

CHAPTER 4

::: CONDUCTING MARKETING RESEARCH AND FORECASTING DEMAND



case and strap to make it suitable for gift occasions. Titan was the company that researched and understood the mindset of women and came out with fashion statements like the Raga brand.

In this chapter, we review the steps involved in the marketing research process. We also consider how marketers can develop effective metrics for measuring marketing productivity. Finally, we outline how marketers can develop good sales forecasts.

••• The Marketing Research System

Marketing managers often commission formal marketing studies of specific problems and opportunities. They may request a market survey, a product-preference test, a sales forecast by region, or an advertising evaluation. It is the job of the marketing researcher to produce insight into the customer's attitudes and buying behavior. We define **marketing research** as the systematic design, collection, analysis, and reporting of data and findings relevant to a specific marketing situation facing the company. Marketing research is now about a \$16.5 billion industry globally, according to ESOMAR, the World Association of Opinion and Market Research Professionals.

A company can obtain marketing research in a number of ways. Most large companies have their own marketing research departments, which often play crucial roles within the organization.¹

PROCTER & GAMBLE

P&G's large market research function is called Consumer & Market Knowledge (CMK). Its goal is to bring consumer insight to decision making at all levels. Dedicated CMK groups work for P&G businesses around the world, including Global Business Units (GBUs), which focus on long-term brand equity and initiative development, and Market Development Organizations (MDOs), which focus on local market expertise and retail partnerships. There is also a relatively smaller, centralized corporate CMK group which, in partnership with the line businesses, focuses on three kinds of work: (1) proprietary research methods development, (2) expert application of, and cross-business learning from, core research competencies, and (3) shared services and infrastructure. CMK leverages traditional research basics such as brand tracking. CMK also finds, invents, or co-develops leading-edge research approaches such as experiential consumer contacts, proprietary modeling methods, and scenario-planning or knowledge synthesis events. CMK professionals connect market insights from all these sources to shape company strategies and decisions. They influence day-to-day operational choices, such as which product formulations are launched, as well as long-term plans, such as which corporate acquisitions best round out the product portfolio.

Yet, marketing research is not limited to large companies with big budgets and marketing research departments. At much smaller companies, marketing research is often carried out by everyone in the company—and by customers, too.

Companies normally budget marketing research at 1 to 2 percent of company sales. A large percentage of that is spent on the services of outside firms. Marketing research firms fall into three categories:

- 1. Syndicated-service research firms** – These firms gather consumer and trade information, which they sell for a fee. For example, the National Council for Applied Economic Research (NCAER), ACNielsen-ORG-MARG, IMRB International.
- 2. Custom marketing research firms** – They design and carry out research studies for various clients based on specific briefs.

3. **Speciality-line marketing research firms** – These firms provide specialized research services such as developing a research brief (for this they may hire academics and freelancers), collecting field data; and preparing data analyses and reports for other firms.

A company can hire the services of a marketing research firm or conduct research in creative and affordable ways such as:

- Engaging professors or students to design and conduct studies. Many large companies hire summer trainees from management institutions for cost-effective market research year after year. Awarding live projects to MBA students as part of their coursework is also a common practice.
- Monitoring published information and actions systematically. This may be done by examining newspapers, Web sites, industry reports, and by visiting competitive outlets.

Most companies, such as Fuji Photo Film, use a combination of marketing research resources to study their industries, competitors, audiences, and channel strategies:

FUJI PHOTO FILM

At the highest level, Fuji relies on data from market research syndicate NDP Group to study the market for products ranging from digital cameras to ink jet photo paper. Fuji also does custom research with a variety of research partners, and it conducts internal research for projects requiring quick information, such as changes to package design. Regardless of how the marketing research data are collected, it is a top priority for Fuji, which has had to adapt its film and digital imaging products to a rapidly changing marketplace. "If you don't have market research to help you figure out what is changing and what the future will be, you will be left behind," says Fuji's director of category management and trade marketing.²

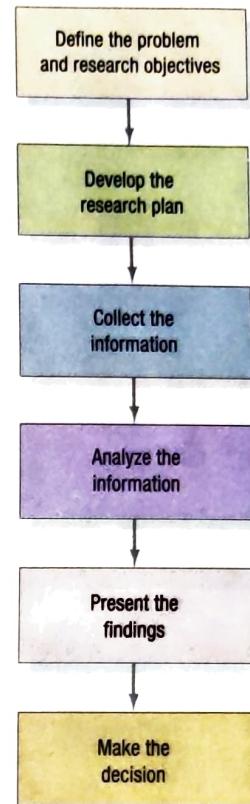


FIG. 4.1

The Marketing Research Process

::: The Marketing Research Process

Effective marketing research involves the six steps shown in Figure 4.1. We will elaborate on these steps.

Step 1: Define the Problem and the Research Objectives

Problems should not be defined either too broadly or too narrowly. A very broad or vague definition leads to excessive wastage of resources. Too narrow a definition leads to inadequate data or information that is to help take an effective decision. Clarity on the following helps define the problem appropriately:

- What is to be researched (the content, the scope) and
- Why is it to be researched (the decisions that are to be made)

Working backwards from the decisions can be a good way of defining problems because the purpose of research is to generate meaningful information, which will help in taking effective decisions.

The end product of this exercise has to be a clear definition of the problem and research objectives.

Step 2: Develop the Research Plan

The second stage of marketing research requires developing the most efficient plan for gathering the needed information. This involves decisions on the data sources, research approaches, research instruments, sampling plan, and contact methods.

DATA SOURCES The researcher can gather secondary data, primary data, or both. Secondary data are data that were collected for another purpose and already exist somewhere. Primary data are data freshly gathered for a specific purpose or for a specific research project.



A focus group in session, with marketing people observing through a two-way mirror.

needs to be objective, knowledgeable on the issue, and skilled in group dynamics. Participants are normally offered some gifts or incentives for attending. The meeting is typically held in pleasant surroundings, and refreshments are served.

The moderator usually starts with a broad question and then helps the group move through various aspects of the entity being discussed, encouraging free and easy discussion. The key role of the moderator is to keep the discussion "focused" on the relevant theme while allowing deep feelings and thoughts to emerge through the group dynamics. The discussion is recorded through note taking, using audiotape or videotape. Sometimes, one-way mirrors are also used for observing and recording the proceedings. Transcripts prepared from the recordings are subsequently analysed to understand consumer beliefs, attitudes and behaviour. "Marketing Insight: Conducting Informations Focus Groups" has some practical tips to improve the quality of focus groups.

Survey Research Surveys are best suited for descriptive research. Companies undertake surveys to learn about people's knowledge, beliefs, preferences and satisfaction. It requires development of a survey instrument, usually a questionnaire, which the respondents are asked to fill up.

Behavioral Data Customers' actual purchases reflect preferences and are normally more reliable than memory-based statements made in surveys. Observations have shown that many high-income group customers do not buy expensive consumer goods, while some low-income consumers end up buying expensive products, contrary to their stated preferences in surveys.

