3 Collecting Information and Forecasting Demand

Making marketing decisions in a fast-changing world is both an art and a science. Holistic marketers recognize that the marketing environment is constantly presenting new opportunities and threats, and they understand the importance of continuously monitoring, forecasting, and adapting to that environment. Campbell is one of many companies trying to come to grips with the younger Millennial consumer.[1]

Campbell Soup Company's iconic red-and-white soup cans represent one of the most famous U.S. brands and were even the subject of an Andy Warhol portrait. Recently, though, the 143-year old company has suffered a double whammy: Overall consumption of canned soup has declined 13 percent, and Campbell's market share has dropped from 67% to 53% due to the popularity of fresh and premium soups. To stop the sales slide, Campbell set out to better understand the 18-to-34-year-olds who make up 25% of the U.S. population and will profoundly affect the company's future. Adopting an anthropological research approach, they sent executives to study Millennial consumers face-to-face in "hipster market hubs" such as London; Austin, TX; Portland, OR; and Washington D.C. They engaged in "live-alongs," where they shopped and ate at home with young consumers, and "eat-alongs" where they dined with them in restaurants. The key insight? Millennials loved spices and ate more exotic food than their parents—they just couldn't cook it at home! Campbell's solution was a new line, Campbell's Go! Soup ready-to-eat meals in six flavor varieties such as Moroccan Style Chicken with Chickpeas, Spicy Chorizo and Pulled Chicken with Black Beans, and Coconut Curry and Chicken with Shiitake Mushrooms. Sold in pouches rather than cans to convey freshness and at a price ($3) more than three times the basic red-and-white line, the product line was promoted entirely online, including music and humor sites, gaming platforms, and social media. Campbell also sells Pepperidge Farms baked goods, V8 vegetable juices, and Prego pasta sauce, but soups account for half its revenue, so marketing success for the new line was crucial.

Virtually every industry has been touched by dramatic shifts in the economic, sociocultural, natural, technological, and political-legal environments. In this chapter, we consider how firms can identify and track relevant macroenvironment trends and develop good sales forecasts.

Components of a Modern Marketing Information System

The major responsibility for identifying significant marketplace changes falls to the company's marketers. Marketers have two advantages for the task: (1) disciplined methods for collecting information and (2) time spent interacting with customers and observing competitors and other outside groups. Some firms have marketing information systems that provide rich detail about buyer wants, preferences, and behavior.

DUPONT DuPont commissioned marketing studies to uncover personal pillow behavior for its Dacron Polyester unit, which supplies filling to pillow makers and sells its own Comforel brand. One challenge is that people don't give up their old pillows: 37 percent of one sample described their relationship with their pillow as being like that of "an old married couple," and an additional 13 percent said their pillow was like "a childhood friend." Respondents fell into distinct groups in terms of pillow behavior: stackers (23 percent), plumpers (20 percent), rollers or folders (16 percent), cuddlers (16 percent), and smashers, who pound their pillows into a more comfy shape (10 percent). Women were more likely to plump, men to fold. The prevalence of stackers led the company to sell more pillows packaged as pairs and at different levels of softness or firmness.[2]

Marketers also have extensive information about how consumption patterns vary across and within countries. On a per capita annual basis, for example, the Irish consume the most chocolate (24.7 lbs.), Czechs the most beer (131.7 liters), the French the most wine (45.7 liters), and Greeks the most cigarettes (4,313).[3] Table 3.1 summarizes other comparisons across countries. Consider regional differences: Seattle's residents buy more sunglasses per person than in any other U.S. city; people in Salt Lake City (and Utah) eat the most Jell-O; Long Beach, CA, residents eat the most ice cream; and New York City dwellers buy the most country music CDs.[4]

Every firm must organize and distribute a continuous flow of information to its marketing managers. A **marketing information system (MIS)** consists of people, equipment, and procedures to gather, sort, analyze, evaluate, and distribute needed, timely, and accurate information to marketing decision makers. It relies on internal company records, marketing intelligence activities, and marketing research.

The company's marketing information system should combine what managers think they need, what they really need, and what is economically feasible. An internal MIS committee can interview a cross-section of marketing managers to discover their information needs. Table 3.2 displays some useful questions to ask them.

TABLE 3.1 A Global Profile of Extremes

Highest fertility rate	Niger	47.7 births per 1,000 population
Highest education expenditure as percent of GDP	Timor-Leste	14.0% of GDP
Highest number of mobile phone subscribers	Macau	206.4 subscribers per 100 people
Largest number of airports	United States	15,079 airports
Highest military expenditure as percent of GDP	Saudi Arabia	10.1% of GDP
Highest divorce rate	South Korea	4.6 divorces per 1,000 population
Telephone lines per capita	Bermuda	89.0 lines per 100 people
Highest cinema attendance	India	4,432,700,000 cinema visits
Highest GDP per person	Liechtenstein	$105,190
Largest aid donors as % of GDP	Norway	1.10% of GDP
Most economically dependent on agriculture	Liberia	61.3% of GDP
Highest population in workforce	Qatar	74.7%
Highest percent of women in workforce	Mozambique	53.5%
Most crowded road networks	Hong Kong	286.7 vehicles per km of road
Most deaths in road accidents	Namibia	53.4 killed per 100,000 population
Most tourist arrivals	France	77,526,000
Highest life expectancy	Japan	83.7 years
Highest obesity rate	United States	35.7% of adults

Source: *CIA World Factbook,* www.cia.gov/library/publications/the-world-factbook, accessed July 24, 2012; *The Economist's Pocket World in Figures*, 2013 edition (London: Profile Books, 2012).

TABLE 3.2 Information Needs Probes

1. What decisions do you regularly make?
2. What information do you need to make these decisions?
3. What information do you regularly get?
4. What special studies do you periodically request?
5. What information would you want that you are not getting now?
6. What information would you want daily? Weekly? Monthly? Yearly?
7. What online or offline newsletters, briefings, blogs, reports, or magazines would you like to see on a regular basis?
8. What topics would you like to be kept informed of?
9. What data analysis and reporting programs would you want?
10. What are the four most helpful improvements that could be made in the present marketing information system?

Internal Records

To spot important opportunities and potential problems, marketing managers rely on internal reports of orders, sales, prices, costs, inventory levels, receivables, and payables.

THE ORDER-TO-PAYMENT CYCLE

The heart of the internal records system is the order-to-payment cycle. Sales representatives, dealers, and customers send orders to the firm. The sales department prepares invoices, transmits copies to various departments, and back-orders out-of-stock items. Shipped items generate shipping and billing documents that go to various departments. Because customers favor firms that can promise timely delivery, companies need to perform these steps quickly and accurately.

SALES INFORMATION SYSTEMS

Marketing managers need timely and accurate reports on current sales. Walmart operates a sales and inventory data warehouse that captures data on every item for every customer, every store, every day and refreshes it every hour.

Companies that make good use of "cookies," records of Web site usage stored on personal browsers, are smart users of targeted marketing. Many consumers are happy to cooperate: Not only do they *not* delete cookies, but they also expect customized marketing appeals and deals once they accept them.

Marketers must carefully interpret sales data, however, to avoid drawing wrong conclusions. Michael Dell illustrates: "If you have three yellow Mustangs sitting on a dealer's lot and a customer wants a red one, the salesman may be really good at figuring out how to sell the yellow Mustang. So the yellow Mustang gets sold, and a signal gets sent back to the factory that, hey, people want yellow Mustangs."[5]

DATABASES, DATA WAREHOUSING, AND DATA MINING

The explosion of data brought by the maturation of the Internet and mobile technology gives companies unprecedented opportunities to engage their customers. It also threatens to overwhelm decision makers. "Marketing Insight: Digging into Big Data" describes opportunities and challenges in managing massive data sets.[6]

marketing insight

Digging Into Big Data

Although unverified, one popular estimate says 90 percent of the data that has ever existed was created in the past two years. In one year, people stored enough data to fill 60,000 Libraries of Congress. YouTube receives 24 hours of video *every minute*. The world's 4 billion mobile phone users provide a steady source of data. Manufacturers are putting sensors and chips into appliances and products, generating even more data.

The danger, of course, is information overload. More data are not better unless they can be correctly processed, analyzed, and interpreted. In one poll of North American senior business executives, more than 90 percent reported collecting more information—86 percent more on average—than in years past. Unfortunately, roughly as many said they were missing out on new revenue growth because they could not gather the appropriate insights from those data.

And therein lies the opportunity and challenge of Big Data. Although a universally agreed-upon definition does not exist, Big Data describes data sets that cannot be effectively managed with traditional database and business intelligence tools. One industry expert, James Kobielus, sees Big Data as distinctive because of: *Volume* (from hundreds of terabytes to petabytes and beyond); *Velocity* (up to and including real-time, sub-second delivery); *Variety* (encompassing structured, unstructured, and semi-structured formats: messages, images, GPS signals, readings from sensors); and *Volatility* (with hundreds of new data sources in apps, Web services, and social networks).

Some companies are harnessing Big Data. UK supermarket giant Tesco collects 1.5 billion pieces of data every month to set prices and promotions; U.S. kitchenware retailer Williams-Sonoma uses its customer knowledge to customize versions of its catalog. Amazon reports generating 30 percent of its sales through its recommendation engine ("You may also like").

Many financial brands are putting more emphasis on Big Data. Bank of America is tracking spending and demographic data and tailoring promotions—for example, offering back-to-school deals to cardholders with children. JPMorgan Chase has improved communications to new cardholders to gain more engagement. On the production side, GE set up a team of developers in Silicon Valley to improve the efficiency of the jet engines, generators, locomotives, and CT scanners it sells. Even a 1 percent improvement in the operation of commercial aircraft would save $2 billion for GE's customers in the airline industry.

Sources: Schumpter, "Building with Big Data," *The Economist*, May 28, 2011; Jessica Twentyman, "Big Data Is the 'Next Frontier'" *Financial Times*, November 14, 2011; Jacques Bughin, John Livingston, and Sam Marwaha, "Seizing the Potential of Big Data," *McKinsey Quarterly* 4 (October 2011); "Mining the Big Data Goldmine," Special Advertising Section, *Fortune*, 2012; "Financial Brands Tap Big Data," www.warc.com, September 13, 2012; Thomas H. Davenport, Paul Barth, and Randy Bean, "How 'Big Data' Is Different," *MIT Sloan Management Review* 54 (Fall 2012), pp. 43–46; Andrew McAfee and Erik Brynjolfsson, "Big Data: The Management Revolution," *Harvard Business Review*, October 2012, pp. 60–68; Ashlee Vance, "GE Tries to Make Its Machines Cool and Connected," *Bloomberg Businessweek*, December 10, 2012, pp. 44–46.

Marketing Intelligence

THE MARKETING INTELLIGENCE SYSTEM

A **marketing intelligence system** is a set of procedures and sources that managers use to obtain everyday information about developments in the marketing environment. The internal records system supplies *results* data, but the marketing intelligence system supplies *happenings* data. Marketing managers collect marketing intelligence by reading books, newspapers, and trade publications; talking to customers, suppliers, distributors, and other company managers; and monitoring online social media.

Before the Internet, sometimes you just had to go out in the field and watch the competition. Describing how he learned about a rival's drilling activity, oil and gas entrepreneur T. Boone Pickens recalls, "We would have someone who would watch [the rival's] drilling floor from a half mile away with field glasses. Our competitor didn't like it but there wasn't anything they could do about it. Our spotters would watch the joints and drill pipe. They would count them; each [drill] joint was 30 feet long. By adding up all the joints, you would be able to tally the depth of the well." Pickens knew that the deeper the well, the more costly for his rival to get the oil or gas up to the surface, information that gave him an immediate competitive advantage.[7]

Marketing intelligence gathering must be legal and ethical. The private intelligence firm Diligence paid auditor KPMG a fine of $1.7 million after its cofounder posed as a British intelligence officer and convinced a member of the audit team to share confidential documents about a Bermuda-based investment firm for a Russian conglomerate.[8]

A company can take eight possible actions to improve the quantity and quality of its marketing intelligence. After describing the first seven, we devote special attention to the eighth: collecting marketing intelligence on the Internet.

