The Nature of Business Research

Business research covers a wide range of phenomena. For managers, the purpose of research is to provide knowledge regarding the organization, the market, the economy, or another area of uncertainty. A financial manager may ask, "Will the environment for long-term financing be better two years from now?" A personnel manager may ask, "What kind of training is necessary for production employees?" or "What is the reason for the company's high employee turnover?" A marketing manager may ask, "How can I monitor my retail sales and retail trade activities?" Each of these questions requires information about how the environment, employees, customers, or the economy will respond to executives' decisions. Research is one of the principal tools for answering these practical questions.

Within an organization, a business researcher may be referred to as a marketing researcher, an organizational researcher, a director of financial and economic research, or one of many other titles. Although business researchers are often specialized, the term *business research* encompasses all of these functional specialties. While researchers in different functional areas may investigate different phenomena, they are similar to one another because they share similar research methods.

It's been said that "every business issue ultimately boils down to an information problem." Can the right information be delivered? The ultimate goal of research is to supply accurate information that reduces the uncertainty in managerial decision making. Very often, decisions are made with little information for various reasons, including cost considerations, insufficient time to conduct research, or management's belief that enough is already known. Relying on seat-of-the-pants decision making— decision making without research—is like betting on a long shot at the racetrack because the horse's name is appealing. Occasionally there are successes, but in the long run, intuition without research leads to losses. Business research helps decision makers shift from intuitive information gathering to systematic and objective investigation.

Business Research Defined

Business research is the application of the scientific method in searching for the truth about business phenomena. These activities include defining business opportunities and problems, generating and evaluating alternative courses of action, and monitoring employee and organizational performance. Business research is more than conducting surveys. This process includes idea and theory development, problem definition, searching for and collecting information, analyzing data, and communicating the findings and their implications.

This definition suggests that business research information is not intuitive or haphazardly gathered. Literally, *research* (re-search) means "to search again." The term connotes patient study and scientific investigation wherein the researcher takes another, more careful look at the data to discover all that is known about the subject. Ultimately, all findings are tied back to the underlying theory.

The definition also emphasizes, through reference to the scientific method, that any information generated should be accurate and objective. The nineteenth-century American humorist Artemus Ward claimed, "It ain't the things we don't know that gets us in trouble. It's the things we know that ain't so." In other words, research isn't performed to support preconceived ideas but to test them. The researcher must be personally detached and free of bias in attempting to find truth. If bias enters into the research process, the value of the research is considerably reduced.

Our definition makes it clear that business research is designed to facilitate the managerial decision-making process for all aspects of the business: finance, marketing, human resources, and so on. Business research is an essential tool for management in virtually all problem-solving and decision-making activities. By providing the necessary information on which to base business decisions, research can decrease the risk of making a wrong decision in each area. However, it is important to note that research is an aid to managerial decision making, never a substitute for it.

Finally, this definition of business research is limited by one's definition of *business*. Certainly, research regarding production, finance, marketing, and management in for-profit corporations like DuPont is business research. However, business research also includes efforts that assist nonprofit organizations such as the American Heart Association, the San Diego Zoo, the Boston Pops Orchestra, or a parochial school. Further, governmental agencies such as the Federal Emergency Management Agency (FEMA) and the Department of Homeland Security (DHS) perform many functions that are similar, if not identical, to those of for-profit business organizations. For instance, the Food and Drug Administration (FDA) is an important user of research, employing it to address the way people view and use various food and drugs. One such study commissioned and funded research to address the question of how consumers used the risk summaries that are included with all drugs sold in the United States. Therefore, not-for-profits and governmental agencies can use research in much the same way as managers at Starbucks, Jelly Belly, or DuPont.

Applied and Basic Business Research

One useful way to describe research is based on the specificity of its purpose. **Applied business research** is conducted to address a specific business decision for a specific firm or organization. The opening vignette describes a situation in which AFLAC may use applied research to decide how to best create knowledge of its supplemental disability insurance products.

Basic business research (sometimes referred to as pure research) is conducted without a specific decision in mind, and it usually does not address the needs of a specific organization. It attempts to expand the limits of knowledge in general, and as such it is not aimed at solving a particular pragmatic problem. Basic research can be used to test the validity of a general business theory (one that applies to all businesses) or to learn more about a particular business phenomenon. For instance, a great deal of basic research addresses employee motivation. How can managers best encourage workers to dedicate themselves toward the organization's goals? From such research, we can learn the factors that are most important to workers and how to create an environment where employees are most highly motivated. This basic research does not examine the problem from any single organization's perspective. However, AFLAC, Starbucks, or DuPont's management may become aware of such research and use it to design applied research studies examining questions about their own employees. Thus, the two types of research are not completely independent, as basic research often provides the foundation for later applied research.

While the distinction between basic and applied is useful in describing research, there are very few aspects of research that apply only to basic or only to applied research.

The Scientific Method

All research, whether basic or applied, involves the scientific method. **The scientific method** is the way researchers go about using knowledge and evidence to reach objective conclusions about the real world. The scientific method is the same in social sciences, such as business, as in physical sciences, such as physics. In this case, it is the way we come to understand business phenomena.

