if competitors are ready to introduce their own fuel-cell models, DaimlerChrysler may push to introduce the car sooner.

Next, the company must decide *where* to launch the new product—in a single location, a region, the national market, or the international market. Few companies have the confidence, capital, and capacity to launch new products into full national or international distribution. They will develop a planned market rollout over time. In particular, small companies may enter attractive cities or regions one at a time. Larger companies, however, may quickly introduce new models into several regions or into the full national market. For example, Procter & Gamble launched the Gillette Fusion razor with a full national blitz. The launch began with 2006 Super Bowl ads costing more than $6 million. Within the first week of launch, P&G had blanketed U.S. stores with some 180,000 Fusion displays. After three months, Fusion brand awareness exceeded 60 percent, and the new brand contributed to a 44 percent rise in overall U.S. sales of nondisposable razors.[23]

Companies with international distribution systems may introduce new products through global rollouts. P&G did this with its SpinBrush low-priced, battery-powered toothbrush. In a swift and successful global assault—its fastest global rollout ever—P&G quickly introduced the new product into 35 countries. Such rapid worldwide expansion overwhelmed rival Colgate's Actibrush brand. Within a year of its introduction, SpinBrush was outselling Actibrush by a margin of two to one.[24]

Managing New-Product Development

The new-product development process shown in Figure 9.1 highlights the important activities needed to find, develop, and introduce new products. However, new-product development involves more than just going through a set of steps. Companies must take a holistic approach to managing this process. Successful new-product development requires a customer-centered, team-based, and systematic effort.

Customer-Centered New-Product Development

Customer-centered new-product development
New-product development that focuses on finding new ways to solve customer problems and create more customer-satisfying experiences.

Above all else, new-product development must be customer centered. When looking for and developing new products, companies often rely too heavily on technical research in their R&D labs. But like everything else in marketing, successful new-product development begins with a thorough understanding of what consumers need and value. **Customer-centered new-product development** focuses on finding new ways to solve customer problems and create more customer-satisfying experiences.

One recent study found that the most successful new products are ones that are differentiated, solve major customer problems, and offer a compelling customer value proposition.[25] Thus, for products ranging from bathroom cleaners to jet engines, today's innovative companies are getting out of the research lab and mingling with customers in the search for new customer value. Consider these examples:[26]

People at all levels of Procter & Gamble, from brand managers to the CEO, look for fresh ideas by tagging along with and talking to customers as they shop for and use the company's products. When one P&G team tackled the problem of "reinventing bathroom cleaning," it started by "listening with its eyes." The group spent many hours watching consumers clean their bathrooms. They focused on "extreme users," ranging from a professional house cleaner who scrubbed grout with his fingernail to four single guys whose idea of cleaning the bathroom was pushing a filthy towel around the floor with a big stick. If they could make both users happy, they figured they had a home run. One big idea—a cleaning tool on a removable stick that could both reach shower walls and get into crannies—got the green light quickly. Consumers loved the prototype, patched together with repurposed plastic, foam, and duct tape. Some refused to return it. The idea became P&G's highly successful Mr. Clean Magic Reach bathroom cleaning tool.

GE wants to infuse customer-centered new-product development thinking into all of its diverse divisions. Executives from the GE Money division—which offers credit cards, loans, and other consumer finance solutions—recently took a tour of San Francisco. During the tour, they watched how people use money—where they get it, how they spend it, even how they carry it. Similarly, to unleash creativity in 15 top executives from GE's jet-engine business, the company took them out to talk with airplane pilots and mechanics. "We even went to meet Larry Flynt's private jet team," says a manager who arranged the trip. "It's a way to . . . increase their empathy and strengthen their ability to make innovation decisions."

Thus, customer-centered new-product development begins and ends with solving customer problems. As one expert asks: "What is innovation after all, if not products and services that offer fresh thinking in a way that meets the needs of customers?"[27]

Team-Based New-Product Development

Good new-product development also requires a total-company, cross-functional effort. Some companies organize their new-product development process into the orderly sequence of steps shown in Figure 9.1, starting with idea generation and ending with commercialization. Under this *sequential product development* approach, one company department works individually to complete its stage of the process before passing the new product along to the next department and stage. This orderly, step-by-step process can help bring control to complex and risky projects. But it also can be dangerously slow. In fast-changing, highly competitive markets, such slow-but-sure product development can result in product failures, lost sales and profits, and crumbling market positions.

Team-based new-product development
An approach to developing new products in which various company departments work closely together, overlapping the steps in the product development process to save time and increase effectiveness.

In order to get their new products to market more quickly, many companies use a **team-based new-product development** approach. Under this approach, company departments work closely together in cross-functional teams, overlapping the steps in the product development process to save time and increase effectiveness. Instead of passing the new product from department to department, the company assembles a team of people from various departments that stays with the new product from start to finish. Such teams usually include people from the marketing, finance, design, manufacturing, and legal departments, and even supplier and customer companies. In the sequential process, a bottleneck at one phase can seriously slow the entire project. In the simultaneous approach, if one functional area hits snags, it works to resolve them while the team moves on.

The team-based approach does have some limitations. For example, it sometimes creates more organizational tension and confusion than the more orderly sequential approach. However, in rapidly changing industries facing increasingly shorter product life cycles, the rewards of fast and flexible product development far exceed the risks. Companies that combine both a customer-centered approach with team-based new-product development gain a big competitive edge by getting the right new products to market faster (see Real Marketing 9.1).

Systematic New-Product Development

Finally, the new-product development process should be holistic and systematic rather than haphazard. Otherwise, few new ideas will surface, and many good ideas will sputter and die. To avoid these problems, a company can install an *innovation management system* to collect, review, evaluate, and manage new-product ideas.

Real Marketing

You will never meet Catherine, Anna, Maria, or Monica. But the future success of Swedish home appliances maker Electrolux depends on what these four women think. Catherine, for instance, a type A career woman who is a perfectionist at home, loves the idea of simply sliding her laundry basket into a washing machine, instead of having to lift the clothes from the basket and into the washer. That product idea has been moved onto the fast track for consideration.

So, just who are Catherine and the other women? Well, they don't actually exist. They are composites based on in-depth interviews with some 160,000 consumers from around the globe. To divine the needs of these mythical customers, 53 Electrolux employees—in teams that included designers, engineers, and marketers hailing from various divisions—gathered in Stockholm last November for a weeklong brainstorming session. The Catherine team began by ripping photographs out of a pile of magazines and sticking them onto poster boards. Next to a picture of a woman wearing a sharply tailored suit, they scribbled some of Catherine's attributes: driven, busy, and a bit overwhelmed.

With the help of these characters, Electrolux product developers are searching for the insights they'll need to dream up the next batch of hot products. It's a new way of doing things for Electrolux, but then again, a lot is new at the company. When Chief Executive Hans Straberg took the helm in 2002, Electrolux—which sells products under the Electrolux, Eureka, and Frigidaire brands—was the world's number-two home appliances maker behind Whirlpool. The company faced spiraling costs, and its middle-market products were gradually losing out to cheaper goods from Asia and Eastern Europe. Competition in the United States, where Electrolux gets 40 percent of its sales, was ferocious. The company's stock was treading water.

Straberg had to do something radical, especially in the area of new-product innovation. So he began breaking down barriers between departments and forcing his designers, engineers, and marketers to work together to come up with new products. He also introduced an intense focus on the customer. He set out to become "the leader in our industry in terms of systematic development of new products based on consumer insight."

At the Stockholm brainstorming session, for example, group leader Kim Scott urges everyone "to think of yourselves as Catherine." The room buzzes with discussion. Ideas are refined, sketches drawn up. The group settles on three concepts: Breeze, a clothes steamer that also removes stains; an Ironing Center, similar to a pants press but for shirts; and Ease, the washing machine that holds a laundry basket inside its drum.

Half the group races off to the machine shop to turn out a prototype for Breeze, while the rest stay upstairs to bang out a marketing plan. Over the next hour, designer Lennart Johansson carves and sandpapers a block of peach-colored polyurethane until a contraption that resembles a cross between an electric screwdriver and a handheld vacuum begins to emerge. The designers in the group want the Breeze to be smaller, but engineer Giuseppe Frucco points out that would leave too little space for a charging station for the 1,500-watt unit.

For company veterans such as Frucco, who works at Electrolux's fabric care research and development center in Porcia, Italy, this dynamic groupthink is a refreshing change: "We never used to create new products together," he says. "The designers would come up with something and then tell us to build it." The new way saves time and money by avoiding the technical glitches that crop up as a new design moves from the drafting table to the factory floor. The ultimate goal is to come up with new products that consumers will gladly pay a premium for: Gadgets with drop-dead good looks and clever features that ordinary people can understand without having to pore through a thick users' manual. "Consumers are prepared to pay for good design and good performance," says CEO Straberg.