- ***Train and motivate the sales force to spot and report new developments.*** The company must "sell" its sales force on their importance as intelligence gatherers. Grace Performance Chemicals, a division of W. R.

Grace, instructed its sales reps to observe the innovative ways customers used its products and suggest possible new products. Some customers used Grace waterproofing materials to soundproof their cars and patch boots and tents. Seven new-product ideas emerged, worth millions in sales.[9]

- ***Motivate distributors, retailers, and other intermediaries to pass along important intelligence.*** Marketing intermediaries are often closer to the customer and competition and can offer helpful insights. Combining data from its retailers Safeway, Kroger, and Walmart with its own qualitative insights, food producer ConAgra learned that many mothers switched to time-saving meals and snacks when school started. It launched its "Seasons of Mom" campaign to help grocers adjust to seasonal shifts in household needs.[10]
- ***Hire external experts to collect intelligence.*** Many companies hire specialists to gather marketing intelligence.[11] SavOn Convenience Stores, an enterprise of the Oneida Indian Nation, conducts 52 "mystery shopper" visits a month across its 13 stores. Stores are graded on employee responsiveness to customers, product quality, food freshness, restroom cleanliness, and stock levels. SavOn gives awards to winning stores.[12]
- ***Network internally and externally.*** The firm can purchase competitors' products, attend open houses and trade shows, read competitors' published reports, attend stockholders' meetings, talk to employees, collect competitors' ads, consult with suppliers, and look up news stories about competitors.
- ***Set up a customer advisory panel.*** Members of advisory panels might include the company's largest, most outspoken, most sophisticated, or most representative customers. GlaxoSmithKline sponsored an online community devoted to weight loss, where marketers felt they learned far more than they could have gleaned from focus groups on topics from packaging its weight-loss pill to where to place in-store marketing.[13]
- ***Take advantage of government-related data resources.*** The U.S. Census Bureau provides an in-depth look at the population swings, demographic groups, regional migrations, and changing family structure of the more than 311,591,917 people in the United States. Census marketer Nielsen Claritas SiteReports cross-references census figures with consumer surveys and its own grassroots research for clients such as The Weather

Source: © Jeff Greenberg 2 of 6/Alamy

Williams Sonoma uses information it has learned about its customers to customize its catalogs.

Source: David Sacks/Getty Images

Firms such as NPD provide detailed audits on how American consumers use their kitchens.

Channel, BMW, and Sovereign Bank. SiteReports offers more than 50 reports and maps that help companies analyze markets, select site locations, and target customers effectively.[14]

- ***Purchase information from outside research firms and vendors.*** Well-known data suppliers like A.C. Nielsen Company and Information Resources Inc. collect information about product sales and consumer exposure to media; they also gather consumer-panel data. Attensity offers a suite of products to monitor customer conversations from a variety of social, online, and internal sources.[15] NPD conducts its Kitchen Audit study every three years to determine what food ingredients U.S. households have on hand and what appliances, cookware, and utensils they own and to assess usage and sources of recipes.[16]

COLLECTING MARKETING INTELLIGENCE ON THE INTERNET

Online customer review boards, discussion forums, chat rooms, and blogs can distribute one customer's experiences or evaluation to other potential buyers and, of course, to marketers seeking information. Here are five places to find competitors' product strengths and weaknesses online.

- ***Independent customer goods and service review forums.*** Independent forums include Web sites such as Epinions.com, RateItAll.com, ConsumerReview.com, and Bizrate.com. Bizrate.com collects millions of consumer reviews of stores and products each year from two sources: its 1.3 million volunteer members and feedback from stores that allow Bizrate.com to collect it directly from customers as they buy.
- ***Distributor or sales agent feedback sites.*** Feedback sites offer positive and negative product or service reviews, but the stores or distributors have built the sites themselves. Amazon.com offers an interactive feedback opportunity through which buyers, readers, editors, and others can review all products on the site, especially books. Elance.com is an online professional services provider that allows contractors to describe their experience and level of satisfaction with subcontractors.
- ***Combo sites offering customer reviews and expert opinions.*** Combination sites are concentrated in financial services and high-tech products that require professional knowledge. ZDNet.com offers customer and expert evaluations of technology products based on ease of use, features, and stability.
- ***Customer complaint sites.*** Customer complaint forums are designed mainly for dissatisfied customers. PlanetFeedback.com allows customers to voice unfavorable experiences with specific companies.
- ***Public blogs.*** Tens of millions of blogs and social networks offer personal opinions, reviews, ratings, and recommendations on virtually any topic—and their numbers continue to grow. Nielsen's BuzzMetrics analyzes blogs and social networks for insights into consumer sentiment and threats to the brand that may emerge online.[17]

Of course, companies can use many of these sources to monitor their own customers, products, services, and brands. Customer-service forums linked on a company's home page are a very useful tool. Customers often respond faster and provide better answers to other customers than a company could.

COMMUNICATING AND ACTING ON MARKETING INTELLIGENCE

The competitive intelligence function works best when it is closely coordinated with the decision-making process. Given the speed of the Internet, it is important to act quickly on information gleaned online, as StubHub and Coca-Cola found:[18]

- When ticket broker StubHub detected criticism of its brand after confusion arose about refunds for a rain-delayed Yankees–Red Sox game, it quickly offered appropriate discounts and credits. The director of customer service observed, "This [episode] is a canary in a coal mine for us."
- When its monitoring software spotted a Twitter post that went to 10,000 followers from an upset consumer who couldn't redeem a prize from a MyCoke rewards program, Coke quickly posted an apology on his Twitter profile and offered to help resolve the situation. After the consumer got the prize, he changed his Twitter avatar to a photo of himself holding a Coke bottle.

Analyzing the Macroenvironment

Successful companies recognize and respond profitably to unmet needs and trends.

Source: © Kristoffer Tripplaar/Alamy

Macaroni Grill revamped its menu to include more offerings to appeal to health-conscious consumers.

NEEDS AND TRENDS

Dockers was created to meet the needs of baby boomers who could no longer fit into their jeans and wanted a physically and psychologically comfortable pair of pants. Enterprising individuals and companies create new solutions to similarly unmet needs. Let's distinguish among fads, trends, and megatrends.

- A **fad** is "unpredictable, short-lived, and without social, economic, and political significance." A company can cash in on a fad such as Crocs clogs, Elmo TMX dolls, and Pokémon gifts and toys, but getting it right requires luck and good timing.[19]
- A direction or sequence of events with momentum and durability, a **trend** is more predictable and durable than a fad; trends reveal the shape of the future and can provide strategic direction. A trend toward health and nutrition awareness has brought increased government regulation and negative publicity for firms seen as peddling unhealthy food. Macaroni Grill revamped its menu to include more low-calorie and low-fat offerings after *The Today Show* called its chicken and artichoke sandwich "the calorie equivalent of 16 Fudgesicles" and *Men's Health* declared its 1,630-calorie dessert ravioli the "worst dessert in America."[20]
- A **megatrend** is a "large social, economic, political, and technological change [that] is slow to form, and once in place, influences us for some time—between seven and ten years, or longer."[21]

Several firms offer social-cultural forecasts. The Yankelovich Monitor has tracked 35 social value and lifestyle trends since 1971, such as "anti-bigness," "mysticism," and "living for today." A new market opportunity doesn't guarantee success, of course. Even if the new product is technically feasible, market research is necessary to determine profit potential.

IDENTIFYING THE MAJOR FORCES

The new century brought new challenges: the steep decline of the stock market, which affected savings, investment, and retirement funds; rising and long-lasting unemployment; corporate scandals; stronger indications of global warming and other signs of deterioration in the environment; and continued terrorism.

Firms must monitor six major forces in the broad environment: demographic, economic, social-cultural, natural, technological, and political-legal. We'll describe them separately, but remember their interactions will lead to new opportunities and threats. For example, explosive population growth (demographic) leads to more resource depletion and pollution (natural), which leads consumers to call for more laws (political-legal), which stimulate new technological solutions and products (technological) that, if they are affordable (economic), may actually change attitudes and behavior (social-cultural).

THE DEMOGRAPHIC ENVIRONMENT

The main demographic factor marketers monitor is *population,* including the size and growth rate of population in cities, regions, and nations; age distribution and ethnic mix; educational levels; and household patterns.

WORLDWIDE POPULATION GROWTH World population growth is explosive: The world's population on July 1, 2012, was estimated at 7,027,349,193, forecasted to rise to 8.82 billion by 2040 and exceed 9 billion by 2045.[22] Table 3.3 offers an interesting perspective.[23]

Population growth is highest in countries and communities that can least afford it. Developing regions of the world house 84 percent of the world's population and are growing at 1 percent to 2 percent per year; developed countries' populations are growing at only 0.3 percent.[24] In developing countries, modern medicine is lowering the death rate, but birthrates remain fairly stable.

A growing population does not mean growing markets unless there is sufficient purchasing power. Education can raise the standard of living but is difficult to accomplish in most developing countries. Nonetheless, companies that carefully analyze these markets can find major opportunities and sometimes lessons they can apply at home. See "Marketing Memo: Finding Gold at the Bottom of the Pyramid."[25]

POPULATION AGE MIX Mexico has a very young population and rapid population growth. Italy, at the other extreme, has one of the world's oldest populations. Milk, diapers, school supplies, and toys will be more important products in Mexico than in Italy.

There is a global trend toward an aging population. In 1950, there were only 131 million people 65 and older; in 1995, their number had almost tripled to 371 million. By 2050, one of 10 people worldwide will be 65 or older. In the United States, baby boomers—those born between 1946 and 1964—represent a market of some 36 million, about 12 percent of the population. By 2011, the 65-and-over population was growing faster than the population as a whole in each of the 50 states.[26]

TABLE 3.3 The World as a Village
If the world were a village of 100 people:
• Sixty-one villagers would be Asian (of those, 20 would be Chinese and 17 would be Indian), 14 would be African, 11 would be European, nine would be Latin or South American, five would be North American, and none of the villagers would be from Australia, Oceania, or Antarctica.
• At least 18 villagers would be unable to read or write, but 33 would have cellular phones and 16 would be online on the Internet.
• Twenty-seven villagers would be under 15, and seven would be over 64. There would be an equal number of males and females.
• There would be 18 cars in the village.
• Sixty-three villagers would have inadequate sanitation.
• Thirty-three villagers would be Christians, 20 would be Muslims, 13 would be Hindus, six would be Buddhists, 14 would be nonreligious, and the remaining 14 would be members of other religions.
• Thirty villagers would be unemployed or underemployed, while of those 70 who would work, 28 would work in agriculture (primary sector), 14 would work in industry (secondary sector), and the remaining 28 would work in the service sector (tertiary sector).
• Fifty-three villagers would live on less than two U.S. dollars a day. One villager would have AIDS, 26 villagers would smoke, and 14 villagers would be obese.
• By the end of a year, one villager would die and two new villagers would be born so the population would climb to 101.

Source: David J. Smith and Shelagh Armstrong, *If the World Were a Village: A Book about the World's People*, 2nd ed. (Tonawanda, NY: Kids Can Press, 2002).

marketing memo

Finding Gold at the Bottom of the Pyramid

Business writer C. K. Prahalad believes much innovation can come from developments in emerging markets such as China and India. He estimates 5 billion unserved and underserved people make up the "bottom of the pyramid." One study showed that 4 billion people live on $2 or less a day. Firms operating in those markets must learn how to do more with less.

In Bangalore, India, Narayana Hrudayalaya Hospital charges a flat fee of $1,500 for heart bypass surgery that costs 50 times as much in the United States. The hospital has low labor and operating expenses and an assembly-line view of care. The approach works—the hospital's mortality rates are half those of U.S. hospitals. Narayana also operates on hundreds of infants for free and profitably insures 2.5 million poor Indians against serious illness for 11 cents a month.

Similarly, Arvind Eye Care System, established by Govindappa Venkatswamy in 1976 in India, has performed 4 million operations using an approach likened to "McDonald's-style" high-volume assembly. Aravind also developed an intra-ocular lens, manufactured by its subsidiary, Aurolab, at a fraction of the cost of imports. SalaUno, a for-profit social enterprise based in San Francisco, replicated the Aravind model in Mexico, carrying out 133 cataract operations a month for a year—free of charge for those who could not afford the treatment.