Below briefly illustrates the scientific method. In the scientific method, there are multiple routes to developing ideas. When the ideas can be stated in researchable terms, we reach the hypothesis stage. The next step involves testing the hypothesis against empirical evidence (facts from observation or experimentation). The results either support a hypothesis or do not support a hypothesis. From these results, new knowledge is generated.

In basic research, testing these prior conceptions or hypotheses and then making inferences and conclusions about the phenomena leads to the establishment of general laws about the phenomena. Use of the scientific method in applied research ensures objectivity in gathering facts and testing creative ideas for alternative business strategies. The essence of research, whether basic or applied, lies in the

scientific method. Much of this book deals with scientific methodology. Thus, the techniques of basic and applied research differ largely in degree rather than in substance.
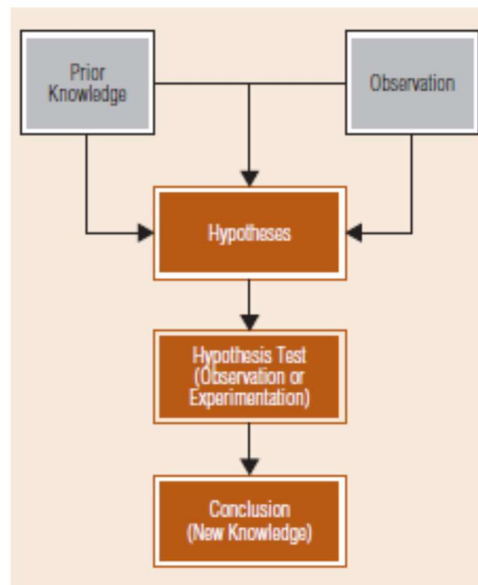
Managerial Value of Business Research

In all of business strategy, there are only a few business orientations. A firm can be **product-oriented**. A product-oriented firm prioritizes decision making in a way that emphasizes technical superiority in the product. Thus, research gathering information from technicians and experts in the field are very important in making critical decisions. A firm can be **production-oriented**. Production orientation means that the firm prioritizes efficiency and effectiveness of the production processes in making decisions. Here, research providing input from workers, engineers, finance, and accounting becomes important as the firm seeks to drive costs down. Production-oriented firms are usually very large firms manufacturing products in very large quantities. The third is **marketing-oriented**, which focuses more on how the firm provides value to customers than on the physical product or production process. With a marketing-oriented organization the majority of research focuses on the customer. Research addressing consumer desires, beliefs, and attitudes becomes essential.

The decision-making process associated with the development and implementation of a business strategy involves four interrelated stages:

1. Identifying problems or opportunities
2. Diagnosing and assessing problems or opportunities
3. Selecting and implementing a course of action
4. Evaluating the course of action

1. Identifying Problems or Opportunities

Before any strategy can be developed, an organization must determine where it wants to go and how it will get there. Business research can help managers plan strategies by determining the nature of situations or by identifying the existence of problems or opportunities present in the organization. Business research may be used as a scanning activity to provide information about what is occurring within an organization or in its environment. The mere description of some social or economic activity may familiarize managers with organizational and environmental occurrences and help them understand a situation. Consider these two examples:

• The description of the dividend history of stocks in an industry may point to an attractive investment opportunity. Information supplied by business research may also indicate problems.

• Employee interviews undertaken to characterize the dimensions of an airline reservation clerk's job may reveal that reservation clerks emphasize competence in issuing tickets over courtesy and friendliness in customer contact.

Once business research indicates a problem or opportunity, managers may feel that the alternatives are clear enough to make a decision based on their experience or intuition. However, often they decide that more business research is needed to generate additional information for a better understanding of the situation.

2. Diagnosing and Assessing Problems or Opportunities

After an organization recognizes a problem or identifies a potential opportunity, business research can help clarify the situation. Managers need to gain insight about the underlying factors causing the situation. If there is a problem, they need to specify what happened and why. If an opportunity exists, they may need to explore, refine, and quantity the opportunity. If multiple opportunities exist, research may be conducted to set priorities.

3. Selecting and Implementing a Course of Action

After the alternative courses of action have been clearly identified, business research is often conducted to obtain specific information that will aid in evaluating the alternatives and in selecting the best course of action. For example, suppose Harley-Davidson is considering establishing a dealer network in either China or India. In this case, business research can be designed to gather the relevant information necessary to determine which, if either, course of action is best for the organization.

Opportunities may be evaluated through the use of various performance criteria. For example, estimates of market potential allow managers to evaluate the revenue that will be generated by each of the possible opportunities. A good forecast supplied by business researchers is among the most useful pieces of planning information a manager can have. Of course, complete accuracy in forecasting the future is not possible, because change is constantly occurring in the business environment. Nevertheless, objective information generated by business research to forecast environmental occurrences may be the foundation for selecting a particular course of action. Even the best plan is likely to fail if it is not properly implemented. Business research may be conducted to indicate the specific tactics required to implement a course of action.

