Introducing New Market Offerings

New-product development shapes the company's future. Improved or replacement products and services can maintain or build sales; new-to-the-world products and services can transform industries and companies and change lives. But the low success rate of new products and services points to the many challenges they face. Companies are doing more than just talking about innovation. They are challenging industry norms and past conventions to develop new products and services that delight and engage consumers. Nintendo's Wii is a prime example.[1]

Although Nintendo helped create the $30 billion global video game business, its U.S. sales had shrunk in half by 2006. CEO Satoru Iwata and game designer Shigeru Miyamoto decided to address two troubling trends in the industry: As players got older and acquired families and careers, they played less often, and as video game consoles got more powerful, they grew more expensive. Nintendo's solution? Redesign the game controllers and the way they interacted with the consoles. Bucking industry trends, Nintendo chose a cheaper, lower-power chip with fewer graphics capabilities, creating a totally different style of play based on physical gestures. A sleek white design and a new motion-sensitive wireless controller made it much more engaging and interactive. Nintendo's decision to embrace outside software developers meant a number of titles quickly became available. Thus Wii was born. Its collaborative nature made it a hit with nongamers drawn by its capabilities and hard-core players seeking to master its many intriguing games.

Marketers play a key role in new-product development by identifying and evaluating ideas and working with R&D and other areas in every stage of development. This chapter provides a detailed analysis of the new-product development process. Much of the discussion is equally relevant to new products, services, or business models. Chapter 21 considers how marketers can tap into global markets as another source of long-term growth.

New-Product Options

There are a variety of types of new products and ways to create them.[2]

Make or Buy

A company can add new products through acquisition or development. When acquiring, the company can buy other companies, patents from other companies, or a license or franchise from another company. Swiss food giant Nestlé has increased its presence in North America by acquiring such diverse brands as Carnation, Hills Brothers, Stouffer's, Ralston Purina, Dreyer's Ice Cream, Chef America, Jenny Craig, and Gerber.

But firms can successfully make only so many acquisitions. At some point, they need *organic growth*— the development of new products from within. Praxair, worldwide provider of industrial gases, achieved an ambitious goal of $200 million per year of double-digit new annual sales growth only through a healthy dose of organic growth and a large number of smaller but significant $5 million projects.[3]

For product development, the company can create new products in its own laboratories, or it can contract with independent researchers or new-product development firms to develop specific new products or provide new technology.[4] Firms such as Samsung, GE, Diageo, Hershey, and USB have engaged new-product consulting boutiques to provide fresh insights and points of view.

Types of New Products

New products range from new-to-the-world products that create an entirely new market to minor improvements or revisions of existing products. Most new-product activity is devoted to improving existing products. Some of the most successful recent new consumer products have been brand extensions: Tide Total Care, Gillette Venus Embrace, Bounce Extra Soft, Always Infinity, and Secret Flawless deodorant.[5] At Sony, modifications of established products account for over 80 percent of new-product activity.

It is increasingly difficult to identify blockbuster products that will transform a market, but continuous innovation can force competitors to play catch-up and also broaden the brand meaning.[6] Once a running-shoe manufacturer, Nike now competes with makers of all types of athletic shoes, clothing, and equipment. Armstrong World Industries moved from selling floor coverings to ceilings to total interior surface decoration.

Fewer than 10 percent of all new products are truly innovative and new to the world.[7] These products incur the greatest cost and risk. Although radical innovations can hurt the company's bottom line in the short run, if they succeed they can create a greater sustainable competitive advantage than ordinary products and produce significant financial rewards as a result.[8]

Companies typically must create a strong R&D and marketing partnership to pull off a radical innovation.[9] The right corporate culture is another crucial determinant; the firm must prepare to cannibalize existing products, tolerate risk, and maintain a future market orientation.[10] Few reliable techniques exist for estimating demand for radical innovations.[11] Focus groups can provide perspective on customer interest and need, but marketers may need a probe-and-learn approach based on observation and feedback of early users' experiences and other means such as online chats or product-focused blogs.

High-tech firms in telecommunications, computers, consumer electronics, biotech, and software in particular seek radical innovation.[12] They face a number of product-launch challenges: high technological uncertainty, high market uncertainty, fierce competition, high investment costs, short product life cycles, and scarce funding sources for risky projects.[13] Successes abound, however.[14] BMW is spending more than $1 billion to develop a small car for urban drivers, including an electric-powered version. Blackboard e-learning software brings new technology into the classroom to help professors manage their classes and course materials. Even consumer packaged goods makers can benefit from a healthy dose of technology. Danone uses sophisticated R&D techniques to study bacteria, coming up with billion-dollar sellers such as Activia yogurt, sold as an aid for regularity.

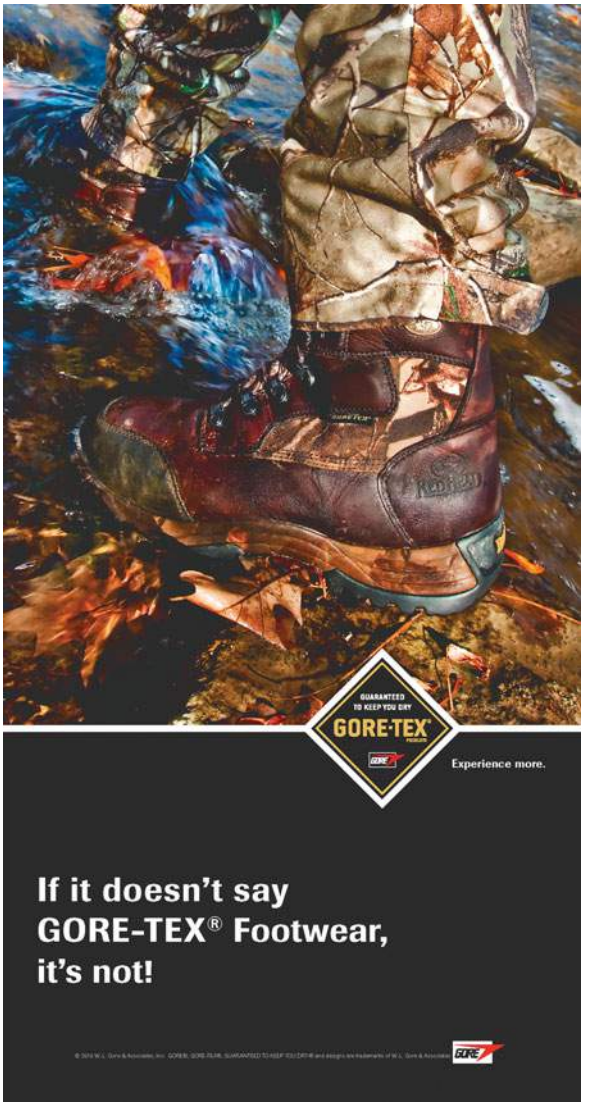
Challenges in New-Product Development

New-product introductions have accelerated, and in retailing, consumer goods, electronics, autos, and other industries, the time to bring a product to market has been cut in half.[15] Luxury leather-goods maker Louis Vuitton implemented a new factory format dubbed Pégase so it could ship fresh collections to its boutiques every six weeks—more than twice as frequently as in the past—giving customers more new looks to choose from.[16]

The Innovation Imperative

In an economy of rapid change, continuous innovation is a necessity. Highly innovative firms are able to identify and quickly seize new market opportunities. They create a positive attitude toward innovation and risk taking, routinize the innovation process, practice teamwork, and allow their people to experiment and even fail. One such firm is W. L. Gore.

W. L. Gore Best known for its GORE-TEX high-performance fabrics, W. L. Gore has introduced breakthrough products as diverse as guitar strings, dental floss, medical devices, and fuel cells—while constantly reinventing the uses of the polymer polytetrafluoroethylene (PTFE). Several principles guide its new-product development. First, it works with potential customers. Its thoracic graft, designed to combat heart disease, was developed in close collaboration with physicians. Second, it lets employees choose projects and appoints few product leaders and teams. Gore likes to nurture "passionate champions" who convince others a project is worth their time and commitment. Thus leaders have positions of authority because they have followers. The development of the fuel cell rallied more than 100 of Gore's 9,000 research associates. Third, Gore gives employees "dabble" time. All research associates spend 10 percent of their work hours developing their own ideas. Promising ideas are pushed forward and judged according to a "Real, Win, Worth" exercise: Is the opportunity real? Can we win? Can we make money? Fourth, Gore knows when to let go, though dead ends in one area can spark innovation in another: Elixir acoustic guitar strings were the result of a failed venture into bike cables. Even successful ventures may need to move on. Glide shred-resistant dental floss was sold to Procter & Gamble because GORE-TEX knew retailers want to deal with a company selling a whole family of health care products.[17]



W. L. Gore's thoughtful new-product development strategy has led to many successful innovations over the years, starting with its waterproof, breathable GORE-TEX fabric.

Companies that fail to develop new products leave their existing offerings vulnerable to changing customer needs and tastes, new technologies, shortened product life cycles, increased domestic and foreign competition, and especially new technologies. Kodak, long-time leader in the vanishing traditional film market, has worked hard to develop a new business model and product-development processes for a digital-photography world. Its new goal is to do for photos what Apple does for music by helping people organize and manage their personal libraries of images.

Innovation is about "creating new choices" the competition doesn't have access to, says IDEO's CEO Tim Brown. It isn't about brilliant people spontaneously generating new ideas, he argues, but about finding hidden assumptions and ignored processes that can change the way a company does business.[18]

New-Product Success

Most established companies focus on *incremental innovation*, entering new markets by tweaking products for new customers, using variations on a core product to stay one step ahead of the market, and creating interim solutions for industry-wide problems.

When Scott Paper couldn't compete with Fort Howard Paper Co. on price for the lucrative institutional toilet tissue market, it borrowed a solution from European companies: a dispenser that held bigger rolls. Scott made the larger rolls of paper and provided institutional customers with free dispensers, later doing the same thing with paper towels. Scott not only won over customers in a new market; it became less vulnerable to competitors, such as Fort Howard, which could lower prices but weren't offering the larger rolls or tailor-made dispensers.

Newer companies create *disruptive technologies* that are cheaper and more likely to alter the competitive space. Established companies can be slow to react or invest in these disruptive technologies because they threaten their investment. Then they suddenly find themselves facing formidable new competitors, and many fail.[19] To avoid this trap, incumbent firms must carefully monitor the preferences of both customers and noncustomers and uncover evolving, difficult-to-articulate customer needs.[20]

What else can a company do? In a study of industrial products, new-product specialists Cooper and Kleinschmidt found that the number one success factor is a unique, superior product. Such products succeed 98 percent of the time, compared to products with a moderate advantage (58 percent

success) or minimal advantage (18 percent success). Another key factor is a well-defined product concept. The company carefully defines and assesses the target market, product requirements, and benefits before proceeding. Other success factors are technological and marketing synergy, quality of execution in all stages, and market attractiveness.[21]

Cooper and Kleinschmidt also found that products designed solely for domestic markets tend to show a high failure rate, low market share, and low growth. Those designed for the world market—or at least neighboring countries—achieve significantly more profits at home and abroad. Yet only 17 percent of the products in their study were designed with an international orientation.[22] The implication is that companies should consider adopting an international perspective in designing and developing new products, even if only to sell in their home market.

