Learning Outcomes

- **LO 1** Explain the importance of developing new products and describe the six categories of new products
- **LO 2** Explain the steps in the new-product development process
- **LO 3** Discuss global issues in new-product development
- **LO 4** Explain the diffusion process through which new products are adopted
- **LO 5** Explain the concept of product life cycles

The average fast-moving consumer goods company introduces 70 to 80 new products per year.

LO 1 The Importance of New Products

New products are important to sustain growth, increase revenues and profits, and replace obsolete items. Research by *Business Week* and the Boston Consulting Group revealed that the world's 25 most innovative companies have higher average stock returns and higher average revenue growth than companies that were not included in this group.[1] The *Business Week*–Boston Consulting Group's list includes firms such as Apple, Google, Microsoft, IBM, and Toyota.[2] These firms are known for innovative products. Other firms on the list are known for innovative business models, innovative customer experience, and/or innovative processes.[3]

new product a product new to the world, the market, the producer, the seller, or some combination of these

Categories of New Products

The term **new product** is somewhat confusing because its meaning varies widely. Actually, the term has several "correct" definitions. A product can be new to the world, to the market, to the producer or seller, or some combination of these. There are six categories of new products:

- *New-to-the-world products (also called discontinuous innovations):* These products create an entirely new market. New-to-the-world products represent the smallest category of new products.

Note: All the figures in U.S. dollars are converted into rupee using the value $1 = ₹45.

new-product strategy a plan that links the new-product development process with the objectives of the marketing department, the business unit, and the corporation

- *New product lines:* These products, which the firm has not previously offered, allow it to enter an established market. For example, ITC, a tobacco-to-hotels conglomerate, introduced a range of soaps and shampoos called Fiama Di Wills and Vivel for the premium and mid-market segment respectively to enter the personal care market.[4]
- *Additions to existing product lines:* This category includes new products that supplement a firm's established line. Brooke Bond's Red Label tea added to its tea line with the Red Label Natural Care, which enhances the health immunity and reduces the chances of falling ill.
- *Improvements or revisions of existing products:* The "new and improved" product may be significantly or only slightly changed. Surf Excel, a detergent brand from HUL, released a new version of its product, called Surf Excel Matic, that specialized in removing tough stains in the washing machine itself.[5]
- *Repositioned products:* These are existing products targeted at new markets or market segments, or ones repositioned to change the current market's perception of the product, which may be done to boost declining sales. Indian telecom service provider brand Airtel, hoping to reach out to global audience and promoting its 3G offerings, repositioned itself as a brand that delivers anything the consumers desire, anytime and anywhere.[6]
- *Lower-priced products:* This category refers to products that provide performance similar to competing brands at a lower price. HP LaserJet 3100 is a scanner, copier, printer, and fax machine combined. This new product is priced lower than many conventional color copiers and much lower than the combined price of the four items purchased separately.

The New-Product Development Process

The management consulting firm Booz Allen Hamilton has studied the new-product development process for more than 30 years. Analyzing five major studies undertaken during this period, the firm has concluded that the companies most likely to succeed in developing and introducing new products are those that take the following actions:

- Make the long-term commitment needed to support innovation and new-product development.
- Use a company-specific approach, driven by corporate objectives and strategies, with a well-defined new-product strategy at its core.
- Capitalize on experience to achieve and maintain competitive advantage.
- Establish an environment—a management style, organizational structure, and degree of top management support—conducive to achieving company-specific new-product and corporate objectives.

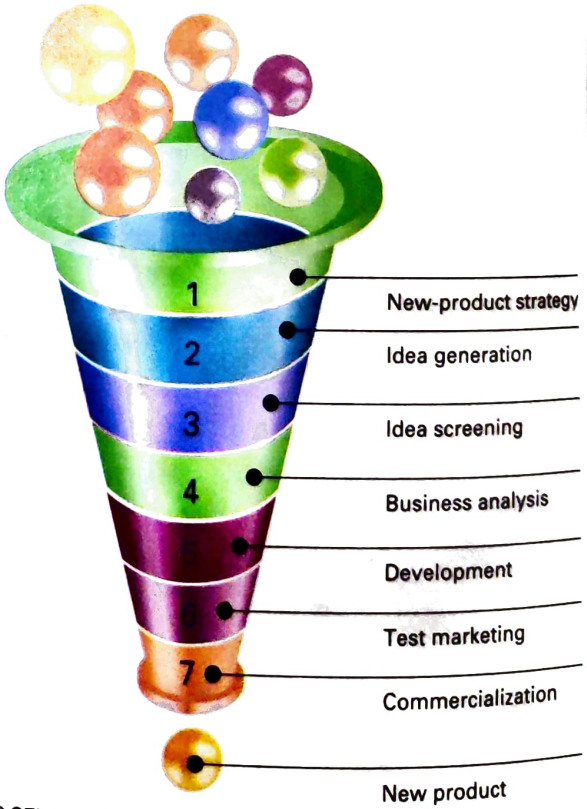
Most companies follow a formal new-product development process, usually starting with a new-product strategy. Exhibit 11.1 traces the seven-step process, which is discussed in detail in this section. The exhibit is funnel shaped to highlight the fact that each stage acts as a screen. The purpose is to filter out unworkable ideas.

New-Product Strategy

A **new-product strategy** links the new-product development process with the objectives of the marketing department, the business unit, and the corporation. A new-product strategy must be compatible with these

EXHIBIT 11.1

New-Product Development Process



objectives, and in turn, all three of the objectives must be consistent with one another.

A new-product strategy is part of the organization's overall marketing strategy. It sharpens the focus and provides general guidelines for generating, screening, and evaluating new-product ideas. The new-product strategy specifies the roles that new products must play in the organization's overall plan and describes the characteristics of products the organization wants to offer and the markets it wants to serve.

In the traditional development process of new products, many versions of a core idea are discussed, tested, winnowed, and retested until a winning product emerges. Businesses should expect four out of five new products to fail under a strict traditional model.[7] However, companies continue to work to innovate. For example, Procter & Gamble has made a public commitment to introduce ₹90,000 crore worth of "sustainable, innovative products" between 2008 and 2013.[8]

Idea Generation

New-product ideas come from many sources, including customers, employees, distributors, competitors, vendors, research and development (R&D), and consultants.

- *Customers:* The marketing concept suggests that customers' wants and needs should be the springboard for developing new products. Companies can derive insight from listening to Internet chatter or reading blogs, which often indicate early trends or areas consumers are interested in seeing develop or change. Garnier came up with the Indian specific innovation of Fructis Shampoo + Oil from the consumer insight that girls know the importance of oiling their hair but could not do so due to lack of time.[9] Nestle launched a campaign called "Me & Meri Maggi" on the occasion of 25th anniversary of Maggi. The customers were asked to share their Maggi moments, stories, and receipes and this paved the way for launch of new flavours based on the experiences shared by the customers. This approach is far from an intuitive extension of previous new-product development and advertising practices.

- *Employees:* Marketing personnel—advertising and marketing research employees, as well as salespeople—often create new-product ideas because they analyze and are involved in the marketplace. Encouraging employees from different divisions to exchange ideas is also a useful strategy.

Some firms reward employees for coming up with creative new ideas. In *Bloomberg Businessweek's* annual ranking of the Most Innovative Companies, 15 of the top 50 are Asian, up from only 5 in 2006. The increase isn't surprising when you look at the importance upper-level executives place on innovation. In China, 95 percent said that innovation was key to economic growth. Only 72 percent of U.S. upper-level executives agreed. There is a similar trend in spending on innovation—88 percent of Chinese executives plan to increase their innovation budgets, but only 48 percent said the same thing in the United States.[10]

- *Distributors:* A well-trained sales force routinely asks distributors about needs that are not being met. Because they are closer to end users, distributors are often more aware of customer needs than are manufacturers.