Few companies have pulled off the range of hot new offerings that Electrolux has. One clear hit is a cordless stick and hand vacuum,

Customer-centered new-product development: Electrolux's new-product team starts by watching and talking with consumers to understand their problems. Here, they build a bulletin board packed with pictures and post-its detailing consumers struggling with household cleaning chores and possible product solutions. Then the team moves to the lab to create products that solve customer problems. "We were thinking of you when we developed this product," says Electrolux.

(continues)

(continued)

called Pronto in the United States. Available in an array of metallic hues with a rounded, ergonomic design, this is the Cinderella of vacuums. Too attractive to be locked up in the broom closet, it calls out to be displayed in your kitchen. In Europe, it now commands 50 percent of the market for stick vacs, a coup for a product with fewer than two years on the market. The Pronto is cleaning up in the United States, too. Stacy Silk, a buyer at retail chain Best Buy, says it is one of her hottest sellers, even though it retails for around $100, double the price of comparable models. A recent check at Best Buy's online site shows that the Pronto is currently out of stock. "The biggest thing is the aesthetics," Silk says. "That gets people to walk over and look."

Electrolux is crafting such new products even while moving away from many traditional customer research tools. The company relies less heavily on focus groups and now prefers to interview people in their homes where they can be videotaped pushing a vacuum or shoving laundry into the washer. "Consumers think they know what they want, but they often have trouble articulating it," says Electrolux's senior vice-president for global design. "But when we watch them, we can ask, 'Why do you do that?' We can change the product and solve their problems."

This customer-centered, team-based new-product development approach is producing results. Under the new approach, new-product launches have almost doubled in quantity, and the proportion of new-product launches that result in outsized unit sales is now running at 50 percent of all introductions, up from around 25 percent previously. As a result, Electrolux's sales, profits, and share price are all up sharply.

It all boils down to understanding consumers and giving them what they need and want. According to a recent Electrolux annual report:

> "Thinking of you" sums up our product offering. That is how we create value for our customers—and thereby for our shareholders. All product development and marketing starts with understanding consumer needs, expectations, dreams, and motivation. That's why we contact tens of thousands of consumers throughout the world every year. . . . The first steps in product development are to ask questions, observe, discuss, and analyze. So we can actually say, "We were thinking of you when we developed this product."

Thanks to such thinking, Electrolux has now grown to become the world's biggest household appliances company. Catherine and the other women would be pleased.

Source: Portions adapted from Arlene Sains and Stanley Reed, "Electrolux Cleans Up," *BusinessWeek*, February 27, 2006, pp. 42–43; with quotes and extracts adapted from "Products Developed on the Basis of Consumer Insight," *Acceleration . . . Electrolux Annual Report*, April 7, 2006, p. 7; accessed at www.electrolux.com/node60.aspx. Additional information from Caroline Perry, "Electrolux Doubles Spend with New Strategy," *Marketing Week*, February 16, 2006, pp. 7–9.

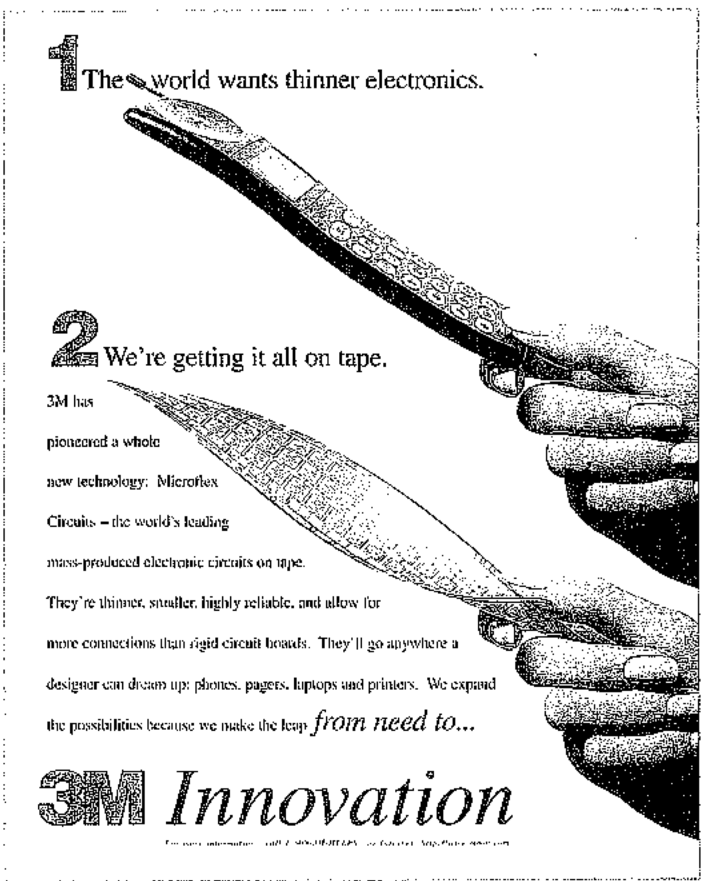
The company can appoint a respected senior person to be the company's innovation manager. It can set up Web-based idea management software and encourage all company stakeholders—employees, suppliers, distributors, dealers—to become involved in finding and developing new products. It can assign a cross-functional innovation management committee to evaluate proposed new-product ideas and help bring good ideas to market. It can create recognition programs to reward those who contribute the best ideas.[28]

The innovation management system approach yields two favorable outcomes. First, it helps create an innovation-oriented company culture. It shows that top management supports, encourages, and rewards innovation. Second, it will yield a larger number of new-product ideas, among which will be found some especially good ones. The good new ideas will be more systematically developed, producing more new-product successes. No longer will good ideas wither for the lack of a sounding board or a senior product advocate.

Thus, new-product success requires more than simply thinking up a few good ideas, turning them into products, and finding customers for them. It requires a holistic approach for finding new ways to create valued customer experiences, from generating and screening new-product ideas to creating and rolling out want-satisfying products to customers.

More than this, successful new-product development requires a whole-company commitment. At companies known for their new-product prowess—such as Apple, Google, 3M, Procter & Gamble, and GE—the entire culture encourages, supports, and rewards innovation. Consider 3M, which year after year rates among the world's most innovative companies:[29]

> You see the headline in every 3M ad: "Innovation Working for You." But at 3M, innovation isn't just an advertising pitch. Throughout its history, 3M has been one of America's most innovative companies. The company markets more than 50,000 products, ranging from sandpaper, adhesives, and hundreds of sticky tapes to contact lenses, heart-lung machines, and futuristic synthetic ligaments. Each year 3M invests $1.1 billion in research and launches more than 200 new products. But these



Innovation: At 3M, new products don't just happen. The company's entire culture encourages, supports, and rewards innovation.

new products don't just happen. 3M works hard to create an entrepreneurial culture that fosters innovation. For more than a century, 3M's culture has encouraged employees to take risks and try new ideas. 3M knows that it must try thousands of new-product ideas to hit one big jackpot. Trying out lots of new ideas often means making mistakes, but 3M accepts blunders and dead ends as a normal part of creativity and innovation.

In fact, "blunders" have turned into some of 3M's most successful products. Old-timers at 3M love to tell the story about 3M scientist Spencer Silver. Silver started out to develop a super-strong adhesive; instead he came up with one that didn't stick very well at all. He sent the apparently useless substance on to other 3M researchers to see whether they could find something to do with it. Nothing happened for several years. Then Arthur Fry, another 3M scientist, had a problem—and an idea. As a choir member in a local church, Mr. Fry was having trouble marking places in his hymnal—the little scraps of paper he used kept falling out. He tried dabbing some of Mr. Silver's weak glue on one of the scraps. It stuck nicely and later peeled off without damaging the hymnal. Thus were born 3M's Post-It Notes, a product that is now one of the top selling office supply products in the world.

Product Life-Cycle Strategies

After launching the new product, management wants the product to enjoy a long and happy life. Although it does not expect the product to sell forever, the company wants to earn a decent profit to cover all the effort and risk that went into launching it. Management is aware that each product will have a life cycle, although its exact shape and length is not known in advance.

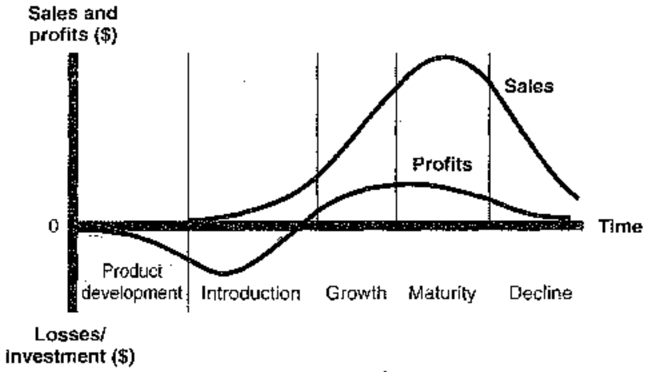
Product life cycle (PLC)
The course of a product's sales and profits over its lifetime. It involves five distinct stages: product development, introduction, growth, maturity, and decline.