Experimental Research The most scientifically valid research is experimental research. The purpose of experimental research is to capture cause-and-effect relationships by eliminating competing explanations of the observed findings. To the extent that the design and execution of the experiment eliminate alternative hypotheses that might explain the results, research and marketing managers can have confidence in the conclusions.

Experiments call for selecting matched groups of subjects, subjecting them to different treatments, controlling extraneous variables, and checking whether observed response differences are statistically significant. To the extent that extraneous factors are eliminated or controlled, the observed effects can be related to the variations in the treatments.

RESEARCH INSTRUMENTS Marketing researchers have a choice of three main research instruments in collecting primary data: questionnaires, qualitative measures, and mechanical devices.

Questionnaires A questionnaire consists of a set of questions presented to respondents. Because of its flexibility, the questionnaire is by far the most common instrument used

Researchers usually start their investigation by examining secondary data to see whether the problem can be partly or wholly solved without collecting costly primary data.

When the needed data do not exist or are dated, inaccurate, incomplete, or unreliable, the researcher will have to collect primary data. Most marketing research projects involve a certain amount of primary-data collection using various research approaches.

RESEARCH APPROACHES Primary data can be collected in five ways: through observation, focus groups, surveys, behavioral data, and experiments.

Observational Research Fresh data can be gathered by observing the relevant actors and settings.

Focus Group Research A focus group is a gathering of six to ten people who are invited to spend a few hours with a skilled moderator to discuss a product, service, organization or other marketing entity. The moderator



MARKETING INSIGHT

Focus groups allow marketers to observe how and why consumers accept or reject concepts, ideas, or any specific notion. The key to using focus groups successfully is to *listen*. It is critical to eliminate biases as much as possible. Although many useful insights can emerge from thoughtfully run focus groups, there can be questions as to their validity, especially in today's marketing environment.

Some researchers believe that consumers have been so bombarded with ads, they unconsciously (or perhaps cynically) parrot back what they have already heard as compared to what they think. There is also always a concern that participants are just trying to maintain their self-image and public persona or have a need to identify with the other members of the group. Participants may not be willing to admit in public—or may not even recognize—their behavior patterns and motivations. There is also always the “loudmouth” problem—when one highly opinionated person drowns out the rest of the group. It may be expensive to recruit qualified subjects (\$3,000 to \$5,000 per group), but getting the right participants is crucial.

Even when multiple groups are involved, it may be difficult to generalize the results to a broader population. For example, within the United States, focus-group findings often vary from region to region. One firm specializing in focus-group research claimed that the best city to conduct focus groups was Minneapolis because it could get a fairly well-educated sample of people who were honest and forthcoming about their opinions. Many marketers interpret focus groups carefully in New York and other northeastern cities because the people in these areas tend to be highly critical and generally do not report that

CONDUCTING INFORMATIVE FOCUS GROUPS

they like much. Too often, managers become comfortable with a particular focus-group format and apply it generally and automatically to every circumstance. Europeans typically need more time than American marketers are usually willing to give—a focus group there rarely takes less than two hours and often more than four.

Participants must feel as relaxed as possible and feel a strong obligation to “speak the truth.” Physical surroundings can be crucial. Researchers at one agency knew they had a problem when a fight broke out between participants at one of their sessions. As one executive noted, “we wondered why people always seemed grumpy and negative—people were resistant to any idea we showed them.” The problem was the room itself: cramped, stifling, forbidding: “It was a cross between a hospital room and a police interrogation room.” To fix the problem, the agency gave the room a makeover. Other firms are adapting the look of the room to fit the theme of the topic—like designing the room to look like a playroom when speaking to children.

Although many firms are substituting observational research for focus groups, ethnographic research can be expensive and tricky: Researchers have to be highly skilled, participants have to be on the level, and mounds of data have to be analyzed. The beauty of focus groups, as one marketing executive noted, is that “it’s still the most cost-effective, quickest, dirtiest way to get information in rapid time on an idea.” In analyzing the pros and cons, Wharton’s Americus Reed might have said it best: “A focus group is like a chain saw. If you know what you’re doing, it’s very useful and effective. If you don’t, you could lose a limb.”

Sources: Sarah Stiansen, “How Focus Groups Can Go Astray,” *Adweek*, December 5, 1988, pp. FK 4–6; Jeffrey Kasner, “Fistfights and Feng Shui,” *Boston Globe*, July 21, 2001, pp. C1–C2; Leslie Kaufman, “Enough Talk,” *Newsweek*, August 18, 1997, pp. 48–49; Linda Tischler, “Every Move You Make,” *Fast Company*, April 2004, pp. 73–75; Alison Stein Wellner, “The New Science of Focus Groups,” *American Demographics* (March 2003): 29–33; Dennis Rook, “Out-of-Focus Groups,” *Marketing Research* 15: no. 2 (Summer 2003): 11; Dennis W. Rook, “Loss of Vision: Focus Groups Fail to Connect Theory, Current Practice,” *Marketing News*, September 15, 2003, p. 40.

to collect primary data. Questionnaires need to be carefully developed, tested, and debugged before they are administered on a large scale. In preparing a questionnaire, the researcher carefully chooses the questions and their form, wording, and sequence. The form of the question can influence the response. Marketing researchers distinguish between closed-end and open-end questions. Closed-end questions specify all the possible answers and provide answers that are easier to interpret and tabulate. Open-end questions allow respondents to answer in their own words and often reveal more about how people think. They are especially useful in exploratory research, where the researcher is looking for insight into how people think rather than measuring how many people think a certain way. Table 4.1 provides examples of both types of questions; and see “Marketing Memo: Questionnaire Dos and Don’ts.”

Qualitative Measures Some marketers prefer more qualitative methods for gauging consumer opinion because consumer actions do not always match their answers to survey questions. Qualitative research techniques are relatively unstructured measurement approaches that permit a range of possible responses, and they are a creative means of ascertaining consumer perceptions that may otherwise be difficult to uncover. The range of possible qualitative research techniques is limited only by the creativity of the marketing researcher. Here are seven techniques employed by design firm IDEO for understanding the customer experience:³

- **Shadowing**—observing people using products, shopping, going to hospitals, taking the train, using their cell phones.



MARKETING MEMO

1. **Ensure that questions are without bias.** Do not lead the respondent into an answer.
2. **Make the questions as simple as possible.** Questions that include multiple ideas or two questions in one will confuse respondents.
3. **Make the questions specific.** Sometimes it is advisable to add memory cues. For example, it is good practice to be specific with time periods.
4. **Avoid jargon or shorthand.** Avoid trade jargon, acronyms, and initials not in everyday use.
5. **Steer clear of sophisticated or uncommon words.** Only use words in common speech.
6. **Avoid ambiguous words.** Words such as "usually" or "frequently" have no specific meaning.
7. **Avoid questions with a negative in them.** It is better to say "Do you ever . . . ?" than "Do you never . . . ?"