New-Product Failure

New products continue to fail at estimated rates as high as 50 percent or even 95 percent in the United States and 90 percent in Europe.[23] They fail for many reasons: ignored or misinterpreted market research; overestimates of market size; high development costs; poor design or ineffectual performance; incorrect positioning, advertising, or price; insufficient distribution support; competitors who fight back hard; and inadequate ROI or payback. Some additional drawbacks are:[24]

- ***Shortage of important ideas in certain areas.*** There may be few ways left to improve some basic products (such as steel or detergent).
- ***Fragmented markets.*** Companies must aim their new products at smaller market segments, which can mean lower sales and profits for each product.
- ***Social, economic, and governmental constraints.*** New products must satisfy consumer safety and environmental concerns. They must also be resilient if economic times are tough.
- ***Cost of development.*** A company typically must generate many ideas to find just one worthy of development and thus often faces high R&D, manufacturing, and marketing costs.
- ***Capital shortages.*** Some companies with good ideas cannot raise the funds to research and launch them.
- ***Shorter required development time.*** Companies must learn to compress development time with new techniques, strategic partners, early concept tests, and advanced marketing planning.
- ***Poor launch timing.*** New products are sometimes launched after the category has already taken off or when there is still insufficient interest.
- ***Shorter product life cycles.*** Rivals are quick to copy success. Sony used to enjoy a three-year lead on its new products. Now Matsushita can copy them within six months, barely leaving Sony time to recoup its investment.
- ***Organizational support.*** The new product may not mesh with the corporate culture or receive the financial or other support it needs.

But failure comes with the territory, and truly innovative firms accept it as part of what's needed to be successful. Silicon Valley marketing expert Seth Godin maintains: "It is not just OK to fail; it's imperative to fail."[25] Many Web companies are the result of failed earlier ventures and experience numerous failures as their services evolve. Dogster.com, a social network site for dog lovers, emerged after the spectacular demise of Pets.com.[26]

Initial failure is not always the end of the road for an idea. Recognizing that 90 percent of experimental drugs are unsuccessful, Eli Lilly looks at failure as an inevitable part of discovery. Its scientists are encouraged to find new uses for compounds that fail at any stage in a human clinical trial. Evista, a failed contraceptive, became a $1 billion-a-year drug for osteoporosis. Strattera was unsuccessful as an antidepressant, but became a top seller for attention deficit/hyperactivity disorder. One promising cardiovascular drug in development started as an asthma project.[27]

Organizational Arrangements

Many companies use *customer-driven engineering* to develop new products, incorporating customer preferences in the final design. Some rely on internal changes to develop more successful new products. Consider Johnson & Johnson.

Johnson & Johnson

Johnson & Johnson To improve the odds for new-product success in its growing medical device business, Johnson & Johnson has made a number of changes. First, it is trying to replicate the dynamic venture-capital world within the company by creating internal start-ups that seek financing from other J&J units. J&J is also pushing for greater input from doctors and insurers to provide stronger assurance that any devices it introduces will be highly desirable, feasible, and cost-effective. The Ethicon-Endo unit designed new surgical clips based on discussions with physicians about the need to make surgery less invasive. J&J also put one of its most successful scientists in the newly created position of chief science and technology officer, to encourage collaboration between J&J's different businesses and overcome barriers in its decentralized structure. One notable success: the $2.6 billion CYPHER drug-coated stent.[28]

New-product development requires senior management to define business domains, product categories, and specific criteria. One company established the following acceptance criteria:

- The product can be introduced within five years.
- The product has a market potential of at least $50 million and a 15 percent growth rate.
- The product can provide at least 30 percent return on sales and 40 percent on investment.
- The product can achieve technical or market leadership.

Budgeting for New-Product Development

R&D outcomes are so uncertain that it is difficult to use normal investment criteria when budgeting for new-product development. Some companies simply finance as many projects as possible, hoping to achieve a few winners. Other companies apply a conventional percentage-of-sales figure or spend what the competition spends. Still others decide how many successful new products they need and work backward to estimate the required investment.

Table 20.1 shows how a company might calculate the cost of new-product development. The new-products manager at a large consumer packaged-goods company reviewed 64 ideas. Sixteen passed the screening stage and cost $1,000 each to review at this point. Half those, or eight, survived the concept-testing stage, at a cost of $20,000 each. Half of these, or four, survived the product-development stage, at a cost of $200,000 each. Two did well in the test market, costing $500,000 each. When they were launched, at a cost of $5 million each, one was highly successful. Thus, this one successful idea cost the company $5,721,000 to develop, while 63 others fell by the wayside for a total development cost of $13,984,000. Unless the company can improve its pass ratios and reduce costs at each stage, it will need to budget nearly $14 million for each successful new idea it hopes to find.

Hit rates vary. Inventor Sir James Dyson claims he made 5,127 prototypes of his bagless, transparent vacuum cleaner over a 14-year period before getting it right, resulting in the best-selling vacuum cleaner by revenue in the United States with over 20 million sold and annual revenue of $1 billion. He doesn't lament his failures, though: "If you want to discover something that other people haven't, you

TABLE 20.1 Finding One Successful New Product (Starting with 64 New Ideas)

Stage	Number of Ideas	Pass Ratio	Cost per Product Idea	Total Cost
1. Idea screening	64	1:4	$ 1,000	$ 64,000
2. Concept testing	16	1:2	20,000	320,000
3. Product development	8	1:2	200,000	1,600,000
4. Test marketing	4	1:2	500,000	2,000,000
5. National launch	2	1:2	5,000,000	10,000,000
			$5,721,000	$13,984,000

Inventor Sir James Dyson is willing to endure many failed prototypes as long as he comes up with a winner, like the Air Multiplier bladeless table fan.

need to do things the wrong way… watching why that fails can take you on a completely different path." His latest successes: the Airblade, an energy-efficient hand drier for public restrooms, and the Air Multiplier, a bladeless table fan.[29]

Organizing New-Product Development

Companies handle the organizational aspect of new-product development in several ways.[30] Many assign responsibility to *product managers.* But product managers are often busy managing existing lines and may lack the skills and knowledge to develop and critique new products.

Kraft and Johnson & Johnson employ *new-product managers* who report to category managers. Westinghouse has *growth leaders*—a full-time job for its most creative and successful managers.[31] Some companies have a *high-level management committee* charged with reviewing and approving proposals. Large companies often establish a *new-product department* headed by a manager with substantial authority and access to top management whose responsibilities include generating and screening new ideas, working with the R&D department, and carrying out field testing and commercialization.

Adobe Systems Inc.

Adobe Systems Inc. Adobe Systems, a developer of graphic design and publishing software, established a task force to identify the obstacles its employees faced in trying to develop new products. The team discovered that ideas needing a new sales channel, new business model, or even new packaging failed due to the corporate hierarchy. In addition, Adobe had grown so large that ideas originating in branch offices were not getting a fair shake. As a result, Adobe established a New Business Initiatives Group that mimics the venture capital model, backing entrepreneurial people and putting employees in front of their ideas. The Group holds quarterly Idea Champion Showcases where approximately 20 product managers and other employees (except top executives who are barred from the proceedings) watch as potential employee-entrepreneurs give brief presentations and Q&A sessions. The ideas are vetted by Adobe Entrepreneurs-in-Residence and the best ideas are given a first round of funding. But even ideas that are nixed can still get a hearing on the company's brainstorming site. The event has become extremely popular within Adobe—an *American Idol*–style way for good ideas to come to the fore.[32]

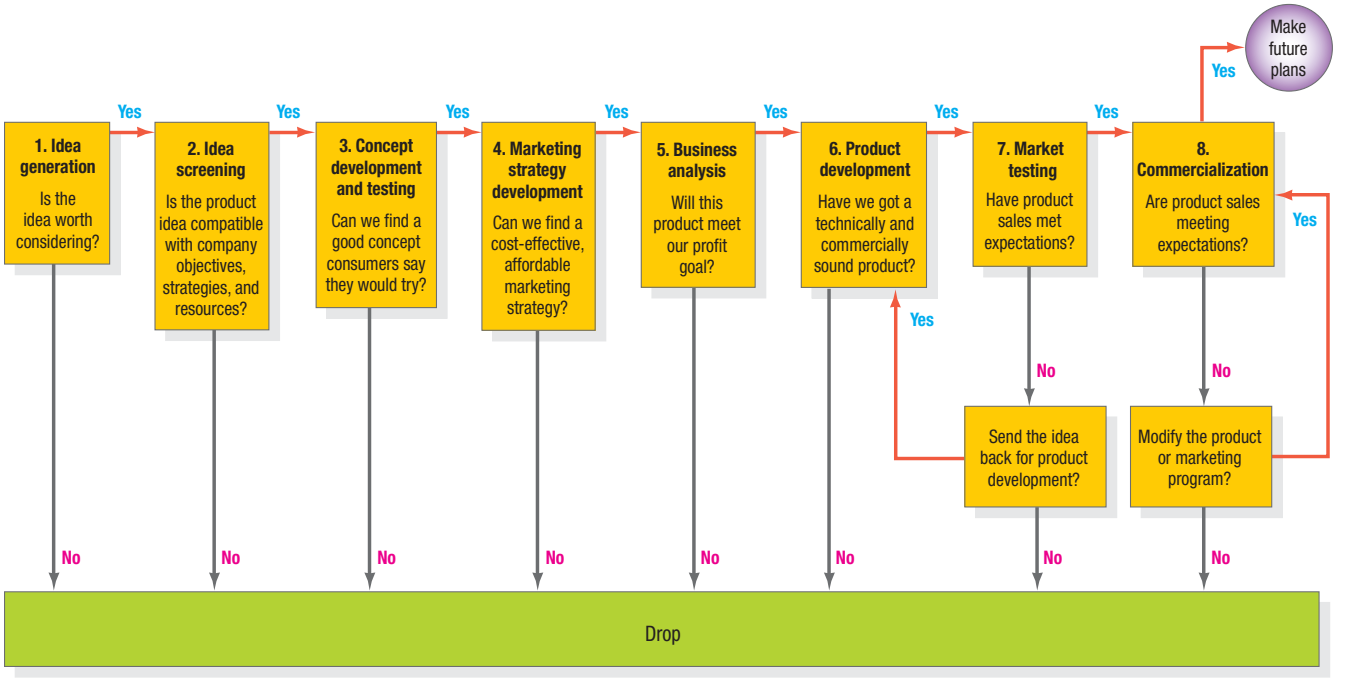
CROSS-FUNCTIONAL TEAMS

3M, Dow, and General Mills have assigned new-product development to **venture teams**, cross-functional groups charged with developing a specific product or business. These "intrapreneurs" are relieved of other duties and given a budget, time frame, and "skunkworks" setting. *Skunkworks* are informal workplaces, sometimes garages, where intrapreneurial teams attempt to develop new products.

Cross-functional teams can collaborate and use concurrent new-product development to push new products to market.[33] Concurrent product development resembles a rugby match, with team members passing the new product back and forth as they head toward the goal. Using this system, Allen-Bradley Corporation (a maker of industrial controls) was able to develop a new device in just two years, down from six under its old system. Cross-functional teams help ensure that engineers are not driven to create a "better mousetrap" when potential customers don't need or want one.

STAGE-GATE SYSTEMS

Many top companies use the *stage-gate system* to divide the innovation process into stages, with a gate or checkpoint at the end of each.[34] The project leader, working with a cross-functional team, must bring a set of known deliverables to each gate before the project can pass to the next stage. To move from the business plan stage into product development requires a convincing market research study of consumer needs and interest, a competitive analysis, and a technical appraisal. Senior managers review the criteria at each gate to make one of four decisions: *go*, *kill*, *hold*, or *recycle*. Stage-gate systems make the innovation process visible to all and clarify the project leader's and team's responsibilities at each stage.[35] The gates or controls should not be so rigid, however, that they inhibit learning and the development of novel products.[36]



|Fig. 20.1|

The New-Product Development Decision Process

The stages in the new-product development process are shown in Figure 20.1. Many firms have parallel sets of projects working through the process, each at a different stage.[37] Think of the process as a *funnel:* A large number of initial new-product ideas and concepts are winnowed down to a few high-potential products that are ultimately launched. But the process is not always linear. Many firms use a *spiral development process* that recognizes the value of returning to an earlier stage to make improvements before moving forward.[38]

Ansell Healthcare, the world's largest manufacturer of protective gloves and clothing, adopted a stage-gate process and found the contribution of new products to overall sales jumped from 4.5 percent to 13 percent in a little over two years. Hydro Quebec, one of the world's largest hydro-electricity utilities, implemented a stage-gate system that focused resources on the most valuable projects and reaped over $1 billion in benefits.[39]

Managing the Development Process: Ideas

Generating Ideas

The new-product development process starts with the search for ideas. Some marketing experts believe the greatest opportunities and highest leverage with new products are found by uncovering the best possible set of unmet customer needs or technological innovation.[40] New-product ideas can come from interacting with various groups and using creativity-generating techniques.[41] (See "Marketing Memo: Ten Ways to Find Great New-Product Ideas.")