Figure 9.2 shows a typical **product life cycle** (PLC), the course that a product's sales and profits take over its lifetime. The product life cycle has five distinct stages:

1. *Product development* begins when the company finds and develops a new-product idea. During product development, sales are zero and the company's investment costs mount.
2. *Introduction* is a period of slow sales growth as the product is introduced in the market. Profits are nonexistent in this stage because of the heavy expenses of product introduction.
3. *Growth* is a period of rapid market acceptance and increasing profits.
4. *Maturity* is a period of slowdown in sales growth because the product has achieved acceptance by most potential buyers. Profits level off or decline because of increased marketing outlays to defend the product against competition.
5. *Decline* is the period when sales fall off and profits drop.

Not all products follow this product life cycle. Some products are introduced and die quickly; others stay in the mature stage for a long, long time. Some enter the decline stage and

FIGURE 9.2
Sales and profits over the product's life from inception to decline



Style
A basic and distinctive mode of expression.

Fashion
A currently accepted or popular style in a given field.

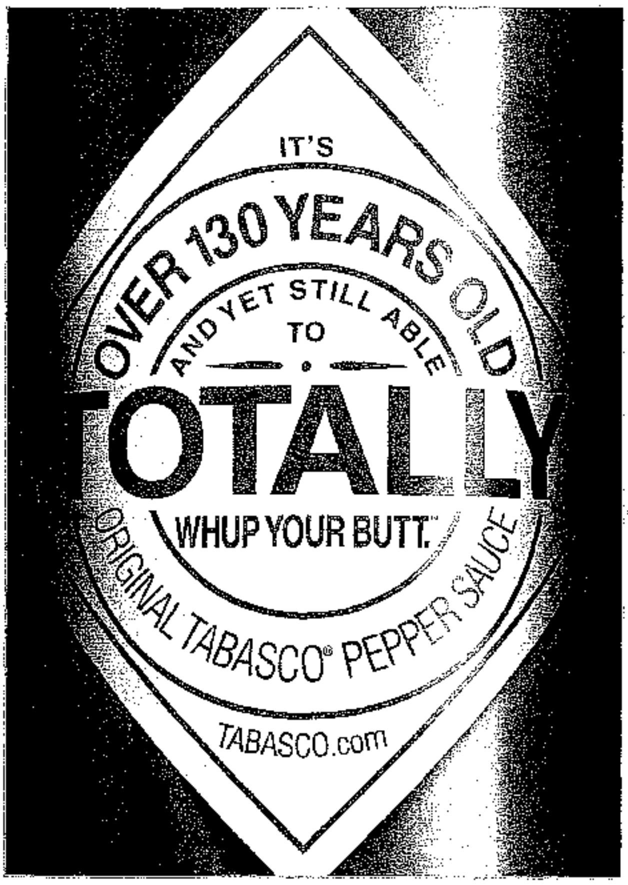
are then cycled back into the growth stage through strong promotion or repositioning. It seems that a well-managed brand could live forever. Such venerable brands as Coca-Cola, Gillette, Budweiser, American Express, Wells-Fargo, and Tabasco, for instance, are still going strong after more than 100 years.

The PLC concept can describe a *product class* (gasoline-powered automobiles), a *product form* (SUVs), or a *brand* (the Ford Escape). The PLC concept applies differently in each case. Product classes have the longest life cycles—the sales of many product classes stay in the mature stage for a long time. Product forms, in contrast, tend to have the standard PLC shape. Product forms such as "dial telephones" and "cassette tapes" passed through a regular history of introduction, rapid growth, maturity, and decline.

A specific brand's life cycle can change quickly because of changing competitive attacks and responses. For example, although laundry soaps (product class) and powdered detergents (product form) have enjoyed fairly long life cycles, the life cycles of specific brands have tended to be much shorter. Today's leading brands of powdered laundry soap are Tide and Cheer; the leading brands 75 years ago were Fels Naptha, Octagon, and Kirkman.[30]

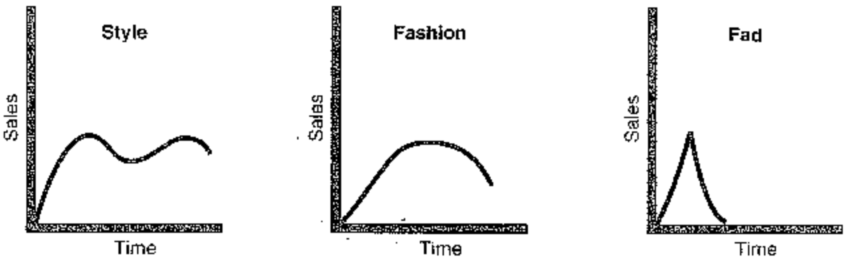
The PLC concept also can be applied to what are known as styles, fashions, and fads. Their special life cycles are shown in Figure 9.3. A **style** is a basic and distinctive mode of expression. For example, styles appear in homes (colonial, ranch, transitional), clothing (formal, casual), and art (realist, surrealist, abstract). Once a style is invented, it may last for generations, passing in and out of vogue. A style has a cycle showing several periods of renewed interest. A **fashion** is a currently accepted or popular style in a given field. For example, the more formal "business attire" look of corporate dress of the 1980s and early 1990s gave way to the "business casual" look of today. Fashions tend to grow slowly, remain popular for a while, and then decline slowly.

Fads are temporary periods of unusually high sales driven by consumer enthusiasm and immediate product or brand popularity.[31] A fad may be part of an otherwise normal lifecycle, as in the case of recent surges in the sales of scooters and yo-yos. Or the fad may comprise a brand's or product's entire lifecycle. "Pet rocks" are a classic example. Upon hearing his friends complain about how expensive it was to care for their dogs, advertising copywriter Gary Dahl joked about his pet rock. He soon wrote a spoof of a dog-training manual for it, titled "The Care and Training of Your Pet Rock."



■ Product life cycle: Some products die quickly: others stay in the mature stage for a long, long time. TABASCO Sauce is "over 130 years old and yet still able to totally whup your butt!"

FIGURE 9.3
Styles, fashions, and fads



Fad
A temporary period of unusually high sales driven by consumer enthusiasm and immediate product or brand popularity.

Soon Dahl was selling some 1.5 million ordinary beach pebbles at $4 a pop. Yet the fad, which broke one October, had sunk like a stone by the next February. Dahl's advice to those who want to succeed with a fad: "Enjoy it while it lasts." Other examples of such fads include the Rubik's Cube, lava lamps, and low-carb diets.[32]

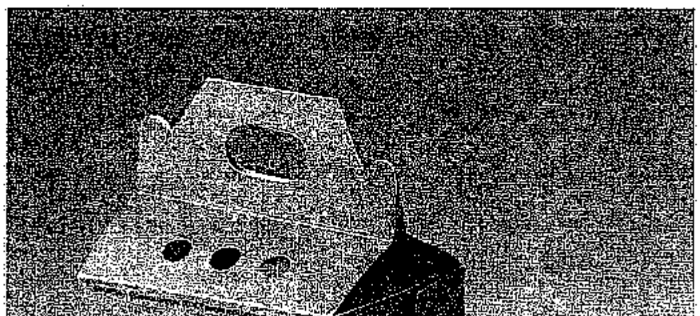
The PLC concept can be applied by marketers as a useful framework for describing how products and markets work. And when used carefully, the PLC concept can help in developing good marketing strategies for different stages of the product life cycle. But using the PLC concept for forecasting product performance or for developing marketing strategies presents some practical problems. For example, managers may have trouble identifying which stage of the PLC the product is in or pinpointing when the product moves into the next stage. They may also find it hard to determine the factors that affect the product's movement through the stages.

In practice, it is difficult to forecast the sales level at each PLC stage, the length of each stage, and the shape of the PLC curve. Using the PLC concept to develop marketing strategy also can be difficult because strategy is both a cause and a result of the product's life cycle. The product's current PLC position suggests the best marketing strategies, and the resulting marketing strategies affect product performance in later life-cycle stages.

Introduction stage
The product life-cycle stage in which the new product is first distributed and made available for purchase.

Moreover, marketers should not blindly push products through the traditional stages of the product life cycle. "As marketers instinctively embrace the old life-cycle paradigm, they needlessly consign their products to following the curve into maturity and decline," notes one marketing professor. Instead, marketers often defy the "rules" of the life cycle and position their products in unexpected ways. By doing this, "companies can rescue products foundering in the maturity phase of their life cycles and return them to the growth phase. And they can catapult new products forward into the growth phase, leapfrogging obstacles that could slow consumers' acceptance."[33]

We looked at the product development stage of the product life cycle in the first part of the chapter. We now look at strategies for each of the other life-cycle stages.