  In a survey by Prophet, results found that 75 percent of model innovators actively involve their vendors and suppliers in new product development.[11] Procter & Gamble has reported that its innovation productivity has increased 60 percent due to external collaborations.[12]

- *Vendors:* 7-Eleven, Inc., an international chain of convenience stores, regularly forges partnerships with vendors to create proprietary products. Coca-Cola invented the flavor blue vanilla for a 7-Eleven Slurpee drink, and the matching Laffy Taffy Blue Vanilla Rope candy was developed by Nestlé's Wonka division exclusively for 7-Eleven.

- *Competitors:* No firms rely solely on internally generated ideas for new products. A big part of any organization's marketing intelligence system should be monitoring the performance of competitors' products. One purpose of competitive monitoring is to determine which, if any, of the competitors' products should be copied. There is plenty of information about competitors on the Internet.

- *Research and development:* R&D is carried out in four distinct ways. You learned about basic research and applied research in Chapter 4. The other two ways are product development and product modification. **Product development** goes beyond applied research by converting applications into marketable products. *Product modification* makes cosmetic or functional changes in existing products. Many new-product breakthroughs come from R&D activities. Procter & Gamble, the world's largest household goods manufacturer, has 9,000 research and development employees.[13]

  IBM has research and innovation labs all over the world, and in 2010 the company announced plans

product development a marketing strategy that entails the creation of marketable new products; the process of converting applications for new technologies into marketable products

brainstorming the process of getting a group to think of unlimited ways to vary a product or solve a problem

screening the first filter in the product development process, which eliminates ideas that are inconsistent with the organization's new-product strategy or are obviously inappropriate for some other reason

to open a new one in São Paulo, Brazil. The goal is to increase sales in rapidly emerging markets like Brazil, and to help Brazil find ways to manage and encourage growth. IBM will help Brazil extract natural resources with new technology developed for the area. IBM then hopes to export those new advances to China and India. By having innovation centers located all over the world, IBM is able to increase its network and generate new ideas based on how different countries operate.[14]

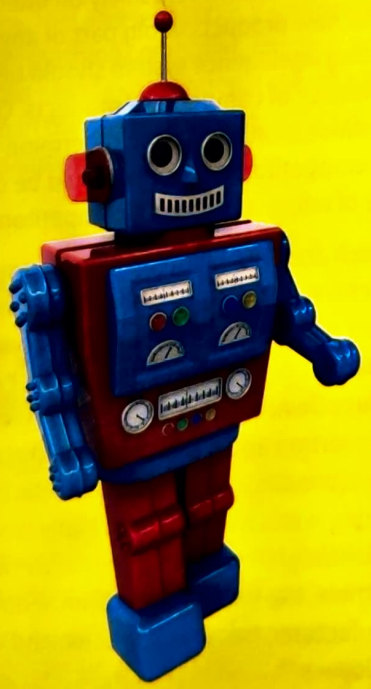
- *Consultants:* Outside consultants are always available to examine a business and recommend product ideas. Examples include professors of premier business management institutes like IIMs, and companies like McKinsey, Boston Consulting Group, and Booz Allen Hamilton. Traditionally, consultants determine whether a company has a balanced portfolio of products and, if not, what new-product ideas are needed to offset the imbalance.

Creativity is the wellspring of new-product ideas, regardless of who comes up with them. A variety of approaches and techniques have been developed to stimulate creative thinking. The two considered most useful for generating new-product ideas are brainstorming and focus group exercises. The goal of **brainstorming** is to get a group to think of unlimited ways to vary a product or solve a problem. Group members avoid criticism of an idea, no matter how ridiculous it may seem. Objective evaluation is postponed. The sheer quantity of ideas is what matters. As noted in Chapter 9, an objective of focus group interviews is to stimulate insightful comments through group interaction. In the industrial market, machine tools, keyboard designs, aircraft interiors, and backhoe accessories have evolved from focus groups.

Idea Screening

After new ideas have been generated, they pass through the first filter in the product development process. This stage, called **screening**, eliminates ideas that are inconsistent with the organization's new-product strategy or are obviously inappropriate for

ROYALTY-FREE RESEARCH



Some companies feel that supporting up-and-coming engineers is important for the future, and those companies that do so tend to profit from their investment. The Massachusetts Institute of Technology (MIT) Media Lab is home to some of the top engineers in the world. The Media Lab is designed to allow engineers to creatively explore and create whatever ideas strike them as interesting or useful. The Media Lab is also funded by corporations. Sixty companies pay ₹90 lakh a year for the rights to any intellectual property developed in the lab, without having to pay royalties for use. Some companies, like Procter & Gamble, pay extra to have research scientists in the Media Lab work with students and monitor projects. However, the companies cannot direct avenues of study, so if a bright engineer wants to focus on motion-sensing gloves that can only be unlocked by the correct fist bump combination, she can.[15]

some other reason. The new-product committee, the new-product department, or some other formally appointed group performs the screening review. General Motors' Advanced Portfolio Exploration Group (APEx) knows that only one out of every twenty new car concepts developed by the group will ever become a reality. That's not a bad percentage. In the pharmaceutical business, the percentage is much lower. Most new-product ideas are rejected at the screening stage.

Concept tests are often used at the screening stage to rate concept (or product) alternatives. A **concept test** evaluates a new-product idea, usually before any prototype has been created. Typically, researchers get consumer reactions to descriptions and visual representations of a proposed product.

Concept tests are considered fairly good predictors of success for line extensions. However, concept tests are usually inaccurate in predicting the success of new products that create new consumption patterns and require major changes in consumer behavior—such as microwave ovens, VCRs, computers, and word processors.

Business Analysis

New-product ideas that survive the initial screening process move to the **business analysis** stage, where preliminary figures for demand, cost, sales, and profitability are calculated. For the first time, costs and revenues are estimated and compared. Depending on the nature of the product and the company, this process may be simple or complex.

The newness of the product, the size of the market, and the nature of the competition all affect the accuracy of revenue projections. In an established market like soft drinks, industry estimates of total market size are available. Forecasting market share for a new entry is a bigger challenge.

Analyzing overall economic trends and their impact on estimated sales is especially important in product categories that are sensitive to fluctuations in the business cycle. If consumers view the economy as uncertain and risky, they will put off buying durable goods such as major home appliances, automobiles, and homes. Likewise, business buyers postpone major equipment purchases if they expect a recession. Understanding the market potential is important because costs increase dramatically once a product idea enters the development stage.

COMMON QUESTIONS IN THE BUSINESS ANALYSIS STAGE

- What is the likely demand for the product?
- What impact would the new product probably have on total sales, profits, market share, and return on investment?
- How would the introduction of the product affect existing products? Would the new product cannibalize existing products?
- Would current customers benefit from the product?
- Would the product enhance the image of the company's overall product mix?
- Would the new product affect current employees in any way? Would it lead to increasing or reducing the size of the workforce?
- What new facilities, if any, would be needed?
- How might competitors respond?
- What is the risk of failure? Is the company willing to take the risk?

Development

In the early stage of **development**, the R&D or engineering department may develop a prototype of the product. During this stage, the firm should start sketching a marketing strategy. The marketing department should decide on the product's packaging, branding, labeling, and so forth. In addition, it should map out preliminary promotion, price, and distribution strategies. The feasibility of manufacturing the product at an acceptable cost should be thoroughly examined. The development stage can last a long time and thus be very expensive. It took 10 years for P&G to develop Crest toothpaste, 15 years to develop the Polaroid Colorpack camera and the Xerox copy machine, 18 years for General Foods to develop Minute Rice, and 51 years to develop the television. Gillette developed three shaving systems over a 27-year period (Trac II, Atra, and Sensor) before introducing the Mach3 in 1998 and Fusion in 2006.[16]

concept test a test to evaluate a new-product idea, usually before any prototype has been created

business analysis the second stage of the screening process where preliminary figures for demand, cost, sales, and profitability are calculated

development the stage in the product development process in which a prototype is developed and a marketing strategy is outlined

The development process works best when all the involved areas (R&D, marketing, engineering, production, and even suppliers) work together rather

simultaneous product development a team-oriented approach to new-product development

than sequentially, a process called **simultaneous product development**. This approach allows firms to shorten the development process and reduce costs. With simultaneous product development, all relevant functional areas and outside suppliers participate in all stages of the development process. Rather than proceeding through highly structured stages, the cross-functional team operates in unison. Involving key suppliers early in the process capitalizes on their knowledge and enables them to develop critical component parts.