Erich Joachimsthaler believes some of the best new-product opportunities are right in front of marketers' eyes. The mistake too many make, he says, is to view the world from the perspective of their own products and services and search for customers for them. His demand-first innovation

marketing **Memo**

Ten Ways to Find Great New-Product Ideas

1. Run informal sessions where groups of customers meet with company engineers and designers to discuss problems and needs and brainstorm potential solutions.
2. Allow time off—scouting time—for technical people to putter on their own pet projects. Google has allowed 20 percent time off; 3M 15 percent; and Rohm & Haas 10 percent.
3. Make a customer brainstorming session a standard feature of plant tours.
4. Survey your customers: Find out what they like and dislike in your and competitors' products.
5. Undertake "fly-on-the-wall" or "camping out" research with customers, as do Fluke and Hewlett-Packard.
6. Use iterative rounds: a group of customers in one room, focusing on identifying problems, and a group of your technical people in the next room, listening and brainstorming solutions. Immediately test proposed solutions with the group of customers.
7. Set up a keyword search that routinely scans trade publications in multiple countries for new-product announcements.
8. Treat trade shows as intelligence missions, where you view all that is new in your industry under one roof.
9. Have your technical and marketing people visit your suppliers' labs and spend time with their technical people—find out what's new.
10. Set up an idea vault, and make it open and easily accessed. Allow employees to review the ideas and add constructively to them.

Source: Adapted from Robert G. Cooper, *Product Leadership: Creating and Launching Superior New Products* (New York: Perseus Books, 1998). Adapted with permission from the author. See also Robert G. Cooper and Scott J. Edgett, "Ideation for Product Innovation: What are the Best Methods?: Visions," March 2008, pp. 12–17.

and growth (DIG) framework is designed to provide companies with an unbiased view and an outside-in perspective of demand opportunities. It has three parts:[42]

1. ***The demand landscape***—Use observational, anthropological, and ethnographic methods or consumer self-reports to map consumer needs, wants, and even beyond.
2. ***The opportunity space***—Use conceptual lens and structured innovative-thinking tools to achieve market perspectives from different angles.
3. ***The strategic blueprint***—Think about how the new product can fit into customers lives and how it can be distinguished from competitors.

As one DIG-type application, Joachimsthaler notes how Intel famously abandoned its highly competitive memory business to pursue more fertile opportunities with microprocessors.

INTERACTING WITH OTHERS Encouraged by the *open innovation* movement, many firms are going outside their bounds to tap external sources of new ideas, including customers, employees, scientists, engineers, channel members, marketing agencies, top management, and even competitors.[43] "Marketing Insight: P&G's New Connect-and-Develop Approach to Innovation" describes how P&G has made new-product development more externally focused.

Marketing Insight

P&G'S New Connect + Develop Approach to Innovation

In the first decade of the 21st century, one of the fastest-growing major corporations in revenue and profit was Procter & Gamble. Fueling that growth were successful new products such as Swiffer, Mr. Clean Magic Eraser, and Actonel (a prescription medication for osteoporosis). Many of these new products reflected innovation in what ex-CEO A.G. Lafley calls "the core"—core markets, categories, brands, technologies, and capabilities.

To more effectively develop its core, P&G adopted a "Connect + Develop" model that emphasizes the pursuit of outside innovation. The firm collaborates with organizations and individuals around the world, searching for proven technologies, packages, and products it can improve, scale up, and market on its own or in partnership with other companies. It has strong relationships with external designers, distributing product development around the world to increase what it calls "consumer sensing."

P&G identifies the top 10 customer needs, closely related products that could leverage or benefit from existing brand equity, and "game boards" that map the adoption of technology across different product

categories. It may consult government and private labs as well as academic and other research institutions, VC firms, individual entrepreneurs, and suppliers, retailers, competitors, and development and trade partners, using online networks to reach thousands of experts worldwide.

P&G's three core requirements for a successful Connect + Develop strategy are:

1. *Never assume that "ready to go" ideas found outside are truly ready to go.* There will always be development work to do, including risky scale-up.
2. *Don't underestimate the internal resources required.* You'll need a full-time, senior executive to run any connect-and-develop initiative.
3. *Never launch without a mandate from the CEO.* Connect and develop cannot succeed if it's cordoned off in R&D. It must be a top-down, company-wide strategy.

Through Connect + Develop—and improvements in product cost, design, and marketing—P&G increased R&D productivity by nearly 60 percent during the decade. The innovation success rate more than doubled, and cost has fallen.

Sources: www.pgconnectdevelop.com A.G. Lafley and Ram Charan, *The Game Changer: How You Can Drive Revenue and Profit Growth Through Innovation* (New York: Crown Business, 2009); Robert Berner, "How P&G Pampers New Thinking," *BusinessWeek*, April 14, 2008, pp. 73–74; Steve Hamm, "Speed Demons," *BusinessWeek*, March 27, 2006, pp. 69–76; Larry Huston and Nabil Sakkab, "Connect and Develop: Inside Procter & Gamble's New Model for Innovation," *Harvard Business Review,* March 2006, pp. 58–66; Geoff Colvin, "Lafley and Immelt: In Search of Billions," *Fortune*, December 11, 2006, pp. 70–72; Rajat Gupta and Jim Wendler, "Leading Change: An Interview with the CEO of P&G," *McKinsey Quarterly* (July 2005).

Customer needs and wants are the logical place to start the search.[44] Griffin and Hauser suggest that conducting 10 to 20 in-depth experiential interviews per market segment often uncovers the vast majority of customer needs.[45] But other approaches can be profitable (see "Marketing Memo: Seven Ways to Draw New Ideas from Your Customers"). One marketer-sponsored café in Tokyo tests products of all kinds with affluent, influential young Japanese women.[46]

The traditional company-centric approach to product innovation is giving way to a world in which companies cocreate products with consumers.[47] Companies are increasingly turning to "crowdsourcing" to generate new ideas or, as we saw in the preceding chapter, to create consumer-generated marketing campaigns. *Crowdsourcing* means inviting the Internet community to help create content or software, often with prize money or a moment of glory as an incentive.[48]

This strategy has helped create new products and companies such as Wikipedia, YouTube (which was eventually purchased by Google), and iStockphoto, a "microstock" company. One recent convert to crowdsourcing is Cisco.[49]

P&G's Connect + Develop approach to innovation enabled Swiffer Dusters to make the leap to global market success.

Cisco

Cisco Cisco's I-Prize, an external innovation competition, gives a team outside the company the chance to join Cisco in heading an emerging technology business while receiving a $250,000 signing bonus and up to $10 million in funding for the first two years. Cisco's rationale for the contest—which drew 1,200 entrants from 104 countries—was simple: "In many parts of the world, you have incredibly smart people with incredibly great ideas who have absolutely no access to capital to take a great idea and turn it into a business." Judges applied five main criteria: (1) Does it address a real pain point? (2) Will it appeal to a big enough market? (3) Is the timing right? (4) If we pursue the idea, will we be good at it? and (5) Can we exploit the opportunity for the long term? The public judged the entries online, where Cisco found the detailed comments even more useful than the actual votes. The winning entry in the first competition was a plan for a sensor-enabled smart-electricity grid.

Besides producing new and better ideas, cocreation can help customers to feel closer to and more favorably toward the company and to create favorable word of mouth.[50] Getting the right customers engaged in the right way, however, is critical.[51]

Lead users can be a good source of input, even when they innovate products without the consent or knowledge of the companies that produce them. Mountain bikes developed as a result of youngsters taking their bikes to the top of a mountain and riding down. When the bikes broke, the

marketing **Memo**

Seven Ways to Draw New Ideas from Your Customers

1. ***Observe how customers are using your product.*** Medtronic, a medical device company, has salespeople and market researchers regularly observe spine surgeons who use their products and competitive products, to learn how theirs can be improved. After living with lower-middle-class families in Mexico City, Procter & Gamble researchers devised Downy Single Rinse, a fabric softener that removed an arduous step from the partly manual laundry process there.
2. ***Ask customers about their problems with your products.*** Komatsu Heavy Equipment sent a group of engineers and designers to the United States for six months to ride with equipment drivers and learn how to make products better. Procter & Gamble, recognizing consumers were frustrated that potato chips break and are difficult to save after opening the bag, designed Pringles to be uniform in size and encased in a protective tennis-ball-type can.
3. ***Ask customers about their dream products.*** Ask your customers what they want your product to do, even if the ideal sounds impossible. One 70-year-old camera user told Minolta he would like the camera to make his subjects look better and not show their wrinkles and aging. In response, Minolta produced a camera with two lenses, one for rendering softer images of the subjects.
4. ***Use a customer advisory board to comment on your company's ideas.*** Levi Strauss uses youth panels to discuss lifestyles, habits, values, and brand engagements; Cisco runs Customer Forums to improve its offerings; and Harley-Davidson solicits product ideas from its one million H.O.G. (Harley Owners Group) members.
5. ***Use Web sites for new ideas.*** Companies can use specialized search engines such as Technorati and Daypop to find blogs and postings relevant to their businesses. P&G's site has *We're Listening* and *Share Your Thoughts* sections and Advisory Feedback sessions to gain advice and feedback from customers.
6. ***Form a brand community of enthusiasts who discuss your product.*** Harley-Davidson and Apple have strong brand enthusiasts and advocates; Sony engaged in collaborative dialogues with consumers to codevelop Sony's PlayStation 2. LEGO draws on kids and influential adult enthusiasts for feedback on new-product concepts in early stages of development.
7. ***Encourage or challenge your customers to change or improve your product.*** Salesforce.com wants its users to develop and share new software applications using simple programming tools. International Flavors & Fragrances gives a toolkit to its customers to modify specific flavors, which IFF then manufactures; LSI Logic Corporation also provides customers with do-it-yourself toolkits so customers can design their own specialized chips; and BMW posted a toolkit on its Web site to let customers develop ideas using telematics and in-car online services.

Source: From an unpublished paper, Philip Kotler, "Drawing New Ideas from Your Customers," 2007.

Some of the best new-product ideas come from highly involved consumers or lead users, as was the case in the birth of the mountain bike.

youngsters began building more durable bikes and adding motorcycle brakes, improved suspension, and accessories. They, not the companies, developed these innovations.

Some companies, particularly those that want to appeal to hip young consumers, bring their lead users into their product-design process. Technical companies can learn a great deal by studying customers who make the most advanced use of the company's products and who recognize the need for improvements before other customers do.[52] In a business-to-business market, collecting information from distributors and retailers who are not in close contact can provide more diverse insights and information.[53]

Not everyone believes a customer focus helps to create better new products. As Henry Ford famously said, "If I'd asked people what they wanted, they would have said a faster horse." And some still caution that being overly focused on consumers who may not really know what they want, or what could be possible, can result in shortsighted product development and miss real potential breakthroughs.[54]

INTERACTING WITH EMPLOYEES Employees can be a source of ideas for improving production, products, and services.[55] Toyota claims its employees submit 2 million ideas annually (about 35 suggestions per employee), over 85 percent of which are implemented. Kodak, Milliken, and other firms give monetary, holiday, or recognition awards to employees who submit the best ideas. Nokia inducts engineers who file for at least 10 patents into its "Club 10," recognizing them each year in a formal awards ceremony hosted by the company's CEO.[56] A company can motivate its employees to submit new ideas to an *idea manager* whose name and contact information are widely circulated.

