

Six Pathways to Marketing Innovation

By Allan J. Magrath



*A company must decide not only
which pathway of innovation to pursue
but apply talented, focused management to the
problem of maximizing the yield from its innovation.*

Since the capacity to innovate in the marketplace is critical to outpacing competitors in a dynamic environment, it is imperative that each business understand the pathways to innovation forged by leading companies (see Exhibit 1). Though I outline just six basic pathways here, truly innovative companies may explore several simultaneously.

- **Innovation based on core technologies.** Exploitation of core technologies spins off new, different, and disparate products. This sort of innovative behavior is characteristic of such companies as Canon, NEC, Casio, Honda, 3M, and Sony. Honda, for instance, has core technology strength in small engines and drive trains that it has successively applied to autos, motorcycles, small generators, lawn mowers, chain saws, and other product categories. A poll of Japanese executives conducted by Nippon Hoso Kyokai, a market research firm, found an overwhelming belief that the key to Japan's growth in the 1990s would come from technological innovations.

- **Innovation based on a unique remix of common operating elements.** Retailers and service businesses such as The Gap, The Limited, Nordstrom, The Body Shop, Uniforce Temporary Personnel, Toys "R" Us, Home Depot, and American Express pursue this pathway. They believe that what the business does or sells is less the source of its innovation than the manner in which it does it. So while the Gap's clothing is not impressively unique, its method of merchandising and presenting these fashions is.

- **Innovation that satisfies unmet customer needs.** These needs may relate to new product uses, new product designs with appeal, or the innovative tapping of new groups of product users. Companies particularly astute at using this pathway include Procter & Gamble, Black & Decker, Nike, Rubbermaid, and entrepreneurs such as Ben and Jerry's Gourmet Ice Cream.

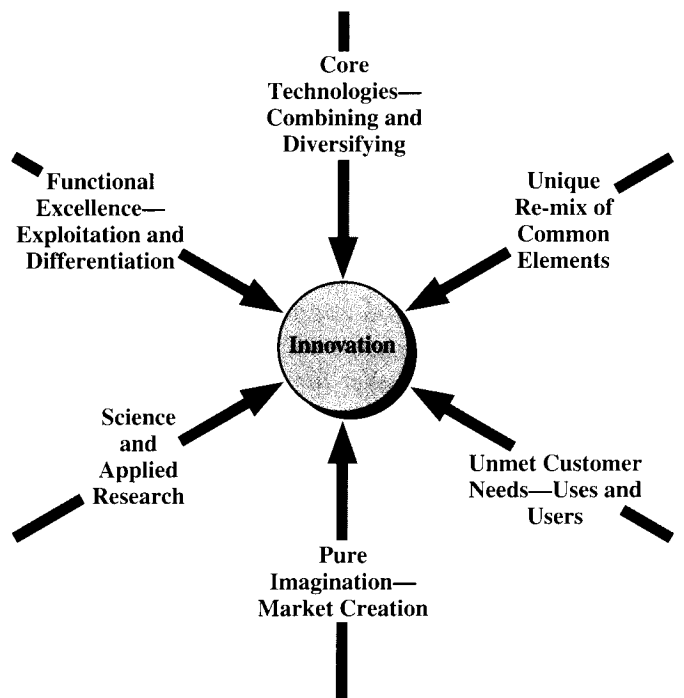
- **Innovation created from pure imagination.** Often this type of innovative marketing goes on in creative businesses such as publishing, film production, television, and the arts. Notable company examples include Norman Lear's Act III Communications (producers of *Maude* and *All in the Family*), Henson Associates, Hanna Barbera (cartoon shows), Andrew Lloyd Webber Productions, and the Walt Disney Company. In fact, Disney as a company has given the lexicon of marketing a whole new term—"imagineering"—that describes its formula for business innovativeness.

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- **Innovation based on scientific research.** Companies pursuing this axis of innovation include cutting-edge pharmaceutical firms such as Merck and Glaxo, diversified companies such as DuPont, Monsanto, and Corning, and biotech businesses such as Genentech. Innovation is synonymous in many of these businesses with scientific discoveries or applied laboratory research and development.

- **Innovation based on functional excellence.** Companies following this path focus on specific functions in their operations and then leverage these functions to outdo competitors and to innovate through the use of specialized

**EXHIBIT 1:
Six Pathways to Innovation**



functional expertise. Porsche, for instance, has grown thanks to its engineering excellence, Frito-Lay to its excellence in logistics, the Four Seasons hotel chain to excellence in personalized guest services, Dow Jones to its expertise in information systems service management, Wrigley's Gum to its merchandising excellence, and Cooper Tire and Rubber in factory equipment utilization. In effect, such companies constantly hone functions that can give them a leg up on their rivals, and then they proceed to out-innovate these rivals over time along this innovation axis. Some management experts have termed these corporate functional skills "core competencies."