QUESTIONNAIRE DOS AND DON'TS

8. **Avoid hypothetical questions.** It is difficult to answer questions about imaginary situations. Answers cannot necessarily be trusted.
9. **Do not use words that could be misheard.** This is especially important when the interview is administered over the telephone. "What is your opinion of sects?" could yield interesting but not necessarily relevant answers.
10. **Desensitize questions by using response bands.** For questions that ask people their age or companies their employee turnover, it is best to offer a range of response bands.
11. **Ensure that fixed responses do not overlap.** Categories used in fixed response questions should be sequential and not overlap.
12. **Allow for "other" in fixed response questions.** Precoded answers should always allow for a response other than those listed.

Source: Adapted from Paul Hague and Peter Jackson, *Market Research: A Guide to Planning, Methodology, and Evaluation* (London: Kogan Page, 1999). See also, Hans Baumgartner and Jan-Benedict E. M. Steenkamp, "Response Styles in Marketing Research: A Cross-National Investigation," *Journal of Marketing Research* (May 2001): 143–156.

■ **Behavior mapping**—photographing people within a space, such as a hospital waiting room, over two or three days.

■ **Consumer journey**—keeping track of all the interactions a consumer has with a product, service, or space.

■ **Camera journals**—asking consumers to keep visual diaries of their activities and impressions relating to a product.

■ **Extreme user interviews**—talking to people who really know—or know nothing—about a product or service and evaluating their experience using it.

■ **Storytelling**—prompting people to tell personal stories about their consumer experiences.

■ **Unfocus groups**—interviewing a diverse group of people: To explore ideas about sandals, IDEO gathered an artist, a bodybuilder, a podiatrist, and a shoe fetishist.

Because of the freedom afforded both researchers in their probes and consumers in their responses, qualitative research can often be a useful first step in exploring consumers' brand and product perceptions. There are also drawbacks to qualitative research. The in-depth insights that emerge have to be tempered by the fact that the samples involved are often very small and may not necessarily generalize to broader populations. Moreover, given the qualitative nature of the data, there may also be questions of interpretation. Different researchers examining the same results from a qualitative research study may draw very different conclusions. "Marketing Insight: Getting into Consumers' Heads with Qualitative Research" describes some popular approaches.

Mechanical Devices Mechanical devices are occasionally used in marketing research. For example, galvanometers can measure the interest or emotions aroused by exposure to a specific ad or picture. The tachistoscope flashes an ad to a subject with an exposure interval that may range from less than one hundredth of a second to several seconds. After each exposure, the respondent describes everything he or she recalls. Eye cameras study respondents' eye movements to see where their eyes land first, how long they linger on a given item, and so on. As one would expect, in recent years technology has advanced to such a degree that now devices like skin sensors, brain wave scanners, and full body scanners are being used to get consumer responses.⁴

TABLE 4.1 Types of Questions

Name	Description	Example				
A. Closed-end Questions						
Dichotomous	A question with two possible answers.	In arranging this trip, did you personally phone Air India?				
		Yes		No		
Multiple choice	A question with three or more answers.	With whom are you traveling on this flight?				
		<input type="checkbox"/> No one		<input type="checkbox"/> Children only		
		<input type="checkbox"/> Spouse		<input type="checkbox"/> Business associates/friends/relatives		
		<input type="checkbox"/> Spouse and children		<input type="checkbox"/> An organized tour group		
Likert scale	A statement with which the respondent shows the amount of agreement/disagreement.	Small airlines generally give better service than large ones.				
		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
		1__	2__	3__	4__	5__
Semantic differential	A scale connecting two bipolar words. The respondent selects the point that represents his or her opinion.	Air India				
		Large -----	Experienced -----	Modern -----	Small	Inexperienced
Importance scale	A scale that rates the importance of some attribute.	Airline food service to me is				
		Extremely important	Very important	Somewhat important	Not very important	Not at all important
		1__	2__	3__	4__	5__
Rating scale	A scale that rates some attribute from "poor" to "excellent."	Air India food service is				
		Excellent	Very Good	Good	Fair	Poor
		1__	2__	3__	4__	5__
Intention-to-buy scale	A scale that describes the respondent's intention to buy.	If an in-flight telephone were available on a long flight, I would				
		Definitely buy	Probably buy	Not sure	Probably not buy	Definitely not buy
		1__	2__	3__	4__	5__
B. Open-end Questions						
Completely unstructured	A question that respondents can answer in an almost unlimited number of ways.	What is your opinion of Air India?				
Word association	Words are presented, one at a time, and respondents mention the first word that comes to mind.	What is the first word that comes to your mind when you hear the following?				
		Airline _____				
		Air India _____				
		Travel _____				
Sentence completion	An incomplete sentence is presented and respondents complete the sentence.	When I choose an airline, the most important consideration in my decision is _____.				
Story completion	An incomplete story is presented, and respondents are asked to complete it.	"I flew Air India a few days ago. I noticed that the exterior and interior of the plane had very bright colors. This aroused in me the following thoughts and feelings. . . ." Now complete the story.				
Picture	A picture of two characters is presented, with one making a statement. Respondents are asked to identify with the other and fill in the empty balloon.					
Thematic Apperception Test (TAT)	A picture is presented and respondents are asked to make up a story about what they think is happening or may happen in the picture.					



MARKETING INSIGHT

GETTING INTO CONSUMERS' HEADS WITH QUALITATIVE RESEARCH

Here are some commonly used qualitative research approaches to getting inside consumers' minds and finding out what they are thinking or feeling about brands and products:

1. **Word associations.** People can be asked what words come to mind when they hear the brand's name. "What does the Timex name mean to you? Tell me what comes to mind when you think of Timex watches." The primary purpose of free association tasks is to identify the range of possible brand associations in consumers' minds. But they may also provide some rough indication of the relative strength, favorability, and uniqueness of brand associations too.
2. **Projective techniques.** People are presented an incomplete stimulus and asked to complete it or given an ambiguous stimulus that may not make sense in and of itself and are asked to make sense of it. The argument is that people will reveal their true beliefs and feelings. One such approach is "bubble exercises" based on cartoons or photos. Different people are depicted buying or using certain products or services. Empty bubbles, like those found in cartoons, are placed in the scenes to represent the thoughts, words, or actions of one or more of the participants. People are then asked to "fill in the bubble" by indicating what they believed was happening or being said. Another technique is comparison tasks. People are asked to convey their impressions by comparing brands to people, countries, animals, activities, fabrics, occupations, cars, magazines, vegetables, nationalities, or even other brands.
3. **Visualization.** People can be asked to create a collage from magazine photos or drawings to depict their perceptions. ZMET is a research technique that starts with a group of participants, who are asked in advance to select a minimum of 12 images from their own sources (e.g., magazines, catalogs, and family photo albums) that represent their thoughts and feelings about the research topic. The participants bring these images to a personal one-on-

one interview with a study administrator, who uses advanced interview techniques to explore the images with the participant and reveal hidden meanings. Finally, the participants use a computer program to create a collage with these images that communicates their subconscious thoughts and feelings about the topic. One ZMET study probed what women thought of panty hose. Twenty hose-wearing women were asked to collect pictures that captured their feelings about wearing panty hose. Some of the pictures showed fence posts encased in plastic wrap or steel bands strangling trees, suggesting that panty hose are tight and inconvenient. Another picture showed tall flowers in a vase, suggesting that the product made a woman feel thin, tall, and sexy.