4. Evaluating the Course of Action

After a course of action has been implemented, business research may serve as a tool to tell managers whether or not planned activities were properly executed and if they accomplished what they were expected to accomplish. In other words, managers may use evaluation research to provide feedback for evaluation and control of strategies and tactics.

Evaluation research is the formal, objective measurement and appraisal of the extent a given activity, project, or program has achieved its objectives. In addition to measuring the extent to which completed programs achieved their objectives or whether continuing programs are presently performing as projected, evaluation research may provide information about the major factors influencing the observed performance levels.

In addition to business organizations, nonprofit organizations and governmental agencies frequently conduct evaluation research. Every year thousands of federal evaluation studies are undertaken to systematically assess the effects of public programs. For example, the General Accounting Office has been responsible for measuring outcomes of the Employment Opportunity Act, the Job Corps program, and Occupational and Safety and Health Administration (OSHA) programs.

Performance-monitoring research is a specific type of evaluation research that regularly, perhaps routinely, provides feedback for the evaluation and control of recurring business activity. For example, most firms continuously monitor wholesale and retail activity to ensure early detection of sales declines and other anomalies. In the grocery and retail drug industries, sales research may use the Universal Product Code (UPC) for packages, together with computerized cash registers and electronic scanners at checkout counters, to provide valuable market-share information to store and brand managers interested in the retail sales volume of specific products.

United Airlines' Omnibus in-flight survey provides a good example of performance monitoring research for quality management. United routinely selects sample flights and administers a questionnaire about inflight service, food, and other aspects of air travel. The Omnibus survey is conducted quarterly to determine who is flying and for what reasons. It enables United to track demographic changes and to monitor customer ratings of its services on a continuing basis, allowing the airline to gather vast mounts of information at low cost. The information relating to customer reaction to services can be compared over time. For example, suppose United decided to change its menu for in-flight meals. The results of the Omnibus survey might indicate that, shortly after the menu changed, the customers' rating of the airline's food declined. Such information about product quality would be extremely valuable, as it would allow management to quickly spot trends among passengers in other aspects of air travel, such as airport lounges, gate-line waits, or cabin cleanliness. Then managers could rapidly take action to remedy such problems.

When Is Business Research Needed?

The need to make intelligent, informed decisions ultimately motivates an organization to engage in business research. Not every decision requires research. Thus, when confronting a key decision, a manager must initially decide whether or not to conduct business research. The determination of the need for research centers on

(1) time constraints

(2) the availability of data

(3) the nature of the decision to be made,

(4) the value of the research information in relation to costs.

Time Constraints

Systematic research takes time. In many instances, management believes that a decision must be made immediately, allowing no time for research. Decisions sometimes are made without adequate information or thorough understanding of the business situation. Although making decisions without researching a situation is not ideal, sometimes the urgency of a situation precludes the use of research. The urgency with which managers usually want to make decisions conflicts with researchers' desire for rigor in following the scientific method.

Availability of Data

Often managers already possess enough data, or information, to make sound decisions without additional research. When they lack adequate information, however, research must be considered. This means that data need to be collected from an appropriate source. If a potential source of data exists, managers will want to know how much it will cost to get the data.

If the data cannot be obtained, or it cannot be obtained in a timely fashion, this particular research project should not be conducted. For example, many African nations have never conducted a population census. Organizations engaged in international business often find that data about business activity or population characteristics that are readily available in the United States are nonexistent or sparse in developing countries. Imagine the problems facing researchers who wish to investigate market potential in places like Uzbekistan, Macedonia, or Rwanda.

Nature of the Decision

The value of business research will depend on the nature of the managerial decision to be made. A routine tactical decision that does not require a substantial investment may not seem to warrant a substantial expenditure for research. For example, a computer company must update its operator's instruction manual when it makes minor product modifications. The research cost of determining the proper wording to use in the updated manual is likely to be too high for such a minor decision. The nature of the decision is not totally independent of the next issue to be considered: the benefits versus the costs of the research. In general, however, the more strategically or tactically important the decision, the more likely it is that research will be conducted.
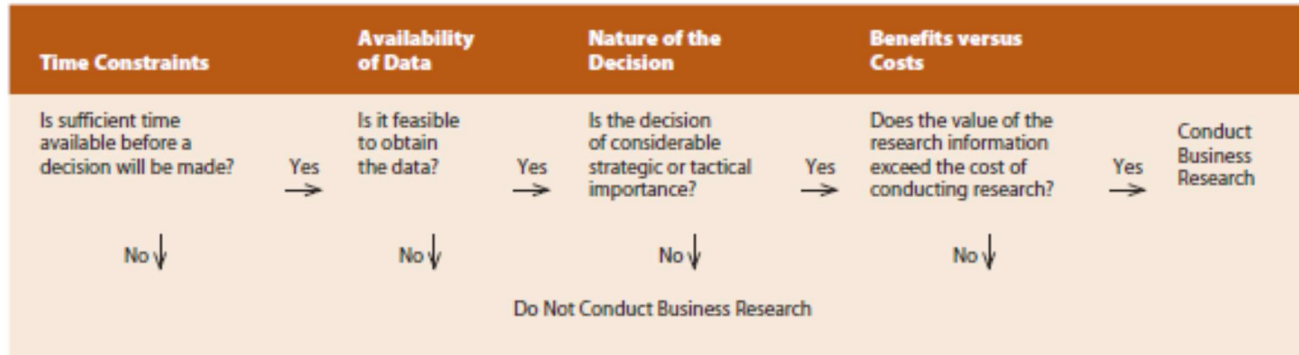
Benefits versus Costs