The transfer of innovations from developing to developed markets is what Dartmouth professor Vijay Govindrajan calls *reverse innovation*. He sees opportunity in focusing on the needs and constraints of a developing market to create an inexpensive product that can succeed there and then introducing it as a cheaper alternative in developed markets. He also sees reverse innovation's public policy benefits, which can transform industries through the successful development of ultra-low-cost transportation, renewable energy, clean water, micro finance, affordable heath care, and low-cost housing.

Among successful reverse innovators, Nestlé repositioned its low-fat Maggi brand dried noodles—a popular, low-priced meal for rural Pakistan and India—as a budget-friendly health food in Australia and New Zealand. U.S.-based Harman International, known for high-end dashboard audio systems designed by German engineers, developed a radically simpler and cheaper way to create products for China, India, and emerging markets and is applying that method to its product-development centers in the West. It now can sell a range of products priced from low to high and is looking into infotainment systems for motorbikes, a popular form of transportation in emerging markets and around the world.

Sources: C. K. Prahalad, *The Fortune at the Bottom of the Pyramid* (Upper Saddle River, NJ: Wharton School Publishing, 2010); Bill Breen, "C. K. Prahalad: Pyramid Schemer," *Fast Company*, March 2007, p. 79; Reena Jane, "Inspiration from Emerging Economies," *BusinessWeek*, March 23, 2009, pp. 38–41; Vijay Govindarajan and Chris Trimble, *Reverse Innovation: Create Far from Home, Win Everywhere* (Boston, MA: Harvard Business School Publishing, 2012); Jeffrey R. Immelt, Vijay Govindarajan, and Chris Trimble, "How GE Is Disrupting Itself," *Harvard Business Review*, October 2009, pp. 56–65; Vijay Govindrajan, "A Reverse-Innovation Playbook," *Harvard Business Review*, April 2012, pp.120–23; Felicity Carus, "Reverse Innovation Brings Social Solutions to Developed Countries," *The Guardian*, August 29, 2012; Constantinos C. Markides, "How Disruptive Will Innovations from Emerging Markets Be?," *MIT Sloan Management Review*, 54 (Fall 2012), pp. 23–25.

Marketers generally divide the population into six age groups: preschool children, school-age children, teens, young adults age 20 to 40, middle-aged adults 40 to 65, and older adults 65 and older. Some marketers focus on **cohorts**, groups of individuals born during the same time period who travel through life together. The defining moments they experience as they come of age and become adults (roughly ages 17 through 24) can stay with them for a lifetime and influence their values, preferences, and buying behaviors.

ETHNIC AND OTHER MARKETS Ethnic and racial diversity varies across countries. At one extreme is Japan, where almost everyone is native Japanese; at the other extreme is the United States, 12 percent of whose people were born in another country. As of the 2010 Census, the U.S. population was: White (72 percent), Black or African American (13 percent), American Indian and Alaskan Native (0.9 percent), Asian (5 percent), Hispanic (16 percent). More than half the growth between 2000 and 2010 came from the increase in the Hispanic population, which grew by 43 percent, from 35.3 million to 50.5 million, representing a major shift in the nation's ethnic center of gravity. Geographically, the 2010 Census revealed that Hispanics were moving to states like North Carolina where they had not been concentrated before and that they increasingly live in suburbs.[27] From the food U.S. consumers eat to the clothing, music, and cars they buy, Hispanics are having a huge impact.

Companies are refining their products and marketing to reach this fastest-growing and most influential consumer group: Research by Hispanic media giant Univision suggests 70 percent of Spanish-language viewers are more likely to buy a product when it's advertised in Spanish. Fisher-Price, recognizing that many Hispanic mothers did not grow up with its brand, shifted away from appeals to their heritage. Instead, its ads emphasized the joy of mother and child playing together with Fisher-Price toys.[28] Hispanics are not the only fast-growing minority segment.[29]

INDIAN-AMERICANS The U.S. Indian-American population has exploded over the past decade, according to the 2010 Census, surpassing Filipinos as the nation's second-largest Asian population after Chinese. Affluent, well-educated, and consumer-oriented, Indian-Americans are attractive to marketers. Nationwide Insurance developed print and TV ads for them and other South Asians in the New York tristate area and San Francisco and Silicon Valley. Cadillac has run newspaper ads and local TV spots in Chicago and New York after seeing many Indian-Americans and South Asians in its showrooms. Zee TV was the first Hindi satellite channel and is the leading network serving the South Asian audience.

Yet marketers must not overgeneralize—within each group are consumers quite different from each other.[30] Diversity also goes beyond ethnic and racial markets. More than 51 million U.S. consumers have disabilities, and they constitute a market for home delivery companies such as Internet grocer Peapod.

EDUCATIONAL GROUPS The population in any society falls into five educational groups: illiterates, high school dropouts, high school diplomas, college degrees, and professional degrees. More than two-thirds of the world's 793 million illiterate adults are found in only eight countries (Bangladesh, China, Egypt, Ethiopia, India, Indonesia, Nigeria, and Pakistan); of all illiterate adults in the world, two-thirds are women; extremely low literacy rates are concentrated in three regions—the Arab states, South and West Asia, and Sub-Saharan Africa—where around one-third of the men and half of all women are illiterate (2005 est.).[31]

The United States has one of the world's highest percentages of college-educated citizens.[32] As of March 2011, just over 30 percent of U.S. adults held at least a bachelor's degree, and 10.9 percent held a graduate degree, up from 26.2 percent and 8.7 percent 10 years earlier. Half of 18- and 19-year-olds were enrolled in college in 2009, but not all college students are young. About 16 percent are 35 and older; they also make up 37 percent of part-time students. The large number of educated people in the United States drives strong demand for high-quality books, magazines, and travel and creates a supply of skills.

HOUSEHOLD PATTERNS The traditional U.S. household included a husband, wife, and children under 18 (sometimes with grandparents). By 2010, only 20 percent of U.S. households met this definition, down from about 25 percent a decade before and 43 percent in 1950. Married couples have dropped below half of all U.S. households for the first time (48 percent), far below the 78 percent of 1950. The median age at first marriage has also never been higher: 26.5 for brides and 28.7 for grooms.[33]

The U.S. family has been steadily evolving toward less traditional forms. More people are divorcing, separating, choosing not to marry, or marrying later. Other types of households are single live-alones (27 percent), single-parent families (8 percent), childless married couples and empty nesters (32 percent), living with nonrelatives only (5 percent), and other family structures (8 percent).

Indian-Americans are a fast growing minority segment with much appeal to marketers.

Source: Ashok Sinha/Taxi

The biggest change for the decade was the jump in households headed by women without husbands—up 18 percent. Nontraditional households are growing more rapidly than traditional households. Academics and marketing experts estimate the gay and lesbian population at 4 percent to 8 percent of the total U.S. population, higher in urban areas.[34]

Each type of household has distinctive needs and buying habits. The single, separated, widowed, and divorced may need smaller apartments; inexpensive and smaller appliances, furniture, and furnishings; and smaller-size food packages. Many non-traditional households feel advertising ignores families like theirs, suggesting an opportunity for advertisers.[35]

Even traditional households have changed. Boomer dads marry later than their fathers and grandfathers did, shop more, and are much more active in raising their kids. Bugaboo makes innovative baby strollers that speaks to modern parents. Bugaboo's iconic functional strollers have unique designs and functionalities such as adjustable suspension and an extendable handle bar perfect for taller dads. And before Dyson, the high-end vacuum company, appealed to U.S. dads' inner geek by focusing on the machine's revolutionary technology, men weren't even on the radar for vacuum cleaner sales. Now they make up 40 percent of Dyson's customers.[36]

THE ECONOMIC ENVIRONMENT

Purchasing power depends on consumers' income, savings, debt, and credit availability as well as the price level. As the recent economic downturn vividly demonstrated, fluctuating purchasing power strongly affects business, especially for products geared to high-income and price-sensitive consumers. Marketers must understand consumer psychology and levels and distribution of income, savings, debt, and credit.

CONSUMER PSYCHOLOGY The recession that began in 2008 initiated new consumer spending patterns. Were these temporary adjustments or permanent changes?[37] The middle class—the bread and butter of many firms—was hit hard by record declines in both wages and net worth. Some experts believed the recession had fundamentally shaken consumers' faith in the economy and their personal financial situations. "Mindless" spending would be out; willingness to comparison shop, haggle, and use discounts would become the norm.[38]

Consumers at the time certainly seemed to believe so. In one survey, almost two-thirds said the recession's economic changes would be permanent; nearly one-third said they would spend less than before the recession. Others believed tighter spending was a short-term constraint and not a fundamental behavioral change; they predicted their spending would resume when the economy improved.[39]

Identifying the more likely long-term scenario—especially for the coveted 18- to 34-year-old group—would help marketers decide how to spend their money. Executives at Sainsbury, the third-largest UK chain of supermarkets, concluded that the recession had created a more risk-averse British consumer, saving more, paying off debts instead of borrowing, and shopping in more cost-conscious ways. Even wealthy UK consumers traded down some to lower-cost items. As one retail executive said, "There's nobody who can afford not to try to save."[40]

INCOME DISTRIBUTION There are four types of industrial structures: *subsistence economies* like Papua New Guinea, with few opportunities for marketers; *raw-material-exporting economies* like Democratic Republic of Congo (copper) and Saudi Arabia (oil), with good markets for equipment, tools, supplies, and luxury goods for the rich; *industrializing economies* like India, Egypt, and the Philippines, where a new rich class and a growing middle class demand new types of goods; and *industrial economies* like Western Europe, with rich markets for all sorts of goods.

Marketers often distinguish countries using five income-distribution patterns: (1) very low incomes; (2) mostly low incomes; (3) very low, very high incomes; (4) low, medium, high incomes; and (5) mostly medium incomes. Consider the market for the Lamborghini, an automobile costing more than $150,000. The market would be very small in countries with type 1 or 2 income patterns. One of the largest single markets for the ultra-expensive

The unique design of Bugaboo baby strollers are especially appealing to modern parents.

Source: Bugaboo International B.V.

Source: © Paul Best/Alamy

High-priced Lamborghini sports cars have found success in relatively poorer countries by appealing to enough affluent buyers.

sports car Lamborghinis is Portugal (income pattern 3), one of the poorer countries in Western Europe, but with high enough income inequality that there are also wealthy families who can afford expensive cars.[41]

INCOME, SAVINGS, DEBT, AND CREDIT U.S. consumers have a high debt-to-income ratio, which slows expenditures on housing and large-ticket items. When credit became scarcer in the recession, especially for lower-income borrowers, consumer borrowing dropped for the first time in two decades. The financial meltdown that led to this contraction was due to overly liberal credit policies that allowed consumers to buy homes and other items they could not really afford. Marketers wanted every possible sale, banks wanted to earn interest on loans, and near financial ruin resulted.

An economic issue of increasing importance is the migration of manufacturers and service jobs offshore. From India, Infosys provides outsourcing services for Cisco, Nordstrom, Microsoft, and others. The 35,000 employees the fast-growing $4.2 billion company hires every year receive technical, team, and communication training in Infosys's $120 million facility outside Bangalore.[42]

THE SOCIOCULTURAL ENVIRONMENT

From our sociocultural environment we absorb, almost unconsciously, a world view that defines our relationships to ourselves, others, organizations, society, nature, and the universe.

- ***Views of ourselves.*** Some "pleasure seekers" chase fun, change, and escape; others seek "self-realization." Some adopt more conservative behaviors and ambitions (see Table 3.4 for favorite consumer leisure-time activities and how they have changed, or not, in recent years).
- ***Views of others.*** People are concerned about the homeless, crime and victims, and other social problems. At the same time, they seek those like themselves for long-lasting relationships, suggesting a growing market for social-support products and services such as health clubs, cruises, and religious activity as well as "social surrogates" like television, video games, and social networking sites.
- ***Views of organizations.*** After a wave of layoffs and corporate scandals, organizational loyalty has declined. Companies need new ways to win back consumer and employee confidence. They need to ensure they are good corporate citizens and that their consumer messages are honest.
- ***Views of society.*** Some people defend society (preservers), some run it (makers), some take what they can from it (takers), some want to change it (changers), some are looking for something deeper (seekers), and still others want to leave it (escapers).[43] Consumption patterns often reflect these social attitudes. Makers are high achievers who eat, dress, and live well. Changers usually live more frugally, drive smaller cars, and wear simpler clothes. Escapers and seekers are a major market for movies, music, surfing, and camping.
- ***Views of nature.*** Business has responded to increased awareness of nature's fragility and finiteness by making more green products, seeking their own new energy sources, and reducing their environmental footprint. Companies are also literally tapping into nature more by producing wider varieties of camping, hiking, boating, and fishing gear such as boots, tents, backpacks, and accessories.
- ***Views of the universe.*** Most U.S. citizens are monotheistic, although religious conviction and practice have waned through the years or been redirected into an interest in evangelical movements or Eastern religions, mysticism, the occult, and the human potential movement.