Innovation Spun From Core Technologies: The Case of the Sony Corporation

The Sony Corporation is an example of a company that has spun innovation after innovation off its core know-how in audio and video technology. Sony's research and development efforts consume 6-8 percent of its sales yearly, considerably more than the 5 percent or less spent by rivals Pioneer, JVC, and AIWA.

A great number of Sony's products are "firsts"—new-to-the-world innovations. For instance, Sony beat its archrivals Technics and JVC by coming out with the first portable digital audio tape player and the first digital audio tape player for cars.

Companies such as Sony that innovate from core technologies frequently find that the approach can be a hit-or-miss proposition. Sony has had its share of failures:

- A dedicated word processor launched in the early 1980s for industrial customers that was surpassed in power and flexibility by the personal computer.
- The Betamax video recorder, which in the late 1970s was surpassed by the less costly VHS format.
- Its instant photo camera, which in the 1950s worked only with black-and-white film and was surpassed by Polaroid's color models.

Sony is attempting to pursue its pathway toward innovation by diversifying its core technologies. It is introducing workstations for industrial use and developing personal computers that can read data written by hand (which could open up a huge new market for personal computer use among truck drivers, rack jobbers, and others who have personal computer skills but no way to type in inputs).

Sony has also been relentless in exploiting its new products to the fullest. For example, its Walkman comes in endless variations, including a waterproof sports model, a childproof version for four- to twelve-year-olds, and a Watchman personal TV.

In addition to diversifying its technologies, Sony is spreading its research and development centers around the world, modelling itself after IBM (which has twenty centers in fourteen different countries). Since 1988 Sony has established two new centers, one in Stuttgart, Germany, and one in Basingstoke, United Kingdom. In 1990, these centers employed 200 scientists, compared with only 50, two years earlier. Sony appears to be decentralizing research and development efforts so that each of its key regional companies—Sony of America, Sony Europe, Sony Asia, and Sony Japan—is encouraged to design, produce, and market its own innovative product lines. For example, the "My First Sony" line of kids' products was developed by Sony Corporation of America.

Innovation by exploiting core technologies can be a very powerful way to grow if two conditions are met. Research and development must be steady and high (which is not

always possible if debt costs are overly high), and the quality of research and development management must be excellent to ensure that a healthy yield of new products is always forthcoming. Sony's use of a high proportion of debt to equity to buy a movie studio and a record company may create problems in funding steady, sustained research and development at levels higher than those of its major rivals. However, Sony is the envy of many companies for its excellent batting average in new product creation.

Innovation from a Unique Remix of Common Elements

Some companies' innovation strategy is more basic, involving reshuffling elements that are often common to its competitors, but doing it in a way that makes the company stand out or attract a new customer base. Outstanding retailers provide excellent illustrations of this type of innovation.

Almost any major retailer shares identical strategy elements in common with others—its inventory levels and assortments; its strategy on store size and locations; its pricing posture; its staffing; its hours of operation; its store displays and decor; and its credit policies. Innovation therefore comes from creatively remixing all or some of these to provide uniqueness.

Montgomery Ward is pursuing this axis of innovation, remaking itself from a national chain department store into a retailer housing six distinct specialty stores under its roof. In effect, it is no longer presenting itself as a full assortment retailer. It has remixed its merchandise assortments and store design elements (colors, signing, and layout) and offers the consumer specialized retail stores—Electric Avenue, which sells home electronics; The Apparel Store (men's, women's, and children's clothes); Gold and Gems, a jewelry specialist; Auto Express (auto parts); Kids Store; and Home Ideas, which specializes in home textiles and accessories. None of the remixed elements are foreign to its rivals, but the unique way in which Montgomery Ward has positioned and implemented the remixing is the genesis of its marketing innovation.

Home Depot's lumber and do-it-yourself offerings do not set it apart from other chains. Home Depot's competitive advantage lies in its much more knowledgeable in-store staff, experts who can give advice about do-it-yourself projects. Most are former tradespeople, such as plumbers, electricians, or carpenters. Home Depot has taken one key element of its retailing mix, namely staffing, and altered it in a way competitors haven't matched. While the element it has changed is not new, the way it has transformed it is new. It has freshened its service dimension innovatively.