The Internet is a useful tool for implementing simultaneous product development. On the Web, multiple partners from a variety of locations can meet regularly to assess new-product ideas, analyze markets and demographics, and review cost information. Ideas judged to be feasible can quickly be converted into new products. Without the Internet, it would be impossible to conduct simultaneous product development from different parts of the world. Global R&D is important for two reasons. First, large companies have become global and are no longer focused only on one market. Global R&D is necessary to connect with customers in different parts of the world. Second, companies want to tap into the world's best talent—which isn't always found in the United States.[17]

Some firms use online brain trusts to solve technical problems. InnoCentive, Inc. is a network of 80,000 self-selected science problem solvers in 173 countries. Its clients include Boeing, DuPont, and Procter & Gamble. Procter & Gamble has another program called Connect + Develop Model. When the company selects an idea for development, it no longer tries to develop it from the ground up with its own resources and time. Instead, it issues a brief to its network of thinkers, researchers, technology entrepreneurs, and inventors around the world, hoping to generate dialogue, suggestions, and solutions.[18]

Innovative firms are also gathering a variety of R&D input from customers online. Nokia, through its online lab, enables users worldwide to download beta applications and give their opinion to the product development teams for further modifications. Swarovski, an Austrian crystal and jewellery company, provides an opportunity to its customers to design and create their own jewellery using its software tool.[19]

Laboratory tests are often conducted on prototype models during the development stage. User safety is an important aspect of laboratory testing, which actually subjects products to much more severe treatment than is expected by end users. The ISI mark, issued by Bureau of Indian Standards (BIS), is a certification that ensures a given product is in conformation with the quality standards set by the government. There are 16 product categories for which such standards have been set by BIS.[20]

Many products that test well in the laboratory are also tried out in homes or businesses. Examples of product categories well suited for such use tests include human and pet food products, household cleaning products, and industrial chemicals and supplies. These

BREAKING THROUGH THE GLASS MARKET

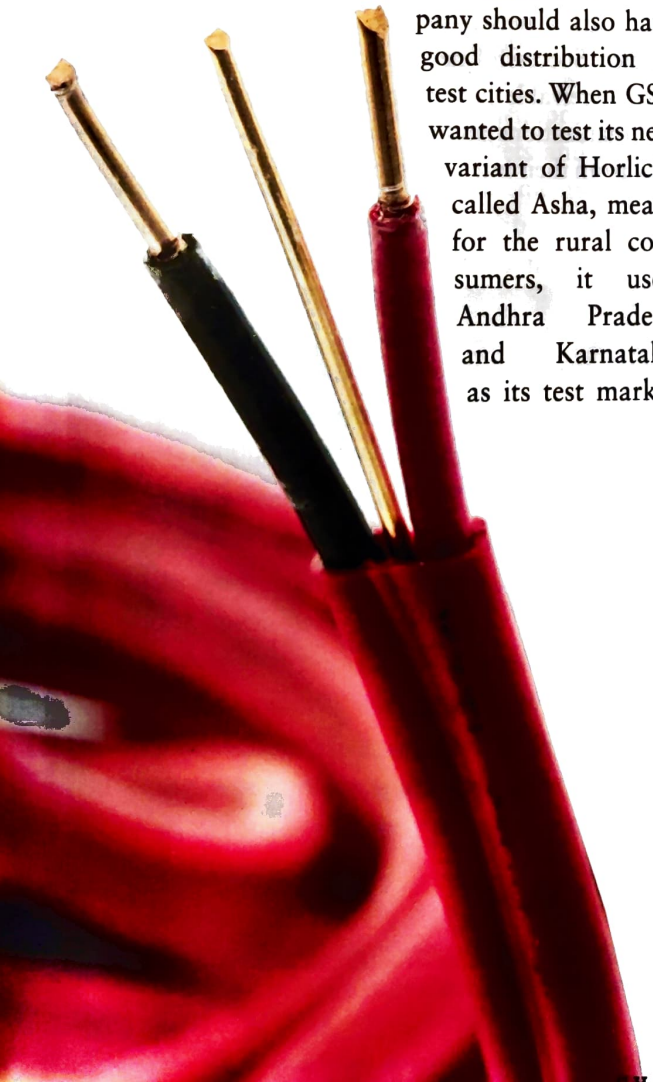
Corning is familiar with the gap between invention and commercial application. (Its technology for optical fiber was invented in 1934 but wasn't used until the 1970s.) In 1962, Corning developed a promising ultra-strong glass. But, lacking commercial application, the innovation gathered proverbial dust waiting for people to need strong glass that was hard to break, scratch, or dent even when very thin. Today, touch screens on cell phones and frameless flat-screen televisions call for exactly that product. Motorola's Droid phone already has Gorilla Glass, which now pulls in ₹765 crore a year since finding its first customer in 2008. Corning knows that in the long run, innovation pays off, which is why it allocates 10 percent of revenue to research. Other Corning inventions waiting in the wings include spools of paper-thin flexible glass ready for an application.[21]

products are all relatively inexpensive, and their performance characteristics are apparent to users. For example, Procter & Gamble tests a variety of personal and home-care products in the community around its Cincinnati, Ohio, headquarters.

Test Marketing

After products and marketing programs have been developed, they are usually tested in the marketplace. **Test marketing** is the limited introduction of a product and a marketing program to determine the reactions of potential customers in a market situation. Test marketing allows management to evaluate alternative strategies and to assess how well the various aspects of the marketing mix fit together. Even established products are test marketed to assess new marketing strategies.

The cities chosen as test sites should reflect market conditions in the new product's projected market area. Yet no "magic city" exists that can universally represent market conditions, and a product's success in one city doesn't guarantee that it will be a nationwide hit. When selecting test market cities, researchers should therefore find locations where the demographics and purchasing habits mirror the overall market. The company should also have good distribution in test cities. When GSK wanted to test its new variant of Horlicks called Asha, meant for the rural consumers, it used Andhra Pradesh and Karnataka as its test market because these states were representative of the company's other markets across the country. Horlicks is also a dominating player in the south and gets 30–35% of its sales from rural areas.[22] Moreover, test locations should be isolated from the media. If the television stations in a particular market reach a very large area outside that market, the advertising used for the test product may pull in many consumers from outside the market. The product may then appear more successful than it really is.



test marketing the limited introduction of a product and a marketing program to determine the reactions of potential customers in a market situation

simulated (laboratory) market testing the presentation of advertising and other promotional materials for several products, including a test product, to members of the product's target market

The High Costs of Test Marketing Test marketing frequently takes one year or longer, and costs can exceed ₹4.5 crore. Some products remain in test markets even longer. Google plans to test-market an ultra-high-speed broadband network in one or more communities at a competitive price. The search giant plans to test its fiber-to-the-home concept by providing up to 5,00,000 homes with 1-gigabyte-per-second broadband access. Communities in every state except Delaware have requested to be one of the test markets. Topeka, Kansas, even renamed the town for a month to Google, Kansas, in an effort to be chosen.[23] Despite the cost, many firms believe it is better to fail in a test market than in a national introduction. Because test marketing is so expensive, some companies do not test line extensions of well-known brands.

The high cost of test marketing is not just financial. One unavoidable problem is that test marketing exposes the new product and its marketing mix to competitors before its introduction. Thus, the element of surprise is lost. Competitors can also sabotage or "jam" a testing program by introducing their own sales promotion, pricing, or advertising campaign. The purpose is to hide or distort the normal conditions that the testing firm might expect in the market.