Top management can be another major source of ideas. Some company leaders, such as former CEO Andy Grove of Intel, take personal responsibility for technological innovation in the firm. New-product ideas can come from inventors, patent attorneys, university and commercial laboratories,

industrial consultants, advertising agencies, marketing research firms, and industrial publications. However, their chances of receiving serious attention often depend on someone in the organization taking the role of product champion.

STUDYING COMPETITORS Companies can find good ideas by researching the products and services of competitors and other companies. They can find out what customers like and dislike about competitors' products. They can buy their competitors' products, take them apart, and build better ones. Company sales representatives and intermediaries are a particularly good source of ideas. These groups have firsthand exposure to customers and are often the first to learn about competitive developments. Electronic retailer Best Buy actually checks with venture capitalists to find out what start-ups are working on.

ADOPTING CREATIVITY TECHNIQUES Internal brainstorming sessions also can be quite effective—if conducted correctly. "Marketing Memo: How to Run a Successful Brainstorming Session" provides some brainstorming guidelines.

The following list is a sampling of techniques for stimulating creativity in individuals and groups.[57]

- ***Attribute listing.*** List the attributes of an object, such as a screwdriver. Then modify each attribute, such as replacing the wooden handle with plastic, providing torque power, adding different screw heads, and so on.
- ***Forced relationships.*** List several ideas and consider each in relationship to each of the others. In designing new office furniture, for example, consider a desk, bookcase, and filing cabinet as separate ideas. Then imagine a desk with a built-in bookcase or a desk with built-in files or a bookcase with built-in files.
- ***Morphological analysis.*** Start with a problem, such as "getting something from one place to another via a powered vehicle." Now think of dimensions, such as the type of platform (cart, chair, sling, bed), the medium (air, water, oil, rails), and the power source (compressed air, electric motor, magnetic fields). By listing every possible combination, you can generate many new solutions.
- ***Reverse assumption analysis.*** List all the normal assumptions about an entity and then reverse them. Instead of assuming that a restaurant has menus, charges for food, and serves food, reverse each assumption. The new restaurant may decide to serve only what the chef bought that morning and cooked; may provide some food and charge only for how long the person sits at the table; and may design an exotic atmosphere and rent out the space to people who bring their own food and beverages.

marketing **Memo**

How to Run a Successful Brainstorming Session

If done correctly, group brainstorming sessions can create insights, ideas, and solutions that would have been impossible without everyone's participation. If done incorrectly, they are a painful waste of time that can frustrate and antagonize participants. To ensure success, experts recommend the following guidelines:

1. A trained facilitator should guide the session.
2. Participants must feel they can express themselves freely.
3. Participants must see themselves as collaborators working toward a common goal.
4. Rules need to be set up and followed, so conversations don't get off track.
5. Participants must be given proper background preparation and materials so they can get into the task quickly.
6. Individual sessions before and after the brainstorming can be useful for thinking and learning about the topic ahead of time and for reflecting afterward on what happened.
7. Brainstorming sessions must lead to a clear plan of action and implementation, so the ideas that materialize can provide tangible value.
8. Brainstorming sessions can do more than just generate ideas—they can help build teams and leave participants better informed and energized.

Sources: Linda Tischler, "Be Creative: You Have 30 Seconds," *Fast Company,* May 2007, pp. 47–50; Michael Myser, "When Brainstorming Goes Bad," *Business 2.0*, October 2006, p. 76; Robert I. Sutton, "Eight Rules to Brilliant Brainstorming," *BusinessWeek IN Inside Innovation,* September 2006, pp. 17–21.

An example of lateral marketing, Kinder Surprise combines two product concepts—candy and toy—into one product offering.

- ***New contexts.*** Take familiar processes, such as people-helping services, and put them into a new context. Imagine helping dogs and cats instead of people with day care service, stress reduction, psychotherapy, funerals, and so on. As another example, instead of sending hotel guests to the front desk to check in, greet them at curbside and use a wireless device to register them.
- ***Mind mapping.*** Start with a thought, such as a car, write it on a piece of paper, then think of the next thought that comes up (say Mercedes), link it to car, then think of the next association (Germany), and do this with all associations that come up with each new word. Perhaps a whole new idea will materialize.

Increasingly, new-product ideas arise from *lateral marketing* that combines two product concepts or ideas to create a new offering.[58] Here are some successful examples:

- Gas station stores = gas stations + food
- Cybercafés = cafeteria + Internet
- Cereal bars = cereal + snacking
- Kinder Surprise = candy + toy
- Sony Walkman = audio + portable

Using Idea Screening

In screening ideas, the company must avoid two types of errors. A *DROP-error* occurs when the company dismisses a good idea. It is extremely easy to find fault with other people's ideas (△ Figure 20.2). Some companies shudder when they look back at ideas they dismissed or breathe sighs of relief when they realize how close they came to dropping what eventually became a huge success. Consider the hit television show *Friends.*

Friends

Friends The NBC situation comedy *Friends* enjoyed a 10-year run from 1994 to 2004 as a perennial ratings powerhouse. But the show almost didn't see the light of the day. According to an internal NBC research report, the pilot episode was described as "not very entertaining, clever, or original" and was given a failing grade, scoring 41 out of 100. Ironically, the pilot for an earlier hit sitcom, *Seinfeld,* was also rated "weak," although the pilot for the medical drama *ER* scored a healthy 91. Courtney Cox's Monica was the *Friends* character who scored best with test audiences, but characters portrayed by Lisa Kudrow and Matthew Perry were deemed to have marginal appeal, and the Rachel, Ross, and Joey characters scored even lower. Adults 35 and over in the sample found the characters as a whole "smug, superficial, and self-absorbed."[59]

The purpose of screening is to drop poor ideas as early as possible. The rationale is that product-development costs rise substantially with each successive development stage. Most companies require new-product ideas to be described on a standard form for a new-product committee's review. The description states the product idea, the target market, and the competition and roughly estimates market size, product price, development time and costs, manufacturing costs, and rate of return.

The executive committee then reviews each idea against a set of criteria. Does the product meet a need? Would it offer superior value? Can it be distinctively advertised? Does the company have the necessary know-how and capital? Will the new product deliver the expected sales volume, sales growth, and profit? Consumer input may be necessary to tap into marketplace realities.[60]

Management can rate the surviving ideas using a weighted-index method like that in Table 20.2. The first column lists factors required for successful product launches, and the second column assigns importance weights. The third column scores the product idea on a scale from 0 to 1.0, with 1.0 the highest score. The final step multiplies each factor's importance by the product score to obtain an overall rating. In this example, the product idea scores 0.69, which places it in the "good idea" level. The purpose of this basic rating device is to promote systematic evaluation and discussion. It is not supposed to make the decision for management.

TABLE 20.2 Product–Idea Rating Device

Product Success Requirements	Relative Weight (a)	Product Score (b)	Product Rating (c = a × b)
Unique or superior product	.40	.8	.32
High performance-to-cost ratio	.30	.6	.18
High marketing dollar support	.20	.7	.14
Lack of strong competition	.10	.5	.05
Total	1.00		.69[a]

[a] Rating scale: .00–.30 poor; .31–.60 fair; .61–.80 good. Minimum acceptance rate: .61

As the idea moves through development, the company will need to constantly revise its estimate of the product's overall probability of success, using the following formula:

$$\text{Overall probability of success} = \text{Probability of technical completion} \times \text{Probability of commercialization given technical completion} \times \text{Probability of economic success given commercialization}$$

For example, if the three probabilities are estimated at 0.50, 0.65, and 0.74, respectively, the overall probability of success is 0.24. The company then must judge whether this probability is high enough to warrant continued development.

Managing the Development Process: Concept to Strategy

Attractive ideas must be refined into testable product concepts. A *product idea* is a possible product the company might offer to the market. A *product concept* is an elaborated version of the idea expressed in consumer terms.

Concept Development and Testing

Concept development is a necessary but not sufficient step for new product success. Marketers must also distinguish winning concepts from losers.

CONCEPT DEVELOPMENT Let us illustrate concept development with the following situation: A large food-processing company gets the idea of producing a powder to add to milk to increase its nutritional value and taste. This is a product *idea*, but consumers don't buy product ideas; they buy product *concepts*.

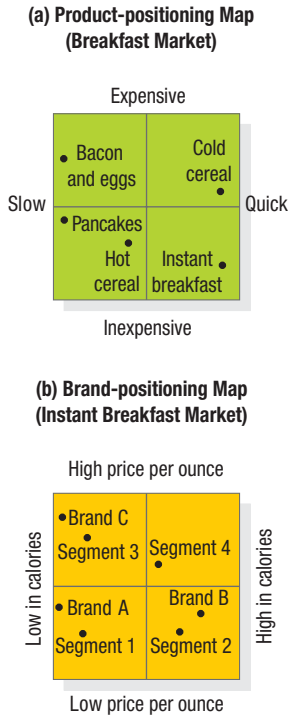
A product idea can be turned into several concepts. The first question is: Who will use this product? It can be aimed at infants, children, teenagers, young or middle-aged adults, or older adults. Second, what primary benefit should this product provide: Taste, nutrition, refreshment, or energy? Third, when will people consume this drink: Breakfast, midmorning, lunch, midafternoon, dinner, late evening? By answering these questions, a company can form several concepts:

- ***Concept 1.*** An instant drink for adults who want a quick nutritious breakfast without preparation.
- ***Concept 2.*** A tasty snack for children to drink as a midday refreshment.
- ***Concept 3.*** A health supplement for older adults to drink in the late evening before they go to bed.

Each concept represents a *category concept* that defines the product's competition. An instant breakfast drink would compete against bacon and eggs, breakfast cereals, coffee and pastry, and other breakfast alternatives. A snack drink would compete against soft drinks, fruit juices, sports drinks, and other thirst quenchers.

|Fig. 20.2| Forces Fighting New Ideas

Source: With permission of Jerold Panas, Young & Partners Inc.



|Fig. 20.3|

Product and Brand Positioning

Suppose the instant-breakfast-drink concept looks best. The next task is to show where this powdered product would stand in relationship to other breakfast products via perceptual mapping. Figure 20.3(a) uses the two dimensions of cost and preparation time to create a *product-positioning map* for the breakfast drink. An instant breakfast drink offers low cost and quick preparation. Its nearest competitor is cold cereal or breakfast bars; its most distant is bacon and eggs. These contrasts can help communicate and promote the concept to the market.

Next, the product concept becomes a *brand concept.* Figure 20.3(b) is a *brand-positioning map*, a perceptual map showing the current positions of three existing brands of instant breakfast drinks (A–C), as seen by consumers. It can also be useful to overlay consumer preferences on to the map in terms of their current or desired preferences. Figure 20.3(b) also shows four segments of consumers (1–4) whose preferences are clustered around the points on the map.

The brand-positioning map helps the company to decide how much to charge and how calorific to make its drink. Three segments (1–3) are well served by existing brands (A–C). The company would not want to position itself next to one of those existing brands, unless that brand is weak or inferior or market demand was high enough to be shared. As it turns out, the new brand would be distinctive in the medium-price, medium-calorie market or in the high-price, high-calorie market. There is also a segment of consumers (4) clustered fairly near the medium-price, medium-calorie market, suggesting that this may offer the greatest opportunity.