In manufacturing, differentiating the physical product with new features is at best quite short-lived. Competitors often quickly figure out what you did and match what was done. It's often better to take a common strategy element and innovate with it. Braun, a Gillette subsidiary, has done this for many years through innovative product design. Its

shavers, hair care products, and household appliances (such as coffee makers and clocks) are very distinctive in visual and tactile appeal, materials used, and compactness. For instance, its KF40 coffee maker, launched in 1984, sold 400,000 units its first year and won numerous design awards in Europe. Today Braun sells 2.5 million units a year of this uniquely designed coffee maker. While all of its rivals use design as a tool in their marketing mix, nobody uses it as skillfully as Braun in the product categories in which it competes. It has remixed a very standard differentiating marketing element with outstanding innovation.

While most companies have a bias in their corporate culture that favors one or another variant of innovation, truly outstanding companies usually pursue multiple pathways simultaneously.

Innovation in a service business can also be accomplished by remixing common strategy elements. Since 1984 Uniforce Temporary Personnel has grown from a \$43 million company offering temporary personnel to clients through thirty franchises, to a \$110 million outfit selling at 110 offices. It achieved this growth using many standard franchiser services, such as training and administrative services (managing franchisees' insurance, taxes, and payroll), but also by innovating in the area of cash flow assistance to franchisees.

While most local temp services pay their employees weekly and have to wait four to six weeks to be paid by their clients, Uniforce pays franchisee temps from its central funds, relieving franchisees of having to wait for their money with a starved cash flow. Uniforce has found that when franchisees worry less about cash flow, they can spend more time learning their local markets and concentrating on hiring the best quality temps they can find. A reputation for high quality in turn boosts franchisee volumes and attracts new franchisees to the Uniforce marketing organization. By remixing a common strategy element—services to franchisees—Uniforce has found a potent source of innovative marketing.

Many companies pursue innovation in a classic marketing textbook fashion. That is, they discover unmet market needs and then develop products or reposition existing products to fill them. Black & Decker is a great example of this approach. For many years it has uncovered the unmet needs of do-it-yourselfers and then engineered product offerings to meet those needs—from battery-powered drills to its trademarked portable work bench. Its newest product, a cordless electric lawn mower with a rechargeable battery, appeals to

environmentally sensitive consumers who don't want to pollute the air with gasoline fumes. Black & Decker has in recent years pursued this variation of innovation to launch household products that fit new needs and meet changing values. These have included spacesaver appliances such as coffeemakers as well as automatic shut-off irons.

While Black & Decker's innovations have required engineered products with new features, companies such as Procter & Gamble are masters at repositioning products to satisfy needs. For instance, after Procter & Gamble acquired Richardson-Vicks, it repositioned Pepto-Bismol, a well-established stomach upset remedy, as a treatment for traveller's diarrhea. It also acquired and repositioned Oil of Olay from a wrinkle cream to a skin moisturizer for younger women.

Examples of Innovating by Filling Needs

Utilizing this pathway to innovation requires astute market segmentation and market research so that the company understands when groups of customers within a total marketing spectrum have distinct needs. Levi Strauss, having spotted the need for men to loosen up and dress down more, developed baggier cotton twill pants. Levi's launched Dockers, its new casuals, and sold \$800 million of them to older, paunchier customers. Athletic shoe manufacturers such as Nike, L. A. Gear, and Reebok today offer different shoe designs based on function and fashion. A wide range of styles is available for tennis, jogging, cycling, aerobics, and basketball in a blizzard of different fashion-enhancing colors, fabrics, and logos.

An unfilled need can be based on geographic considerations in addition to life-style, demographics, or other criteria. KeyCorp has expanded its banking services to cover low-population towns such as Troy, Idaho (population 820), and Gig Harbor, Washington (population 2,429), that lack such services. This tactic has proved very successful financially. KeyCorp tripled its assets between 1986 and 1990 to \$15 billion, and earnings doubled from their level four years earlier, to \$317 million.

In addition to exploiting untapped needs of customers in geographically isolated areas, companies that pursue this pathway to innovation use two other variations. One is to attract customers by enhancing services. For instance, Pacific Bank offers personal and business services, such as sending a car for customers who need transportation to get to the bank, hand-delivering check reorders to customers' residences, and training the employees of its banking clients in sound bookkeeping practices. The Ritz-Carlton Hotel in Boston enhances its guest hotel services by offering custom-designed rooms for children that adjoin the parents' room. In the children's room are arts and crafts supplies, televisions, VCRs, a stereo, toys, and childproof power outlets.