Fads: Pet rocks, introduced one October, had sunk like a stone by the next February.

Introduction Stage

The **introduction stage** starts when the new product is first launched. Introduction takes time, and sales growth is apt to be slow. Well-known products such as instant coffee and frozen foods lingered for many years before they entered a stage of rapid growth.

In this stage, as compared to other stages, profits are negative or low because of the low sales and high distribution and promotion expenses. Much money is needed to attract distributors and build their inventories. Promotion spending is relatively high to inform consumers of the new product and get them to try it. Because the market is not generally ready for product refinements at this stage, the company and its few competitors produce basic versions of the product. These firms focus their selling on those buyers who are the most ready to buy.

A company, especially the *market pioneer*, must choose a launch strategy that is consistent with the intended product positioning. It should realize that the initial strategy is just the first step in a grander marketing plan for the product's entire life cycle. If the pioneer chooses its launch strategy to make a "killing," it may be sacrificing long-run revenue for the sake of short-run gain. As the pioneer moves through later stages of the life cycle, it must continuously formulate new pricing, promotion, and other marketing strategies. It has the best chance of building and retaining market leadership if it plays its cards correctly from the start.

Growth Stage

Growth stage
The product life-cycle stage in which a product's sales start climbing quickly.

If the new product satisfies the market, it will enter **a growth stage**, in which sales will start climbing quickly. The early adopters will continue to buy, and later buyers will start following their lead, especially if they hear favorable word of mouth. Attracted by the opportunities for profit, new competitors will enter the market. They will introduce new product features, and the market will expand. The increase in competitors leads to an increase in the number of distribution outlets, and sales jump just to build reseller inventories. Prices remain where they are or fall only slightly. Companies keep their promotion spending at the same or a slightly higher level. Educating the market remains a goal, but now the company must also meet the competition.

Profits increase during the growth stage, as promotion costs are spread over a large volume and as unit manufacturing costs fall. The firm uses several strategies to sustain rapid market growth as long as possible. It improves product quality and adds new product features and models. It enters new market segments and new distribution channels. It shifts some advertising from building product awareness to building product conviction and purchase, and it lowers prices at the right time to attract more buyers.

In the growth stage, the firm faces a trade-off between high market share and high current profit. By spending a lot of money on product improvement, promotion, and distribution, the company can capture a dominant position. In doing so, however, it gives up maximum current profit, which it hopes to make up in the next stage.

Maturity Stage

Maturity stage
The product life-cycle stage in which sales growth slows or levels off.

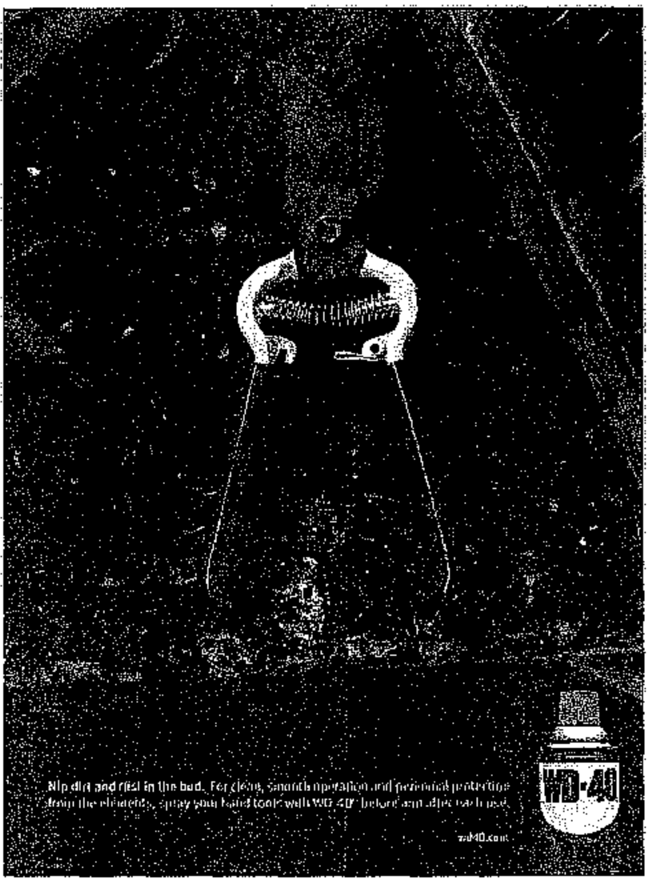
At some point, a product's sales growth will slow down, and the product will enter a **maturity stage**. This maturity stage normally lasts longer than the previous stages, and it poses strong challenges to marketing management. Most products are in the maturity stage of the life cycle, and therefore most of marketing management deals with the mature product.

The slowdown in sales growth results in many producers with many products to sell. In turn, this overcapacity leads to greater competition. Competitors begin marking down prices, increasing their advertising and sales promotions, and upping their R&D budgets to find better versions of the product. These steps lead to a drop in profit. Some of the weaker competitors start dropping out, and the industry eventually contains only well-established competitors.

Although many products in the mature stage appear to remain unchanged for long periods, most successful ones are actually evolving to meet changing consumer needs. Product managers should do more than simply ride along with or defend their mature products—a good offense is the best defense. They should consider modifying the market, product, and marketing mix.

In *modifying the market*, the company tries to increase the consumption of the current product. It may look for new users and new market segments, as when John Deere targeted the retiring baby-boomer market with the Gator, a vehicle traditionally used on a farm. For this new market, Deere has repositioned the Gator, promising that it can "take you from a do-it-yourselfer to a do-it-a-lot-easier."

The manager may also look for ways to increase usage among present customers. Amazon.com does this by sending permission-based e-mails to regular customers letting them know when their favorite authors or performers publish new books or CDs. The WD-40 Company has shown a real knack for expanding the market by finding new uses for its popular substance.



The WD-40 Company's knack for finding new uses has made this popular substance one of the truly essential survival items in most American homes.

In 2000, the company launched a search to uncover 2,000 unique uses for WD-40. After receiving 300,000 individual submissions, it narrowed the list to the best 2,000 and posted it on the company's Web site. Some consumers suggest simple and practical uses. One teacher uses WD-40 to clean old chalkboards in her classroom. "Amazingly, the boards started coming to life again," she reports. "Not only were they restored, but years of masking and Scotch tape residue came off as well." Others, however, report some pretty unusual applications. One man uses WD-40 to polish his glass eye; another uses it to remove a prosthetic leg. And did you hear about the nude burglary suspect who had wedged himself in a vent at a cafe in Denver? The fire department extracted him with a large dose of WD-40. Or how about the Mississippi naval officer who used WD-40 to repel an angry bear? Then there's the college student who wrote to say that a friend's nightly amorous activities in the next room were causing everyone in his dorm to lose sleep—he solved the problem by treating the squeaky bedsprings with WD-40.[34]

The company might also try *modifying the product*—changing characteristics such as quality, features, style, or packaging to attract new users and to inspire more usage. It might improve the product's quality and performance—its durability, reliability, speed, taste. It can improve the product's styling and attractiveness. Thus, car manufacturers restyle their cars to attract buyers who want a new look. The makers of consumer food and household products introduce new flavors, colors, ingredients, or packages to revitalize consumer buying.

Or the company might add new features that expand the product's usefulness, safety, or convenience. For example, WD-40 has recently introduced a new Smart Straw can featuring a permanently attached straw that never gets lost. And it brought out a No-Mess Pen, with a handy pen-shaped applicator that lets users "put WD-40 where you want it and nowhere else."

Finally, the company can try *modifying the marketing mix*—improving sales by changing one or more marketing mix elements. It can cut prices to attract new users and competitors' customers. It can launch a better advertising campaign or use aggressive sales promotions—trade deals, cents-off, premiums, and contests. In addition to pricing and promotion, the company can also move into larger market channels, using mass merchandisers, if these channels are growing. Finally, the company can offer new or improved services to buyers.

Decline Stage

The sales of most product forms and brands eventually dip. The decline may be slow, as in the case of oatmeal cereal, or rapid, as in the cases of cassette and VHS tapes. Sales may plunge to zero, or they may drop to a low level where they continue for many years. This is the **decline stage**.

Decline stage
The product life-cycle stage in which a product's sales decline.

Sales decline for many reasons, including technological advances, shifts in consumer tastes, and increased competition. As sales and profits decline, some firms withdraw from the market. Those remaining may prune their product offerings. They may drop smaller market segments and marginal trade channels, or they may cut the promotion budget and reduce their prices further.

Real Marketing

Not so long ago, Procter & Gamble was a slumbering giant. Mired in mature markets with megabrands such as Tide, Crest, Pampers, and Pantene, growth had slowed and earnings languished. But no longer. Now, thanks to a potent mixture of renewed creativity and marketing muscle, P&G is once again on the move. In the past five years, P&G's stock price and profits have doubled.