CONCEPT TESTING Concept testing means presenting the product concept to target consumers, physically or symbolically, and getting their reactions. The more the tested concepts resemble the final product or experience, the more dependable concept testing is. Concept testing of prototypes can help avoid costly mistakes, but it may be especially challenging with radically different, new-to-the-world products.[61] Visualization techniques can help respondents match their mental state with what might occur when they are actually evaluating or choosing the new product.[62]

In the past, creating physical prototypes was costly and time consuming, but today firms can use *rapid prototyping* to design products on a computer and then produce rough models to show potential consumers for their reactions. In response to a short-term oversupply of wine in the marketplace, the makers of Kendall-Jackson developed two new brands by using rapid prototyping to quickly bring its ideas to life, selling 100,000 cases, 10 times more than expected, for each brand in the process.[63]

Companies are also using *virtual reality* to test product concepts. Virtual reality programs use computers and sensory devices (such as gloves or goggles) to simulate reality. Supercomputers also allow for elaborate product testing to assess changes in performance and supplement consumer input. Kenworth trucks used to test new truck designs with clay models and wind tunnels. Using supercomputer analysis, it can now make more accurate estimates of how much drag and fuel use it can eliminate with new trimmed and tapered mud flaps (answer: $400 of a typical truck's annual gas bill).[64]

Concept testing presents consumers with an elaborated version of the concept. Here is the elaboration of concept 1 in our milk example:

> Our product is a powdered mixture added to milk to make an instant breakfast that gives all the day's needed nutrition along with good taste and high convenience. The product comes in three flavors (chocolate, vanilla, and strawberry) and individual packets, six to a box, at $2.49 a box.

After receiving this information, researchers measure product dimensions by having consumers respond to questions like these:

1. ***Communicability and believability***—"Are the benefits clear to you and believable?" If the scores are low, the concept must be refined or revised.
2. ***Need level***—"Do you see this product solving a problem or filling a need for you?" The stronger the need, the higher the expected consumer interest.
3. ***Gap level***—"Do other products currently meet this need and satisfy you?" The greater the gap, the higher the expected consumer interest. Marketers can multiply the need level by the gap level to produce a *need-gap score.* A high score means the consumer sees the product as filling a strong need not satisfied by available alternatives.
4. ***Perceived value***—"Is the price reasonable in relationship to value?" The higher the perceived value, the higher is expected consumer interest.

Conjoint analysis was instrumental in the design of Courtyard by Marriott.

5. ***Purchase intention***—"Would you (definitely, probably, probably not, definitely not) buy the product?" Consumers who answered the first three questions positively should answer "Definitely" here.
6. ***User targets, purchase occasions, purchasing frequency***—"Who would use this product, when, and how often?"

Respondents' answers indicate whether the concept has a broad and strong consumer appeal, what products it competes against, and which consumers are the best targets. The need-gap levels and purchase-intention levels can be checked against norms for the product category to see whether the concept appears to be a winner, a long shot, or a loser. One food manufacturer rejects any concept that draws a definitely-would-buy score lower than 40 percent.

CONJOINT ANALYSIS Consumer preferences for alternative product concepts can be measured with **conjoint analysis**, a method for deriving the utility values that consumers attach to varying levels of a product's attributes.[65] Conjoint analysis has become one of the most popular concept-development and testing tools. For example, Marriott used it to design its Courtyard hotel concept.[66]

With conjoint analysis, respondents see different hypothetical offers formed by combining varying levels of the attributes, then rank the various offers. Management can identify the most appealing offer and its estimated market share and profit. In a classic illustration, academic research pioneers Green and Wind used this approach in connection with developing a new spot-removing, carpet-cleaning agent for home use.[67] Suppose the new-product marketer is considering five design elements:

- Three package designs (A, B, C—see △ Figure 20.4)
- Three brand names (K2R, Glory, Bissell)
- Three prices ($1.19, $1.39, $1.59)
- A possible Good Housekeeping seal (yes, no)
- A possible money-back guarantee (yes, no)

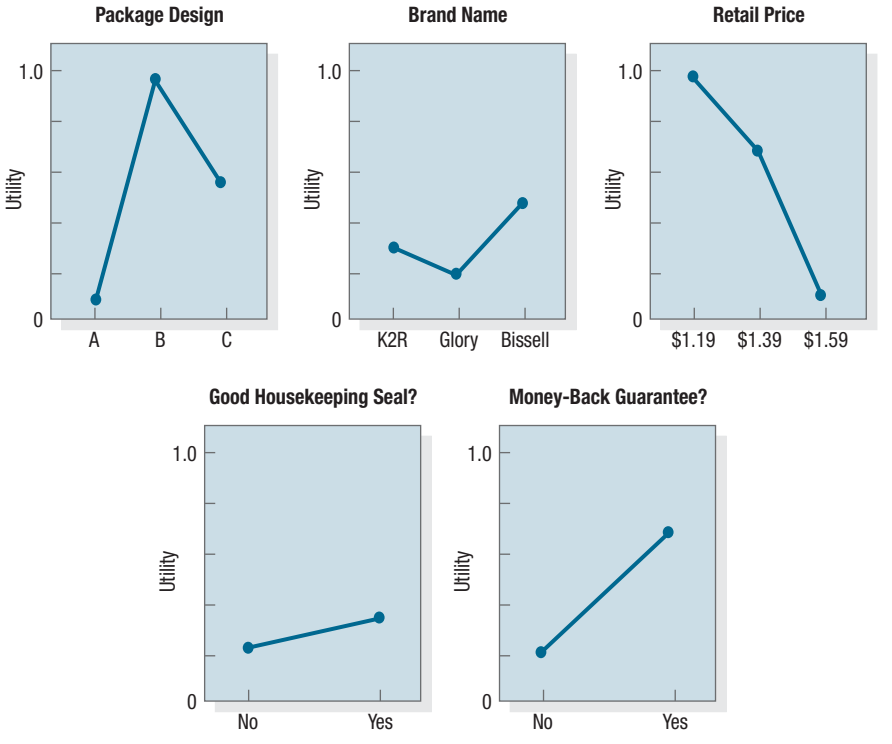
Although the researcher can form 108 possible product concepts ($3 \times 3 \times 3 \times 2 \times 2$), it would be too much to ask consumers to rank them all from most to least preferred. A sample of, say, 18 contrasting product concepts is feasible.

The marketer now uses a statistical program to derive the consumer's utility functions for each of the five attributes (see △ Figure 20.5). Utility ranges between zero and one; the higher the utility, the stronger the consumer's preference for that level of the attribute. Looking at packaging, package B is the most favored, followed by C and then A (A hardly has any utility). The preferred names are Bissell, K2R, and Glory, in that order. The consumer's utility varies inversely with price.

|Fig. 20.4| △
Samples for Conjoint Analysis

|Fig. 20.5|

Utility Functions Based on Conjoint Analysis



A Good Housekeeping seal is preferred, but it does not add that much utility and may not be worth the effort to obtain it. A money-back guarantee is strongly preferred.

The consumer's most desired offer is package design B, brand name Bissell, priced at $1.19, with a Good Housekeeping seal and a money-back guarantee. We can also determine the relative importance of each attribute to this consumer—the difference between the highest and lowest utility level for that attribute. The greater the difference, the more important the attribute. Clearly, this consumer sees price and package design as the most important attributes, followed by money-back guarantee, brand name, and a Good Housekeeping seal.

Preference data from a sufficient sample of target consumers helps to estimate the market share any specific offer is likely to achieve, given any assumptions about competitive response. Still, the company may not launch the market offer that promises to gain the greatest market share, because of cost considerations. The most customer-appealing offer is not always the most profitable offer to make.

Under some conditions, researchers will collect the data not with a full-profile description of each offer, but by presenting two factors at a time. For example, respondents may see a table with three price levels and three package types and indicate which of the nine combinations they would like most, second-best, and so on. A further table consists of trade-offs between two other variables. The trade-off approach may be easier to use when there are many variables and possible offers. However, it is less realistic in that respondents are focusing on only two variables at a time. Adaptive conjoint analysis (ACA) is a "hybrid" data collection technique that combines self-explicated importance ratings with pair-wise trade-off tasks.

Marketing Strategy Development

Following a successful concept test, the new-product manager will develop a preliminary three-part strategy plan for introducing the new product into the market. The first part describes the target market's size, structure, and behavior; the planned product positioning; and the sales, market share, and profit goals sought in the first few years:

> The target market for the instant breakfast drink is families with children who are receptive to a new, convenient, nutritious, and inexpensive form of breakfast. The company's brand will be positioned at the higher-price, higher-quality end of the instant-breakfast-drink category. The company will aim initially to sell 500,000 cases or 10 percent of the market,

with a loss in the first year not exceeding $1.3 million. The second year will aim for 700,000 cases or 14 percent of the market, with a planned profit of $2.2 million.

The second part outlines the planned price, distribution strategy, and marketing budget for the first year:

> The product will be offered in chocolate, vanilla, and strawberry, in individual packets of six to a box, at a retail price of $2.49 a box. There will be 48 boxes per case, and the case price to distributors will be $24. For the first two months, dealers will be offered one case free for every four cases bought, plus cooperative-advertising allowances. Free samples will be distributed door-to-door. Coupons for 50 cents off will appear in newspapers. The total sales promotional budget will be $2.9 million. An advertising budget of $6 million will be split 50:50 between national and local. Two-thirds will go into television and one-third into online. Advertising copy will emphasize the benefit concepts of nutrition and convenience. The advertising-execution concept will revolve around a small boy who drinks instant breakfast and grows strong. During the first year, $100,000 will be spent on marketing research to buy store audits and consumer-panel information to monitor market reaction and buying rates.

The third part of the marketing strategy plan describes the long-run sales and profit goals and marketing-mix strategy over time:

> The company intends to win a 25 percent market share and realize an after-tax return on investment of 12 percent. To achieve this return, product quality will start high and be improved over time through technical research. Price will initially be set at a high level and lowered gradually to expand the market and meet competition. The total promotion budget will be boosted each year about 20 percent, with the initial advertising–sales promotion split of 65:35 evolving eventually to 50:50. Marketing research will be reduced to $60,000 per year after the first year.

Business Analysis

After management develops the product concept and marketing strategy, it can evaluate the proposal's business attractiveness. Management needs to prepare sales, cost, and profit projections to determine whether they satisfy company objectives. If they do, the concept can move to the development stage. As new information comes in, the business analysis will undergo revision and expansion.

ESTIMATING TOTAL SALES Total estimated sales are the sum of estimated first-time sales, replacement sales, and repeat sales. Sales-estimation methods depend on whether the product is purchased once (such as an engagement ring or retirement home), infrequently, or often. For one-time products, sales rise at the beginning, peak, and approach zero as the number of potential buyers is exhausted [see Figure 20.6(a)]. If new buyers keep entering the market, the curve will not go down to zero.

Infrequently purchased products—such as automobiles, toasters, and industrial equipment—exhibit replacement cycles dictated by physical wear or obsolescence associated with changing styles, features, and performance. Sales forecasting for this product category calls for estimating first-time sales and replacement sales separately [see Figure 20.6(b)].

Frequently purchased products, such as consumer and industrial nondurables, have product life-cycle sales resembling Figure 20.6(c). The number of first-time buyers initially increases and then decreases as fewer buyers are left (assuming a fixed population). Repeat purchases occur soon, providing the product satisfies some buyers. The sales curve eventually falls to a plateau representing a level of steady repeat-purchase volume; by this time, the product is no longer a new product.

In estimating sales, the manager's first task is to estimate first-time purchases of the new product in each period. To estimate replacement sales, management researches the product's *survival-age distribution*—that is, the number of units that fail in year one, two, three, and so on. The low end of the distribution indicates when the first replacement sales will take place. Because replacement sales are difficult to estimate before the product is in use, some manufacturers base the decision to launch a new product solely on their estimate of first-time sales.