The second variation on this "need-satisfying" strategy is to assist customers in gaining fuller benefits from the com-

pany's products. Skyline Displays, Inc., of Minneapolis manufactures and sells trade show booths. Recognizing that up to 40 percent of first-time trade show exhibitors do not repeat as booth users, Skyline decided to teach its customers how to exploit such booths for maximum advantage. It conducts trade-show workshops in various U.S. cities and uses workbooks, videos, and audio tapes for its customer education sessions.

Starbuck is a specialty coffee retailer that began by selling select coffee beans for at-home brewing. It now enhances its customers' use of such beans by selling brewing equipment, grinders, espresso machines, and cappuccino makers through an extremely knowledgeable sales staff. In fact, 20 percent of sales in Starbucks' sixty-three outlets now consist of such hardware.

Two companies whose pattern of growth and profitability owe their success to the pursuit of this axis of innovation are Church and Dwight Company of Princeton, New Jersey, and Aluminum Company of America (Alcoa).

Church and Dwight is the manufacturer of Arm & Hammer baking soda. Since 1846 the company has expanded its sales by finding new unfilled needs for its sodium bicarbonate in the yellow box. Refined from mineral salts in Wyoming, the product was first sold as baking soda. With 1991 sales of \$485 million, it has found even more niche uses. It is filling needs for deodorizing refrigerators, cleaning drains, polishing silver, stripping paint, reducing toxic emissions from gas power plants, neutralizing acid in swimming pools, and cutting lead contamination in town water supplies. It can even be used to clean teeth! These new need-fulfilling uses have helped Church and Dwight grow at a rate of 15 percent a year between 1981 and 1991.

Alcoa has increased sales from \$7 billion in 1987 to almost \$10 billion in 1991 as the direct result of listening to customers' ideas on how aluminum can help them lower the cost and weight of their products. Beverage cans, once more than 60 percent steel, are today 97 percent aluminum. Not only has Alcoa increased its penetration of beverage can manufacture, it has met new needs for products such as lightweight yet strong beverage bottle caps. It was Alcoa, for instance, who convinced can makers that easy-opening aluminum cans could boost sales of beverages in cans over beverages in glass bottles.

As Alcoa sought out new customer needs, it discovered them in both the food and dairy industries. Aluminum is widely used today for packaging products from frozen pies and yogurt to frozen cinnamon rolls and vegetable shortening. Since Alcoa's sales are in base aluminum to the packagers, many of its initiatives to innovate have required it to convince its customers' customers of the merits of aluminum closure systems and containers, as when it helped canners convince customers of the advantages of the easy-open pop top, which freed consumers from having to carry around their own can opener.

Innovation Based on Creative Imagination

Certain businesses such as book publishing, television, music recording, and computer software believe that creativity and creative ideas provide the hydraulics for growth. These are businesses in which no business basis exists without the original creation of writers, film makers, musicians, and computer programmers. The products of such industries often need to be unique each time out and are frequently crafted entirely from the world of imagination. Fashion, for example, is often a product of a designer's inner vision transformed into a garment's style and "look." The distribution of films and television programs requires new products that must be created entirely from scratch year in and year out. Pursuing this form of innovation requires a management team strong in creativity as well as in the management of creative people.

Pursuing innovation based upon pure imagination is a risky course of action, as Orion Pictures recently discovered.

Pursuing innovation based upon pure imagination is a risky course of action. Hit movies are not easy to turn out consistently—as companies such as Twentieth-Century Fox have discovered. And even when a highly creative organization has box office hits that win Academy Awards it can suddenly plunge into bankruptcy, as Orion Pictures did. Yet, when managed with common sense and financial discipline by very creative people, imagination can be a winning pathway for innovation.

Consider the case of software, a business that is considered highly creative and that includes many small entrepreneurial companies. (In fact, creating software has been compared to looking for a black cat in a dark room.) However, the Japanese are making serious attempts to engineer and manufacture software, a business and technology usually considered unmanageable.

While most companies believe that software is best produced by small companies that resemble a craft or cottage business, the Japanese are making serious efforts to systematize their programming productivity. Toshiba, NEC, Fujitsu, NIPPON Telephone and Telegraph, and Mitsubishi are all trying to recycle computer software codes so that software need not be produced from scratch each and every time. For example, half of Toshiba's software for 1985 was produced from recycled computer programs that had been stored in fifty program line modules in a massive computer software library.