Alternatives to Test Marketing Many firms are looking for cheaper, faster, safer alternatives to traditional test marketing. In the early 1980s, Information Resources, Inc. pioneered one alternative: scanner-based research (discussed in Chapter 8). A typical supermarket scanner test costs about ₹1,35,00,000. Another alternative to traditional test marketing is **simulated (laboratory) market testing**. Advertising and other promotional materials for several products, including the test product, are shown to members of the product's target market. These people are then

commercialization
the decision to market a product

taken to shop at a mock or real store, where their purchases are recorded. Shopper behavior, including repeat purchasing, is monitored to assess the product's likely performance under true market conditions. Research firms offer simulated market tests for ₹11,25,000 to ₹45,00,000, compared to ₹4.5 crore or more for full-scale test marketing.

Government regulation can affect test marketing, particularly in the tobacco industry. With steadily declining U.S. cigarette sales, Reynolds American (maker of Camel cigarettes) hoped to diversify with smokeless, spitless tobacco in the form of dissolvable lozenges, sticks, and strips. Testing for Camel Orbs, a pressed tobacco lozenge that looks similar to a small breath mint, hit roadblocks from several pro-test groups, who say that the candy-like shape and the bright packaging encourage children to try—and get hooked on—the product. The FDA has requested that Reynolds provide research on the usage and perception of the product on people under 25 years of age. Tightened legislation on how tobacco products can be marketed also limits how aware a test market is of the product.[24]

The Internet offers a fast, cost-effective way to conduct test marketing. Procter & Gamble uses the Internet to assess customer demand for potential new products. Many products that are not available in grocery stores or drugstores can be sampled from P&G's corporate Web site (www.pg.com).[25]

Despite these alternatives, most firms still consider test marketing essential for most new products. The high price of failure simply prohibits the widespread introduction of most new products without testing.

Commercialization

The final stage in the new-product development process is **commercialization**, the decision to market a product. The decision to commercialize the product sets several tasks in motion: ordering production materials and equipment, starting production, building inventories, shipping the product to field distribution points, training the sales force, announcing the new product to the trade, and advertising to potential customers.

The time from the initial commercialization decision to the product's actual introduction varies. It can range from a few weeks for simple products that use existing equipment to several years for technical products that require custom manufacturing equipment. And the total cost of development and initial introduction can be staggering. Gillette spent ₹3,375 crore developing Mach 3, and the first-year marketing budget for the new three-bladed razor was ₹1,350 crore.

The most important factor in successful new-product introduction is a good match between the product and market needs—as the marketing concept would predict. Successful new products deliver a meaningful and perceivable benefit to a sizable number of people or organizations and are different in some meaningful way from their intended substitutes. Firms that routinely

FORWARD THINKING Reverse ENGINEERING

Tata Technologies, looking to put the Indian population in cars, developed a ten-foot long, five-passenger car that retails in India between ₹1,00,000 and ₹1,12,500. Now, the Nano has visitors from around the world looking for ways to implement Tata's lean engineering into other vehicles and reduce manufacturing costs. Marrying simple design, few features, and inexpensive materials can clearly introduce cost savings. Because the Nano lacks most safety features (including airbags), significant cost savings won't mean much in markets with significant automobile regulations, like the United States and Europe.[26]

experience success in new-product introductions tend to share the following characteristics:

- A history of listening carefully to customers
- An obsession with producing the best product possible
- A vision of what the market will be like in the future
- Strong leadership
- A commitment to new-product development
- A project-based team approach to new-product development
- Getting every aspect of the product development process right

LO 3 Global Issues in New-Product Development

Increasing globalization of markets and competition provides a reason for multinational firms to consider new-product development from a worldwide perspective. A firm that starts with a global strategy is better able to develop products that are marketable worldwide. In many multinational corporations, every product is developed for potential worldwide distribution, and unique market requirements are built in whenever possible.

Some global marketers design their products to meet regulations in their major markets and then, if necessary, meet smaller markets' requirements country by country. Nissan develops lead-country car models that, with minor changes, can be sold in most markets. With this approach, Nissan has been able to reduce the number of its basic models from 48 to 18. Some products, however, have little potential for global market penetration without modification. In other cases, companies cannot sell their products at affordable prices and still make a profit in many countries.

LO 4 The Spread of New Products

Managers have a better chance of successfully marketing products if they understand how consumers learn about and adopt products.

Diffusion of Innovation

An **innovation** is a product perceived as new by a potential adopter. It really doesn't matter whether the product is "new to the world" or some other category of new product. If it is new to a potential adopter, it is an innovation in this context. **Diffusion** is the process by which the adoption of an innovation spreads.

innovation a product perceived as new by a potential adopter

diffusion the process by which the adoption of an innovation spreads

Five categories of adopters participate in the diffusion process:

- *Innovators:* the first 2.5 percent of all those who adopt the product. Innovators are eager to try new ideas and products, almost as an obsession. In addition to having higher incomes, they are more worldly and more active outside their community than noninnovators. They rely less on group norms and are more self-confident. Because they are well educated, they are more likely to get their information from scientific sources and experts. Innovators are characterized as being venturesome.
- *Early adopters:* the next 13.5 percent to adopt the product. Although early adopters are not the very first, they do adopt early in the product's life cycle. Compared to innovators, they rely much more on group norms and values. They are also more oriented to the local community, in contrast to the innovators' worldly outlook. Early adopters are more likely than innovators to be opinion leaders because of their closer affiliation with groups. Early adopters are a new product's best friends.[27] The respect of others is a dominant characteristic of early adopters.
- *Early majority:* the next 34 percent to adopt. The early majority weighs the pros and cons before adopting a new product. They are likely to collect more information

and evaluate more brands than early adopters, therefore extending the adoption process. They rely on the group for information but are unlikely to be opinion leaders themselves. Instead, they tend to be opinion leaders' friends and neighbors. The early majority is an important link in the process of diffusing new ideas because they are positioned between earlier and later adopters. A dominant characteristic of the early majority is deliberateness.

- *Late majority:* the next 34 percent to adopt. The late majority adopts a new product because most of their friends have already adopted it. Because they also rely on group norms, their adoption stems from pressure to conform. This group tends to be older and below average in income and education. They depend mainly on word-of-mouth communication rather than on the mass media. The dominant characteristic of the late majority is skepticism.
- *Laggards:* the final 16 percent to adopt. Like innovators, laggards do not rely on group norms. Their independence is rooted in their ties to tradition. Thus, the past heavily influences their decisions. By the time laggards adopt an innovation, it has probably been outmoded and replaced by something else. For example, they may have bought their first black-and-white television set after color television was already widely diffused. Laggards have the longest adoption time and the lowest socioeconomic status. They tend to be suspicious of new products and alienated from a rapidly advancing society. The dominant value of laggards is tradition. Marketers typically ignore laggards, who do not seem to be motivated by advertising or personal selling and are virtually impossible to reach online.

Note that some product categories may never be adopted by 100 percent of the population. The adopter categories refer to all of those who will eventually adopt a product, not the entire population.

Product Characteristics and the Rate of Adoption

Five product characteristics can be used to predict and explain the rate of acceptance and diffusion of a new product:

- *Complexity:* the degree of difficulty involved in understanding and using a new product. The more complex the product, the slower is its diffusion.
- *Compatibility:* the degree to which the new product is consistent with existing values and product knowledge, past experiences, and current needs. Incompatible products diffuse more slowly than compatible products.
- *Relative advantage:* the degree to which a product is perceived as superior to existing substitutes. Because it can store and play back thousands of songs, the iPod has a clear relative advantage over the portable CD player.
- *Observability:* the degree to which the benefits or other results of using the product can be observed by others and communicated to target customers. For instance, fashion items and automobiles are highly visible and more observable than personal-care items.
- *"Trialability":* the degree to which a product can be tried on a limited basis. It is much easier to try a new toothpaste or breakfast cereal than a new automobile or microcomputer.