Other cultural characteristics of interest to marketers are core cultural values and subcultures. Let's look at both.

TABLE 3.4 Favorite Leisure-Time Activities

	1995 (via phone)		2013 (via online)
	%		%
Reading	28	Watch TV	42
TV watching	25	Reading	37
Spending time with family/kids	12	Spending time with families and friends	18
Fishing	10	Watching/Going to movies	11
Gardening	9	Exercise/working out	10
Playing team sports	9	Playing video games and computer/ Internet games	10
Going to movies	8	Walking/running/jogging	8
Walking	8	Gardening	7
Entertaining	7	Concerts/listening to/playing music	7
Golf	6	Hobby related activities	5

Sources: Harris Poll, "Favorite Leisure Activities" (via online), http://www.harrisinteractive.com/NewsRoom/HarrisPolls/tabid/447/mid/1508/articleId/1345/ctl/ReadCustom%20Default/Default.aspx, Table 4, accessed July 2014; and Harris Poll, "Favorite Leisure-Time Activities" (Spontaneous, Unaided Responses, via phone), http://www.harrisinteractive.com/vault/Harris-Interactive-Poll-Research-Time-and-Leisure-2008-12.pdf, Table 1, accessed July 2014.

CORE CULTURAL VALUES Most people in the United States still believe in working, getting married, giving to charity, and being honest. *Core beliefs* and values are passed from parents to children and reinforced by social institutions—schools, churches, businesses, and governments. *Secondary beliefs* and values are more open to change. Believing in the institution of marriage is a core belief; believing people should marry early is a secondary belief.

Marketers have some chance of changing secondary values but little chance of changing core values. The nonprofit organization Mothers Against Drunk Drivers (MADD) does not try to stop the sale of alcohol but promotes lower legal blood-alcohol levels for driving and limited operating hours for businesses that sell alcohol.

Although core values are fairly persistent, cultural swings do take place. In the 1960s, hippies, the Beatles, Elvis Presley, and other cultural phenomena had a major impact on hairstyles, clothing, sexual norms, and life goals. Today's young people are influenced by new heroes and activities: music entertainer and mogul Jay-Z, singer Lady Gaga, and snowboarder and skateboarder Shaun White.

SUBCULTURES Each society contains **subcultures**, groups with shared values, beliefs, preferences, and behaviors emerging from their special life experiences or circumstances. Marketers have always loved teenagers because they are trendsetters in fashion, music, entertainment, ideas, and attitudes. Attract someone as a teen, and you will likely keep the person as a customer later in life. Frito-Lay, which draws 15 percent of its sales from teens, noted a rise in chip snacking by grown-ups. "We think it's because we brought them in as teenagers," said Frito-Lay's marketing director.[44]

THE NATURAL ENVIRONMENT

In Western Europe, "green" parties have pressed for public action to reduce industrial pollution. In the United States, experts have documented ecological deterioration, and watchdog groups such as the Sierra Club and Friends of the Earth commit to political and social action.

Source: Associated Press

Source: Associated Press

Today's youth are more likely to be influenced by contemporary music icons such as Jay-Z and Lady Gaga.

Steel companies and public utilities have invested billions of dollars in pollution-control equipment and environmentally friendly fuels, making hybrid cars, low-flow toilets and showers, organic foods, and green office buildings everyday realities. Opportunities await those who can reconcile prosperity with environmental protection. Consider these solutions to concerns about air quality:[45]

- Nearly a quarter of the carbon dioxide that makes up about 80 percent of all greenhouse gases comes from electrical power plants. Dublin-based Airtricity operates wind farms in the United States and the United Kingdom that offer cheaper and greener electricity.
- Transportation is second only to electricity generation as a contributor to global warming, accounting for roughly a fifth of carbon emissions. Vancouver-based Westport Innovations developed a conversion technology—high-pressure direct injection—that allows diesel engines to run on cleaner-burning liquid natural gas, reducing greenhouse emissions by a fourth.
- Due to millions of rural cooking fires, parts of Southern Asia suffer extremely poor air quality. A person cooking over an open wood or kerosene fire inhales the equivalent of two packs of cigarettes a day. Illinois-based Sun Ovens International makes family-sized and institutional solar ovens that use mirrors to redirect the sun's rays into an insulated box. Used in 130 countries, the oven both saves money and reduces greenhouse gas emissions.

Irish firm Airtricity is developing new wind farms as an alternative energy source.

Source: © David Cairns/Alamy

Corporate environmentalism recognizes the need to integrate environmental issues into the firm's strategic plans. Trends for marketers to be aware of include the shortage of raw materials, especially water; the increased cost of energy; increased pollution levels; and the changing role of governments.[46] (See also "Marketing Insight: The Green Marketing Revolution.")

marketing insight

The Green Marketing Revolution

Both consumers and companies are changing the way they view environmental issues, as the following descriptions illustrate.

Consumer Perspective

Consumers have put their very real environmental concerns into words and actions, focusing on green products, corporate sustainability, and other environmental issues. Here are highlights of some notable studies.

- **WPP Green Brands Study.** The WPP Green Brands Study surveys 9,000 people in eight countries and evaluates 370 brands. In 2011 it found consumer interest in green products had expanded to auto, energy, and technology sectors in addition to personal care, food, and household products. Sixty percent of consumers stated they wanted to buy products from environmentally responsible companies. In developed countries such as the United States and United Kingdom, 20 percent were willing to spend more than 10 percent extra on a green product. Consumers in developing countries put even more value on green products: Ninety-five percent of Chinese consumers, for example, said they were willing to pay more for a green product.
- **Greendex.** A collaboration between National Geographic and environmental research consultants GlobeScan, Greendex is a sustainable consumption index of actual consumer behavior and material lifestyles across 17 countries. It defines environmentally friendly consumer behavior in terms of people's transportation patterns, household energy, resource use, and consumption of food and everyday goods and how well consumers minimize their environmental impact. The 2012 survey found the top-scoring consumers in developing countries: India, China, and Brazil in descending order. Developed countries scored lower, with U.S. consumers lowest, followed by Canadians, Japanese, and the French.
- **Gallup.** Gallup has consistently found U.S. consumers are most concerned about pollution of drinking water, rivers, lakes, and reservoirs and maintenance of fresh water for household needs and least concerned about global warming. Overall, the 2012 survey showed all ratings at lower levels than their 2000 peak as more U.S. adults feel environmental conditions in the United States are improving.
- **GfK Roper.** The 2012 GfK Roper Green Gauge Study showed key aspects of "green" culture—from organic purchase to recyclability—have gone mainstream. U.S. consumers increasingly turn to digital devices to learn about the environment and share their green experiences. During slow economic recovery, however, paying significantly more to be environmentally friendly was becoming a barrier for many consumers.

Interestingly, although some marketers assume younger people are more concerned about the environment, some research suggests older consumers actually take their eco-responsibilities more seriously.

Company Perspectives

In the past, "green marketing" programs were not always entirely successful. Those that were persuaded consumers they were acting in their own and society's long-run interest at the same time by buying, for instance, organic foods that were healthier, tastier, and safer and energy-efficient appliances that cost less to run.

Some green products have emphasized their natural benefits for years, like Tom's of Maine, Burt's Bees, Stonyfield Farm, and Seventh Generation. Products offering environmental benefits are becoming more mainstream. Part of the initial success of Clorox Green Works household cleaning products, launched in January 2008, was that it found the sweet spot where a target market wanting to take smaller steps toward a greener lifestyle met a green product with a very modest price premium and sold through a grassroots marketing program.

The recession took its toll on some newly launched green products, however, and Green Works and similar products from Arm & Hammer, Windex, Palmolive, and Hefty found sales stalling. Some consumers have also become more skeptical of green claims that are hard to verify. One challenge is the difficulty consumers have in experiencing or observing the environmental benefits of products, leading to accusations of "greenwashing" where products are not nearly so green or environmentally beneficial as their marketing might suggest.

Some experts recommend avoiding "green marketing myopia" by focusing on consumer value positioning, understanding what consumers know and should know, and credible product claims. During tough economic times especially, having the right value proposition and making sure green products are seen as effective and affordable are critical.

Sources: Jacquelyn A. Ottman, Edwin R. Stafford, and Cathy L. Hartman, "Avoiding Green Marketing Myopia," *Environment* (June 2006), pp. 22–36; Jill Meredith Ginsberg and Paul N. Bloom, "Choosing the Right Green Marketing Strategy," *MIT Sloan Management Review* (Fall 2004), pp. 79–84; Jacquelyn Ottman, *Green Marketing: Opportunity for Innovation,* 2nd ed. (New York: BookSurge Publishing, 2004); Jacquelyn Ottman, *The New Rules of Green Marketing* (San Francisco: Berrett-Koehler, 2012); Mark Dolliver, "Deflating a Myth," *Brandweek*, May 12, 2008, pp. 30–31; Jeffrey M. Jones, "Worry about U.S. Water, Air Pollution at Historic Lows," www.gallup.com, April 13, 2012; "The 2011 Green Brands Survey," www.cohenwolfe.com, June 8, 2011; "Greendex 2012: Consumer Choice and the Environment—A Worldwide Tracking Survey," www.nationalgeographic.com, July 2012; "Green Gets Real," www.gfkamerica.com, accessed November 12, 2012; Stephanie Clifford and Andrew Martin, "As Consumers Cut Spending, 'Green' Products Lose Allure," *New York Times*, April 21, 2011; Tiffany Hsu, "Skepticism Grows over Products Touted as Eco-Friendly," *Los Angeles Times*, May 21, 2011.

Seventh Generation offers a range of household products for environmentally conscious consumers.

Source: Andrew H. Walker/Getty Images

- The earth's raw materials consist of the infinite, the finite renewable, and the finite nonrenewable. Firms whose products require *finite nonrenewable resources*—oil, coal, platinum, zinc, silver—face substantial cost increases as depletion approaches. Firms that can develop substitute materials have an excellent opportunity.
- One finite nonrenewable resource, oil, has created serious problems for the world economy. As oil prices soar, companies search for practical means to harness solar, nuclear, wind, and other alternative energies.
- Some industrial activity will inevitably damage the natural environment, creating a large market for pollution-control solutions such as scrubbers, recycling centers, and landfill systems as well as for alternative ways to produce and package goods.
- Many poor nations are doing little about pollution, lacking the funds or the political will. It is in the richer nations' interest to help them control their pollution, but even richer nations today lack the necessary funds.

THE TECHNOLOGICAL ENVIRONMENT

The essence of market capitalism is a dynamism that tolerates the creative destructiveness of technology as the price of progress. Transistors hurt the vacuum-tube industry; autos hurt the railroads. Television hurt newspapers; the Internet hurt them both. When old industries fight or ignore new technologies, they decline. Tower Records, Borders, and others had ample warning they would be hurt by Internet downloads; their failure to respond led to their liquidation.

In some cases, innovation's long-run consequences are not fully foreseeable. Cell phones, video games, and the Internet allow people to stay in touch with each other and plugged in with current events but also reduce attention to traditional media as well as face-to-face social interaction as people listen to music or watch a movie on their cell phones.

Marketers should monitor the following technology trends: the accelerating pace of change, unlimited opportunities for innovation, varying R&D budgets, and increased regulation of technological change.