4. **Brand personification.** People can be asked to describe what kind of person they think of when the brand is mentioned: "If the brand were to come alive as a person, what would it be like, what would it do, where would it live, what would it wear, who would it talk to if it went to a party (and what would it talk about)?" For example, they may say that the John Deere brand makes them think of a rugged Midwestern male who is hard-working and trustworthy. The brand personality delivers a picture of the more human qualities of the brand.
5. **Laddering.** A series of increasingly more specific "why" questions can be used to gain insight into consumer motivation and consumers' deeper, more abstract goals. Ask why someone wants to buy a Nokia cellular phone. "They look well built" (attribute). "Why is it important that the phone be well built?" "It suggests that the Nokia is reliable" (a functional benefit). "Why is reliability important?" "Because my colleagues or family can be sure to reach me" (an emotional benefit). "Why must you be available to them at all times?" "I can help them if they are in trouble" (brand essence). The brand makes this person feel like a Good Samaritan, ready to help others.

Sources: Allen Adamson, "Why Traditional Brand Positioning Can't Last," *Brandweek*, November 17, 2003, pp. 38–40; Todd Wasserman, "Sharpening the Focus," *Brandweek*, November 3, 2003, pp. 28–32; Linda Tischler, "Every Move You Make," *Fast Company*, April 2004, pp. 73–75; Gerald Zaltman, *How Customers Think: Essential Insights into the Mind of the Market* (Boston: Harvard Business School Press, 2003).

Technology has replaced the diaries that participants in media surveys used to have to keep. Audiometers can be attached to television sets in participating homes to record when the set is on and to which channel it is tuned. Electronic devices can record the number of radio programs a person is exposed to during the day or, using Global Positioning System (GPS) technology, how many billboards a person may walk by or drive by during a day.

SAMPLING PLAN After deciding on the research approach and instruments, the marketing researcher must design a sampling plan. This calls for three decisions:

1. **Sampling unit: Who is to be surveyed?** The marketing researcher must define the target population that will be sampled. In the American Airlines survey, should the sampling unit be only first-class business travelers, first-class vacation travelers, or both? Should travelers under age 18 be interviewed? Should both husbands and wives be interviewed? Once the sampling unit is determined, a sampling frame must be developed so that everyone in the target population has an equal or known chance of being sampled.
2. **Sample size: How many people should be surveyed?** Large samples give more reliable results than small samples. However, it is not necessary to sample the entire target population

or even a substantial portion to achieve reliable results. Samples of less than 1 percent of a population can often provide good reliability, with a credible sampling procedure.

3. **Sampling procedure: How should the respondents be chosen?** To obtain a representative sample, a probability sample of the population should be drawn. Probability sampling allows the calculation of confidence limits for sampling error. Thus, one could conclude after the sample is taken that "the interval 5 to 7 trips per year has 95 chances in 100 of containing the true number of trips taken annually by first-class passengers flying between Chicago and Delhi." Three types of probability sampling are described in Table 4.2 part A. When the cost or time involved in probability sampling is too high, marketing researchers will take nonprobability samples. Table 4.2 part B describes three types. Some marketing researchers feel that nonprobability samples are very useful in many circumstances, even though they do not allow sampling error to be measured.

CONTACT METHODS Once the sampling plan has been determined, the marketing researcher must decide how the subject should be contacted: mail, telephone, personal, or online interview.

Mail Questionnaire The *mail questionnaire* is the best way to reach people who would not give personal interviews or whose responses might be biased or distorted by the interviewers. Mail questionnaires require simple and clearly worded questions. Unfortunately, the response rate is usually low or slow.

Telephone Interview *Telephone interviewing* is the best method for gathering information quickly; the interviewer is also able to clarify questions if respondents do not understand them. The response rate is typically higher than in the case of mailed questionnaires. The main drawback is that the interviews have to be short and not too personal. Telephone interviewing is more difficult in India because of consumers' growing antipathy toward telemarketers calling them in their homes and interrupting their lives, low teledensity, cultural reluctance to talk to strangers and resistance to clever telemarketers.

Personal Interview *Personal interviewing* is the most versatile method. The interviewer can ask more questions and record additional observations about the respondent, such as dress and body language. At the same time, personal interviewing is the most expensive method and requires more administrative planning and supervision than the other three. It is also subject to interviewer bias or distortion. Personal interviewing takes two forms. In *arranged interviews*, respondents are contacted for an appointment, and often a small payment or incentive is offered. *Intercept interviews* involve stopping people at a shopping mall or

TABLE 4.2

Probability and Nonprobability Samples

A. Probability Sample	
Simple random sample	Every member of the population has an equal chance of selection.
Stratified random sample	The population is divided into mutually exclusive groups (such as age groups), and random samples are drawn from each group.
Cluster (area) sample	The population is divided into mutually exclusive groups (such as city blocks), and the researcher draws a sample of the groups to interview.
B. Nonprobability Sample	
Convenience sample	The researcher selects the most accessible population members.
Judgment sample	The researcher selects population members who are good prospects for accurate information.
Quota sample	The researcher finds and interviews a prescribed number of people in each of several categories.

busy street corner and requesting an interview. Intercept interviews can have the drawback of being nonprobability samples, and the interviews must not require too much time.

Online Interview There are so many ways to use the Net to do research. A company can include a questionnaire on its Web site and offer an incentive to answer the questionnaire; or it can place a banner on some frequently visited site such as Yahoo!, inviting people to answer some questions and possibly win a prize. The company can sponsor a chat room or bulletin board and introduce questions from time to time, or host a real-time panel or virtual focus group. A company can learn about individuals who visit its site by following how they *clickstream* through the Web site and move to other sites. A company can post different prices, use different headlines, offer different product features on different Web sites or at different times to learn the relative effectiveness of its offerings.

Online product testing, in which companies float trial balloons for new products, is also growing and providing information much faster than traditional marketing research



MARKETING MEMO

PROS AND CONS OF ONLINE RESEARCH

Advantages

- **Online research is inexpensive.** The cost of gathering survey information electronically is much less expensive than by traditional means. A typical e-mail survey costs about half what a conventional survey costs, and return rates can be as high as 50 percent. For instance, Virgin.net used online research to launch its broadband service in the United Kingdom in 2002. Now the company does all its research online. The brand has seen an increase in response rates from 17 percent with paper-based research to almost 72 percent and costs have dropped 90 percent.
- **Online research is faster.** Online surveys are faster to complete since the survey can automatically direct respondents to applicable questions and be sent electronically to the research supplier once finished. One estimate is that 75 to 80 percent of a survey's targeted response can be generated in 48 hours using online methods, as compared to a telephone survey that can take 70 days to obtain 150 interviews.
- **People tend to be more honest online than they are in personal or telephone interviews.** Britain's online polling company YouGov.com took 500 people and surveyed half via intercom in a booth and the other half online, asking them politically correct questions such as "Should there be more aid to Africa?" Online answers were deemed much more honest. People may be more open about their opinions when they can respond to a survey privately and not to another person whom they feel might be judging them, especially on sensitive topics.
- **Online research is more versatile.** The multimedia applications of online research are especially advantageous. For instance, virtual reality software lets visitors inspect 3-D models of products such as cameras, cars, and medical equipment, and product characteristics can be easily manipulated online. Even at the most

basic level, online surveys make answering a questionnaire easier and more fun than paper-and-pencil versions.