Clearly, the Japanese are attempting to standardize a business heretofore considered a product of creativity. They are mimicking Disney's application of engineering to its imagination-based products. They are also attempting to make innovating along this pathway less risky and unpredictable since software production often lags behind hardware placements and incurs unanticipated cost overruns—and the software doesn't always perform as expected.

Innovation Derived from Scientific Research

Scientific discoveries are often the propellant certain companies need to innovate. For example, DuPont has grown through innovative discoveries in basic polymer chemistry and fibers, and Corning's growth has been fueled by the scientific exploitation of glass, from Corning Ware to glass fiber-optic cable for the transmission of telecommunications. These companies spend heavily on research and development and pioneer projects whose commercial success is often unassured. They believe that invention can move their companies forward, and they have a great deal of patience in trying to find niche applications for their basic discoveries. This has certainly been the case for DuPont, with its Nylon, Teflon, Lycra, and Kevlar.

For instance, Dupont worked very closely with Reebok to design a new athletic shoe that could exploit Dupont's "Elvajoy" polymer (the Pump Court Victory tennis shoe) as a direct challenger to Nike's air-filled shoes. Dupont's Lycra has found new niches in swimwear, bicycling gear, and high fashion, all of which have evolved from its original niche in women's girdles. Lycra today is an \$840 million success story.

Small companies that excel at scientific exploitation must often combine efforts with larger organizations that possess greater marketing or manufacturing expertise. For instance, Genentech, a microbiology-based company expert at basic DNA molecular research, joined with Eli Lilly, the pharmaceutical giant, to market its genetically engineered insulin; Genentech provided the basic research into recombinant DNA technology, while Eli Lilly produced and marketed the product of these scientific endeavors.

Zeiss: Pursuing Innovation via Science

Zeiss is a German manufacturer, headquartered in Oberkochen, whose existence and continued success flows from innovative scientific discoveries in the area of optical instruments. With sales exceeding 4.4 billion deutsche marks and 32,250 employees (25,000 in Germany), Zeiss dominates the global sale of optical instruments.

Zeiss draws large numbers of its work force from the best universities and technical schools in Germany. The lens on the camera first carried on the Moon by Neil Armstrong was a Zeiss, and in 1983, when the first spacelab photographed Earth from 250 kilometers in space, it used an aerial survey camera from Zeiss. The company's night-vision instruments

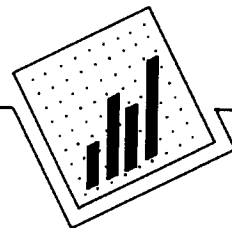
can amplify light 80,000 times, and the X-ray telescope on satellites equipped with a Zeiss mirror has the flattest mirror surface ever developed—within the width of an iron atom of being perfectly flat.

Innovation Through Functional Excellence

Achieving excellence in a specific function of management provides the source of innovation for many companies. Benetton, an apparel retailer and manufacturer with global reach, is innovative in its management of information. Its retail-to-plant information system allows it to make just-in-time decisions about manufacturing the styles and colors of clothing that are moving the fastest off its franchised store shelves.

Wrigley Gum, based in Chicago, reached more than \$1.1 billion in sales in 1991 and grew by rates of 13 percent and 22 percent in sales and profits respectively, compounded annually from 1985 to 1989. It accomplished this through functional excellence in merchandising—a combination of clever packaging, value pricing, branding, and in-store display.

Frito-Lay dominates the snack food market in North America because of its functional excellence in logistics. Its store-door delivery system of 9,000 truck route salespeople are as disciplined as an army in covering their 300,000 out-



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Functional expertise that provides a basis for innovation is not always narrowly based. McDonald's, for example, has functional expertise in five key areas—site selection, high-quality service, new menu offerings, high-caliber advertising, and excellent employee communication. By carefully exploiting its broad spread of talents, it has emerged as dominant in its market, surpassing Burger King and Burger Chef, both of whom had market shares equal to McDonalds' in the 1970s.