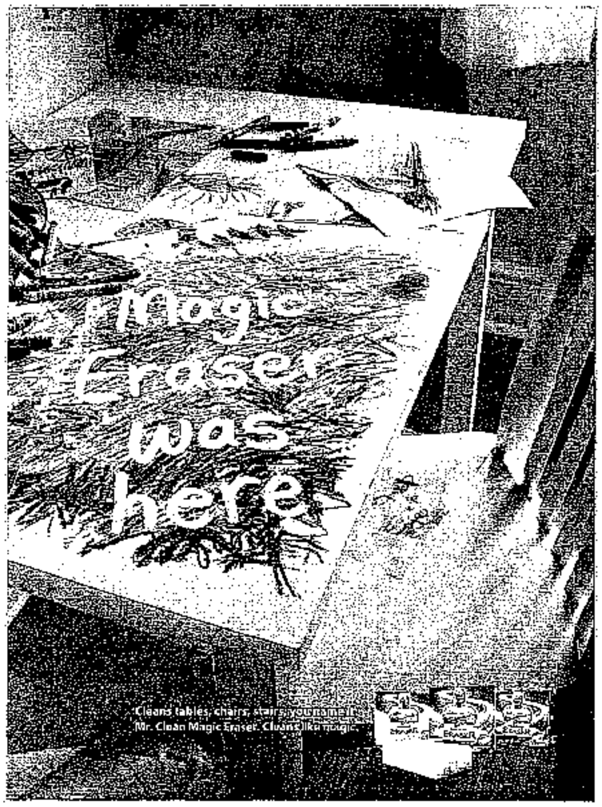
The key to this success has been a renewed knack for innovation and a string of successful new products. As you've no doubt noted, P&G innovations have popped up repeatedly as examples in this chapter. "From its Swiffer mop to battery-powered Crest SpinBrush toothbrushes and Whitestrip tooth whiteners," says one observer, "P&G has simply done a better job than rivals of coming up with new products that consumers crave."

But it's not just *new* products—P&G has been working at both ends of the product life cycle. Along with creating innovative new products, P&G has become adept at turning yesterday's faded favorites into today's hot new products. Here are two examples.

Mr. Clean

Mr. Clean's share of the all-purpose household cleaner market had plunged more than 45 percent in just ten years. But rather than abandon the 48-year-old iconic brand, P&G chose to modify and extend it. First, it reformulated the core Mr. Clean all-purpose liquid cleaner, adding antibacterial properties and several new scents. Then came some real creativity. P&G extended the brand to include several revolutionary new products.

The first was Mr. Clean Magic Eraser, a soft, disposable self-cleaning pad that acts like an eraser to lift away tough dirt, including difficult scuff and crayon marks. The Magic Eraser was soon followed by products such as the Mr. Clean AutoDry Carwash system, which gives your car a spot-free clean and shine with no need to hand dry, and the Mr. Clean MagicReach bathroom cleaner,



Working at both ends of the product life cycle: Along with creating innovative new products, P&G has become adept at turning yesterday's faded favorites into today's hot new products. For example, its Mr. Clean brand has now muscled its way back into a market-leading position.

Carrying a weak product can be very costly to a firm, and not just in profit terms. There are many hidden costs. A weak product may take up too much of management's time. It often requires frequent price and inventory adjustments. It requires advertising and sales-force attention that might be better used to make "healthy" products more profitable. A product's failing reputation can cause customer concerns about the company and its other products. The biggest cost may well lie in the future. Keeping weak products delays the search for replacements, creates a lopsided product mix, hurts current profits, and weakens the company's foothold on the future.

For these reasons, companies need to pay more attention to their aging products. The firm's first task is to identify those products in the decline stage by regularly reviewing sales, market shares, costs, and profit trends. Then, management must decide whether to maintain, harvest, or drop each of these declining products.

Management may decide to *maintain* its brand without change in the hope that competitors will leave the industry. For example, Procter & Gamble made good profits by remaining in which helps ease the tough job of cleaning those hard-to-reach bathroom spots.

As for the marketing muscle, P&G backed the new-product launches with millions of dollars in marketing support. It spent $75 million on marketing the first version of the AutoDry Carwash alone. Now, after a decade of playing the 98-pound weakling, Mr. Clean has muscled its way back to a market-leading position as a P&G billion-dollar brand.

Old Spice

When P&G acquired Old Spice in 1990, the brand was largely a has-been. It consisted mainly of a highly fragrant aftershave, marketed to a rapidly graying customer base through ads featuring a whistling sailor with a girl in every port. Old Spice deodorant ranked a dismal tenth in market share. But in a surprisingly short time, P&G has transformed a small stagnating brand into a men's personal care powerhouse. Old Spice is now one of the top-selling brands in the deodorant, antiperspirant, and body spray category, with 10 percent share of the almost $2.4 billion market.

To get there, P&G pulled off one of the hardest tricks in marketing: reviving a familiar brand. To shed the image of "your father's aftershave," and to appeal to younger buyers, P&G refocused on performance, launching Old Spice High Endurance deodorant in 1994. It ditched the sailor ads and targeted guys 18 to 34. The deodorant business grew steadily, but P&G still wasn't drawing in men 25 to 45, who still remembered Old Spice as a relic from Dad's era.

So P&G skipped a generation and aimed Old Spice at first-time deodorant users. It started handing out samples of High Endurance to fifth-grade health classes, covering 90 percent of the nation's schools. In 2000, P&G launched Old Spice Red Zone, a sub-brand that offered even more protection than High Endurance. Sales took off, and by 2001, Old Spice was edging out Right Guard as the top teen brand.

To reach teen boys, who spend less time watching TV, P&G's marketing for Old Spice has gone well beyond the 30-second TV commercial to include lots of grassroots marketing. P&G hands out Old Spice samples at skateboarding events and gets the product into locker rooms by sponsoring a contest for high-school football player of the year. Old Spice has even partnered with P&G brand Always to assemble sex-education packages for fifth-grade classrooms, entitled "Always Changing: About You—Puberty and Stuff." For boys, the package comes complete with reading material, a video, and Old Spice product samples.

P&G now has that Old Spice sailor whistling a whole new tune. The once old and stodgy is young again, and hot. Beyond deodorant, P&G sees Old Spice as a beachhead into other products. It has already launched Old Spice body sprays and body washes and has licensed sales of razors and shaving cream. What was old just over five years ago is new again—and a lot younger.

Sources: Examples adapted from portions of Robert Berner, "Extreme Makeover," *Business Week*, November 1, 2004, pp. 105-106; and Jack Neff, "Mr. Clean Gets $50 Million Push," *Advertising Age*, August 18, 2003, pp. 3, 32; with quotes and other information from Todd Wasserman, "Mr. Clean AutoDry Gets an Overhaul," *Brandweek*, February 28, 2005, p. 17; Marek Fuchs, "Sex Ed. Provided by Old Spice," *New York Times*, May 29, 2005, p. 14WC.1; Jack Neff, "Who's No. 1? Depends on Who's Analyzing the Data," *Advertising Age*, June 12, 2006, p. 8; Constantine von Hoffman, "A Washout or a Clean Sweep," *Brandweek*, June 19, 2006, pp. S52–S54; P&G 2005 Annual Report, accessed at www.PG.com, July 2006; and information accessed at www.homemadesimple.com/mrclean/, December 2006.

the declining liquid soap business as others withdrew. Or management may decide to reposition or reinvigorate the brand in hopes of moving it back into the growth stage of the product life cycle. Procter & Gamble has done this with several brands, including Mr. Clean and Old Spice (see Real Marketing 9.2).

Management may decide to *harvest* the product, which means reducing various costs (plant and equipment, maintenance, R&D, advertising, sales force) and hoping that sales hold up. If successful, harvesting will increase the company's profits in the short run. Or management may decide to *drop* the product from the line. It can sell it to another firm or simply liquidate it at salvage value. In recent years, Procter & Gamble has sold off a number of lesser or declining brands such as Crisco and Jif peanut butter. If the company plans to find a buyer, it will not want to run down the product through harvesting.