Disadvantages

- **Samples can be small and skewed.** Perhaps the largest criticism leveled against online research is that not everyone is online. Research subjects who respond to online surveys are more likely to be tech-savvy middle-class males. Some 40 percent of households are without Internet access in the United States—and there is an even higher percentage without access when you reach out to international markets. These people are likely to differ in socioeconomic and education levels from those online. While marketers can be certain that more and more people will go online, it is important for online market researchers to find creative ways to reach certain population segments that are less likely to be online, such as older Americans or Hispanics. One option is to combine offline sources with online findings. Providing temporary Internet access at locations such as malls and recreation centers is another strategy. Some research firms use statistical models to fill in the gaps in market research left by offline consumer segments.
- **Online market research is prone to technological problems and inconsistencies.** Because online research is a relatively new method, many market researchers have not gotten survey designs right. A common error occurs in transferring a written survey to the screen. Others overuse technology, concentrating on the bells and whistles and graphics, while ignoring basic survey design guidelines. Problems also arise because browser software varies. The Web designer's final product may be seen very differently depending upon the research subject's screen and operating system.

Sources: Catherine Arnold, "Not Done Net; New Opportunities Still Exist in Online Research," *Marketing News*, April 1, 2004, p. 17; Nima M. Ray and Sharon W. Tabor, "Contributing Factors; Several Issues Affect e-Research Validity," *Marketing News*, September 15, 2003, p. 50; Louella Miles, "Online, On Tap," *Marketing*, June 16, 2004, pp. 39–40; Joe Dysart, "Cutting Market Research Costs with On-Site Surveys," *The Secured Lender* (March/April 2004): 64–67; Suzy Bashford, "The Opinion Formers," *Revolution*, May 2004, pp. 42–46; Bob Lamons, "Eureka! Future of B-to-B Research is Online," *Marketing News*, September 24, 2001, pp. 9–10.

techniques used to develop new products. For instance, marketers for Mattel's Hot Wheels toys rely heavily on the Web to interact with collectors to help develop new products, promotions, and licensed goods.

While marketers are right to be infatuated with the possibilities of online research, it's important to remember that the field is still in its infancy and is constantly evolving to meet the needs of companies, advertising agencies, and consumers. "Marketing Memo: Pros and Cons of Online Research" outlines some of the advantages and disadvantages of online research thus far.

Step 3: Collect the Information

The data collection phase of marketing research is generally the most expensive and the most prone to error. In the case of surveys, four major problems arise. Some respondents will not be at home and must be contacted again or replaced. Other respondents will refuse to cooperate. Still others will give biased or dishonest answers. Finally, some interviewers will be biased or dishonest. Getting the right respondents is critical.

It is important to recognize that not everyone in the sample population will be online. (See "Marketing Insight: Global Online Market Research Challenges.")



MARKETING INSIGHT

GLOBAL ONLINE MARKET RESEARCH CHALLENGES

When chipmaker Intel Research wanted to know how people in countries around the world use technology, it sent an anthropologist to find out. Dr. Genevieve Bell visited 100 households in 19 cities in 7 countries in Asia and the Pacific. She came back to Intel with 20 gigabytes of digital photos, 19 field notebooks, and insights about technology, culture, and design that would challenge company assumptions about digital technology.

It stands to reason that Intel—a global tech powerhouse—would want to know how technology is used in its international markets. Yet all companies have a stake in knowing how the rest of the world sees and uses what most Westerners take for granted: Internet technology. With online research becoming the fastest-growing market research tool, marketers with global ambitions need to know which countries are online and why, or why not.

Internet penetration is low in most parts of Asia, Latin America, and Central and Eastern Europe. In Brazil, for example, only 7 percent of the population is online. While most people assume that the low penetration is due to economies that don't support an expensive technological infrastructure, there are other factors involved. There's climate, for one. In Malaysia, power surges caused by monsoons can fry computer motherboards. Government is also a powerful spur or barrier to Internet penetration. While the Chinese economy is zooming ahead, it's unlikely the authoritarian Chinese government will feel comfortable with market researchers gathering information from its citizens via the Internet. Contrast this with South Korea, where the government has made widespread broadband Internet access a priority, and has provided incentives to PC makers to bring cheaper models to market.

Other significant factors that can keep computers and Wi-Fi and data ports from crossing the threshold are religion and culture. Dr. Bell found that values of humility and simplicity are deemed incompatible with Internet technology and make it less welcome in

some Hindu homes in India or Muslim homes in Malaysia and Indonesia. She also noted that while Americans have private space in the home for leisure activities, Japan's tighter quarters afford little privacy. This may explain the huge popularity of text messaging on mobile phones among Japan's young people.

Dr. Bell's findings on global responses to technology point up one of the biggest obstacles to conducting international research, whether online or not: a lack of consistency. Nan Martin, global accounts director for Synovate Inc., a market research firm with offices in 46 countries, says: "In global research, we have to adapt culturally to how, where and with whom we are doing the research . . . A simple research study conducted globally becomes much more complicated as a result of the cultural nuances, and it's necessary for us to be sensitive to those nuances in data collection and interpretation." For instance, suppose Internet penetration is equal. In Latin America, where consumers are uncomfortable with the impersonal nature of the Internet, researchers might need to incorporate interactive elements into a survey so participants feel they are talking to a real person. In Asia, focus groups are challenging because of the cultural tendency to conform. Online surveys may bring more honest responses and keep respondents from "losing face."

And what if a researcher collects data face-to-face in Mexico, but by Internet in the United States? Nan Martin says that, "not only are the subjects answering the question differently because of cultural difference, but the data are being collected by a different method. That can shake the underpinnings of how research scientists feel about collecting data: that every time you change a variable, you're making interpretation of the results more challenging. It is so challenging, in fact, that some say this is an area where global marketers are best served by hiring an expert—an outside research firm with an expertise in acquiring and analyzing international data."

Step 4: Analyze the Information

The next-to-last step in the process is to extract findings from the collected data. The researcher tabulates the data and develops frequency distributions. Averages and measures of dispersion are computed for the major variables. The researcher will also apply some advanced statistical techniques and decision models in the hope of discovering additional findings.

Step 5: Present the Findings

As the last step, the researcher presents the findings. The researcher should present findings that are relevant to the major marketing decisions facing management.