Earlier we discussed some of the managerial benefits of business research. Of course, conducting research to obtain these benefits requires an expenditure of money. In any decision-making situation, managers must identify alternative courses of action and then weigh the value of each alternative against its cost. Business research can be thought of as an investment alternative. When deciding whether to make a decision without research or to postpone the decision in order to conduct research, managers should ask three questions:

1. Will the payoff or rate of return be worth the investment?
2. Will the information gained by business research improve the quality of the managerial decision enough to warrant the expenditure?
3. Is the proposed research expenditure the best use of the available funds?

For example, *TV-Cable Week* was not test-marketed before its launch. Although the magazine had articles and stories about television personalities and events, its main feature was program listings, channel by channel, showing the exact programs a particular subscriber could receive. To produce a custom magazine for each individual cable television system in the country required developing a costly computer system. Because that development necessitated a substantial expenditure, one that could not

be scaled down by research, conducting research was judged to be an unwise investment. The value of the potential research information was not positive because its cost exceeded its benefits. Unfortunately, pricing and distribution problems became so compelling after the magazine was launched that the product was a failure. Nevertheless, without the luxury of hindsight, managers made a reasonable decision not to conduct research. They analyzed the cost of the information relative to the potential benefits of the information. Table outlines the criteria for determining when to conduct business research.

EXHIBIT 1.3 **Determining When to Conduct Business Research**

Time Constraints		Availability of Data		Nature of the Decision		Benefits versus Costs		
Is sufficient time available before a decision will be made?	Yes →	Is it feasible to obtain the data?	Yes →	Is the decision of considerable strategic or tactical importance?	Yes →	Does the value of the research information exceed the cost of conducting research?	Yes →	Conduct Business Research
No ↓		No ↓		No ↓		No ↓		

Do Not Conduct Business Research

Business Research in the Twenty-First Century

Business research, like all business activity, continues to change. Changes in communication technologies and the trend toward an ever more global marketplace have played a large role in many of these changes.

Communication Technologies

Virtually everyone is "connected" today. Increasingly, many people are "connected" nearly all the time. Within the lifetime of the typical undergraduate college senior, the way information is exchanged, stored, and gathered has been revolutionized completely. Today, the amount of information formally contained in an entire library can rest easily in a single personal computer.

The speed with which information can be exchanged has also increased tremendously. During the 1970s, exchanging information overnight through a courier service from anywhere in the continental United States was heralded as a near miracle of modern technology. Today, we can exchange information from nearly anywhere in the world to nearly anywhere in the world almost instantly. Internet connections are now wireless, so one doesn't have to be tethered to a wall to access the World Wide Web. Our mobile phones and handheld data devices can be used not only to converse, but also as a means of communication that can even involve business research data. In many cases, technology also has made it possible to store or collect data for lower costs than in the past. Electronic communications are usually less costly than regular mail—and certainly less costly than a face-to-face interview—and cost about the same amount no matter how far away a respondent is from a researcher. Thus, the expressions "time is collapsing" and "distance is disappearing" capture the tremendous revolution in the speed and reach of our communication technologies.

Changes in computer technology have made for easier data collection and data analysis. As we discuss in a later chapter, many consumer household panels now exist and can be accessed via the Internet. Thus, there is less need for the time and expense associated with regular mail survey approaches. Furthermore, the computing power necessary to solve complicated statistical problems is now easily accessible. Again, as recently as the 1970s, such computer applications required expensive mainframe computers found only in very large corporations, major universities, and large governmental/military institutions. Researchers could expect to wait hours or even longer to get results

from a statistical program involving 200 respondents. Today, even the most basic laptop computers can solve complicated statistical problems involving thousands of data points in practically a nanosecond.