Table 9.2 summarizes the key characteristics of each stage of the product life cycle. The table also lists the marketing objectives and strategies for each stage.[35]

TABLE 9.2
Summary of Product Life-Cycle Characteristics, Objectives, and Strategies

Characteristics	*Introduction*	*Growth*	*Maturity*	*Decline*
Sales	Low sales	Rapidly rising sales	Peak sales	Declining sales
Costs	High cost per customer	Average cost per customer	Low cost per customer	Low cost per customer
Profits	Negative	Rising profits	High profits	Declining profits
Customers	Innovators	Early adopters	Middle majority	Laggards
Competitors	Few	Growing number	Stable number beginning to decline	Declining number
Marketing Objectives				
	Create product awareness and trial	Maximize market share	Maximize profit while defending market share	Reduce expenditure and milk the brand
Strategies				
Product	Offer a basic product	Offer product extensions, service, warranty	Diversify brand and models	Phase out weak items
Price	Use cost-plus	Price to penetrate market	Price to match or beat competitors	Cut price
Distribution	Build selective distribution	Build intensive distribution	Build more intensive distribution	Go selective: phase out unprofitable outlets
Advertising	Build product awareness among early adopters and dealers	Build awareness and interest in the mass market	Stress brand differences and benefits	Reduce to level needed to retain hard-core loyals
Sales Promotion	Use heavy sales promotion to entice trial	Reduce to take advantage of heavy consumer demand	Increase to encourage brand switching	Reduce to minimal level

Source: Philip Kotler, *Marketing Management*, 12th ed. (Upper Saddle River, NJ: Prentice Hall, 2006), p. 332.

Additional Product and Service Considerations

Here, we'll wrap up our discussion of products and services with two additional considerations: social responsibility in product decisions and issues of international product and service marketing.

Product Decisions and Social Responsibility

Product decisions have attracted much public attention. Marketers should carefully consider public policy issues and regulations involving acquiring or dropping products, patent protection, product quality and safety, and product warranties.

Regarding new products, the government may prevent companies from adding products through acquisitions if the effect threatens to lessen competition. Companies dropping products must be aware that they have legal obligations, written or implied, to their suppliers, dealers, and customers who have a stake in the dropped product. Companies must also obey U.S. patent laws when developing new products. A company cannot make its product illegally similar to another company's established product.

Manufacturers must comply with specific laws regarding product quality and safety. The Federal Food, Drug, and Cosmetic Act protects consumers from unsafe and adulterated food, drugs, and cosmetics. Various acts provide for the inspection of sanitary conditions in the meat- and poultry-processing industries. Safety legislation has been passed to regulate fabrics, chemical substances, automobiles, toys, and drugs and poisons. The Consumer Product Safety Act of 1972 established a Consumer Product Safety Commission, which has the authority to ban or seize potentially harmful products and set severe penalties for violation of the law.

If consumers have been injured by a product that has been designed defectively, they can sue manufacturers or dealers. Product liability suits are now occurring in federal courts at the rate of almost 24,000 per year. Although manufacturers are found at fault in only 6 percent of all product liability cases, when they are found guilty, the median jury award is $1.5 million, and individual awards can run into the tens or even hundreds of millions of dollars. For example, a jury recently ordered Ford to pay nearly $369 million to a woman paralyzed in a rollover accident involving a Ford Explorer.[36]

This phenomenon has resulted in huge increases in product liability insurance premiums, causing big problems in some industries. Some companies pass these higher rates along to consumers by raising prices. Others are forced to discontinue high-risk product lines. Some companies are now appointing "product stewards," whose job is to protect consumers from harm and the company from liability by proactively ferreting out potential product problems.

Many manufacturers offer written product warranties to convince customers of their products' quality. To protect consumers, Congress passed the Magnuson-Moss Warranty Act in 1975. The act requires that full warranties meet certain minimum standards, including repair "within a reasonable time and without charge" or a replacement or full refund if the product does not work "after a reasonable number of attempts" at repair. Otherwise, the company must make it clear that it is offering only a limited warranty. The law has led several manufacturers to switch from full to limited warranties and others to drop warranties altogether.

International Product and Services Marketing

International product and service marketers face special challenges. First, they must figure out what products and services to introduce and in which countries. Then, they must decide how much to standardize or adapt their products and services for world markets.

On the one hand, companies would like to standardize their offerings. Standardization helps a company to develop a consistent worldwide image. It also lowers the product design, manufacturing, and marketing costs of offering a large variety of products. On the other hand, markets and consumers around the world differ widely. Companies must usually respond to these differences by adapting their product offerings. For example, Cadbury sells kiwi-filled Cadbury Kiwi Royale in New Zealand. Frito-Lay sells Nori Seaweed Lay's potato chips for Thailand and A la Turca corn chips with poppy seeds and a dried tomato flavor for Turkey.[37]

Packaging also presents new challenges for international marketers. Packaging issues can be subtle. For example, names, labels, and colors may not translate easily from one country to another. A firm using yellow flowers in its logo might fare well in the United States but meet with disaster in Mexico, where a yellow flower symbolizes death or disrespect. Similarly, although Nature's Gift might be an appealing name for gourmet mushrooms in America, it would be deadly in Germany, where *gift* means poison. Packaging may also need to be tailored to meet the physical characteristics of consumers in various parts of the world. For instance, soft drinks are sold in smaller cans in Japan to fit the smaller Japanese hand better. Thus, although product and package standardization can produce benefits, companies must usually adapt their offerings to the unique needs of specific international markets.

Service marketers also face special challenges when going global. Some service industries have a long history of international operations. For example, the commercial banking industry was one of the first to grow internationally. Banks had to provide global services in order to meet the foreign exchange and credit needs of their home country clients wanting to sell overseas. In recent years, many banks have become truly global. Germany's Deutsche Bank, for example, serves more than 13 million customers in 73 countries. For its clients around the world who wish to grow globally, Deutsche Bank can raise money not only in Frankfurt but also in Zurich, London, Paris, and Tokyo.[38]

Professional and business services industries such as accounting, management consulting, and advertising have also globalized. The international growth of these firms followed the globalization of the client companies they serve. For example, as more clients employ worldwide marketing and advertising strategies, advertising agencies have responded by globalizing their own operations. McCann Worldgroup, a large U.S.-based advertising and marketing services agency, operates in more than 130 countries. It serves international clients such as Coca-Cola, General Motors, ExxonMobile, Microsoft, MasterCard, Johnson & Johnson, and Unilever in markets ranging from the United States and Canada to Korea and Kazakhstan. Moreover, McCann Worldgroup is one company in the Interpublic Group of Companies, an immense, worldwide network of advertising and marketing services companies.[39]

Retailers are among the latest service businesses to go global. As their home markets become saturated, American retailers such as Wal-Mart, Office Depot, and Saks Fifth Avenue are expanding into faster-growing markets abroad. For example, since 1995, Wal-Mart has entered 14 countries; its international division's sales grew more than 11 percent last year, skyrocketing to more than $62.7 billion. Foreign retailers are making similar moves. Asian shoppers can now buy American products in French-owned Carrefour stores. Carrefour, the world's second-largest retailer behind Wal-Mart, now operates in more than 11,000 stores in more than 30 countries. It is the leading retailer in Europe, Brazil, and Argentina and the largest foreign retailer in China.[40]

The trend toward growth of global service companies will continue, especially in banking, airlines, telecommunications, and professional services. Today service firms are no longer simply following their manufacturing customers. Instead, they are taking the lead in international expansion.

Reviewing the Concepts

A company's current products face limited life spans and must be replaced by newer products. But new products can fail—the risks of innovation are as great as the rewards. The key to successful innovation lies in a total-company effort, strong planning, and a systematic *new-product development* process.

1. Explain how companies find and develop new-product ideas.

Companies find and develop new-product ideas from a variety of sources. Many new-product ideas stem from *internal sources*. Companies conduct formal research and development, pick the brains of their employees, and brainstorm at executive meetings. Other ideas come from *external sources*. By conducting surveys and focus groups and analyzing *customer* questions and complaints, companies can generate new-product ideas that will meet specific consumer needs. Companies track *competitors'* offerings and inspect new products, dismantling them, analyzing their performance, and deciding whether to introduce a similar or improved product. *Distributors and suppliers* are close to the market and can pass along information about consumer problems and new-product possibilities.

2. List and define the steps in the new-product development process and the major considerations in managing this process.

The new-product development process consists of eight sequential stages. The process starts with *idea generation*. Next comes *idea screening*, which reduces the number of ideas based on the company's own criteria. Ideas that pass the screening stage continue through *product concept development*, in which a detailed version of the new-product idea is stated in meaningful consumer terms. In the next stage, *concept testing*, new-product concepts are tested with a group of target consumers to determine whether the concepts have strong consumer appeal. Strong concepts proceed to *marketing strategy development*, in which an initial marketing strategy for the new product is developed from the product concept. In the *business-analysis* stage, a review of the sales, costs, and profit projections for a new product is conducted to determine whether the new product is likely to satisfy the company's objectives. With positive results here, the ideas become more concrete through *product development* and *test marketing* and finally are launched during *commercialization*.

New-product development involves more than just going through a set of steps. Companies must take a systematic, holistic approach to managing this process. Successful new-product development requires a customer-centered, team-based, systematic effort.