Step 6: Make the Decision

Research findings only provide additional information and insights to the managers. Depending on their confidence in the findings, managers decide to use it, discard it, or carry out more research (see Table 4.3).

A growing number of organizations are using a marketing decision support system to help their marketing managers make better decisions. MIT's John Little defines a **marketing decision support system (MDSS)** as a coordinated collection of data, systems, tools, and techniques with supporting software and hardware by which an organization gathers and interprets relevant information from business and environment and turns it into a basis for marketing action.⁵

Overcoming Barriers to the Use of Marketing Research

In spite of the rapid growth of marketing research, many companies still fail to use it sufficiently or correctly, for several reasons:⁶

- **A narrow conception of the research.** Many managers see marketing research as a fact-finding operation. They expect the researcher to design a questionnaire, choose a sample, conduct interviews, and report results, often without a careful definition of the problem or

TABLE 4.3

The Seven Characteristics of Good Marketing Research

1. Scientific method.	Effective marketing research uses the principles of the scientific method: careful observation, formulation of hypotheses, prediction, and testing.
2. Research creativity.	At its best, marketing research develops innovative ways to solve a problem: a clothing company catering to teenagers gave several young men video cameras, then used the videos for focus groups held in restaurants and other places teens frequent.
3. Multiple methods.	Marketing researchers shy away from overreliance on any one method. They also recognize the value of using two or three methods to increase confidence in the results.
4. Interdependence of models and data.	Marketing researchers recognize that data are interpreted from underlying models that guide the type of information sought.
5. Value and cost of information.	Marketing researchers show concern for estimating the value of information against its cost. Costs are typically easy to determine, but the value of research is harder to quantify. It depends on the reliability and validity of the findings and management's willingness to accept and act on those findings.
6. Healthy skepticism.	Marketing researchers show a healthy skepticism toward glib assumptions made by managers about how a market works. They are alert to the problems caused by "marketing myths."
7. Ethical marketing.	Marketing research benefits both the sponsoring company and its customers. The misuse of marketing research can harm or annoy consumers, increasing resentment at what consumers regard as an invasion of their privacy or a disguised sales pitch.

2. The arbitrariness demoralizes managers, who feel that their performance is judged adversely.
3. The inclusion of nontraceable common costs could weaken efforts at real cost control.

Operating management is most effective in controlling direct costs and traceable common costs. Arbitrary assignments of nontraceable common costs can lead managers to spend their time fighting arbitrary cost allocations instead of managing controllable costs well.

Companies are showing a growing interest in using marketing-profitability analysis or its broader version, activity-based cost accounting (ABC), to quantify the true profitability of different activities.²³ To improve profitability, managers can then examine ways to reduce the resources required to perform various activities, or make the resources more productive or acquire them at lower cost. Alternatively, management may raise prices on products that consume heavy amounts of support resources. The contribution of ABC is to refocus management's attention away from using only labor or material standard costs to allocate full cost, and toward capturing the actual costs of supporting individual products, customers, and other entities.

Marketing-Mix Modeling

Marketing accountability also means that marketers can more precisely estimate the effects of different marketing investments. *Marketing-mix models* analyze data from a variety of sources, such as retailer scanner data, company shipment data, pricing, media, and promotion spending data, to understand more precisely the effects of specific marketing activities. To deepen understanding, multivariate analyses are conducted to sort through how each marketing element influences marketing outcomes of interest such as brand sales or market share.²⁴

Especially popular with packaged-goods marketers such as Procter & Gamble, Clorox, and Colgate, the findings from marketing-mix modeling are used to allocate or reallocate expenditures. Analyses explore which part of ad budgets are wasted, what optimal spending levels are, and what minimum investment levels should be.²⁵ Although marketing-mix modeling helps to isolate effects, it is less effective at assessing how different marketing elements work in combination.

::: Forecasting and Demand Measurement

One major reason for undertaking marketing research is to identify market opportunities. Once the research is complete, the company must measure and forecast the size, growth, and profit potential of each market opportunity. Sales forecasts are used by finance to raise the needed cash for investment and operations; by the manufacturing department to establish capacity and output levels; by purchasing to acquire the right amount of supplies; and by human resources to hire the needed number of workers. Marketing is responsible for preparing the sales forecasts. If its forecast is far off the mark, the company will be saddled with excess inventory or have inadequate inventory. Sales forecasts are based on estimates example of the importance of defining the market correctly:

C O C A - C O L A

When Roberto Goizueta became CEO of Coca-Cola, many people thought that Coke's sales were maxed out. Goizueta, however, reframed the view of Coke's market share. He said Coca-Cola accounted for less than 2 ounces of the 64 ounces of fluid that each of the world's 4.4 billion people drank on average every day. "The enemy is coffee, milk, tea, water," he told his people at Coke, and he ushered in a huge period of growth.

The Measures of Market Demand

Companies can prepare as many as 90 different types of demand estimates (see Figure 4.4). Demand can be measured for six different product levels, five different space levels, and three different time levels.

Each demand measure serves a specific purpose. A company might forecast short-run demand for a particular product for the purpose of ordering raw materials, planning

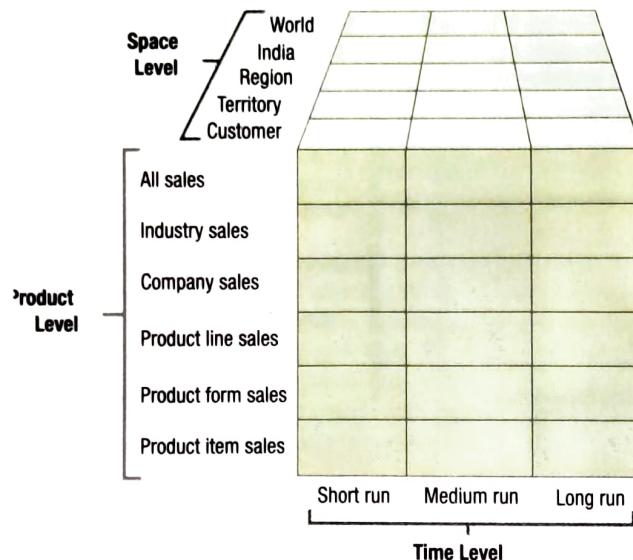


FIG. 4.4

Ninety Types of Demand
Measurement ($6 \times 5 \times 3$)

short term 1 yr
med 1-3 yrs
3-5 yrs
long

production, and borrowing cash. It might forecast regional demand for its major product line to decide whether to set up regional distribution.

Forecasts also depend on which type of market is being considered. The size of a market hinges on the number of buyers who might exist for a particular market offer. But there are many productive ways to break down the market:

- The **potential market** is the set of consumers who profess a sufficient level of interest in a market offer. However, consumer interest is not enough to define a market. Potential consumers must have enough income and must have access to the product offer.
- The **available market** is the set of consumers who have interest, income, and access to a particular offer. For some market offers, the company or government may restrict sales to certain groups. For example, a particular state might ban motorcycle sales to anyone under 21 years of age. The eligible adults constitute the *qualified available market*—the set of consumers who have interest, income, access, and qualifications for the particular market offer.
- The **target market** is the part of the qualified available market the company decides to pursue. The company might decide to concentrate its marketing and distribution effort in the north. The company will end up selling to a certain number of buyers in its target market.
- 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 is not satisfied with its current sales, it can take a number of actions. 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. Consider the case of Target Stores.