For a frequently purchased new product, the seller estimates repeat sales as well as first-time sales. A high rate of repeat purchasing means customers are satisfied; sales are likely to stay high

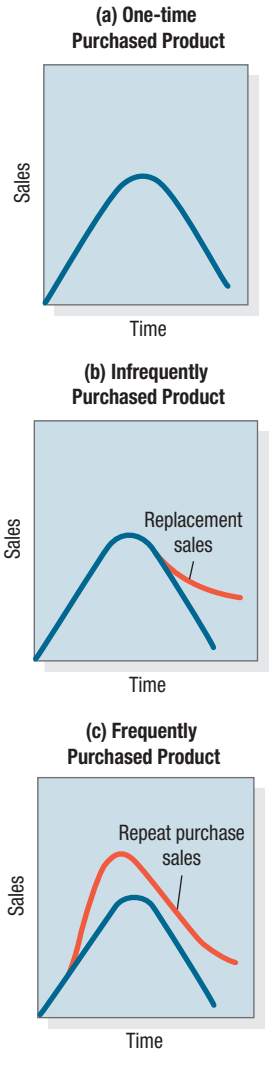


Fig. 20.6

Product Life-Cycle Sales for Three Types of Products

even after all first-time purchases take place. Some products and brands are bought a few times and dropped. Colgate's Wisp disposable toothbrush received much trial but repeat sales slowed considerably after that.[68]

ESTIMATING COSTS AND PROFITS Costs are estimated by the R&D, manufacturing, marketing, and finance departments. Table 20.3 illustrates a five-year projection of sales, costs, and profits for the instant breakfast drink.

Row 1 shows projected sales revenue over the five-year period. The company expects to sell $11,889,000 (approximately 500,000 cases at $24 per case) in the first year. Behind this projection is a set of assumptions about the rate of market growth, the company's market share, and the factory-realized price. *Row 2* shows the cost of goods sold, which hovers around 33 percent of sales revenue. We find this cost by estimating the average cost of labor, ingredients, and packaging per case. *Row 3* shows the expected gross margin, the difference between sales revenue and cost of goods sold.

Row 4 shows anticipated development costs of $3.5 million, including product-development cost, marketing research costs, and manufacturing development costs. *Row 5* shows the estimated marketing costs over the five-year period to cover advertising, sales promotion, and marketing research and an amount allocated for sales force coverage and marketing administration. *Row 6* shows the allocated overhead to this new product to cover its share of the cost of executive salaries, heat, light, and so on.

Row 7, the gross contribution, is gross margin minus the preceding three costs. *Row 8,* supplementary contribution, lists any change in income to other company products caused by the new-product introduction. *Dragalong income* is additional income to them, and *cannibalized income* is reduced income.[69] Table 20.3 assumes no supplementary contributions. *Row 9* shows net contribution, which in this case is the same as gross contribution. *Row 10* shows discounted contribution—that is, the present value of each future contribution discounted at 15 percent per annum. For example, the company will not receive $4,716,000 until the fifth year. This amount is worth only $2,346,000 today if the company can earn 15 percent on its money through other investments.[70]

Finally, *row 11* shows the cumulative discounted cash flow, the accumulation of the annual contributions in row 10. Two points are of central interest. First is the maximum investment exposure, the highest loss the project can create. The company will be in a maximum loss position of $4,613,000 in year 1. The second is the payback period, the time when the company recovers all its investment, including the built-in return of 15 percent. The payback period here is about three and a half years. Management must decide whether to risk a maximum investment loss of $4.6 million and a possible payback period of three and a half years. As part of their financial analysis, firms may conduct a breakeven or risk analysis.

TABLE 20.3 Projected Five-Year Cash Flow Statement (in thousands of dollars)

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
1. Sales revenue	$ 0	$11,889	$ 15,381	$19,654	$28,253	$ 32,491
2. Cost of goods sold	0	3,981	5,150	6,581	9,461	10,880
3. Gross margin	0	7,908	10,231	13,073	18,792	21,611
4. Development costs	–3,500	0	0	0	0	0
5. Marketing costs	0	8,000	6,460	8,255	11,866	13,646
6. Allocated overhead	0	1,189	1,538	1,965	2,825	3,249
7. Gross contribution	–3,500	–1,281	2,233	2,853	4,101	4,716
8. Supplementary contribution	0	0	0	0	0	0
9. Net contribution	–3,500	–1,281	2,233	2,853	4,101	4,716
10. Discounted contribution (15%)	–3,500	–1,113	1,691	1,877	2,343	2,346
11. Cumulative discounted cash flow	–3,500	–4,613	–2,922	–1,045	1,298	3,644

Managing the Development Process: Development to Commercialization

Up to now, the product has existed only as a word description, a drawing, or a prototype. The next step represents a jump in investment that dwarfs the costs incurred so far. The company will determine whether the product idea can translate into a technically and commercially feasible product. If not, the accumulated project cost will be lost, except for any useful information gained in the process.

Product Development

The job of translating target customer requirements into a working prototype is helped by a set of methods known as *quality function deployment* (QFD). The methodology takes the list of desired *customer attributes* (CAs) generated by market research and turns them into a list of *engineering attributes* (EAs) that engineers can use. For example, customers of a proposed truck may want a certain acceleration rate (CA). Engineers can turn this into the required horsepower and other engineering equivalents (EAs). A major contribution of QFD is improved communication between marketers, engineers, and manufacturing people.[71]

PHYSICAL PROTOTYPES The goal of the R&D department is to find a prototype that embodies the key attributes in the product-concept statement, performs safely under normal use and conditions, and can be produced within budgeted manufacturing costs. In the past, developing and manufacturing a successful prototype could take weeks or even years. Sophisticated virtual reality technology and the Web now permit more rapid prototyping and more flexible development processes. Simulations, for example, give companies the flexibility to respond to new information and resolve uncertainties by quickly exploring alternatives.

R&D must also decide how consumers will react to different colors, sizes, and weights. Historically, a yellow mouthwash supported an "antiseptic" claim (Listerine), red a "refreshing" claim (Lavoris), and green or blue a "cool" claim (Scope). Marketers need to supply R&D with information about what attributes consumers seek and how they judge whether these are present.

CUSTOMER TESTS When the prototypes are ready, they must be put through rigorous functional and customer tests before they enter the marketplace. *Alpha testing* tests the product within the firm to see how it performs in different applications. After refining the prototype further, the company moves to *beta testing* with customers.[72]

Consumer testing can bring consumers into a laboratory or give them samples to use at home. Procter & Gamble has on-site labs such as a diaper-testing center where dozens of mothers bring their babies to be studied. To develop its Cover Girl Outlast all-day lip color, P&G invited 500 women to come to its labs each morning to apply the lipstick, record their activities, and return eight hours later so it could measure remaining lip color, resulting in a product that came with a tube of glossy moisturizer that women could apply on top of their color without looking at a mirror. In-home placement tests are common for products from ice cream flavors to new appliances.

Market Testing

After management is satisfied with functional and psychological performance, the product is ready to be branded with a name, logo, and packaging and go into a market test.

Not all companies undertake market testing. A company officer at Revlon stated: "In our field—primarily higher-priced cosmetics not geared for mass distribution—it would be unnecessary for us to market test. When we develop a new product, say an improved liquid makeup, we know it's going to sell because we're familiar with the field. And we've got 1,500 demonstrators in department stores to promote it." Many companies, however, believe market testing can yield valuable information about buyers, dealers, marketing program effectiveness, and market potential. The main issues are: How much market testing should be done, and what kind(s)?

The amount is influenced by the investment cost and risk on the one hand, and the time pressure and research cost on the other. High-investment–high-risk products, whose chance of failure

Consumer tests are typically an integral step in the new-product development process.

is high, must be market tested; the cost will be an insignificant percentage of total project cost. High-risk products that create new-product categories (first instant breakfast drink) or have novel features (first gum-strengthening toothpaste) warrant more market testing than modified products (another toothpaste brand).

CONSUMER-GOODS MARKET TESTING Consumer-products tests seek to estimate four variables: *trial*, *first repeat*, *adoption*, and *purchase frequency.* Many consumers may try the product but not rebuy it, or it might achieve high permanent adoption but low purchase frequency (like gourmet frozen foods).

Here are four major methods of consumer-goods market testing, from least to most costly.

Sales-Wave Research Consumers who initially try the product at no cost are reoffered it, or a competitor's product, at slightly reduced prices. The offer may be made as many as five times (sales waves), while the company notes how many customers select it again and their reported level of satisfaction.

Sales-wave research can be implemented quickly, conducted with a fair amount of security, and carried out without final packaging and advertising. However, because customers are preselected, it does not indicate trial rates the product would achieve with different sales incentives, nor does it indicate the brand's power to gain distribution and favorable shelf position.

Simulated Test Marketing Thirty to 40 qualified shoppers are asked about brand familiarity and preferences in a specific product category and attend a brief screening of both well-known and new TV commercials or print ads. One ad advertises the new product but is not singled out for attention. Consumers receive a small amount of money and are invited into a store where they may buy any items. The company notes how many consumers buy the new brand and competing brands. This provides a measure of the ad's relative effectiveness against competing ads in stimulating trial. Consumers are asked the reasons for their purchases or nonpurchases. Those who did not buy the new brand are given a free sample. Some weeks later, they are interviewed by phone to determine product attitudes, usage, satisfaction, and repurchase intention and are offered an opportunity to repurchase any products.

This method can give some surprisingly accurate results on advertising effectiveness and trial rates (and repeat rates if extended) in a much shorter time and at a fraction of the cost of using real test markets.[73] As media and channels grow more fragmented, however, it will become harder to truly simulate market conditions with only traditional approaches.

Controlled Test Marketing The company with the new product specifies the number of stores and geographic locations it wants to test. A research firm delivers the product to a panel of participating stores and controls shelf position, pricing, and number of facings, displays, and point-of-purchase promotions. Electronic scanners measure sales at checkout. The company can also evaluate the impact

of local advertising and promotions and interview a sample of customers later to get their impressions of the product. It does not have to use its own sales force, give trade allowances, or "buy" distribution. However, controlled test marketing provides no information about how to sell the trade on carrying the new product. It also exposes the product and its features to competitors' scrutiny.

Test Markets The ultimate way to test a new consumer product is to put it into full-blown test markets. The company chooses a few representative cities and puts on a full marketing communications campaign, and the sales force tries to sell the trade on carrying the product and giving it good shelf exposure. Test marketing also measures the impact of alternative marketing plans by implementing them in different cities. A full-scale test can cost over $1 million, depending on the number of test cities, the test duration, and the amount of data the company wants to collect.

Management faces several decisions:

1. ***How many test cities?*** Most tests use two to six cities. The greater the possible loss, the number of contending marketing strategies, the regional differences, and the chance of test-market interference by competitors, the more cities management should test.
2. ***Which cities?*** Selection criteria include good media coverage, cooperative chain stores, and average competitive activity. How representative the city is of other markets must also be considered.
3. ***Length of test?*** Market tests last a few months to a year. The longer the average repurchase period, the longer the test period.
4. ***What information to collect?*** Warehouse shipment data will show gross inventory buying but will not indicate weekly sales at the retail level. Store audits will show retail sales and competitors' market shares but will not reveal buyer characteristics. Consumer panels will indicate which people are buying which brands and their loyalty and switching rates. Buyer surveys will yield in-depth information about consumer attitudes, usage, and satisfaction.
5. ***What action to take?*** If the test markets show high trial and repurchase rates, the marketer should launch the product nationally; if a high trial rate and low repurchase rate, redesign or drop the product; if a low trial rate and high repurchase rate, develop marketing communications to convince more people to try it. If trial and repurchase rates are both low, abandon the product. Many managers find it difficult to kill a project that created much effort and attention even if they should, resulting in an unfortunate (and typically unsuccessful) escalation of commitment.[74]

Despite its benefits, many companies today skip test marketing and rely on faster and more economical testing methods. General Mills prefers to launch new products in 25 percent of the country, an area too large for rivals to disrupt. Managers review retail scanner data, which tell them within days how the product is doing and what corrective fine-tuning to do. Colgate-Palmolive often launches a new product in a set of small "lead countries" and keeps rolling it out if it proves successful.

BUSINESS-GOODS MARKET TESTING Business goods can also benefit from market testing. Expensive industrial goods and new technologies will normally undergo alpha and beta testing. During beta testing, the company's technical people observe how customers use the product, a practice that often exposes unanticipated problems of safety and servicing and alerts the company to customer training and servicing requirements. The company can also observe how much value the equipment adds to the customer's operation as a clue to subsequent pricing.