3. Describe the stages of the product life cycle.

Each product has a *life cycle* marked by a changing set of problems and opportunities. The sales of the typical product follow an S-shaped curve made up of five stages. The cycle begins with the *product development stage* when the company finds and develops a new-product idea. The *introduction stage* is marked by slow growth and low profits as the product is distributed to the market. If successful, the product enters a *growth stage*, which offers rapid sales growth and increasing profits. Next comes a *maturity stage* when sales growth slows and profits stabilize. Finally, the product enters a *decline stage* in which sales and profits dwindle. The company's task during this stage is to recognize the decline and to decide whether it should maintain, harvest, or drop the product.

4. Describe how marketing strategies change during the product's life cycle.

In the *introduction stage*, the company must choose a launch strategy consistent with its intended product positioning. Much money is needed to attract distributors and build their inventories and to inform consumers of the new product and achieve trial. In the *growth stage*, companies continue to educate potential consumers and distributors. In addition, the company works to stay ahead of the competition and sustain rapid market growth by improving product quality, adding new product features and models, entering new market segments and distribution channels, shifting advertising from building product awareness to building product conviction and purchase, and lowering prices at the right time to attract new buyers.

In the *maturity stage,* companies continue to invest in maturing products and consider modifying the market, the product, and the marketing mix. When *modifying the market,* the company attempts to increase the consumption of the current product. When *modifying the product,* the company changes some of the product's characteristics—such as quality, features, or style—to attract new users or inspire more usage. When *modifying the marketing mix,* the company works to improve sales by changing one or more of the marketing-mix elements. Once the company recognizes that a product has entered the *decline stage,* management must decide whether to *maintain* the brand without change, hoping that competitors will drop out of the market; *harvest* the product, reducing costs and trying to maintain sales; or *drop* the product, selling it to another firm or liquidating it at salvage value.

5. Discuss two additional product issues: socially responsible product decisions and international product and services marketing.

Marketers must consider two additional product issues. The first is *social responsibility.* This includes public policy issues and regulations involving acquiring or dropping products, patent protection, product quality and safety, and product warranties. The second involves the special challenges facing international product and service marketers. International marketers must decide how much to standardize or adapt their offerings for world markets.

Reviewing the Key Terms

Business analysis 259	Fad 269	Marketing strategy development 258	Product life cycle (PLC) 267
Commercialization 262	Fashion 268	Maturity stage 270	Style 268
Concept testing 257	Growth stage 270	New-product development 253	Team-based new-product development 264
Customer-centered new-product development 263	Idea generation 254	Product concept 257	Test marketing 260
Decline stage 271	Idea screening 256	Product development 259	
	Introduction stage 269		

Discussing the Concepts

1. Why is concept testing important?
2. Under what conditions would you consider **not** test marketing a product? Describe a product or service that meets these no-need-to-test criteria.
3. Compare the sequential product development to the team-based approach. Is one approach better than the other? Explain.
4. Identify and discuss some potential problems with the product life cycle.
5. The chapter states that "In the growth stage of the product life cycle, the firm faces a trade-off between high market share and high current profit." Explain this statement.
6. What are some of the major reasons a product reaches the decline stage of the product life cycle?

Applying the Concepts

1. Form a small group. Generate ideas for a new consumer product that fills an existing need but does not currently exist. Select the one idea that you think is best. What process did your group use for idea generation and screening?
2. Write a marketing strategy statement for a new full-functioning but folding bicycle.
3. You are a product manager in a firm that manufactures and markets a line of branded action figure toys. The branded toy line is five years old. Annual sales and profits for this period are presented in the chart. Prepare a one-sentence strategy for each of the 4 Ps based on the brand's current product life-cycle position.

Focus on Technology

In the United States, there are over 250,000 deaths per year from sudden cardiac arrest. That's 100,000 more deaths than the number caused by traffic accidents, house fires, handguns, breast cancer, and AIDS combined. Defibrillators are medical devices that are commonly used by firefighters and paramedics to treat victims of sudden cardiac arrest with an electrical charge that restarts their hearts. With more than 80 percent of sudden cardiac arrests occurring at home, and only 5 percent of victims receiving the lifesaving electrical charge, Philips is now marketing a portable consumer defibrillator called the HeartStart. The product, which is about the size of a handheld video game, can be operated by any individual and does not need a trained medical provider. Voice activation guides a consumer through each step, and smart technology gives specific instructions based on feedback to the main system. The FDA-approved product, priced at $1,495, is available online from amazon.com and drugstore.com. Visit http://www.heartstart.com for recent information on this new product.

1. Explain how this product might have moved through the stages of new-product development.
2. How might the marketing strategy for HeartStart change as it moves through the product life cycle?

Focus on Ethics

A select group of European retailers is moving forward to manufacture and market socially responsible clothing. This fashion trend grew 30 percent in 2005. Marks & Spencer (M&S), one of the largest retailers in the UK with over 400 stores, is one of the retailers embracing socially responsible fashion. Beginning in March 2006, M&S began selling fair-trade-certified T-shirts. By July 2006, the line expanded to jeans, underwear, shorts, vests, and socks. The philosophy behind fair trade is to support the more than 100 million households worldwide who are involved in cotton production. The farmers, especially in poor countries, are vulnerable to lower cotton prices. In fact, a common reaction is for the farmers to use more pesticides to increase their yields, thus fueling an environmental issue in addition to a social issue. According to Mike Barry, head of corporate responsibility at M&S, "Eighty percent of our consumers wanted to know more about how clothing products were made." M&S brought its new products to consumers' attention with a look-behind-the-label campaign. (www2.marksandspencer.com/thecompany/trustyour_mands/index.shtml) According to the company, the new products are a reaction to consumers' questions about how cotton is produced and their realization of the social and environmental issues that are involved. According to a 2006 Yougov Brand Index poll, M&S's corporate reputation is on the upswing since the new campaign began.

1. How did M&S conduct test marketing with the fair-trade-certified clothing?
2. In what stage of the product life cycle are these trade-certified clothing products?
3. Do you think the product life-cycle curve will follow the shape of a style, fashion, or fad?

See: Ellen Groves, "Fair Trade Fashion Takes Off in Europe," *Women's Wear Daily*, May 3, 2006, p. 6.

Video Case eGO Bikes

When it hit the market in 2002, the eGO was the first vehicle of its kind: an environmentally friendly, compact electric cycle. At the time, the product was so unique that the company had to develop new channels to distribute and sell it. Along with its cool, retro styling and innovative electrical design, the eGO Cycle costs less than half a cent per mile to drive. One model is even equipped with front and rear turn signals and a backlit speedometer for those who commute in heavy traffic.

Aside from being featured on national news broadcasts and in trade magazines, the eGO Cycle made Oprah Winfrey's list of favorite things and the Today Show's list for best Father's Day gifts. In addition, the company's Web site boasts testimonial after testimonial supporting the electric bike. Customers delight in using the bike for everything from commuting and running errands to enhancing business services. Says one thrilled owner, "this is the first bike I ever had that's built like a BMW!"

After viewing the video featuring eGO vehicles, answer the following questions about new-product development.

1. Describe eGO's design process. How is it similar to the process detailed in the chapter?
2. How did eGO manage its limited channel options to distribute the new product?
3. Visit eGO's Web site to learn more about products the company offers. What stage of the product life cycle is the eGO vehicle experiencing?

Company Case Sony: Betting It All on Blu-Ray

The year was 1976. Sony was entering into a format war with other consumer electronics manufacturers. The victor would capture the prize of owning the consumer home video market. Wait a minute... is this 1976, or is it 2006? Actually, it could be either.

In 1976, Sony introduced the first VCR for home use. Called the Betamax, it was as big as a microwave oven and cost a whopping $1,295 (more than $6,000 in today's money). A year later, RCA was the first of many manufacturers to introduce a VCR using a different technology: VHS. In terms of image quality, Beta was considered superior to VHS. Sony also had the advantage of being first to market. But VHS machines were cheaper and allowed longer recording times (initially, four hours versus Beta's two hours). In addition, there were far more movies available for purchase or rent in VHS than in Beta. Ultimately, consumers decided that those features were more important. VHS quickly surpassed Beta in market share, eventually wiping out Beta entirely. In 1988, after an eight-year battle, Sony surrendered by making the switch from Beta to VHS.

TWO MODERN TECHNOLOGIES: BLU-RAY VERSUS HD DVD

Today, once again, Sony finds itself gearing up for a format war in the consumer home video market. This time, Sony will go to battle with Blu-ray technology, pitted against the competing HD DVD format. As in 1976, the two technologies will compete for dominance of the home video market, now worth more than $24 billion. Since the first DVD players appeared in 1997, many companies have been working on a format capable of delivering high-definition video to the home market. Of the many technologies under development, Blu-ray and HD DVD have emerged as the frontrunners.