Marketing Implications of the Adoption Process

Two types of communication aid the diffusion process: *word-of-mouth communication* among consumers and communication from marketers to consumers. Word-of-mouth communication within and across groups speeds diffusion. Opinion leaders discuss new products with their followers and with other opinion leaders. Marketers must therefore ensure that opinion leaders have the types of information desired in the media that they use. Suppliers of some products, such as professional and health care services, rely almost solely on word-of-mouth communication for new business.

The second type of communication aiding the diffusion process is *communication directly from the marketer to potential adopters*. Messages directed toward early adopters should normally use different appeals than messages directed toward the early

majority, the late majority, or the laggards. Early adopters are more important than innovators because they make up a larger group, are more socially active, and are usually opinion leaders.

As the focus of a promotional campaign shifts from early adopters to the early majority and the late majority, marketers should study the dominant characteristics, buying behavior, and media characteristics of these target markets. Then they should revise messages and media strategy to fit. The diffusion model helps guide marketers in developing and implementing promotion strategy.

LO 5 Product Life Cycles

The product life cycle (PLC) is one of the most familiar concepts in marketing. Few other general concepts have been so widely discussed. Although some researchers and consultants have challenged the theoretical basis and managerial value of the PLC, many believe it is a useful marketing management diagnostic tool and a general guide for marketing planning in various life cycle stages.[28]

The PLC is a biological metaphor that traces the stages of a product's acceptance, from its introduction (birth) to its decline (death). As Exhibit 11.2 shows, a product progresses through four major stages: introduction, growth, maturity, and decline.

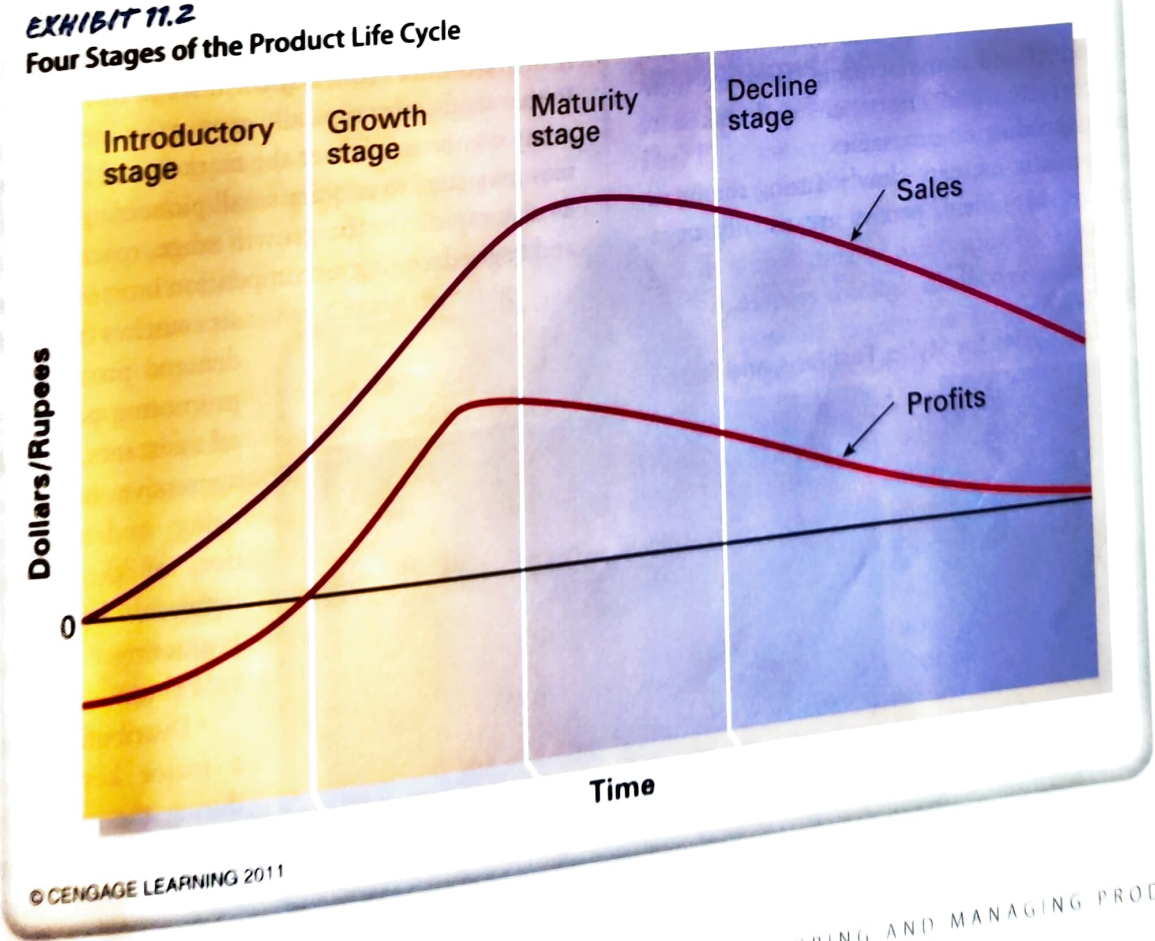
product life cycle (PLC) a concept that provides a way to trace the stages of a product's acceptance, from its introduction (birth) to its decline (death)

product category all brands that satisfy a particular type of need

The PLC concept can be used to analyze a brand, a product form, or a product category. The PLC for a product form is usually longer than the PLC for any one brand. The exception would be a brand that was the first and last competitor in a product form market. In that situation, the brand and product form life cycles would be equal in length. Product categories have the longest life cycles. A **product category** includes all brands that satisfy a particular type of need such as shaving products, passenger automobiles, or soft drinks.

The time a product spends in any one stage of the life cycle may vary dramatically. Some products, such as fad items, move through the entire cycle in weeks. Others, such as electric clothes washers and dryers, stay in the maturity stage for decades. Exhibit 11.2 illustrates the typical life cycle for a consumer durable good, such as a washer or dryer. In contrast, Exhibit 11.3 on the next page illustrates typical life

EXHIBIT 11.2
Four Stages of the Product Life Cycle



introductory stage the full-scale launch of a new product into the marketplace

growth stage the second stage of the product life cycle when sales typically grow at an increasing rate, many competitors enter the market, large companies may start to acquire small pioneering firms, and profits are healthy

cycles for styles (such as formal, business, or casual clothing), fashions (such as miniskirts or baggy jeans), and fads (such as leopard-print clothing). Changes in a product, its uses, its image, or its positioning can extend that product's life cycle.

The PLC concept does not tell managers the length of a product's life cycle or its duration in any stage. It does not dictate marketing strategy. It is simply a tool to help marketers forecast future events and suggest appropriate strategies.

Introductory Stage

The **introductory stage** of the PLC represents the full-scale launch of a new product into the marketplace. Computer databases for personal use, room-deodorizing air-conditioning filters, and wind-powered home electric generators are all product categories that have recently entered the PLC. A high failure rate, little competition, frequent product modification, and limited distribution typify the introductory stage of the PLC.

Marketing costs in the introductory stage are normally high for several reasons. High dealer margins are often needed to obtain adequate distribution, and incentives are needed to get consumers to try the new product. Advertising expenses are high because of the need to educate consumers about the new product's benefits. Production costs are also often high in this stage, as product and manufacturing flaws are identified and corrected and efforts are undertaken to develop mass production economies.

Sales normally increase slowly during the introductory stage. Moreover, profits are usually negative because of R&D costs, factory tooling, and high introduction costs. The length of the introductory phase is largely determined by product characteristics, such as the product's advantages over substitute products, the educational effort required to make the product known, and management's commitment of resources to the new item. A short introductory period is usually preferred to help reduce the impact of negative earnings and cash flows. As soon as the product gets off the ground, the financial burden should begin to diminish. Also, a short introduction helps dispel some of the uncertainty as to whether the new product will be successful.