Companies such as General Mills may avoid test markets to use limited-scope product launches instead.

Companies must interpret beta test results carefully, because only a small number of test customers are used, they are not randomly drawn, and tests are somewhat customized to each site. Another risk is that testers unimpressed with the product may leak unfavorable reports about it.

At trade shows the company can observe how much interest buyers show in the new product, how they react to various features and terms, and how many express purchase intentions or place orders. In distributor and dealer display rooms, products may stand next to the manufacturer's other products and possibly competitors' products, yielding preference and pricing information in the product's normal selling atmosphere. However, customers who come in might not represent the target market, or they might want to place early orders that cannot be filled.

Industrial manufacturers come close to using full test marketing when they give a limited supply of the product to the sales force to sell in a limited number of areas that receive promotion support and printed catalog sheets.

Commercialization

Commercialization incurs the company's highest costs to date.[75] The firm will need to contract for manufacture or build or rent a full-scale manufacturing facility. To introduce a major new consumer packaged good into the national market can cost $25 million to $100 million in advertising, promotion, and other communications in the first year. For new food products, marketing expenditures typically represent 57 percent of first-year sales. Most new-product campaigns rely on a sequenced mix of market communication tools.

WHEN (TIMING) Suppose a company has almost completed the development work on its new product and learns a competitor is nearing the end of its development work. The company faces three choices:

1. ***First entry***—The first firm entering a market usually enjoys the "first mover advantages" of locking up key distributors and customers and gaining leadership. But if rushed to market before it has been thoroughly debugged, the first entry can backfire.
2. ***Parallel entry***—The firm might time its entry to coincide with the competitor's entry. The market may pay more attention when two companies are advertising the new product.[76]
3. ***Late entry***—The firm might delay its launch until after the competitor has borne the cost of educating the market, and its product may reveal flaws the late entrant can avoid. The late entrant can also learn the size of the market.

If a new product replaces an older product, the company might delay until the old product's stock is drawn down. If the product is seasonal, it might wait until the season arrives; often a product waits for a "killer application" to occur. Many companies are now encountering competitive "design-arounds"—rivals are making their own versions just different enough to avoid patent infringement and royalties.[77]

WHERE (GEOGRAPHIC STRATEGY) Most companies will develop a planned market rollout over time. In choosing rollout markets, the major criteria are market potential, the company's local reputation, the cost of filling the pipeline, the cost of communication media, the influence of the area on other areas, and competitive penetration. Small companies select an attractive city and put on a blitz campaign, entering other cities one at a time. Large companies introduce their product into a whole region and then move to the next. Companies with national distribution networks, such as auto companies, launch new models nationally.

With the Web connecting far-flung parts of the globe, competition is more likely to cross national borders. Companies are increasingly rolling out new products simultaneously across the globe. However, masterminding a global launch poses challenges, and a sequential rollout across countries may still be the best option.[78]

TO WHOM (TARGET-MARKET PROSPECTS) Within the rollout markets, the company must target initial distribution and promotion to the best prospect groups. Ideally they should be early adopters, heavy users, and opinion leaders it can reach at low cost.[79] Few groups include all these, so the company should rate prospects and target the best group. The aim is to generate strong sales as soon as possible to attract further prospects.

HOW (INTRODUCTORY MARKET STRATEGY) Because new-product launches often take longer and cost more than expected, many potentially successful offerings suffer from underfunding. It's important to allocate sufficient time and resources—yet not overspend—as the new product gains traction in the marketplace.[80]

To coordinate the many tasks in launching a new product, management can use network-planning techniques such as **critical path scheduling (CPS)**, which develops a master chart showing the simultaneous and sequential activities that must take place. By estimating how much time each activity takes, planners estimate completion time for the entire project. Any delay in any activity on the critical path—the shortest route to completion—will delay the project. If the launch must be completed sooner, the planner searches for ways to reduce time along the critical path.[81]

The Consumer-Adoption Process

Adoption is an individual's decision to become a regular user of a product and is followed by the *consumer-loyalty process*. New-product marketers typically aim at early adopters and use the theory of innovation diffusion and consumer adoption to identify them.

Stages in the Adoption Process

An **innovation** is any good, service, or idea that someone *perceives* as new, no matter how long its history. Everett Rogers defines the **innovation diffusion process** as "the spread of a new idea from its source of invention or creation to its ultimate users or adopters."[82] The *consumer-adoption process* is the mental steps through which an individual passes from first hearing about an innovation to final adoption.[83] They are:

1. ***Awareness***—The consumer becomes aware of the innovation but lacks information about it.
2. ***Interest***—The consumer is stimulated to seek information about the innovation.
3. ***Evaluation***—The consumer considers whether to try the innovation.
4. ***Trial***—The consumer tries the innovation to improve his or her estimate of its value.
5. ***Adoption***—The consumer decides to make full and regular use of the innovation.

The new-product marketer should facilitate movement through these stages. A water filtration system manufacturer might discover that many consumers are stuck in the interest stage; they do not buy because of their uncertainty and the large investment cost.[84] But these same consumers would be willing to use a water filtration system at home on a trial basis for a small monthly fee. The manufacturer should consider offering a trial-use plan with option to buy.

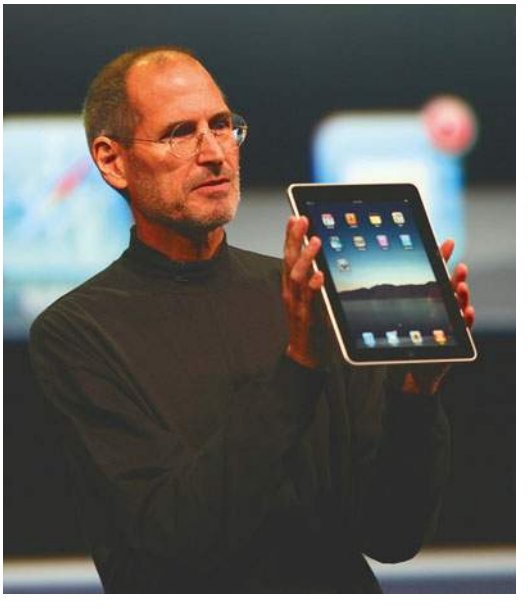
Factors Influencing the Adoption Process

Marketers recognize the following characteristics of the adoption process: differences in individual readiness to try new products, the effect of personal influence, differing rates of adoption, and differences in organizations' readiness to try new products. Some researchers are focusing on use-diffusion processes as a complement to adoption process models, to see how consumers actually use new products.[85]

READINESS TO TRY NEW PRODUCTS AND PERSONAL INFLUENCE Everett Rogers defines a person's level of innovativeness as "the degree to which an individual is relatively earlier in adopting new ideas than the other members of his social system." Some people are the first to adopt new clothing fashions or new appliances; some doctors are the first to prescribe new medicines.[86] See the adopter categories in Figure 20.7. After a slow start, an increasing number of people adopt the innovation, the number reaches a peak, and then it diminishes as fewer nonadopters remain. The five adopter groups differ in their value orientations and their motives for adopting or resisting the new product.[87]

- ***Innovators*** are technology enthusiasts; they are venturesome and enjoy tinkering with new products and mastering their intricacies. In return for low prices, they are happy to conduct alpha and beta testing and report on early weaknesses.
- ***Early adopters*** are opinion leaders who carefully search for new technologies that might give them a dramatic competitive advantage. They are less price sensitive and willing to adopt the product if given personalized solutions and good service support.
- ***Early majority*** are deliberate pragmatists who adopt the new technology when its benefits are proven and a lot of adoption has already taken place. They make up the mainstream market.
- ***Late majority*** are skeptical conservatives who are risk averse, technology shy, and price sensitive.
- ***Laggards*** are tradition-bound and resist the innovation until the status quo is no longer defensible.

Each group requires a different type of marketing if the firm wants to move its innovation through the full product life cycle.[88]

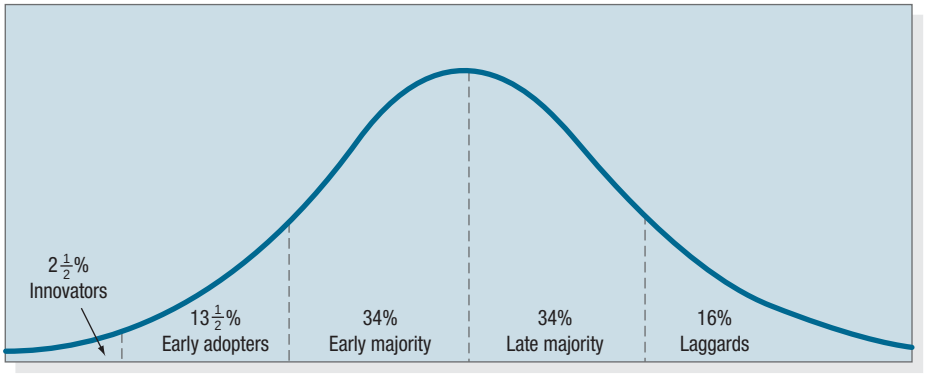


Many innovators and early adopters were thrilled when Apple CEO Steve Jobs announced the launch of the iPad in January 2010.

|Fig. 20.7|

Adopter Categorization on the Basis of Relative Time of Adoption of Innovations

Source: Tungsten, http://en.wikipedia.ord/wiki/Everett_Rogers. Based on Rogers, E. (1962) *Diffusion of Innovations*. Free Press, London, NY, USA.



Personal influence, the effect one person has on another's attitude or purchase probability, has greater significance in some situations and for some individuals than others, and it is more important in evaluation than the other stages. It has more power over late than early adopters and in risky situations.

Companies often target innovators and early adopters with product rollouts. When Nike entered the skateboarding market, it recognized an antiestablishment, big-company bias from the target market could present a sizable challenge. To gain "street cred" with teen skaters, it sold exclusively to independent shops, advertised nowhere but skate magazines, and gained sponsorships from well-admired pro riders by engaging them in product design.[89]

CHARACTERISTICS OF THE INNOVATION

Some products catch on immediately (roller blades), whereas others take a long time to gain acceptance (diesel engine autos). Five characteristics influence an innovation's rate of adoption. We consider them for digital video recorders (DVRs) for home use, as exemplified by TiVo.[90]

The first characteristic is *relative advantage*—the degree to which the innovation appears superior to existing products. The greater the perceived relative advantage of using a DVR, say, for easily recording favorite shows, pausing live TV, or skipping commercials, the more quickly it will be adopted. The second is *compatibility*—the degree to which the innovation matches the values and experiences of the individuals. DVRs are highly compatible with the preferences of avid television watchers. Third is *complexity*—the degree to which the innovation is difficult to understand or use. DVRs are somewhat complex and will therefore take a slightly longer time to penetrate into home use. Fourth is *divisibility*—the degree to which the innovation can be tried on a limited basis. This provides a sizable challenge for DVRs—sampling can occur only in a retail store or perhaps a friend's house. Fifth is *communicability*—the degree to which the benefits of use are observable or describable to others. The fact that DVRs have some clear advantages can help create interest and curiosity.

Other characteristics that influence the rate of adoption are cost, risk and uncertainty, scientific credibility, and social approval. The new-product marketer must research all these factors and give the key ones maximum attention in designing the product and marketing program.[91]

ORGANIZATIONS' READINESS TO ADOPT INNOVATIONS

The creator of a new teaching method would want to identify innovative schools. The producer of a new piece of medical equipment would want to identify innovative hospitals. Adoption is associated with variables in the organization's environment (community progressiveness, community income), the organization itself (size, profits, pressure to change), and the administrators (education level, age, sophistication). Other forces come into play in trying to get a product adopted into organizations that receive the bulk of their funding from the government, such as public schools. A controversial or innovative product can be squelched by negative public opinion.