Global Business Research

Like all business activities, business research has become increasingly global as more and more firms operate with few, if any, geographic boundaries. Some companies have extensive international research operations. Upjohn conducts research in 160 different countries. ACNielsen International, known for its television ratings, is the world's largest research company. Two-thirds of its business comes from outside the United States.12 Starbucks can now be found in nearly every developed country on the earth. AFLAC offers its products on multiple continents. DuPont has a significant presence in all regions of the world.
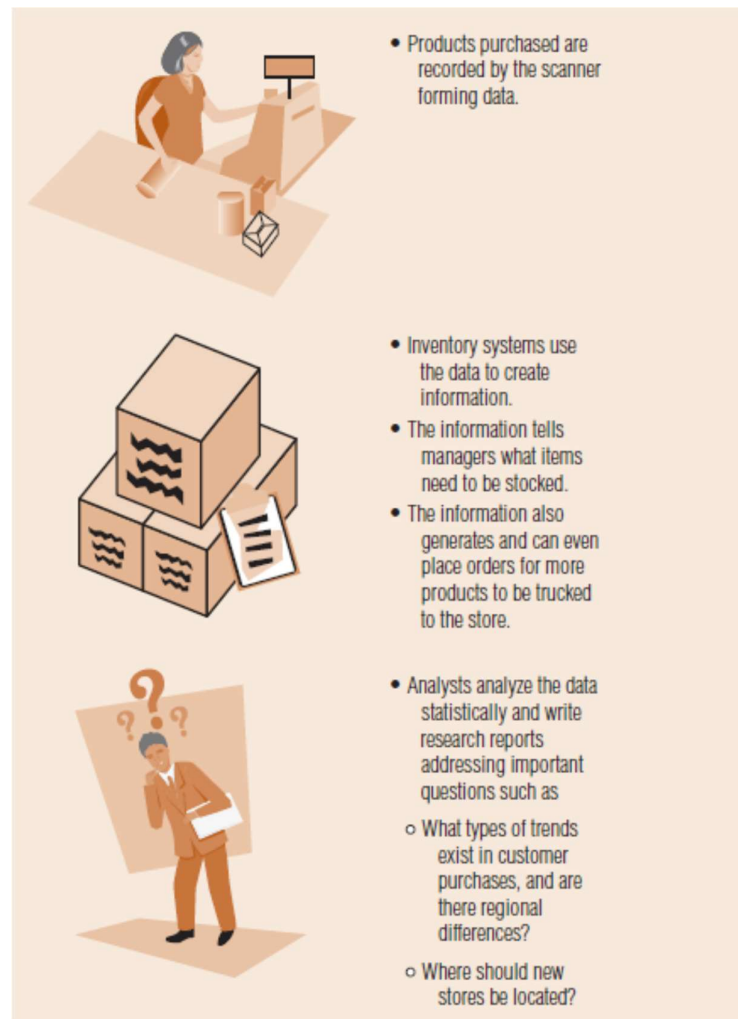
Companies that conduct business in foreign countries must understand the nature of those particular markets and judge whether they require customized business strategies. For example, although the fifteen nations of the European Union share a single formal market, research shows that Europeans do not share identical tastes for many consumer products. Business researchers have found no such thing as a "typical" European consumer; language, religion, climate, and centuries of tradition divide the nations of the European Union. Scantel Research, a British firm that advises companies on color preferences, found inexplicable differences in Europeans' preferences in medicines. The French prefer to pop purple pills, but the English and Dutch favor white ones. Consumers in all three countries dislike bright red capsules, which are big sellers in the United States. This example illustrates that companies that do business in Europe must research throughout Europe to adapt to local customs and buying habits.

Even companies that produce brands that are icons in their own country are now doing research internationally. The Research Snapshot above discusses how Brown-Forman, the parent company of Jack Daniels (the classic American "sour mash" or Bourbon whiskey), is now interviewing consumers in the far corners of the world.14 The internationalization of research places greater demands on business researchers and heightens the need for research tools that allow us to **cross-validate** research results, meaning that the empirical findings from one culture also exist and behave similarly in another culture. The development and application of these international research tools are an important topic in basic business research.

Information, Data, and Intelligence

In everyday language, terms like *information* and *data* are often used interchangeably. Researchers use these terms in specific ways that emphasize how useful each can be. **Data** are simply facts or recorded measures of certain phenomena (things or events). **Information** is data formatted (structured) to support decision making or define the relationship between two facts. **Business intelligence** is the subset of data and information that actually has some explanatory power enabling effective managerial decisions to be made. So, there is more data than information, and more information than intelligence.

Think again about the thousands upon thousands of unsummarized facts recorded by Home Depot each day. Each time a product is scanned at checkout, that fact is recorded and becomes data. Each customer's transactions are simultaneously entered into the store's computerized inventory system. The inventory system structures the data in such a way that a stocking report can be generated and orders for that store can be placed. Thus, the automated inventory system turns data into information. Further, the information from each store's sales and inventory records may be harvested by analysts. The analysts may analyze the trends and prepare reports that help Home Depot buyers get the right products into each store or to even suggest places for new Home Depot locations. Thus, the analyst has now completed the transformation of data into intelligence. Below helps to illustrate the distinction between data, information, and intelligence.

- Products purchased are recorded by the scanner forming data.
- Inventory systems use the data to create information.
- The information tells managers what items need to be stocked.
- The information also generates and can even place orders for more products to be trucked to the store.
- Analysts analyze the data statistically and write research reports addressing important questions such as
  - What types of trends exist in customer purchases, and are there regional differences?
  - Where should new stores be located?

The Characteristics of Valuable Information

Not all data are valuable to decision makers. Useful data become information and help a business manager make decisions. Useful data can also become intelligence. Four characteristics help determine how useful data may be:

- Relevance
- Quality
- Timeliness
- Completeness.