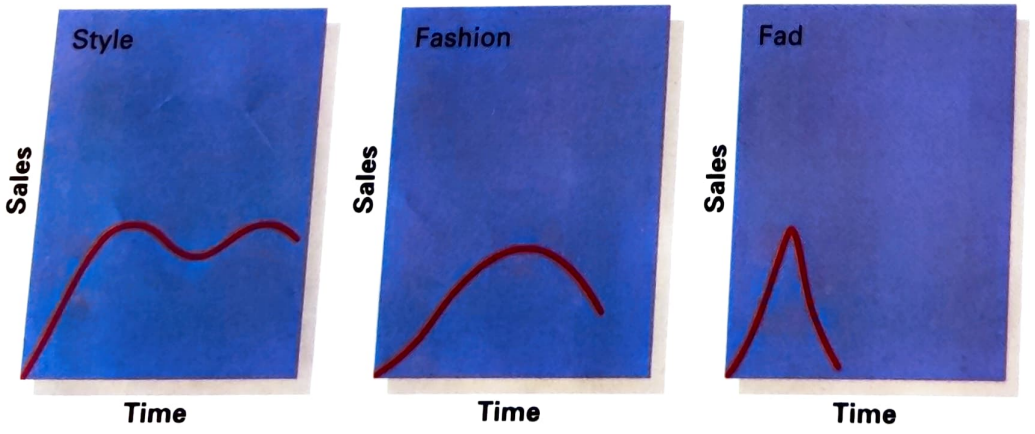
Promotion strategy in the introductory stage focuses on developing product awareness and informing consumers about the product category's potential benefits. At this stage, the communication challenge is to stimulate primary demand—demand for the product in general rather than for a specific brand. Intensive personal selling is often required to gain acceptance for the product among wholesalers and retailers. Promotion of convenience products often requires heavy consumer sampling and couponing. Shopping and specialty products demand educational advertising and personal selling to the final consumer.

Growth Stage

If a product category survives the introductory stage, it then advances to the **growth stage** of the life cycle. In this stage, sales typically grow at an increasing rate, many competitors enter the market, and large companies may start to acquire small pioneering firms. Profits rise rapidly in the growth stage, reach their peak, and begin declining as competition intensifies. Emphasis switches from primary demand promotion (e.g., promoting personal digital assistants, or PDAs) to aggressive brand advertising and communication of the differences between brands (e.g., promoting BlackBerry vs. Palm).

Distribution becomes a major key to success during the growth stage, as well as in later stages. Manufacturers scramble to sign up dealers and

EXHIBIT 11.3
Product Life Cycles for Styles, Fashions, and Fads



distributors and to build long-term relationships. Without adequate distribution, it is impossible to establish a strong market position.

XFit, a stretch denim material, has paired with denim labels in the U.S. to get its product to retailers. The stretch denim market has 35 percent of the market, and customers want a jean that holds its shape but fits comfortably. XFit relies on designers to label jeans with information about the benefits of XFit. If the label doesn't resonate with customers or differentiate the material from other stretch denims, XFit will lose its place in the stretch fiber market.[29]

Maturity Stage

A period during which sales increase at a decreasing rate signals the beginning of the **maturity stage** of the life cycle. New users cannot be added indefinitely, and sooner or later the market approaches saturation. Normally, this is the longest stage of the PLC. Many major household appliances are in the maturity stage of their life cycles.

For shopping products such as durable goods and electronics, and many specialty products, annual models begin to appear during the maturity stage. Product lines are lengthened to appeal to additional market segments. Service and repair assume more important roles as manufacturers strive to distinguish their products from others. Product design changes tend to become stylistic (How can the product be made different?) rather than functional (How can the product be made better?).

As prices and profits continue to fall, marginal competitors start dropping out of the market. Dealer margins also shrink, resulting in less shelf space for mature items, lower dealer inventories, and a general reluctance to promote the product. Thus, promotion to dealers often intensifies during this stage in order to retain loyalty.

Heavy consumer promotion by the manufacturer is also required to maintain market share. Cutthroat competition during this stage can lead to price wars. Another characteristic of the maturity stage is the emergence of "niche marketers" that target narrow, well-defined, underserved segments of a market.

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Decline Stage

A long-run drop in sales signals the beginning of the **decline stage**. The rate of decline is governed by how rapidly consumer tastes change or substitute products are adopted. Many convenience products and fad items lose their market overnight, leaving large inventories of unsold items, such as designer jeans. Others die more slowly. Total revenue from physical formats of music sales in India was ₹320 crore in 2010. In 2006 that figure was ₹634 crore. Physical music's share in total revenues fell from nearly 81% in 2006 to just 38% in 2010. Revenue has fallen each year since then and shows little sign of stopping.[30] It appears that the popularity of digital download options are rapidly making audio cassettes and CDs obsolete.

maturity stage a period during which sales increase at a decreasing rate

decline stage a long-run drop in sales

Some firms have developed successful strategies for marketing products in the decline stage of the PLC. They eliminate all nonessential marketing expenses and let sales decline as more and more customers discontinue purchasing the products. Eventually, the product is withdrawn from the market.

Some firms practice what management sage Peter Drucker has called "organized abandonment," which is based upon a periodic audit of all goods and services that a firm markets. One key question is, if we weren't already marketing the product, would we be willing to introduce it now? If the answer is "no," the product should be carefully considered as a candidate for elimination from the product mix.[31]