Summary

1. Once a company has segmented the market, chosen its target customer groups and identified their needs, and determined its desired market positioning, it is ready to develop and launch appropriate new products and services. Marketing should participate with other departments in every stage of new-product development.

2. Successful new-product development requires the company to establish an effective organization for managing the development process. Companies can choose to use product managers, new-product managers, new-product committees, new-product departments, or new-product venture teams. Increasingly, companies are adopting cross-functional teams, connecting to individuals and organizations outside the company, and developing multiple product concepts.
3. Eight stages take place in the new-product development process: idea generation, screening, concept development and testing, marketing strategy development, business analysis, product development, market testing, and commercialization. At each stage, the company must determine whether the idea should be dropped or moved to the next stage.
4. The consumer-adoption process is the process by which customers learn about new products, try them, and adopt or reject them. Today many marketers are targeting heavy users and early adopters of new products, because both groups can be reached by specific media and tend to be opinion leaders. The consumer-adoption process is influenced by many factors beyond the marketer's control, including consumers' and organizations' willingness to try new products, personal influences, and the characteristics of the new product or innovation.

Applications

Marketing Debate

Whom Should You Target with New Products?

Some new-products experts maintain that getting close to customers through intensive research is the only way to develop successful new products. Other experts disagree and maintain that customers can't possibly provide useful feedback on what they don't know and can't provide insights that will lead to breakthrough products.

Take a position: Consumer research is critical to new-product development *versus* Consumer research may not be all that helpful in new-product development.

Marketing Discussion

Product Innovativeness

Think about the last new product you bought. How do you think its success will be affected by the five characteristics of an innovation: relative advantage, compatibility, complexity, divisibility, and communicability?

Marketing Excellence

>>Apple

Over the past decade, Apple has become a world leader in innovative new product launches. The company has truly transformed the way people listen to music, play video games, talk on the phone, and even read books. Apple's evolutionary product innovations include the iPod, iMac, iPhone, and iPad and are the reason the company topped *Fortune* magazine's World's Most Admired Companies list three years in a row, from 2008 to 2010.

One of Apple's most important innovations over the past decade was the iPod MP3 player. Not only has the iPod become a cultural phenomenon; it introduced many consumers to Apple and initiated a series of monumental product innovations. The iPod exemplified Apple's innovative design skills and looked, felt, and operated like no other device. With the launch of the iTunes Music Store, a dynamic duo of legally downloadable music and cutting-edge portable music player caused iPod sales to skyrocket. To the delight of Apple (and the chagrin of competitor Sony), the iPod has become "the Walkman of the 21st century."

Beyond spurring sales, the iPod has been central in changing the way people listen to and use music. According to musician John Mayer, "People feel they're walking through musicology" when they use their iPods, leading them to listen to more music, and with more passion. The iPod has gone through a series of generations, and along the way Apple has added features like photo, video, and radio capabilities.

Apple reached its impressive market domination through a combination of shrewd product innovation and clever marketing. It defined a broad access point for its target market—music lovers who wanted *their* music, whenever and wherever. The marketing effort was designed to appeal to Mac fans as well as people who had not used Apple products in the past. This broader access required a shift in Apple's channel strategies. As a result, Apple added "mass electronic" retailers such as Best Buy and (now defunct) Circuit City to its existing channels, quadrupling its number of outlets.

Besides this enhanced "push" effort, Apple also developed memorable, creative "pull" advertising that helped drive the popularity of the iPod. The Silhouettes campaign, featuring people in silhouette listening to iPods and dancing, appeared all over the world with a message simple enough to work across cultures, portraying the iPod as cool but not beyond the reach of anyone who enjoyed music.

As the iPod's popularity grew, a halo effect helped increase Apple's market share in its other products. In fact, in 2007 Apple officially changed its name from Apple Computer Inc. to Apple Inc. to help communicate the company's focus in noncomputer products. By 2009, iPod sales had topped $8 billion, and by 2010 more than 250 million had been sold worldwide.

Apple's next-largest product launch after the iPod was the iPhone, its 2007 entry to the cell phone industry. With its touch-screen pad, virtual keyboard, and Internet and e-mail capabilities, the iPhone launched to huge consumer excitement; people lined up for hours to be among the first to buy one. But investment analysts feared Apple's two-year contract with AT&T and high initial price would hinder the iPhone's success. Seventy-four days after the product's debut, however, Apple had sold its one millionth iPhone. It had taken the iPod two years to reach the cumulative sales ($1.1 million) the iPhone had reached after its first quarter. In fact, half the iPods' buyers switched to AT&T from a different wireless carrier, incurring fees to break their contracts, just to have a chance to own an iPhone.

Over the next three years, Apple dropped the price of the iPhone significantly and added impressive picture and video capabilities, video game features, a faster processor, and hundreds of thousands of additional applications. By then, the iPhone had become a game-changing technological invention. Apple took in $13 billion in iPhone sales worldwide in 2009, and when the iPhone 4 launched in 2010, showcasing Face Time video calling, Steve Jobs declared it "the most successful product launch in Apple's history."

Also in 2010, a media frenzy helped Apple launch the iPad, a multitouch device that combines the look and feel of the iPhone with the power of a MacBook. The slick handheld device gives consumers access to music, books, movies, pictures, and work documents at the touch of a finger without mouse or keyboard. Apple's marketing campaign emphasized its appeal: "What is iPad? iPad is thin. iPad is beautiful. iPad goes anywhere and lasts all day. There is no right way or wrong way. It's crazy powerful. It's magical. You already know how to use it. It's 200,000 apps and counting . . . It's already a revolution and it's only just begun."

With $42 billion in annual revenue, Apple continues to increase its annual R&D budget each year, spending $1.3 billion in 2009 alone. The company takes creating, producing, and launching new products very seriously. With creative marketing support behind them, these products are the reason consumers and analysts alike stay on their toes awaiting Apple's latest product news.

Questions

1. Apple's product launches over the past decade have been monumental. What makes the company so good at innovation? Is anyone comparable to Apple in this respect?
2. How important was the iPod to Apple's current success? Discuss the significance of the iPhone and iPad launches to Apple's new product development strategy.
3. What's next for Apple? Should it continue to move away from computers and toward more new handheld devices?

Sources: "World's Most Admired Companies," *Fortune,* 2010; "iPhone4: The 'Most Successful Product Launch' in Apple's History," *Independent,* June 28, 2010; Joseph De Avila, "Why Some Apple Fans Won't Buy the iPhone," *Wall Street Journal*, September 12, 2007, D.3; Nick Wingfield, "Apple Businesses Fuel Each Other; Net Jumps as Mac Sales Top PC-Industry Growth Rate; iPhones, iPods Also Thrive," *Wall Street Journal*, October 23, 2007; Terril Yue Jones, "How Long Can the iPod Stay on Top?" *Los Angeles Times*, March 5, 2006; Beth Snyder Bulik, "Grab an Apple and a Bag of Chips," *Advertising Age*, May 23, 2005; Jay Parsons, "A Is for Apple on iPod," *Dallas Morning News*, October 6, 2005; Peter Burrows, "Rock On, iPod," *BusinessWeek*, June 7, 2004, pp. 130–31; Jay Lyman, "Mini iPod Moving Quickly, Apple Says," *TechNewsWorld,* February 26, 2004; Steven Levy, "iPod Nation," *Newsweek*, July 25, 2004; "Apple Computer: iPod Silhouettes," New York Marketing Association; Steven Levy, "iPod Nation," *Newsweek*, July 25, 2004; Apple, www.apple.com; Effie Worldwide, www.effie.org.

Marketing Excellence

>>Research In Motion

Research in Motion (RIM) is the company behind BlackBerry, the best-selling smart-phone brand in the United States. RIM went public in 1997 and introduced the first BlackBerry two years later—a bulky corporate paging device that ran off an AA battery to read e-mail. Today, the company is credited with launching the handheld smartphone craze and the obsession with 24/7/365 access to e-mail and the Internet. BlackBerry eventually earned the

appropriate nickname, "CrackBerry," as consumers became addicted to their latest technological gadget.

The obsession started with RIM founder Mike Lazaridis, who used to collect business cards from bankers on Wall Street and send college kids to their offices to set them up with the first BlackBerry devices. "It was a puppy dog sale," Lazaridis says. "'Take a puppy dog home, and if you don't like it, bring it back.' They never come back." Within a few years the BlackBerry had become a Wall Street staple, and after September 11, 2001, it gained nationwide attention as a critical security and communications device for the government.

RIM continued to launch new generations of BlackBerry products that focused on high-security capabilities and essential business features, including an organizer, calendar, pager, longer-lasting battery, and improved wireless Internet access. The firm focused its push strategy on building the BlackBerry brand as the most secure, reliable, and efficient data device solution on the market.

It took five years, but in 2003 RIM sold its one millionth BlackBerry. Only one year later it sold its two millionth device, and the BlackBerry's growth exploded. In 2005, *PCWorld* named the BlackBerry 850 the 14th greatest gadget of the past 50 years, and between 2006 and 2008, *Fortune* dubbed RIM the fastest-growing company in the world.

Several factors led to RIM's explosive growth during the mid-2000s. First, it was the innovation leader at the time. The BlackBerry changed the way people communicated, worked, and lived. And unlike competitors, RIM offered an end-to-end solution; it developed and produced the hardware as well as the software and services that made BlackBerry work.

As RIM expanded, it made the strategic decision to partner with numerous carriers around the globe instead of just one. This conferred two advantages. First, consumers could easily purchase a BlackBerry device no matter what their carrier or geographical location was and not worry about breaking an existing carrier contract. Secondly, RIM started producing unique products for its different carriers and their audiences. It also licensed its architecture to third-party devices, making BlackBerry wireless solutions available to other companies. All these decisions increased revenue and subscribers around the world.

In terms of marketing, RIM successfully targeted its initial efforts at the business community, branding the BlackBerry smart phone a workforce "must have" and focusing its product and software innovations on meeting the needs of businesses. It continues to serve this market today, with solutions like its BlackBerry Enterprise Server for small and medium-sized businesses.

Finally, BlackBerry rode the coattails of the iPhone launch in 2007. Apple's iPhone sparked interest in many consumers—telling them smart phones were not just for the business community—and as a result, many consumers tried out a BlackBerry for the first time. In 2008, RIM launched its first mass advertising campaign targeting consumers, and new subscriber sales skyrocketed. Perhaps BlackBerry's biggest salesperson was President Obama, who could be seen carrying and checking his BlackBerry throughout the election year. Instantly, the BlackBerry became "cool" in the eyes of younger consumers.

Today, BlackBerry continues to compete in the smartphone category, adding more consumers than business customers each year. Recent product launches have added video, photo, and music capabilities, touch-screen pads, and instant messaging—features that attract tweens and young adults. RIM had $15 billion in sales during fiscal 2010, sold 37 million smart phones in 2010 alone, and now has over 41 million users in 175 countries. While competition has increased tremendously and remains stiff, the company's focus on generating new products and solutions is clear. Lazaridis explained, "There is great depth and breadth to what we do. It's more than just the BlackBerry. We develop silicon, operating systems, industrial design; we manufacture. We run our own network. RIM is an industry unto itself."

Questions

1. Evaluate Research In Motion's keys to success. What did the company do well and, in hindsight, what should it have done differently during its decade of extreme growth?
2. Is Research In Motion still a leader in innovation? Why or why not? What's next for the company?

Sources: Jessi Hempel, "Smartphone Wars—BlackBerry's Plan to Win," *Fortune,* August 17, 2009; Saul Hansell and Ian Austen, "BlackBerry, Upgraded, Aims to Suit Every User," *New York Times,* October 13, 2009; Michael Comeau, "Can Research In Motion's BlackBerry Regain Market Share?" *Minyanville,* July 12, 2010; "The World Masters of Innovation," *BusinessWeek*; Research In Motion, Annual Reports; RIM, www.rim.com.