Relevance

Relevance is the characteristics of data reflecting how pertinent these particular facts are to the situation at hand. Put another way, the facts are logically connected to the situation. Unfortunately, irrelevant data and information often creep into decision making. One particularly useful way to distinguish relevance from irrelevance is to think about how things change. Relevant data are facts about things that can be changed, and if they are changed, it will materially alter the situation. So, this simple question becomes important:

Will a change in the data coincide with a change in some important outcome?

American consumers' dietary trends are relevant to Krispy Kreme. If American diets become more health-conscious, then the sales of doughnuts can be affected. This may lead Krispy Kreme to

rethink its product offering. However, information on French consumers' wine preferences is probably irrelevant since it is difficult to think how a change in French wine preferences will affect U.S. doughnut preferences.

Quality

Data quality is the degree to which data represent the true situation. High-quality data are accurate, valid, and reliable, issues we discuss in detail in later chapters. High-quality data represent reality faithfully. If a consumer were to replace the product UPC from one drill at Home Depot with one from a different drill, not only would the consumer be acting unethically, but it would also mean that the data collected at the checkout counter would be inaccurate. Therefore, to the extent that the cash register is not actually recording the products that consumers take out of the stores, its quality is lowered. Sometimes, researchers will try to obtain the same data from multiple data sources as one check on its quality. Data quality is a critical issue in business research.

Timeliness

Business is a dynamic field in which out-of-date information can lead to poor decisions. Business information must be timely—that is, provided at the right time. Computerized information systems can record events and dispense relevant information soon after the event. A great deal of business information becomes available almost at the moment that a transaction occurs. **Timeliness** means that the data are current enough to still be relevant.

Computer technology has redefined standards for timely information. For example, if a business executive at Home Depot wishes to know the sales volume of any store worldwide, detailed information about any of thousands of products can be instantly determined. At Home Depot, the point-of-sale checkout system uses UPC scanners and satellite communications to link individual stores to the headquarters' computer system, from which managers can retrieve and analyze up-to the-minute sales data on all merchandise in each store.

Completeness

Information completeness refers to having the right amount of information. Managers must have sufficient information about all aspects of their decisions. For example, a company considering establishing a production facility in Eastern Europe may plan to analyze four former Soviet-bloc countries. Population statistics, GDP, and information on inflation rates may be available on all four countries. However, information about unemployment levels may be available for only three of the countries. If information about unemployment or other characteristics cannot be obtained, the information is incomplete. Often incomplete information leads decision makers to conduct their own business research.

Knowledge Management

Who has the best pizza in town? The answer to this question requires knowledge. Indeed, you, as a consumer, have stored knowledge about many products. You know the best restaurants, best theaters, best bars, and so forth. All of this knowledge helps you make decisions as a consumer. Much of it is based on personal research involving product trials or searches for information. From an individual's perspective, knowledge is simply what you have stored in memory. It helps you make decisions about a variety of things in your life.

Organizations can use knowledge in a similar way. Knowledge is accumulated not just from a single individual, however, but from many sources. Financial managers, human resource managers, sales managers, customer reports, economic forecasts, and custom-ordered research all contribute to an organization's knowledge base. All of this *data* forms the organization's memory. From a company's perspective, **knowledge** is a blend of previous experience, insight, and data that forms organizational memory. It provides a framework that can be thoughtfully applied when assessing a business problem.

Business researchers and decision makers use this knowledge to help create solutions to strategic and tactical problems. Thus, knowledge is a key resource and a potential competitive advantage.

Knowledge management is the process of creating an inclusive, comprehensive, easily accessible organizational memory, which can be called the organization's *intellectual capital*.5 The purpose of knowledge management is to organize the intellectual capital of an organization in a formally structured way for easy use. Knowledge is presented in a way that helps managers comprehend and act on that information and make better decisions in all areas of business. Knowledge management systems are particularly useful in making data available across the functional areas of the firm. Thus, marketing, management, and financial knowledge can be integrated. Recent research demonstrates how knowledge management systems are particularly useful in new product development and introduction.

The firm's sales force plays a particularly useful role in the knowledge management process. Salespeople are in a key position to have a lot of knowledge about customers and the firm's capabilities. Thus, they are tools both for accumulating knowledge and for turning it into useful information. Market-oriented organizations generally provide both formal and informal methods through which the knowledge gained by salespeople can be entered into a data warehouse to assist all decision makers, not just the sales force.

Global Information Systems

Increased global competition and technological advances in interactive media have given rise to global information systems. A **global information system** is an organized collection of computer hardware, software, data, and personnel designed to capture, store, update, manipulate, analyze, and immediately display information about worldwide business activities. A global information system is a tool for providing past, present, and projected information on internal operations and external activity. Using satellite communications, high-speed microcomputers, electronic data interchanges, fiber optics, data storage devices, and other technological advances in interactive media, global information systems are changing the nature of business.