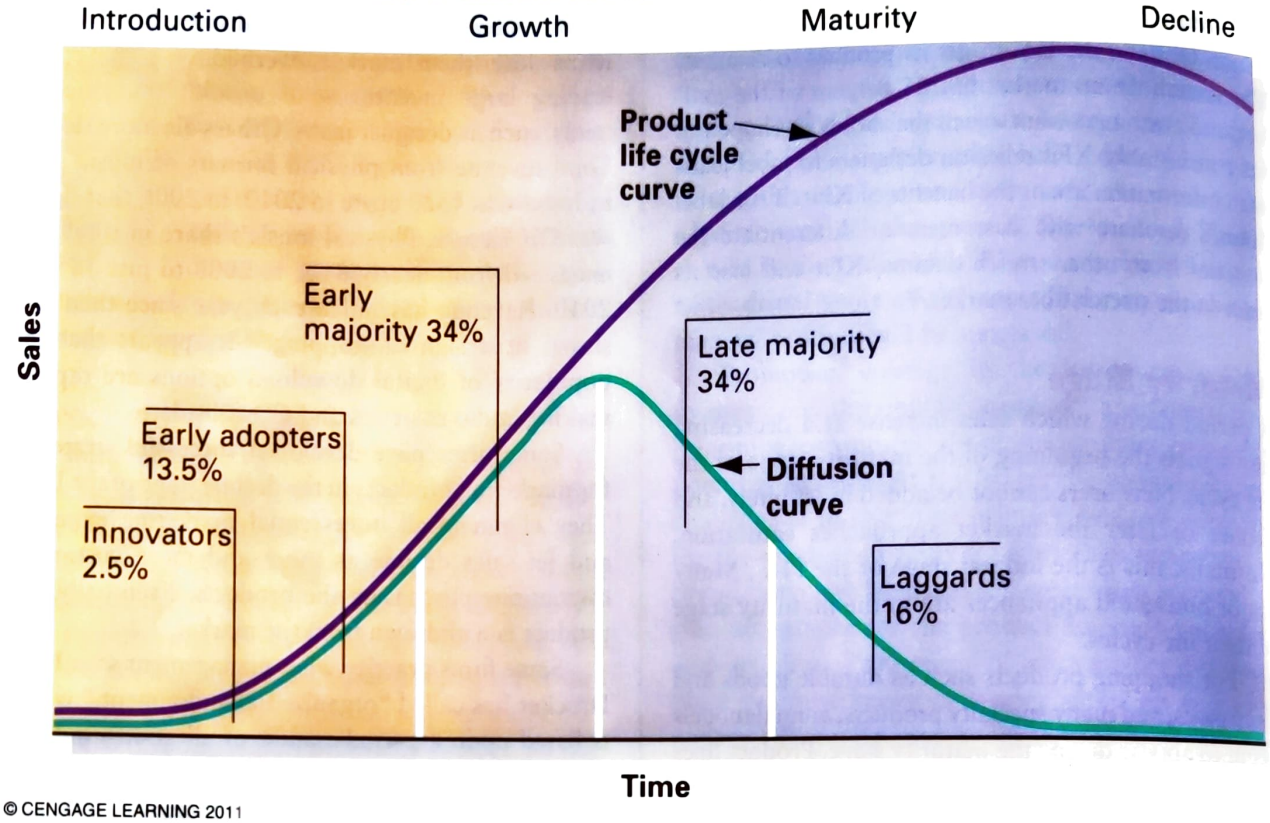
Implications for Marketing Management

The PLC concept encourages marketing managers to plan so that they can take the initiative instead of reacting to past events. The PLC is especially useful as a predicting or forecasting tool. Because products pass through distinctive stages, it is often possible to estimate a product's location on the curve using historical data. Profits, like sales, tend to follow a predictable path over a product's life cycle.

Exhibit 11.4 shows the relationship between the adopter categories and stages of the PLC. Note that the various categories of adopters first buy products in different stages of the life cycle. Almost all sales in the maturity and decline stages represent repeat purchasing.

EXHIBIT 11.4

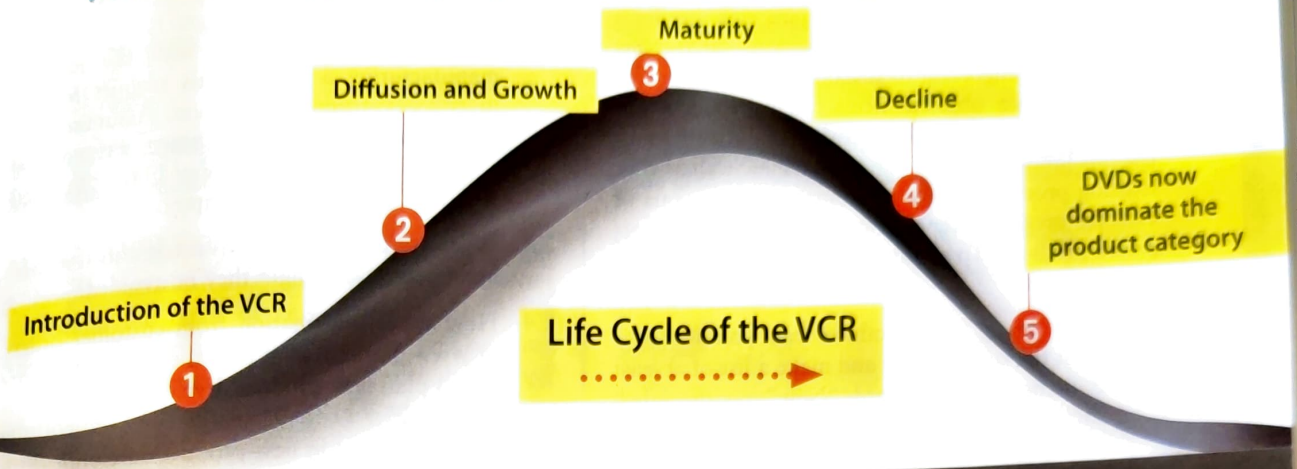
Relationships between the Diffusion Process and the Product Life Cycle



ANATOMY OF

A PRODUCT LIFE CYCLE: VCR

VCR sales dropped rapidly in the face of growing DVD competition.



1977 VHS first sold in the United States

1992 10 croreth VCR sold

1997 First DVD titles released in the United States

2000 VCR sales peak at 2.3 crore units

2001 DVD dollar sales surpass VHS sales

2006 More households own DVD players than VCRs

☐ 525/60 ☐ 625/50 PCM 1, 2 PCM 3, 4 ☐ STEREO ☐ STEREO ☐ MONO ☐ MONO

DVDs are under pressure from streaming video services like Netflix, Roku, Apple TV, and Hulu.

Review and Applications

Explain the importance of developing new products and describe the six categories of new products. New products are important to sustain growth and profits and to replace obsolete items. New products can be classified as new-to-the-world products (discontinuous innovations), new product lines, additions to existing product lines, improvements or revisions of existing products, repositioned products, or lower-priced products. To sustain or increase profits, a firm must innovate.

1.1 How many new products can you identify? Visit the supermarket and make a list of at least 5 items with the word "New" on the label. Include on your list anything that looks like a new product. Next to each item on your list, write the category of new product that best describes the item. Share your results with the class.

1.2 New entertainment products aren't necessarily media products. Form a team of three or four students and brainstorm new nonmedia entertainment products. Try to identify one item for each of the categories of new products discussed in the chapter.

Explain the steps in the new-product development process. First, a firm forms a new-product strategy by outlining the characteristics and roles of future products. Then new-product ideas are generated by customers, employees, distributors, competitors, vendors, and internal R&D personnel. Once a product idea has survived initial screening by an appointed screening group, it undergoes business analysis to determine its potential profitability. If a product concept seems viable, it progresses into the development phase, in which the technical and economic feasibility of the manufacturing process is evaluated. The development phase also includes laboratory and use testing of a product for performance and safety. Following initial testing and refinement, most products are introduced in a test market to evaluate consumer response and marketing strategies. Finally, test market successes are propelled into full commercialization. The commercialization process involves starting up production, building inventories, shipping to distributors, training a sales force, announcing the product to the trade, and advertising to consumers.

2.1 List the advantages of simultaneous product development.

2.2 You are a marketing manager for Nike. Your department has come up with the idea of manufacturing a table tennis racquet for use in colleges around the nation. Assuming you are in the business analysis stage, write a brief analysis based on the questions in the "Business Analysis" section of the chapter.

2.3 What are the major disadvantages to test marketing, and how might they be avoided?

2.4 How could information from customer orders at **www.pizzahut.com** help the company's marketers plan new-product developments?

Discuss global issues in new-product development. A marketer with global vision seeks to develop products that can easily be adapted to suit local needs. The goal is not simply to develop a standard product that can be sold worldwide. Smart global marketers also look for good product ideas worldwide.

3.1 Visit **www.pg.com** and look at the brands it offers around the world. What conclusions can you draw about Procter & Gamble's global new-product development strategy?

Explain the diffusion process through which new products are adopted. The diffusion process is the spread of a new product from its producer to ultimate adopters. Adopters in the diffusion process belong to five categories: innovators, early adopters, the early majority, the late majority, and laggards. Product characteristics that affect the rate of adoption include product complexity, compatibility with existing social values, relative advantage over existing substitutes, observability, and "trialability." The diffusion process is facilitated by word-of-mouth communication and communication from marketers to consumers.

4.1 Describe some products whose adoption rates have been affected by complexity, compatibility, relative advantage, observability, and/or "trialability."

4.2 What type of adopter behavior do you typically follow? Explain.

4.3 Review Exhibit 11.4. Analyze each product on the graph according to the characteristics that influence the rate of adoption. For example, what can you conclude from the data about the relative advantage of DVD audio? Write one to two pages explaining your analysis.

Explain the concept of product life cycles. All brands and product categories undergo a life cycle with four stages: introduction, growth, maturity, and decline. The rate at which products move through these stages varies dramatically. Marketing managers use the product life cycle concept as an analytical tool to forecast a product's future and devise effective marketing strategies.