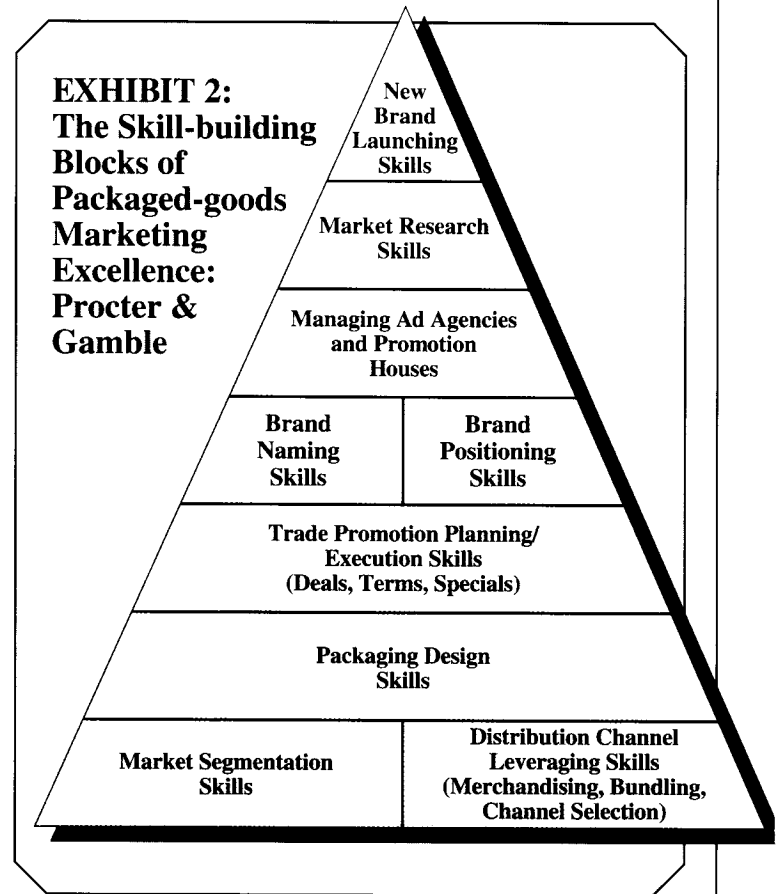
Using Functional Excellence for Innovation: Procter & Gamble

For a company to be able to use functional excellence as a springboard for innovation, it must clearly understand the specific skills and know-hows that comprise the function so it can apply them to new marketing opportunities. For instance, a company like Procter & Gamble, whose functional excellence lies in consumer packaged-goods marketing, must understand what skills and talents make up this successful functional speciality. Exhibit 2 illustrates the constituent parts of Procter & Gamble's packaged-goods marketing function expertise.

Procter & Gamble is very knowledgeable about the skills required to turn brands such as Tide, Head & Shoulders, Crest, and Pampers into world-beaters. In each case it has correctly targeted the brand through market segmentation and research; named the brand and packaged it in an appealing way; pumped ad money and promotions into the media and trade to attract buyers; and leveraged its distribution channels to the maximum.

So skilled is Procter & Gamble at this game that it was able to take this well-established formula and apply it to brands acquired from others such as Richardson-Vicks (which it purchased) and inject new life into them. For instance, when Oil of Olay was retargeted to young women, spin-off versions of the brand were developed for women with sensitive skin and pushed through the same vast Procter & Gamble distribution system.

Because Procter & Gamble has over the years identified itself and refined the skills it needs to be functionally excellent, it is able to innovate across multiple markets, from over-the-counter stomach remedies such as Metamucil to toiletries such as Old Spice, which it acquired from American Cyanamid. Its managers' skills have also proven transferrable across geographic zones. After Procter & Gamble merged with Blendax, a German health and beauty products maker, and Perfumeria Phebo, a Brazilian cosmetics company, it successfully exploited its functional expertise to innovate with its newly acquired brands. To beat Procter & Gamble's synergy, a rival must have mastered all



of its skills, which is a very tall order indeed. As markets "de-massify" into more and more specialized niches, the skills embedded in Procter & Gamble's organization can provide for fertile innovation in new products, line extensions, or repositioned brands, whether these are acquired or organically grown by Procter & Gamble itself.

Pursuing Multiple Pathways

While most companies have a bias in their corporate culture that favors one or another variant of innovation, truly outstanding companies usually pursue multiple pathways simultaneously.

3M, for instance, simultaneously pursues four different pathways to innovation. It finds unmet needs and engineers products to fill them, such as putting nighttime reflective materials on bicycle tires in Europe using a product originally designed for road signs. The company spends considerable funds on basic science to create new technologies such as its microwoven fiber technology used for Thinsulate-brand insulations and Scotchbrite-brand floor-cleaning pads. 3M combines technologies such as adhesives and abrasives to create sticky-backed sanding discs for body shops and industry. And the company pursues low-cost strategies (functional innovation in manufacturing) for the production of videotapes, packaging tape, and other key 3M lines.

Continued on page 48.