Consider a simple example. At any moment, United Parcel Service (UPS) can track the status of any shipment around the world. UPS drivers use handheld electronic clipboards called delivery information acquisition devices (DIADs) to record appropriate data about each pickup or delivery. The data are then entered into the company's main computer for record-keeping and analysis. A satellite telecommunications system allows UPS to track any shipment for a customer.

RFID stands for radio frequency identification. It is a new technology that places a tiny chip, which can be woven onto a fabric, onto virtually any product, allowing it to be tracked anywhere in the world. This can provide great insight into the different distribution channels around the world and, potentially, to the different ways consumers acquire and use products. The U.S. military uses RFID technology to assist in its logistics, and Wal-Mart is one of the leading proponents of the technology as it can greatly assist in its global information system.

With so much diverse information available in a global information system, organizations have found it necessary to determine what data, information, and knowledge are most useful to particular business units.

Decision Support Systems

Business research can be described in many ways. One way is to categorize research based on the four possible functions it serves in business:

1. Foundational—answers basic questions. What business should we be in?
2. Testing—addresses things like new product concepts or promotional ideas. How effective will they be?

3. Issues—examines how specific issues impact the firm. How does organizational structure impact employee job satisfaction and turnover?

4. Performance—monitors specific metrics including financial statistics like profitability and delivery times. They are critical in real-time management and in "what-if" types of analyses examining the potential impact of a change in policy.

Of these, it is the performance category that is of most interest to decision support systems. The metrics that are monitored can be fed into automated decision-making systems, or they can trigger reports that are delivered to managers. These form the basis of a decision support system and best typify the way business research assists managers with day-to-day operational decisions.

A **decision support system (DSS)** is a system that helps decision makers confront problems through direct interaction with computerized databases and analytical software programs. The purpose of a decision support system is to store data and transform them into organized information that is easily accessible to managers. Doing so saves managers countless hours so that decisions that might take days or even weeks otherwise can be made in minutes using a DSS.

Modern decision support systems greatly facilitate **customer relationship management (CRM)**. A CRM system is the part of the DSS that addresses exchanges between the firm and its customers. It brings together information about customers including sales data, market trends, marketing promotions and the way consumers respond to them, customer preferences, and more. A CRM system describes customer relationships in sufficient detail so that financial directors, marketing managers, salespeople, customer service representatives, and perhaps the customers themselves can access information directly, match customer needs with satisfying product offerings, remind customers of service requirements, and know what other products a customer has purchased.

Casinos track regular customers' behavior via "players' cards" that are swiped each time a consumer conducts a transaction. This information is fed automatically into a CRM system that creates tailor-made promotional packages. The promotion may be unique to a specific customer's preferences as tracked by their own pattern of behavior. You may notice when visiting certain Web sites that they seem to be able to predict your behavior. The Research Snapshot above titled "Are Businesses Clairvoyant?" tells how a CRM may be behind this clairvoyance.

Below provides a basic illustration of a decision support system. Raw, unsummarized data are input to the DSS. Data collected in business research projects are a major source of this input, but the data may be purchased or collected by accountants, financial officers, sales managers, production managers, or company employees other than business researchers. Effective businesses spend a great deal of time and effort collecting information for input into the decision support system. Useful information is the output of a DSS. A decision support system requires both databases and software. For firms operating across national borders, the DSS becomes part of its global information system.
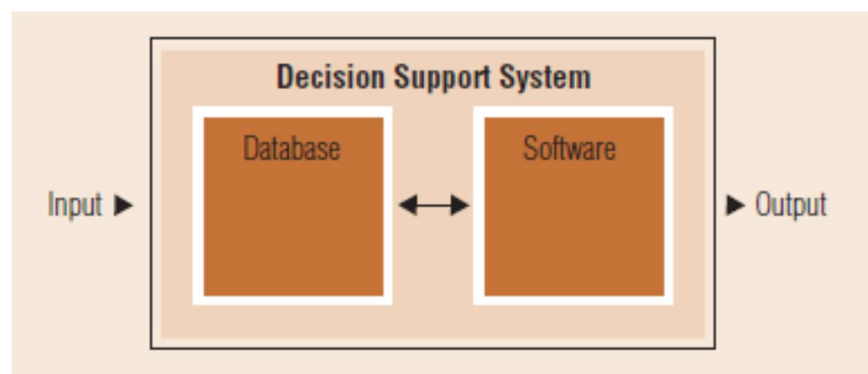
Databases and Data Warehousing