ACCELERATING PACE OF CHANGE More ideas than ever are in the works, and the time between idea and implementation is shrinking. In the first two-and-a-half years of the iPad's existence, Apple sold a staggering 97 million units worldwide.[47] In many markets, the next technological breakthrough seems right around the corner,

UNLIMITED OPPORTUNITIES FOR INNOVATION Consider just a few remarkable openings. Medical researchers hope to use stem cells for organ generation and hybrid positron emission tomography (PET) and magnetic resonance imaging (MRI) to dramatically improve diagnosis. Environmental researchers are exploring plasma arc waste disposal to harness lightning and turn garbage into glass or a gaseous energy source. They are developing desalination methods to safely and economically remove salt from ocean water and make it drinkable. Neuroscientists are studying how to harness brain signals via electroencephalography (EEG) as well as how to construct a "thinking" DNA neural network that can answer questions correctly.[48]

VARYING R&D BUDGETS The United States is the world leader in R&D, spending $436 billion in 2012. Its advantage in innovation comes from all sectors—government-funded research from the National Aeronautics and Space Administration (NASA) and National Institutes of Health (NIH); top academic institutions such as Johns Hopkins University, University of Michigan, and the University of Wisconsin; and corporations such as Merck, Pfizer, Intel, and Microsoft.

A growing portion of U.S. R&D, however, goes to the development side, not research, raising concerns about whether the United States can maintain its lead in basic science. Too many companies seem to be putting their money into copying competitors' products with minor improvements. Other countries are not standing still either. China, Israel, and Finland all are beginning to spend a larger percentage of their GDP on R&D than the United States.[49]

INCREASED REGULATION OF TECHNOLOGICAL CHANGE Government has expanded its agencies' powers to investigate and ban potentially unsafe products. Safety and health regulations have increased for food, automobiles, clothing, electrical appliances, and construction. Consider the Food and Drug Administration (FDA).[50]

THE FDA The FDA plays a critical public health role, overseeing a wide range of products. Here is its specific charge:

> FDA is responsible for protecting the public health by assuring the safety, efficacy and security of human and veterinary drugs, biological products, medical devices, our nation's food supply, cosmetics, and products that emit radiation.
>
> FDA is also responsible for advancing the public health by helping to speed innovations that make medicines more effective, safer, and more affordable and by helping the public get the accurate, science-based information they need to use medicines and foods to maintain and improve their health. FDA also has responsibility for regulating the manufacturing, marketing and distribution of tobacco products to protect the public health and to reduce tobacco use by minors.
>
> Finally, FDA plays a significant role in the Nation's counterterrorism capability. FDA fulfills this responsibility by ensuring the security of the food supply and by fostering development of medical products to respond to deliberate and naturally emerging public health threats.

The FDA's level of enforcement has varied some through the years, in part depending on the political administration. It can also vary by product or industry. Congress recently empowered the FDA to place new restrictions on the prescribing, distribution, sale, and advertising of proposed new drugs. The FDA looks at the safety and efficacy of any proposed new drug, but also additional considerations such as the integrity of the global manufacturing chain that makes it, post-marketing studies as a condition of approval, and demonstrable superiority over existing therapies.

THE POLITICAL-LEGAL ENVIRONMENT

The political and legal environment consists of laws, government agencies, and pressure groups that influence organizations and individuals. Sometimes these create new business opportunities. Mandatory recycling laws boosted the recycling industry and launched dozens of new companies making products from recycled materials. On the other hand, overseas governments can impose laws or take actions that create uncertainty and even confusion for companies. Political instability in certain Middle Eastern and African nations has created much risk for oil firms and others. Two major trends are increased business legislation and the growth of special-interest groups.[51]

INCREASED BUSINESS LEGISLATION Business legislation is intended to protect companies from unfair competition, protect consumers from unfair business practices, protect society from unbridled business behavior,

Source: © George Henton/Alamy

Political unrest in the Middle East was a major cause for concern for many large multinational firms

and charge businesses with the social costs of their products or production processes. Each new law may also have the unintended effect of sapping initiative and slowing growth.

The European Commission has established new laws covering competitive behavior, product standards, product liability, and commercial transactions for the 28 member nations of the European Union. The United States has many consumer protection laws covering competition, product safety and liability, fair trade and credit practices, and packaging and labeling, but many countries' laws are stronger.[52]

Norway bans several forms of sales promotion—trading stamps, contests, and premiums—as inappropriate or unfair. Many countries throughout the world ban or severely restrict comparative advertising. Thailand requires food processors selling national brands to also market low-price brands so low-income consumers will be served. In India, food companies need special approval to launch duplicate brands, such as another cola drink or brand of rice.

GROWTH OF SPECIAL-INTEREST GROUPS Political action committees (PACs) lobby government officials and pressure business executives to respect the rights of consumers, women, senior citizens, minorities, and gays and lesbians. Insurance companies directly or indirectly influence the design of smoke detectors; scientific groups affect the design of spray products. Many companies have established public affairs departments to deal with such special-interest groups.

The **consumerist movement** organized citizens and government to strengthen the rights and powers of buyers in relationship to sellers. Consumerists have won the right to know the real cost of a loan, the true cost per standard unit of competing brands (unit pricing), the basic ingredients and true benefits of a product, and the nutritional quality and freshness of food.

Privacy issues and identity theft will remain public policy hot buttons as long as consumers are willing to swap personal information for customized products—from marketers they trust.[53] Consumers worry that they will be robbed or cheated; that private information will be used against them; that they will be bombarded by solicitations; and that children will be targeted by ads. Online privacy greatly concerns consumers and regulators alike. Technology now enables firms to collect all kinds of information.[54]

> Make no mistake, your personal data isn't your own. When you update your Facebook page, "Like" something on a website, apply for a credit card, click on an ad, listen to an MP3, or comment on a YouTube video, you are feeding a huge and growing beast with an insatiable appetite for your personal data, a beast that always craves more. Virtually every piece of personal information that you provide online (and much that you provide offline) will end up being bought and sold, segmented, packaged, analyzed, repackaged, and sold again.

"Marketing Insight: Watching Out for Big Brother" describes some of the data collection practices and privacy concerns that have arisen with widespread Internet adoption and use.

marketing insight

Watching Out for Big Brother

The explosion of digital data created by individuals online can nearly all be collected, bought, and sold by the *personal data economy,* including "advertisers, marketers, ad networks, data brokers, website publishers, social networks, and online tracking and targeting companies." Companies know or can find your age, race, gender, height, weight, marital status, education level, political affiliation, buying habits, hobbies, health, financial concerns, vacation dreams, and more.

The thought of such widespread transparency worries consumers. Research shows more people, especially older consumers, are refusing to reveal private information online. At the same time, consumers are accepting more privacy intrusions every day, perhaps because they don't realize what information they are giving out, don't feel they have a choice, or don't think it will really matter. Many don't realize, for example, that buried in the fine print of their agreement to buy a new smart phone may be authorization to allow third-party services to track their every move. One such firm, Carrier IQ, received permission from any purchaser of an EVO 3D HTC smart phone to see every call made and when, where text messages were sent, and which Web sites were visited. Unfortunately, once data have been collected online, they can end up in unexpected places, resulting in spam or worse.

Consumers increasingly want to know where, when, how, and why they are being watched online. Another data tracking firm is Acxion, which maintains a database on about 190 million U.S. individuals and 126 million households. Its 23,000 servers process 50 trillion data transactions a year as it attempts to assemble "360-degree views" of consumers from offline, online, and mobile sources. Its customers have included banks like Wells Fargo and HSBC, investment services like E*TRADE, automakers like Toyota and Ford, and department stores like Macy's.

Can online data profiling go too far? New parents are highly lucrative customers, but with birth records public, a slew of companies all discover them at the same time. To beat them to the punch, Target studied the buying histories of women who signed up for new-baby registries at the store and found many bought large amounts of vitamin supplements during their first trimester and unscented lotion around the start of their second trimester. Target then used these purchase markers to identify women of child-bearing age who were likely to be pregnant and sent them offers and coupons for baby products timed to the stages of pregnancy and later baby needs. When the practice became known, however, some criticized the company's tactics, which had occasionally been the means of letting family members know someone in the house was expecting. Target responded by including the offers with others unrelated to pregnancy, and sales in the promoted pregnancy-related categories soared.

This episode vividly illustrates the power of database management in an Internet era, as well as the worries it can create among consumers. Politicians and government officials are discussing a "Do Not Track" option for consumers online (like the "Do Not Call" option for unsolicited phone calls). Although it is not clear how quickly legislation can be put into place, an online privacy bill that strengthens consumer rights seems inevitable. One member of the Federal Trade Commission, Julie Brill, feels data brokers should have to tell the public what data they collect, how they collect them, with whom they share them, and how they are used.

Sources: Avi Goldfarb and Catherine Tucker, "Shifts in Privacy Concerns," *American Economic Review: Papers & Proceedings* 102, no. 3 (2012), pp. 349–53; Avi Goldfarb and Catherine Tucker, "Online Display Advertising: Targeting and Obtrusiveness," *Marketing Science* 30 (May–June 2011), pp. 389–404, plus commentaries and rejoinder; Alessandro Acquisti, Leslie John, and George Loewenstein, "The Impact of Relative Judgments on Concern about Privacy," *Journal of Marketing Research* 49 (April 2012), pp. 160–74; Mark Sullivan, "Data Snatchers! The Booming Market for Your Online Identity," *PC World*, June 26, 2012; Charles Duhigg, "How Companies Learn Your Secrets," *New York Times*, February 16, 2012; Joshue Topolsky, "Online Tracking Is Shady—but It Doesn't Have to Be," *Washington Post*, December 11, 2011; Natasha Singer, "You for Sale: Mapping, and Sharing, the Consumer Genome," *New York Times*, June 16, 2012; Natasha Singer, "Consumer Data, but Not for Consumers," *New York Times*, July 21, 2012; Doc Searls, "The Customer as a God," *Wall Street Journal*, July 20, 2012.

Forecasting and Demand Measurement

Understanding the marketing environment and conducting marketing research (described in Chapter 4) can help to identify marketing opportunities. The company must then measure and forecast the size, growth, and profit potential of each new opportunity. Sales forecasts prepared by marketing are used by finance to raise cash for investment and operations; by manufacturing to establish capacity and output; by purchasing to acquire the right amount of supplies; and by human resources to hire the needed workers. If the forecast is off the mark, the company will face excess or inadequate inventory. Because it's based on estimates of demand, managers need to define what they mean by market demand. DuPont's Performance Materials group knew that even when DuPont Tyvek had 70 percent of the $100 million market for air-barrier membranes, there was greater opportunity with more products and services to tap into the entire multi-billion-dollar U.S. home construction market.[55]

Source: Bloomberg via Getty Images

Target was criticized by some for its over-zealous targeting of expecting mothers.

THE MEASURES OF MARKET DEMAND

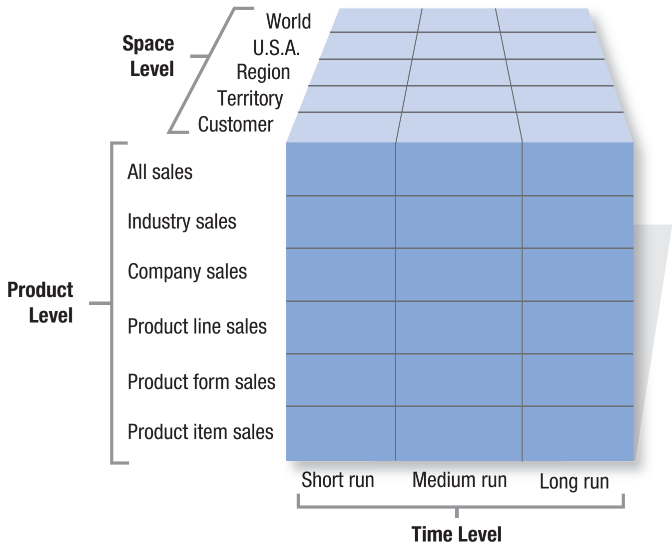
Companies can prepare as many as 90 different types of demand estimates for six different product levels, five space levels, and three time periods (see Figure 3.1). Each serves a specific purpose. A company might forecast short-run demand to order raw materials, plan production, and borrow cash. It might forecast regional demand to decide whether to set up regional distribution.