Blu-ray was developed by the Blu-ray Disc Association, a coalition of companies that includes Sony, Hitachi, Pioneer, Philips, Panasonic, Samsung, LG, Sharp, Apple, HP, and a host of other companies. HD DVD was developed by a similar coalition and is being backed commercially by Toshiba, Sanyo, Kenwood, Intel, and NEC, among others. Although each of the technologies was developed by a coalition of companies, Sony and Toshiba appear to be the dominant players in their respective camps. And whereas Sony stood pretty much alone in pitting Beta against VHS, its Blu-ray forum has more corporate firepower in this battle.

In a situation where the differences between the two technologies seem critical, the formats are surprisingly similar. Both use physical discs that are identical in diameter and thickness to current DVD discs. This allows the developers of the new-generation players to make them backward compatible (able to play previous-generation DVDs). Additionally, each technology employs a blue laser of the same wave length, as well as similar video encoding and basic copyright protection features.

WILL THE DIFFERENCES MATTER?

Despite the similarities, the Blu-ray and HD DVD formats have notable differences. Interestingly, some of the key differences likely to affect the success of the two new DVD formats are the same features that differentiated Beta and VHS 30 years ago. Specifically, both sides are vying for image quality, disc capacity, price, and availability of content advantages. At least initially, Blu-ray captures the quality advantage in this race. However, both Blu-ray and HD DVD produce high-definition video far superior to current DVD images, and the quality difference between the two may be indistinguishable by the average human eye.

Although Blu-ray and HD DVD discs look identical, there are fundamental differences in the way the discs are put together. Each technology utilizes multiple layers of data encoding, but Blu-ray uses more layers and can store more data on each layer. Thus, Blu-ray discs can store far more information—up to 200 GB versus HD DVD's 90 GB. For home video, this means that a single Blu-ray disc can hold longer movies. "Capacity is always going to be your number-one concern," says Andy Parsons, spokesman for the Blu-ray Disc Association and senior vice president of advanced product development for Pioneer.

However, whereas capacity was critical in Beta versus VHS, many observers believe that it will be less of an issue today. Both Blu-ray and HD DVD discs will have more than enough capacity to hold a feature-length high-definition film. But Parsons is quick to point out that the consumers really like the bonus features on DVDs, so much so that many titles now come in two–disc sets—one disc for the movie and the other for bonus features. "We . . . have learned . . . not to try to squeeze the most we can out of mid-'90s technology, which is what the HD DVD guys have done." Even so, given the compact size of modern discs, capacity may be less of an issue than it was when video tapes were the size of paperback books. Additionally, it has yet to be determined how many layers could be added to either technology, ultimately affecting data capacity.

Whether or not capacity emerges as an important feature, price is a critical issue. Toshiba introduced the first HD DVD players in April of 2006 at price points of $499 and $799. Pioneer introduced the first Blu-ray machine in June of 2006 with a much higher price tag of $1,800. This price difference parallels that of Beta versus VHS in the 1970s. However, Andy Parsons shares some insights on the implications of Toshiba's introductory strategy:

> As part of a marketing strategy, certain companies such as Toshiba say, "Even though it costs us this much money to make this product, we're going to price it lower, even if it's below our factory cost, because taking that kind of loss up front might help to get the market populated with our product and help accelerate adoption." That kind of thinking is generally not very successful, because it ignores one very important element: You have to build awareness for the new technology before you can assume that price is an important or overriding factor.
>
> This is why we have a natural curve with an early-adopter group of people who are very focused on technology and performance. Right now in this space, the big buzzword is 1080P progressive scan, 24 frames per second, full-resolution HD TV—this is the Holy Grail, because it's the closest you can get to a theater experience in terms of frame rates, and [it's] a hot button for people who are following this story at the consumer level.
>
> Consumers interested in buying technology that gives them the best display or audio quality won't balk at the price. This is why our player is $1,800. We focused on getting 1080P, because that is something we knew would resonate with the initial target market, whereas the $499 strategy is probably going off in the wrong direction, because the folks who are really paying attention to this right now want the highest resolution.

Taking another cue from Beta versus VHS, the Blu-ray and HD DVD camps have fought to get the support of major movie studios. The idea is that the format offering more movies will have the advantage. As both technologies come to market, Blu-ray has signed seven studios; HD DVD has signed only three. And yet, although most studios are backing only one technology at this point, Warner Bros. indicates that it will ultimately release movies in both formats. Other studios may well pursue this same strategy.

In the Beta versus VHS competition, image quality, capacity, price, and content availability were the deciding factors. In the current format war, only time will tell if these points of differentiation will have the same impact. But the

(case continues)

HD DVD forum claims that new issues this time around will give its technology the advantage. For starters, manufacturing costs for Blu-ray will be significantly higher. (The Blu-ray camp counters that the cost difference is minimal and will likely disappear as volumes increase.) HD DVD software will also allow consumers to make copies of their discs to computer hard drives and portable devices. And with its iHD technology, HD DVD discs promise greater interactivity by allowing for enhanced content and navigation, as well as fancy features such as picture-in-picture capability.

However, additional new issues could tilt the scales in favor of Blu-ray. Although Toshiba and HD DVD enjoy a brief first-to-market advantage, Blu-ray will likely experience a huge bump in market share when Sony introduces its long-awaited PlayStation 3 gaming platform in late 2006. The PlayStation 3 not only uses Blu-ray technology for its game discs, it will be able to play all Blu-ray movies as well. This could put millions of Blu-ray players into homes very quickly via the video consoles.

WILL THE POINT BE MOOT?

Drawing comparisons to the Beta/VHS format war assumes that one of the two current competing formats will ultimately win and the other will die out. However, two other possibilities exist. First, both formats could succeed and do well. Most of the issues mentioned previously may become nonissues as the Blu-ray and HD DVD technologies evolve. Either of the two technologies could adopt features of the other. Additionally, at some point, hardware manufacturers may well release dual-format players, capable of playing both Blu-ray and HD DVD discs. Such a development could reduce the relevance of format labels.

Stephen Nickerson, senior vice president at Warner Home Video, believes that both formats could easily succeed. Although most analysts compare the DVD format war to the VCR format war, he suggests another analogy. "The [video] games industry since the early '90s has had two or three incompatible formats and it hasn't slowed the adoption of game platforms."

However, there is another potential outcome. Both formats might fail. Ted Schadler, analyst with Forrester Research, believes that most people are missing an important point. "The irony of this format war is that it comes at the tail end of the century-long era of physical media. While a high-definition video format does bring benefits over today's standard-definition discs, in movies as in music, consumers are moving beyond shiny discs." Schadler's statement refers to the fact that the consumption of all kinds of entertainment products, even television programming, has evolved dramatically since the mid-1990s. Consumers have far more options than they used to, and the dust has yet to settle on which options will dominate for any given type of product.

For home video, more customers are choosing on-demand, nonphysical media, including online video and video-on-demand television. One in six cable subscribers has demonstrated significant interest in watching video-on-demand. As cable providers increase their video libraries and technologies improve, that number will only grow. Internet video is also spreading rapidly, with 46 percent of online consumers now watching movies via the Web. Additionally, with the success of the video iPod, major Hollywood studios aren't just considering which DVD formats to support. They're assessing how they can make money by selling movies directly to consumers in a file format that can be played on portable devices. According to Ted Schadler, the device more consumers age 12 to 21 now say they can't live without isn't their TV, it's their PC. Even Bill Gates has his doubts about the current DVD format war. "Understand that this is the last physical format there will ever be. Everything's going to be streamed directly or on a hard disk."

Although these predictions may very well be true, there is likely still plenty of steam left in the DVD market. Physical discs still hold many advantages over the nonphysical media. Even with the significant threat of VHS, Beta survived for eight years. And no format will last forever. Only nine years passed between the introductions of the first home DVD and HD DVD players. So although there's clearly a home video war looming, the big questions concern who will be fighting and on what fronts.

Questions for Discussion

1. Classify the high-definition DVD market using the product life-cycle framework. Based on this analysis, what objectives and strategies should Sony and the other competitiors pursue? Are any of the competitiors deviating from this formula?
2. As sales of the new DVD players increase, what will happen to the characteristics of the home video market and the strategies employed by Sony and other competitors?
3. Analyze the development of Blu-ray and HD DVD according to the stages of the new-product development process.
4. Who are the current combatants in the battle for the home video market? Who will they be in five years?

Sources: Beth Snyder Bulik, "Marketing War Looms for Dueling DVD Formats," *Advertising Age*, April 10, 2006, p. 20; Gary Gentile, "Beta/VHS-Like Battle Shaping Up for New High-Def DVDs," *Associated Press Worldstream*, January 6, 2006; Ann Steffora Mutschler, "The Convergence War," *Electronic Business*, May 1, 2006, p. 44; Sue Zeidler, "Hold On Tight: Going to the Store to Rent a DVD May Soon Be a Thing of the Past," *Calgary Sun*, p. 40; information on Beta and VHS accessed online at www.totalrewind.org.