→ show case how
feature, customer
competitor → overall

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 As we have seen, 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, it can be called the *market demand function*. The dependence of total market demand on underlying conditions is illustrated in Figure 4.5(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 industry marketing expenditure.

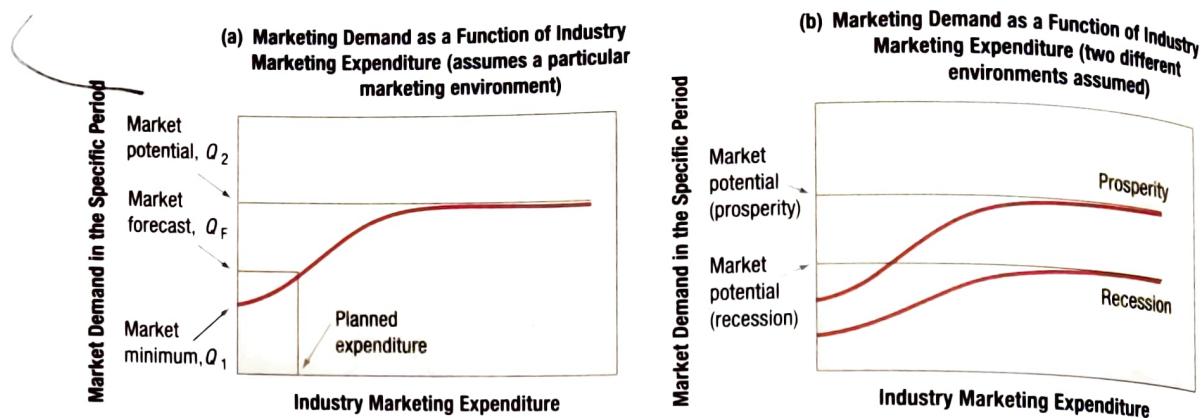


FIG. 4.5 | Market Demand Functions

Some base sales (called the *market minimum*, labeled Q_1 in the figure) would take place without any demand-stimulating expenditures. Higher levels of industry marketing expenditures would yield higher levels of demand, first at an increasing rate, then at a decreasing rate. Marketing expenditures beyond a certain level would not stimulate much further demand, thus suggesting an upper limit to market demand called the *market potential* (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 its total size by the level of industry marketing expenditures. In terms of Figure 4.5(a), the distance between Q_1 and Q_2 is relatively large. A *nonexpansible market*—for example, the market for opera—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 to winning a larger **market share** for their product (the level of selective demand for the company's product).

It pays to compare the current level of market demand to the potential demand level. The result is called the **market penetration index**. A low market penetration index indicates substantial growth potential for all the firms. A high market penetration index suggests that there will be increased costs in attracting the few remaining prospects. Generally, price competition increases and margins fall when the market penetration index is already high.

A company should also compare its current market share to its potential market share. The result is called the company's **share penetration index**. A low share penetration index indicates that the company can greatly expand its share. The underlying factors holding it back could be many: low brand awareness, low brand availability, benefit deficiencies, too high a price. A firm should calculate the share penetration increases that would occur with investments to remove each deficiency, to see which investments would produce the greatest improvement in share penetration.²⁶

It is important to remember that the market demand function is not a picture of market demand over time. Rather, the curve shows alternative current forecasts of market demand associated with alternative possible levels of industry marketing effort in the current period.

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 have 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 in stimulating further demand. **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 in a period of recession versus a period of prosperity. The market potential is higher during prosperity. The dependence of market potential on the environment is illustrated in Figure 4.5(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, companies 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**, which is the percentage of ownership or use of a product or service in a population. Here are some Indian percentages: television (40 percent), motorcycles (6 percent), scooters (4 percent), telephone (10 percent), PC at home (1 percent).²⁷ Companies assume that the lower the product penetration, the higher the market potential. However, this needs to be adjusted for potential or maximum possible product penetration, as not every household will be in the market for every product.

COMPANY DEMAND We are now ready to define 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. The company's share of market demand depends on how its products, services, prices, communications, and so on are perceived relative to the competitors'. If other things are equal, the company's market share would depend on the size and effectiveness of its market expenditures relative to competitors. 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.²⁸

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

The company sales forecast is represented graphically with company sales on the vertical axis and company marketing effort on the horizontal axis, as in Figure 4.5. Too often the sequential relationship between the company forecast and the company marketing plan is confused. One frequently hears 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 nonexpansive. 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 worth mentioning in relation to the company sales forecast. 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. Management sets sales quotas on the basis of the company sales forecast and the psychology of stimulating its achievement. Generally, sales quotas are 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 and is used primarily for making current purchasing, production, and cash flow decisions. The sales budget is based on the sales forecast and the need to avoid excessive risk. Sales budgets are 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 got 100 percent of the market. In most cases, company sales potential is less than the market potential, even when company marketing expenditures increase considerably, relative to competitors. The reason is that each competitor has a hard core of loyal buyers who are not very responsive 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.

40 available
40 → 40 market
to no market

TOTAL MARKET POTENTIAL Total market potential is the maximum amount of sales that might be available to all the 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 as follows:

$$\text{Total Market Potential} = \text{Potential Number of Buyers} \times \text{Average Quantity Purchased By a Buyer} \times \text{The Price}$$

A good approach to estimate the potential number of buyers is to start with the total number of buyers and then eliminate groups that will not buy the product.

A variation on this method is the *chain-ratio method*. It involves multiplying a base number by several adjusting percentages. Suppose a dairy is interested in estimating the market potential for sweetened milk among urban adults, it can calculate the potential as shown below:

$$\begin{aligned} \text{Potential for sweetened milk for urban adults} &= \text{Urban population above 18 years} \\ &\times \text{Personal discretionary income (urban) per capita} \times \text{Average percentage of discretionary income spent on food} \\ &\times \text{Average percentage of amount spent on food that is spent on beverages} \times \text{Average percentage of amount spent on beverages that is spent on dairy beverages} \\ &\times \text{Expected percentage of amount spent on dairy beverages that will be spent on sweetened milk.} \end{aligned}$$

AREA MARKET POTENTIAL Companies face the problem of selecting the best territories and allocating their marketing budget optimally among these territories. Therefore, they need to estimate the market potential of different districts, towns, cities, states, and nations. Two major methods of assessing area market potential are available: the market-build up method, which is used primarily by business marketers, and the multiple-factor index method, which is used primarily by consumer marketers.