5.1 What is Colgate doing to compete successfully in the maturity stage? Go to its web site to find out.

Exercises

APPLICATION EXERCISE

A simple statistical analysis will help you better understand the types of new products. As in the Application Exercise in Chapter 6, you will be using print advertisements, but you will also be adding information from other sources (TV ads, trips to the store, and the like).[32]

Activities

1. Compile a list of 30 new products. If you are building a portfolio of ads (see the Application Exercise in Chapter 6), you can generate part of this list as you collect print advertisements for the topics in this chapter. Consider tabulating television ads for new products that are aired during programs you normally watch. A trip to the grocery could probably yield your entire list, but then your list would be limited to consumer products.
2. Make a table with six columns labeled as follows: new-to-the-world products, new product line, addition to existing product line, improvement/revision of existing product line, repositioned product, and lower-priced product.
3. Place each of your 30 new products into one of the six categories. Tabulate your results at the bottom of each column. What conclusions can you draw from the distribution of your products? Consider adding your results together with the rest of the class to get a larger and more random sample.

ETHICS EXERCISE

One source of new product ideas is competitors. Puneet Modi recently joined A1 Speciality Products as a brand manager. His new boss told him, "We don't have a budget for new-product development. We just monitor our competitors' new-product introductions and offer knockoffs of any that look like they will be successful."

Questions

1. Is this practice ethical?
2. Does the AMA Statement of Ethics address this issue? Go to **www.marketingpower.com** and review the statement. Then, write a brief paragraph on what the AMA Statement of Ethics contains that relates to knockoff products.

MARKETING PLAN EXERCISE

Complete the following exercises to continue building your strategic marketing plan for Part 3—Product Decisions. (See Marketing Planning Worksheet, Part 3, on your companion Web site at **www.cengage.com/international**.) You should also refer to Appendix I of Chapter 2 for additional marketing plan checklist items (Marketing Mix—Product).

1. Place your company's product in the appropriate stage of the product life cycle. What are the implications of being in this stage? Would the PLC be lengthened, shortened, or not affected by selling your product or service online? Would selling your offering on the Internet make it seem earlier on the PLC to your customers? Why?
2. What categories of adopters are likely to buy your company's products? Is the product diffusing slowly or quickly throughout the marketplace? Why? What elements of the diffusion process can you control to make sure your offering diffuses more quickly throughout the adopter categories and marketplace in general? Will positive word-of-mouth be easier or harder to generate online?

Short Case: KELLOGG'S SPECIAL K

Prepared by
Dr. Dheeraj Sharma,
Indian Institute of Management, Ahmedabad

Kellogg's is the leading producer in the cereals and convenience food industry, globally. It was formed in the year 1906 in Battle Creek, Michigan. It has had a history of providing healthy breakfast for more than 100 years. Today, it sells its products in more than 180 countries and has its manufacturing base in 18 countries. It markets more than 1500 products worldwide, which includes more than 100 ready-to-eat cereals.[33]

Kellogg's entered the Indian market in 1995 and has invested over ₹150 crores. Currently, Kellogg's has earned a 60 percent share in the ₹400-crore cereal market in India.[34] It is famous for its flagship brand Kellogg's Corn Flakes, which come in flavors like chocolate, honey, muesli, oats, etc. It offers different products for requirements like digestive regularity, weight control, and heart health.[35]

The traditional Indian breakfast in India consists of *roti*, *paratha*, *poori*, *dal*, *upma*, *dosa*, *idli*, fish, etc, depending on which region people come from. Kellogg's products were alien to the Indian market. Kellogg's to establish itself in the Indian market had to face many challenges like non-acceptability of goods, lack of adaptability, unchanged traditional eating habits, skepticism for processed food, and price sensitive customers. Kellogg's fought through these hurdles and successfully penetrated in the Indian markets using various marketing strategies. It created awareness of its product by educating people about the benefits of eating cereals for breakfast. It advertised its products on TV, and also manufactured tailored goods suitable to the Indian market. Innovative marketing along with efficient brand-building activities and an efficient supply chain network, enabled Kellogg's to create its market in the breakfast segment in India.

Gradually, with increase in the acceptability of Kellogg's products in the Indian market, Kellogg's expanded its range of products. Recently, it launched a new brand called *Kellogg's Special K*, which consisted of cereals, bars, and snacks.[36] This brand was offered as a low-fat breakfast option. The target consumers were the working, and health-conscious women. However, this product was not very successful in the beginning. Kellogg's then made a comeback with a better advertising strategy. It then appointed the actress Lara Dutta as its brand ambassador. In the TV commercial she promoted the product by stating that the secret behind her maintained physic is eating *Kellogg's Special K* everyday for breakfast. The USP of this product was that it was 98% fat free, full of fiber, Vitamin A, B, and C. It is made from wheat and is coated with honey for taste.[37]

The product got good reviews but Kellogg's limited its market to a niche customer base. Anupam Dutta, MD, Kellogg's India said to *Business Standard*, "the brand meets a specific consumer need, has been growing at a terrific pace across the globe. It took nearly 50 years to deliver annual sales of $1 billion (₹4,500 crore), but took only two more years to grow its annual sales to $1.5 billion (₹6,750 crore). Plus it targets Indian customers who are getting increasingly health conscious."[38]

Questions

1. Kellogg's Special K products are only meant to target weight and health conscious women. Is this positioning right?
2. What are the advantages and the disadvantages of this positioning? Is Kellogg's restricting its market?

11 Developing and Managing Products

KEY TERMS

LO 1 **new product** a product new to the world, the market, the producer, the seller, or some combination of these

LO 2 **new-product strategy** a plan that links the new-product development process with the objectives of the marketing department, the business unit, and the corporation

product development a marketing strategy that entails the creation of marketable new products; the process of converting applications for new technologies into marketable products

brainstorming the process of getting a group to think of unlimited ways to vary a product or solve a problem

screening the first filter in the product development process, which eliminates ideas that are inconsistent with the organization's new-product strategy or are obviously inappropriate for some other reason

concept test a test to evaluate a new-product idea, usually before any prototype has been created

business analysis the second stage of the screening process where preliminary figures for demand, cost, sales, and profitability are calculated

development the stage in the product development process in which a prototype is developed and a marketing strategy is outlined

simultaneous product development a team-oriented approach to new-product development

test marketing the limited introduction of a product and a marketing program to determine the reactions of potential customers in a market situation

KEY CONCEPTS

LO 1 **Explain the importance of developing new products and describe the six categories of new products.** New products are important to sustain growth and profits and to replace obsolete items. New products can be classified as new-to-the-world products (discontinuous innovations), new product lines, additions to existing product lines, improvements or revisions of existing products, repositioned products, or lower-priced products. To sustain or increase profits, a firm must innovate.

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LO 3 **Discuss global issues in new-product development.** A marketer with global vision seeks to develop products that can easily be adapted to suit local needs. The goal is not simply to develop a standard product that can be sold worldwide. Smart global marketers also look for good product ideas worldwide.

LO 4 **Explain the diffusion process through which new products are adopted.** The diffusion process is the spread of a new product from its producer to ultimate adopters. Adopters in the diffusion process belong to fiv categories: innovators, early adopters, the early majority, the late majority, and laggards.

simulated (laboratory) market testing the presentation of advertising and other promotional materials for several products, including a test product, to members of the product's target market

commercialization the decision to market a product

LO 4 **innovation** a product perceived as new by a potential adopter

diffusion the process by which the adoption of an innovation spreads

LO 5 **product life cycle (PLC)** a concept that provides a way to trace the stages of a product's acceptance, from its introduction (birth) to its decline (death)

product category all brands that satisfy a particular type of need

introductory stage the full-scale launch of a new product into the marketplace

growth stage the second stage of the product life cycle when sales typically grow at an increasing rate, many competitors enter the market, large companies may start to acquire small pioneering firms, and profits are healthy

maturity stage a period during which sales increase at a decreasing rate

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