There are many productive ways to break down the market:

- The **potential market** is the set of consumers with a sufficient level of interest in a market offer. However, their interest is not enough to define a market unless they also have sufficient income and access to the product.
- The **available market** is the set of consumers who have interest, income, *and* access to a particular offer. The company or government may restrict sales to certain groups; a state might ban motorcycle sales to anyone under 21. Eligible adults constitute the *qualified available market*—the set of consumers who have interest, income, access, and qualifications for the market offer.

| Fig. 3.1 |

Ninety Types of Demand Measurement (6 × 5 × 3)



- The **target market** is the part of the qualified available market the company decides to pursue. The company might concentrate its marketing and distribution effort on the East Coast.
- The **penetrated market** is the set of consumers who are buying the company's product.

These definitions are a useful tool for market planning. If the company isn't satisfied with its current sales, it can try to attract a larger percentage of buyers from its target market. It can lower the qualifications for potential buyers. It can expand its available market by opening distribution elsewhere or lowering its price, or it can reposition itself in the minds of its customers.

A VOCABULARY FOR DEMAND MEASUREMENT

The major concepts in demand measurement are market demand and company demand. Within each, we distinguish among a demand function, a sales forecast, and a potential.

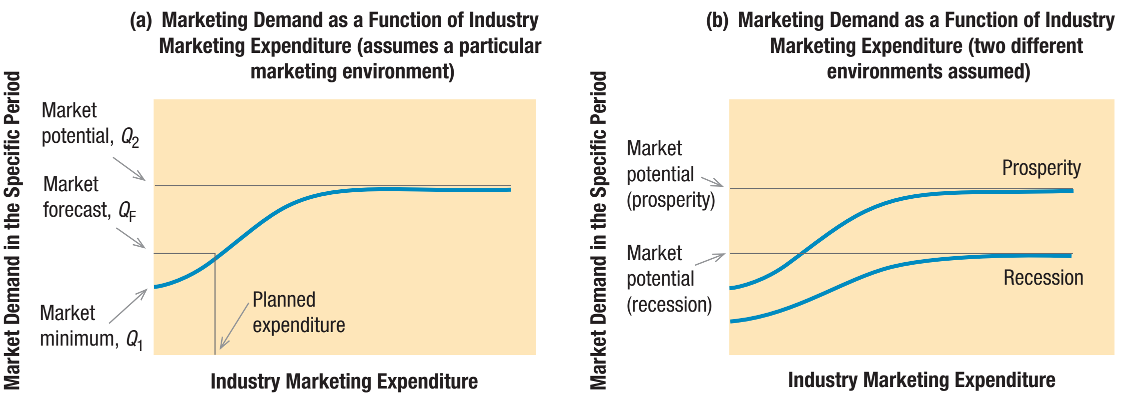
MARKET DEMAND The marketer's first step in evaluating marketing opportunities is to estimate total market demand. **Market demand** for a product is the total volume that would be bought by a defined customer group in a defined geographical area in a defined time period in a defined marketing environment under a defined marketing program.

Market demand is not a fixed number, but rather a function of the stated conditions. For this reason, we call it the *market demand function*. Its dependence on underlying conditions is illustrated in Figure 3.2(a). The horizontal axis shows different possible levels of industry marketing expenditure in a given time period. The vertical axis shows the resulting demand level. The curve represents the estimated market demand associated with varying levels of marketing expenditure.

Some base sales—called the *market minimum* and labeled Q_1 in the figure—would take place without any demand-stimulating expenditures. Higher marketing expenditures would yield higher levels of demand, first at an increasing rate, then at a decreasing rate. Take fruit juices. Given the indirect competition they face from other types of beverages, we would expect increased marketing expenditures to help fruit juice products stand out and increase demand and sales. Marketing expenditures beyond a certain level would not stimulate much further demand, suggesting an upper limit called the *market potential* and labeled Q_2 in the figure.

The distance between the market minimum and the market potential shows the overall *marketing sensitivity of demand*. We can think of two extreme types of markets, the expansible and the nonexpansible. An *expansible market*, such as the market for racquetball playing, is very much affected in size by the level of industry marketing expenditures. In terms of Figure 3.2(a), the distance between Q_1 and Q_2 is relatively large. A *nonexpansible market*—for example, the market for weekly trash or garbage removal—is *not* much affected by the level of marketing expenditures; the distance between Q_1 and Q_2 is relatively small. Organizations selling in a nonexpansible market must accept the market's size—the level of *primary demand* for the product class—and direct their efforts toward winning a larger **market share** for their product, that is, a higher level of selective demand for their product.

It pays to compare the current and potential levels of market demand. The result is the **market-penetration index**. A low index indicates substantial growth potential for all the firms. A high index suggests it will be



| Fig. 3.2 |

Market Demand Functions

expensive to attract the few remaining prospects. Generally, price competition increases and margins fall when the market-penetration index is already high.

Comparing current and potential market shares yields a firm's **share-penetration index**. If this index is low, the company can greatly expand its share. Holding it back could be low brand awareness, low availability, benefit deficiencies, or high price. A firm should calculate the share-penetration increases from removing each factor to see which investments produce the greatest improvement.[56]

Remember that the market demand function is not a picture of market demand over time. Rather, it shows alternate current forecasts of market demand associated with possible levels of industry marketing effort.

MARKET FORECAST Only one level of industry marketing expenditure will actually occur. The market demand corresponding to this level is called the **market forecast**.

MARKET POTENTIAL The market forecast shows *expected* market demand, not maximum market demand. For the latter, we need to visualize the level of market demand resulting from a very high level of industry marketing expenditure, where further increases in marketing effort would have little effect. **Market potential** is the limit approached by market demand as industry marketing expenditures approach infinity for a given marketing environment.

The phrase "for a given market environment" is crucial. Consider the market potential for automobiles. It's higher during prosperity than during a recession, as illustrated in Figure 3.2(b). Market analysts distinguish between the position of the market demand function and movement along it. Companies cannot do anything about the position of the market demand function, which is determined by the marketing environment. However, they influence their particular location on the function when they decide how much to spend on marketing.

Companies interested in market potential have a special interest in the **product-penetration percentage**, the percentage of ownership or use of a product or service in a population. The lower the product-penetration percentage, the higher the market potential, although this also assumes everyone will eventually be in the market for every product.

COMPANY DEMAND **Company demand** is the company's estimated share of market demand at alternative levels of company marketing effort in a given time period. It depends on how the company's products, services, prices, and communications are perceived relative to the competitors'. Other things equal, the company's market share depends on the relative scale and effectiveness of its market expenditures. As noted previously, marketing model builders have developed sales response functions to measure how a company's sales are affected by its marketing expenditure level, marketing mix, and marketing effectiveness.[57]

COMPANY SALES FORECAST Once marketers have estimated company demand, their next task is to choose a level of marketing effort. The **company sales forecast** is the expected level of company sales based on a chosen marketing plan and an assumed marketing environment.

We represent the company sales forecast graphically with sales on the vertical axis and marketing effort on the horizontal axis, as in Figure 3.2. We often hear that the company should develop its marketing plan on the basis of its sales forecast. This forecast-to-plan sequence is valid if *forecast* means an estimate of national economic activity or if company demand is nonexpansible. The sequence is not valid, however, where market demand is expansible or where *forecast* means an estimate of company sales. The company sales forecast does not establish a basis for deciding what to spend on marketing. On the contrary, the sales forecast is the result of an assumed marketing expenditure plan.

Two other concepts are important here. A **sales quota** is the sales goal set for a product line, company division, or sales representative. It is primarily a managerial device for defining and stimulating sales effort, often set slightly higher than estimated sales to stretch the sales force's effort.

A **sales budget** is a conservative estimate of the expected volume of sales, primarily for making current purchasing, production, and cash flow decisions. It's based on the need to avoid excessive risk and is generally set slightly lower than the sales forecast.

COMPANY SALES POTENTIAL **Company sales potential** is the sales limit approached by company demand as company marketing effort increases relative to that of competitors. The absolute limit of company demand is, of course, the market potential. The two would be equal if the company captured 100 percent of the market. In most cases, company sales potential is less than the market potential, even when company marketing expenditures increase considerably. Each competitor has a hard core of loyal buyers unresponsive to other companies' efforts to woo them.

ESTIMATING CURRENT DEMAND

We are now ready to examine practical methods for estimating current market demand. Marketing executives want to estimate total market potential, area market potential, and total industry sales and market shares.

TOTAL MARKET POTENTIAL **Total market potential** is the maximum sales available to all firms in an industry during a given period, under a given level of industry marketing effort and environmental conditions. A common way to estimate total market potential is to multiply the potential number of buyers by the average quantity each purchases and then by the price.

If 100 million people buy books each year and the average book buyer buys three books a year at an average price of $20 each, then the total market potential for books is $6 billion (100 million × 3 × $20). The most difficult component to estimate is the number of buyers. We can always start with the total population in the nation, say, 314 million people. Next we eliminate groups that obviously would not buy the product. Assume illiterate people and children under 12 don't buy books and constitute 20 percent of the population. This means 80 percent of the population, or 251 million people, is in the potential pool. Further research might tell us that people of low income and low education rarely buy books, and they constitute more than 30 percent of the potential pool. Eliminating them, we arrive at a prospect pool of approximately 175.7 million book buyers. We use this number to calculate total market potential.

A variation on this method is the *chain-ratio method*, which multiplies a base number by several adjusting percentages. Suppose a brewery is interested in estimating the market potential for a new light beer especially designed to accompany food. It can make an estimate with the following calculation:

$$\text{Demand for the new light beer} = \text{Population} \times \text{Personal discretionary income per capita} \times \text{Average percentage of discretionary income spent on food} \times \text{Average percentage of amount spent on food that is spent on beverages} \times \text{Average percentage of amount spent on beverages that is spent on alcoholic beverages} \times \text{Average percentage of amount spent on alcoholic beverages that is spent on beer} \times \text{Expected percentage of amount spent on beer that will be spent on light beer}$$

AREA MARKET POTENTIAL Because companies must allocate their marketing budget optimally among their best territories, they need to estimate the market potential of different cities, states, and nations. Two major methods are the market-buildup method, used primarily by business marketers, and the multiple-factor index method, used primarily by consumer marketers.

Market-Buildup Method The **market-buildup method** calls for identifying all the potential buyers in each market and estimating their potential purchases. It produces accurate results if we have a list of all potential buyers and a good estimate of what each will buy. Unfortunately, this information is not always easy to gather.

Consider a machine-tool company that wants to estimate the area market potential for its wood lathe in the Boston area. Its first step is to identify all potential buyers of wood lathes in the area, primarily manufacturing establishments that shape or ream wood as part of their operations. The company could compile a list from a directory of all manufacturing establishments in the area. Then it could estimate the number of lathes each industry might purchase, based on the number of lathes per thousand employees or per $1 million of sales in that industry.

An efficient method of estimating area market potentials makes use of the *North American Industry Classification System (NAICS)*, developed by the U.S. Bureau of the Census in conjunction with the Canadian and Mexican governments.[58] The NAICS classifies all manufacturing into 20 major industry sectors and further breaks each sector into a six-digit, hierarchical structure as follows.

51	Industry sector (information)
513	Industry subsector (broadcasting and telecommunications)
5133	Industry group (telecommunications)
51332	Industry (wireless telecommunications carriers, except satellite)
513321	National industry (U.S. paging)

For each six-digit NAICS number, a company can purchase business directories that provide complete company profiles of millions of establishments, subclassified by location, number of employees, annual sales, and net worth.

To use the NAICS, the lathe manufacturer must first determine the six-digit NAICS codes that represent products whose manufacturers are likely to require lathe machines. To get a full picture of these, the company can (1) identify past customers' NAICS codes; (2) go through the NAICS manual and check off all the six-digit industries that might have an interest in lathes; and (3) mail questionnaires to a wide range of companies inquiring about their interest in wood lathes.

The company's next task is to select an appropriate base for estimating the number of lathes each industry will use. Suppose customer industry sales are the most appropriate base. Once the company estimates the rate of lathe ownership relative to the customer industry's sales, it can compute the market potential.