Market-Buildup Method The market-buildup method requires identifying all the potential buyers in each market and estimating their potential purchases. This method 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 market potential for its wood lathe in the Delhi area. It has to first identify all potential buyers of wood lathes in the area. The buyers will primarily comprise of those manufacturing establishments in Delhi area that have to shape or ream wood as part of their operation. The company could compile this list from a directory of manufacturing establishments published by the state industries department, membership records of local industry associations and from yellow pages. Then it could estimate the number of lathes each industry might purchase based on the number of lathes per hundred employees or per Rs. 1 million of sales in that industry.

Multiple-Factor Index Method As the customers for consumer companies are too numerous, it is difficult to list them. So, consumer companies estimate market potential either by using existing market indices or by developing their own market indices.

The RK Swamy-BBDO Guide to Urban Markets uses about 18 variables with proper weightages to develop market indices for about 784 towns with a population of over 50,000 spread over 21 states and 3 union territories of India, and accounting for about 77 percent of the urban population.²⁹

MICA Rural Market Ratings use six variables with proper weightages to develop index (Ratings) for 459 districts based on the 1991 census.³⁰

Companies can develop their own indices for markets based on some assumptions. For example, a pharmaceutical company may assume that potential for drugs in a particular geographical market will be a function of, say, i) population of the area, ii) per capita income, and iii) number of physicians in the market. Using econometric methods the company can develop a multi-factor index for estimating potential for drugs as shown here:

$$\begin{aligned} \text{The drug-buying index (i.e., percent of national drug sales that might be expected)} \\ \text{for, say, Delhi} &= a \times \text{Population of Delhi as a percentage of national population} \\ &+ b \times \text{Per capita income of Delhi as a percentage of national per capita income} \\ &+ c \times \text{Number of physicians in Delhi as a percentage of the number of physicians} \\ &\text{in India.} \end{aligned}$$

Note: a , b , and c , are determined using past sales and other data.

TABLE 4.10

Calculating the Brand Development Index (BDI)

Territory	Percent of Indian Brand Sales (a)	Percent of Indian Category Sales (b)	BDI = (a/b) × 100
Delhi	8	5	160
Mumbai	6	6	100
Chennai	10	15	67
Kolkata	3	2	150

Many companies compute other area indexes as a guide to allocating marketing resources. Suppose a cosmetic company is reviewing the four cities listed in Table 4.10. Columns 2 and 3 show the percent of all India brand and category sales in these four cities. Column 4 shows the **brand development index (BDI)**, which is the ratio of brand sales to category sales, expressed in percentage terms. Delhi and Kolkata have high BDIs of 160 and 150 respectively, indicating that in these two markets, the brand is relatively more developed than the category. Chennai's BDI of 67 indicates that the brand is relatively less developed here, and that there may be scope for increasing brand sales. However, resource allocation decisions take into account other factors also such as the need for supporting the brands in high-BDI, more competitive markets, the nature of the firm and the need to focus resources.

INDUSTRY SALES AND MARKET SHARES Apart from estimating total potential and area potential, a company needs to know the actual industry sales taking place in a market. This requires identifying competitors and estimating their sales. The company can then compare and evaluate its performance vis-à-vis the competition.

The industry trade associations normally compile and publish data on total industry sales and its break-up in relevant categories. Syndicated reports are also available in this regard, like, ACNielsen-ORG-MARG Retail Index, National Readership Survey.

ESTIMATING FUTURE DEMAND Companies in India normally use some variant of time-series method for estimating future demand. However, some large companies, both domestic and multinational, use sophisticated econometric models for forecasting. This involves a three-stage process of preparing a macroeconomic forecast first, followed by an industry forecast, and then a company sales forecast. Large companies either employ business economists or outsource it from business consulting or market research firms.

For business buying, various agencies carry out buyer-intention surveys regarding plant, equipment and materials. Buyer-intention surveys are particularly useful in estimating demand for industrial products, consumer durables, product purchases where advanced planning is required and new products. The value of a buyer-intention survey increases to the extent that the cost of reaching buyers is small, the buyers are few, they have clear intentions, they implement their intentions, and they willingly disclose their intentions.³¹

All forecasts are built on one of three information bases: what people say, what people do, or what people have done. The first basis—what people say—involves surveying the opinions of buyers or those close to them, such as salespeople or outside experts. It includes three methods: surveys of buyer's intentions, composites of sales force opinions, and expert opinion. Building a forecast on what people do involves another method—putting the product into a test market to measure buyer response. The final basis—what people have done—involves analyzing records of past buying behavior or using 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. Because buyer behavior is so important, buyers should be surveyed. For major consumer durables (for example, major appliances), several

research organizations conduct periodic surveys of consumer buying intentions. These organizations ask questions like the following:

Do you intend to buy an automobile within the next six months?					
0.00	0.20	0.40	0.60	0.80	1.00
No chance	Slight possibility	Fair possibility	Good possibility	High possibility	Certain

This is called a **purchase probability scale**. The various surveys also inquire into consumers' present and future personal finances and their expectations about the economy.

COMPOSITE OF SALES FORCE OPINIONS When buyer interviewing is impractical, the company may ask its sales representatives to estimate their future sales. Each sales representative estimates how much each current and prospective customer will buy of each of the company's products.

Few companies use sales force estimates without making some adjustments. Sales representatives might be pessimistic or optimistic, or they might go from one extreme to another because of a recent setback or success. Furthermore, they are often unaware of larger economic developments and do not know how their company's marketing plans will influence future sales in their territory. They might deliberately underestimate demand so that the company will set a low sales quota, or they might lack the time to prepare careful estimates or might not consider the effort worthwhile. To encourage better estimating, the company could offer certain aids or incentives. For example, sales reps might receive a record of their past forecasts compared with actual sales and also a description of company assumptions on the business outlook, competitor behavior, and marketing plans.

Involving the sales force in forecasting brings a number of benefits. Sales reps might have better insight into developing trends than any other single group. After participating in the forecasting process, reps might have greater confidence in their sales quotas and more incentive to achieve them. Also, 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. Large appliance companies periodically survey dealers for their forecasts of short-term demand, as do car companies. 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. These specialists are able to prepare better economic forecasts than the company because they 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 a group estimate (*group-discussion method*); or the experts supply their estimates individually, and an analyst combines them into a single estimate (*pooling of individual estimates*). Alternatively, the experts supply individual estimates and assumptions that are reviewed by the company, then revised. Further rounds of estimating and refining follow (this is the Delphi method).³²

PAST-SALES ANALYSIS Sales forecasts can be developed on the basis of past sales. *Time-series analysis* consists of breaking down past time series into four components (trend, cycle, seasonal, and erratic) and projecting these components into the future. *Exponential smoothing* consists of projecting 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* consists of measuring the impact level of each of a set of causal factors (e.g., income, marketing expenditures, price) on the sales level. Finally, *econometric analysis* consists of building sets of equations that describe a system, and proceeding to fit the parameters statistically.

MARKET-TEST METHOD When buyers do not plan their purchases carefully or experts are not available or reliable, a direct-market test is desirable. A direct-market test is especially desirable in forecasting new-product sales or established product sales in a new distribution channel or territory. (We discuss market testing in detail in Chapter 20.)