Multiple-Factor Index Method Like business marketers, consumer companies also need to estimate area market potentials, but because their customers are too numerous to list, they commonly use a straightforward index. A drug manufacturer might assume the market potential for drugs is directly related to population size. If the state of Virginia has 2.55 percent of the U.S. population, Virginia might be a market for 2.55 percent of total drugs sold.

A single factor is rarely a complete indicator of sales opportunity. Regional drug sales are also influenced by per capita income and the number of physicians per 10,000 people. Thus, it makes sense to develop a multiple-factor index and assign each factor a specific weight. Suppose Virginia has 2.00 percent of U.S. disposable personal income, 1.96 percent of U.S. retail sales, and 2.28 percent of U.S. population, and the respective weights for these factors are 0.5, 0.3, and 0.2. The buying-power index for Virginia is then 2.04 [0.5(2.00) + 0.3(1.96) + 0.2(2.28)]. Thus, 2.04 percent of the nation's drug sales (not 2.28 percent) might be expected to take place in Virginia.

The weights in the buying-power index are somewhat arbitrary, and companies can assign others if appropriate. A manufacturer might adjust the market potential for additional factors, such as competitors' presence, local promotional costs, seasonal factors, and market idiosyncrasies.

Many companies compute area indexes to allocate marketing resources. Suppose the drug company is reviewing the six cities listed in Table 3.5. The first two columns show its percentage of U.S. brand and category sales in these six cities. Column 3 shows the **brand development index (BDI)**, the index of brand sales to category sales. Seattle has a BDI of 114 because the brand is relatively more developed than the category in Seattle. Portland's BDI is 65, which means the brand is relatively underdeveloped there.

Normally, the lower the BDI, the higher the market opportunity, in that there is room to grow the brand. Other marketers would argue instead that marketing funds should go into the brand's *strongest* markets, where it might be important to reinforce loyalty or more easily capture additional brand share. Investment decisions should be based on the potential to grow brand sales.

TABLE 3.5 Calculating the Brand Development Index (BDI)

Territory	(a) Percent of U.S. Brand Sales	(b) Percent of U.S. Category Sales	BDI $(a \div b) \times 100$
Seattle	3.09	2.71	114
Portland	6.74	10.41	65
Boston	3.49	3.85	91
Toledo	.97	.81	120
Chicago	1.13	.81	140
Baltimore	3.12	3.00	104

Source: © alexmisu/Shutterstock

Marketers can now target consumers right down to their zip code, neighborhood, or individual households.

Feeling it was underperforming in a high-potential market, Anheuser-Busch targeted the growing Hispanic population in Texas with a number of special marketing activities. Cross-promotions with Budweiser and Clamato tomato clam cocktail (to mix the popular Michiladas drink), sponsorship of the Esta Noche Toca concert series, and support of Latin music acts with three-on-three soccer tournaments helped drive higher sales. Anheuser-Busch later introduced Chelada with pre-mixed Budweiser or Bud Light and Clamato.[59]

After the company decides on the city-by-city allocation of its budget, it can refine each allocation down to census tracts or zip+4 code centers. *Census tracts* are small, locally defined statistical areas in metropolitan areas and some other counties. They generally have stable boundaries and a population of about 4,000. Zip+4 code centers (designed by the U.S. Postal Service) are a little larger than neighborhoods. Data on population size, median family income, and other characteristics are available for these geographical units. Using other sources such as loyalty card data, Mediabrands's Geomentum targets "hyper-local" sectors of zip codes, city blocks, and even individual households with ad messages delivered via interactive TV, zoned editions of newspapers, Yellow Pages, outdoor media, and local Internet searches.[60]

INDUSTRY SALES AND MARKET SHARES Besides estimating total potential and area potential, a company needs to know the actual industry sales taking place in its market. This means identifying competitors and estimating their sales.

The industry trade association will often collect and publish total industry sales, although it usually does not list individual company sales separately. With this information, however, each company can evaluate its own performance against the industry's. If a company's sales are increasing by 5 percent a year and industry sales are increasing by 10 percent, the company is losing its relative standing in the industry.

Another way to estimate sales is to buy reports from a marketing research firm that audits total sales and brand sales. Nielsen Media Research audits retail sales in various supermarket and drugstore product categories. A company can purchase this information and compare its performance to the total industry or any competitor to see whether it is gaining or losing share, overall or brand by brand. Because distributors typically will not supply information about how much of competitors' products they are selling, business-to-business marketers operate with less knowledge of their market share results.

ESTIMATING FUTURE DEMAND

The few products or services that lend themselves to easy forecasting generally enjoy an absolute level or a fairly constant trend and competition that is either nonexistent (public utilities) or stable (pure oligopolies). In most markets, in contrast, good forecasting is a key factor in success.

Companies commonly prepare a macroeconomic forecast first, followed by an industry forecast, followed by a company sales forecast. The macroeconomic forecast projects inflation, unemployment, interest rates, consumer spending, business investment, government expenditures, net exports, and other variables. The end result is a forecast of gross domestic product (GDP), which the firm uses, along with other environmental indicators, to forecast industry sales. The company derives its sales forecast by assuming it will win a certain market share.

How do firms develop forecasts? They may create their own or buy forecasts from outside sources such as marketing research firms, which interview customers, distributors, and other knowledgeable parties. Specialized forecasting firms produce long-range forecasts of particular macroenvironmental components, such as population, natural resources, and technology. Examples are IHS Global Insight (a merger of Data Resources and Wharton Econometric Forecasting Associates), Forrester Research, and the Gartner Group. Futurist research firms such as the Institute for the Future, Hudson Institute, and the Futures Group produce speculative scenarios.

All forecasts are built on one of three information bases: what people say, what people do, or what people have done. Using what people say requires surveying buyers' intentions, composites of sales force opinions, and expert opinion. Building a forecast on what people do means putting the product into a test market to measure buyer response. To use the final basis—what people have done—firms analyze records of past buying behavior or use time-series analysis or statistical demand analysis.

SURVEY OF BUYERS' INTENTIONS **Forecasting** is the art of anticipating what buyers are likely to do under a given set of conditions. For major consumer durables such as appliances, research organizations conduct periodic surveys of consumer buying intentions, ask questions like *Do you intend to buy an automobile within the next six months?,* and put the answers on a **purchase probability scale**:

0.00	0.20	0.40	0.60	0.80	1.00
No chance	Slight possibility	Fair possibility	Good possibility	High possibility	Certain

Surveys also inquire into consumers' present and future personal finances and expectations about the economy. They combine bits of information into a consumer confidence measure (Conference Board) or a consumer sentiment measure (Survey Research Center of the University of Michigan).

For business buying, research firms can carry out buyer-intention surveys for plant, equipment, and materials, usually falling within a 10 percent margin of error. These surveys are useful in estimating demand for industrial products, consumer durables, product purchases where advanced planning is required, and new products. Their value increases to the extent that buyers are few, the cost of reaching them is low, and they have clear intentions they willingly disclose and implement.

COMPOSITE OF SALES FORCE OPINIONS When interviewing buyers is impractical, the company may ask its sales representatives to estimate their future sales. Few companies use these estimates without making some adjustments, however. Sales representatives might be pessimistic or optimistic, they might not know how their company's marketing plans will influence future sales in their territory, and they might deliberately underestimate demand so the company will set a low sales quota. To encourage better estimating, the company could offer incentives or assistance, such as information about marketing plans or past forecasts compared with actual sales.

Sales force forecasts do yield a number of benefits. Sales reps might have better insight into developing trends than any other group, and forecasting might give them greater confidence in their sales quotas and more incentive to achieve them. A "grassroots" forecasting procedure provides detailed estimates broken down by product, territory, customer, and sales rep.

EXPERT OPINION Companies can also obtain forecasts from experts, including dealers, distributors, suppliers, marketing consultants, and trade associations. Dealer estimates are subject to the same strengths and weaknesses as sales force estimates. Many companies buy economic and industry forecasts from well-known economic-forecasting firms that have more data available and more forecasting expertise.

Occasionally, companies will invite a group of experts to prepare a forecast. The experts exchange views and produce an estimate as a group (*group-discussion method*) or individually, in which case another analyst might combine the results into a single estimate (*pooling of individual estimates*). Further rounds of estimating and refining follow (the Delphi method).[61]

PAST-SALES ANALYSIS Firms can develop sales forecasts on the basis of past sales. *Time-series analysis* breaks past time series into four components (trend, cycle, seasonal, and erratic) and projects them into the future. *Exponential smoothing* projects the next period's sales by combining an average of past sales and the most recent sales, giving more weight to the latter. *Statistical demand analysis* measures the impact of a set of causal factors (such as income, marketing expenditures, and price) on the sales level. Finally, *econometric analysis* builds sets of equations that describe a system and statistically derives the different parameters that make up the equations statistically.

MARKET-TEST METHOD When buyers don't plan their purchases carefully or experts are unavailable or unreliable, a direct-market test can help forecast new-product sales or established product sales in a new distribution channel or territory. (We discuss market testing in detail in Chapter 15.)

Summary

1. To carry out their analysis, planning, implementation, and control responsibilities, marketing managers need a marketing information system (MIS) to assess information needs, develop the needed information, and distribute it in a timely manner.
2. An MIS has three components: (a) an internal records system, which includes information about the order-to-payment cycle and sales information systems; (b) a marketing intelligence system, a set of procedures to obtain everyday information about the marketing environment; and (c) a marketing research system that allows for the systematic design, collection, analysis, and reporting of data and findings relevant to a specific marketing situation.
3. Marketers find many opportunities by identifying trends (directions or sequences of events that have some momentum and durability) and megatrends (major social, economic, political, and technological changes that have long-lasting influence).
4. Within the rapidly changing global picture, marketers must monitor six major environmental forces: demographic, economic, social-cultural, natural, technological, and political-legal.
5. In the demographic environment, marketers must be aware of worldwide population growth; changing mixes of age, ethnic composition, and educational levels; the rise of nontraditional families; and large geographic shifts in population.
6. In the economic arena, marketers need to focus on income distribution and levels of savings, debt, and credit availability.
7. In the social-cultural arena, marketers must understand people's views of themselves, others, organizations, society, nature, and the universe. Their products must correspond to society's core and secondary values and address the needs of different subcultures within a society.
8. Acknowledging the public's increased concern about the health of the natural environment, marketers are embracing sustainability and green marketing programs.
9. In the technological arena, marketers should take account of the accelerating pace of technological change, opportunities for innovation, varying R&D budgets, and the increased governmental regulation brought about by technological change.
10. In the political-legal environment, marketers must work within the many laws regulating business practices and with various special-interest groups.
11. To estimate current demand, companies attempt to determine total market potential, area market potential, industry sales, and market share. To estimate future demand, companies survey buyers' intentions, solicit their sales force's input, gather expert opinions, analyze past sales, or engage in market testing. Mathematical models, advanced statistical techniques, and computerized data collection procedures are essential to all types of demand and sales forecasting.

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Applications

Marketing Debate

Is Consumer Behavior More a Function of a Person's Age or Generation?

How much do consumers change over time? Some marketers who target certain age groups maintain that age differences are critical and that the needs and wants of a 25-year-old in 2015 are not that different from those of a 25-year-old in 1980. Others argue that cohort and generation effects are critical and that marketing programs must therefore suit the times.

Take a position: Age differences are fundamentally more important than cohort effects *versus* Cohort effects can dominate age differences.

Marketing Discussion

Age Targeting

What brands and products do you feel successfully speak to you and effectively target your age group? Why? Which ones do not? What could they do better?

Marketing Excellence

>> Microsoft

Microsoft is the world's most successful software company. Bill Gates and Paul Allen founded it in 1975 with the original mission of having "a computer on every desk and in every home, running Microsoft software." Today, Microsoft is the fifth most valuable company in the world and has a brand value of $61.2 billion.

In the early 1980s, Microsoft developed the DOS operating system for IBM computers. The company leveraged this initial success to sell software to other manufacturers, quickly becoming a major player in the industry. Initial advertising efforts communicated the company's range of products, from DOS to Excel and Windows, and unified them under the Microsoft brand.

Microsoft went public in 1986 and grew tremendously over the next decade as the Windows operating system and Microsoft Office took off. In 1990, Microsoft launched Windows 3.0, a completely revamped version of its operating system, including applications like File Manager and Program Manager that are still used today. It was an instant success; Microsoft sold more than 10 million copies of the software within two years, a phenomenal accomplishment in those days. In addition, Windows 3.0 became the first operating system to be preinstalled on certain PCs, marking another major milestone for the industry and for Microsoft.

Throughout the 1990s, Microsoft's communication efforts convinced businesses not only that its software was the best choice but also that it should be upgraded frequently. Microsoft spent millions in magazine advertising and received endorsements from the top computer magazines in the industry, making Microsoft Windows and Office the must-have software of its time. The 1998 slogan "Where Do You Want to Go Today?" promoted not individual Microsoft products like Windows 98 but rather the company itself, communicating that Microsoft could help empower companies and consumers alike.

During the mid-1990s, Microsoft entered the notorious "browser wars" as companies struggled to find their place during the Internet boom. Realizing what a good product Netscape had in its 1995 Navigator browser, Microsoft launched its own, Internet Explorer later the same year. By 1997, Explorer had grabbed 18 percent of the market.

Over the next five years, Microsoft took three major steps to overtake Netscape. First, it bundled Internet Explorer with its Office product, which included Excel, Word, and PowerPoint. This meant that consumers who wanted MS Office automatically became Internet Explorer users as well. Second, Microsoft partnered with AOL, which opened the doors to 5 million new consumers almost overnight. Third, Microsoft used its deep pockets to ensure that Internet Explorer was available free, essentially "cutting off Netscape's air supply." By 2002, Netscape's market share had fallen to a meek 4 percent.

Microsoft's fight to become the browser leader was not without controversy; some perceived that the company was monopolizing the industry. As a result, Microsoft faced antitrust charges in 1998 and numerous lawsuits based on its marketing tactics. Charges aside, the company's stock took off, peaking in 1999 at $60 per share. Microsoft continued to release new products, including Windows 2000 in 2000 and Windows XP in 2001. It also launched Xbox in 2001, marking its entrance into the multibillion-dollar gaming industry.

Over the next several years, Microsoft's stock price tumbled by more than $40 a share as consumers waited for the next operating system to be released. During this time, Apple made a strong comeback with consumer-friendly products like Mac computers, iPods, iPhones, and iTunes. Apple also launched a successful marketing campaign titled "Get a Mac" that featured a smart, creative, easygoing Mac character alongside a geeky, virus-prone, uptight PC character. Apple's campaign successfully converted many consumers and tarnished Microsoft's brand image.

In 2007, Microsoft launched the Vista operating system to great expectations; however, it was plagued by bugs and problems and the company's stock and image continued to slide, helped by the worldwide recession of 2008–2009. In response, Microsoft created a campaign titled "Windows. Life Without Walls" to help turn its image around. Its new message—that computers with Microsoft software were more cost-effective than the competition—resonated well in the recession. Microsoft also launched a series of commercials that boasted, "I'm a PC" and featured a wide variety of individuals who prided themselves on being PC owners, hoping to improve employee morale and customer loyalty.

In 2009, Microsoft launched Windows 7, an improved operating system, with the campaign "Windows 7 was my idea." Four years later, it was operating more than 30 stores like Apple's across the United States and Canada. Jonathan Adashek, general manager of Communications Strategy, explained, "We've welcomed more than 15 million customers and counting so far, and have learned a lot from them. Having this direct connection to our customers has really helped us better understand their tech needs." Travis Walter, general manager of Microsoft's International and New Store Formats, agreed, "In person, you get a very different experience and it's one we've been very delighted to provide. When you see our technology in person—when you can touch and feel it—a light goes off."

After the recession came to an end, Microsoft's image and stock started to recover, thanks to the success of its retail stores, effective marketing, and a wide range of new product launches. Microsoft went after Google's dominant position in the search marketplace, for instance, with a search engine called Bing, and it entered the growing mobile industry with its Windows Phone mobile operating system. The company's 2011 expansion into smart phones surprised many analysts, but Microsoft hoped the smart phone and Windows Phone mobile OS would forge a strong connection with its consumers around the world. It continued its innovation momentum in 2012 with the launch of Windows 8, Windows 8 Phone, and a computer called Surface Tablet. The tablet impressed consumers with a detachable keyboard that also served as its protective cover.

Today, Microsoft offers a wide range of software, mobile, and home entertainment products. Its most profitable products continue to be Microsoft Windows and Microsoft Office, which bring in approximately 80 percent of its $86 billion in annual revenue.

Questions

1. Evaluate Microsoft's product and marketing evolution over the years. What has the company done well, and where did it falter?
2. Evaluate Microsoft's recent expansions into areas such as search engines and smart phones. Do you think these are good areas of growth for Microsoft? Why or why not?

Sources: Interbrand, "2014 Best Global Brands Report," *www.interbrand.com*; Stuart Elliot, "Microsoft Takes a User-Friendly Approach to Selling Its Image in a New Global Campaign," *New York Times,* November 11, 1994; "Todd Bishop, "The Rest of the Motto," *Seattle Post Intelligencer,* September 23, 2004; Devin Leonard, "Hey PC, Who Taught You to Fight Back?" *New York Times,* August 30, 2009; Suzanne Vranica and Robert A. Guth, "Microsoft Enlists Jerry Seinfeld in Its Ad Battle Against Apple," *Wall Street Journal,* August 21, 2008, p. A1; Stuart Elliott, "Echoing the Campaign of a Rival, Microsoft Aims to Redefine 'I'm a PC,'" *New York Times,* September 18, 2008, p. C4; John Furguson, "From Cola Wars to Computer Wars—Microsoft Misses Again," *BN Branding,* April 4, 2009; Microsoft press release, "Microsoft Retail Stores Maturation: Going Behind the Scenes," November 8, 2012.

Marketing Excellence

>> Ferrero

Ferrero is an Italian confectionery company, privately owned by the Ferrero family. The Reputation Institute's 2014 survey ranked it as the 22nd "most reputable company in the world" – Ferrero holds 8 percent of the world's chocolate market and is the leader in Western Europe with an 18.9 percent share. Its revenue in fiscal year 2013 was $10.6 billion, a 5.6 percent rise from the previous year, and the company employs nearly 25,000 people in 18 factories worldwide.

The story of this remarkable company begins in 1946 with a small patisserie in Alba, Italy. There, Pietro Ferrero invented a 50 percent hazelnut, 50 percent cocoa confection. Because taxes on cacao beans were extremely high in post–World War II Italy, pure chocolate was not readily available. Alba was known for the production of hazelnuts, and Ferrero's cheaply produced *pasta* *gianduja* block, made from readily available ingredients, suitably satisfied consumers' cravings for sweet foods. The product was a hit, and by 1951 the Ferrero family had decided to turn the *pasta gianduja* block into a creamy spread. By 1951 Ferrero was marketing this as *Supercrema*. In 1963, Pietro's son Michele, by then CEO, modified the recipe and marketed it as the immensely popular Nutella. Ferrero now sells more than 67,000 jars of Nutella a year in Italy alone. While it offers a limited product range, Ferrero's offerings are nonetheless consumable at all times of day, from breakfast (Nutella) to dessert (Ferrero Rocher) and any time in between (Kinder chocolates—Bueno and Surprise—and the ever-popular Tic Tac). The emphasis is on *quality*, and it is certainly part of the key to Ferrero's success.

Ferrero began expanding into Europe in 1956 by setting up a factory in Germany, where chocolate was extremely popular. This early understanding of global trends allowed the company to swiftly expand into French, Australian, Canadian, Asian, Puerto Rican, Ecuadorian, and finally the U.S. markets. In 1974, Ferrero established operations in Australia with the mission of delighting customers with unique products of the highest quality and integrity, and contributing to the well-being of employers, customers, and the company.

The firm concentrates on meeting high standards; thus, it manufactures only in places where it is sure it can deliver consistently and establish a secure retail supply chain, meaning it will never let consumers down. Managing Director of Ferrero Australia, Craig Barker, launched a CSR report in late 2013 that highlighted Ferrero's commitment to maintaining excellence in quality, freshness, and innovation. The company seeks to promote a balanced diet and lifestyle, including regular physical exercise, and offering grade products at the same time.

Ferrero's focus on consumers is accompanied by its emphasis on quality, integrity, product innovation, and passion. The company strives to understand market preferences. Ferrero Australia does extensive testing of its products in the Australian market before bringing them to market. First, it carries out internal taste testing to see whether consumers rate the product to the same high standards of the company. Then Ferrero conducts market testing in one state before going national. Ferrero test-marketed three products in the Kinder line in Victoria for two years before nationally marketing them. By understanding the insights of the market, Ferrero has ensured constant growth since the 1940s.

When Ferrero entered India in 2004, the country did not really have a ready market for premium chocolates. Indian consumers are very price sensitive. Within 10 years, Ferrero transformed the chocolate market with premium brands accounting for 27 percent of the market. Ferrero's main competitors in India are Cadbury, Nestle, Hersey, Lindt, and Mars.

Ferro has around 6 percent of the Indian chocolate market and they are credited with making premium chocolate work in India. Ferrero launched Rocher in 2007 and Tic Tac and Kinder Joy two years later. In late 2011, the company set up its first factory which now produces 20 million packs of Tic Tacs per day along with 1 million Kinder Joy eggs.

In 2013, a $60-million hazelnut development business was approved in New South Wales in Australia. Ferrero had been working on this for some time and the operation would see 1 million trees planted in two farms. The first commercial crop is expected in 2017 and the farms are expected to be in full production by 2021. This is seen as part of Ferrero's long-term commitment to Australia and will provide vital jobs in the region.

At full production, the farms are expected to generate some 5000 tons of hazelnuts. The initiative should also help to convince other growers to reconsider hazelnuts as a cash crop. Potentially, the hazelnut export business is worth $170 million in Australia each year.

Ferrero uses its marketing insights to promote sales. The company's 2010 promotion of Nutella included sponsorship of the Football Federation of Australia and the Socceroos, the Australian national soccer team, and was one of the biggest sponsorship exercises in the history of the brand. It also emphasized that Nutella was one of Australia's best-known and most-loved brands by associating it with a sport that most Australians enjoy. The sponsorship program resulted in an increase of Nutella's household penetration from 15.1 to 16.3 percent.

Throughout 2013 there were persistent rumors that Nestlé was about to launch an audacious, and expensive, takeover of Ferrero. Ferrero consistently denied the rumors and Nestlé was surprisingly quiet about it. As the year went on, rather than being the subject of a takeover, it was Ferrero that was doing the taking over. In July they announced the takeover of Turkish hazelnut procurement, processing, and marketing firm Oltan Group. The Turkish business, based in the north of the country, was active in the main hazelnut growing regions. The company had five production facilities and generated annual sales in excess of $500 million. At a stroke, Ferrero had secured vital raw materials for its core products.

Finally, Ferrero Australia has also engaged in many community programs, such as a food bank that distributes food and grocery industry donations to welfare agencies to feed the hungry. It also supports Brainwave, a charity supporting pediatric neuroscience. The company introduced the pink Tic Tac in celebration of Pink Ribbon Month to support breast cancer research and awareness along with the National Breast Cancer Foundation (NBCF). Ferrero also supports forest conservation methods and the abolition of child labor. It purchases cacao only from suppliers who grow and process without using child labor, and it purchases palm oil only from countries and areas not known for deforestation. Ferrero has been combating the issue of childhood obesity since 2008 by emphasizing Nutella's role in a healthy and well-balanced breakfast and pledging not to target children in its advertisements.

Questions

1. Evaluate Ferrero Australia's decision to invest in the hazelnut farm. What are the key reasons for doing this?
2. How can Ferrero use new technology to market its products better?

Sources: Klaus Kneale, "World's Most Reputable Companies," www.forbes.com, May 6, 2009; Armorel Kenna, "Ferrero Won't Make Takeover Bid for Cadbury to Challenge Kraft," www.bloomberg.com, January 25, 2010; Ferrero, www.ferrero.com.au; FlowerAdvisor, www.floweradvisor.com.

In This Chapter, We Will Address the Following **Questions**

1. What is the scope of marketing research? (p. 121)
2. What steps are involved in conducting good marketing research? (p. 124)
3. What are the best metrics for measuring marketing productivity? (p. 137)

Samsung uses marketing research to sharpen the launch of its new products.

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