A **database** is a collection of raw data arranged logically and organized in a form that can be stored and processed by a computer. A customer mailing list is one type of database. Population characteristics may be recorded by state, county, and city in another database. Production figures and costs can come from internal company records. Modern computer technology makes both the storage and retrieval of this information easy and convenient. Twenty years ago, the population data needed to do a retail site analysis may have required days, possibly weeks, in a library. Today, the information is just a few clicks away.
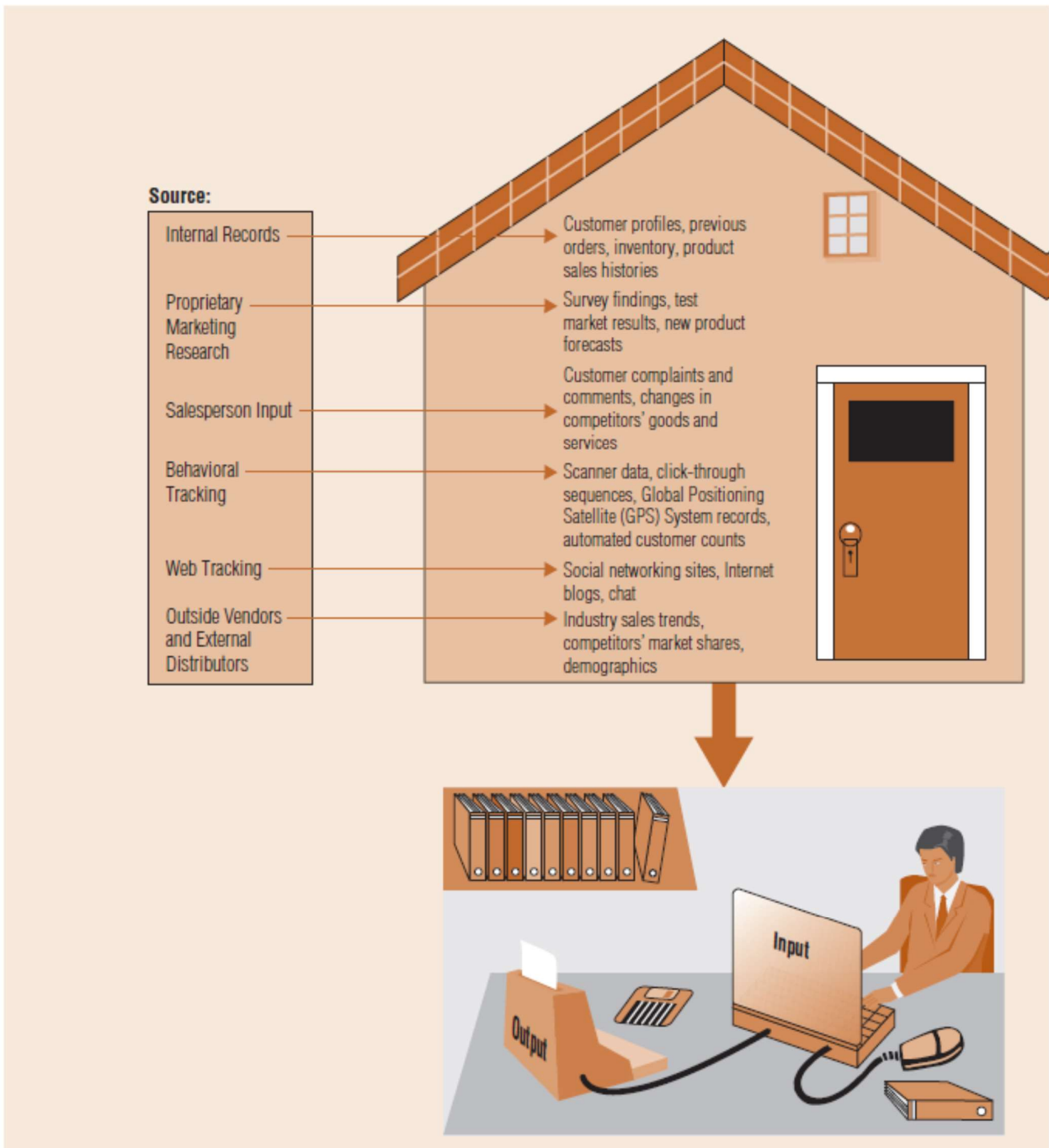
Data warehousing is the process allowing important day-to-day operational data to be stored and organized for simplified access. More specifically, a **data warehouse** is the multitiered computer storehouse of current and historical data. Data warehouse management requires that the detailed data from operational systems be extracted, transformed, placed into logical partitions (for example, daily data, weekly data, etc.), and stored in a consistent manner. Organizations with data warehouses may integrate databases from both inside and outside the company. Managing a data warehouse effectively requires considerable computing power and expertise. As a result, data warehouse companies exist that provide this service for companies in return for a fee. Data warehousing allows for sophisticated analysis, such as data mining.

Input Management

How does data end up in a data warehouse where it can be used by a decision support system? In other words, how is the input managed? Input includes all the numerical, text, voice, and image data that enter the DSS. Systematic accumulation of pertinent, timely, and accurate data is essential to the success of a decision support system.

DSS managers, systems analysts, and programmers are responsible for the decision support system as a whole, but many functions within an organization provide input data. Business researchers, accountants, corporate librarians, personnel directors, salespeople, production managers, and many others within the organization help to collect data and provide input for the DSS. Input data can also come from external sources.

Exhibit 2.3 on the next page shows five major sources of data input: internal records, proprietary business research, salesperson input, behavioral tracking, and outside vendors and external distributors of data. Each source can provide valuable input.

EXHIBIT 2.3 Six Major Sources of Input for Decision Support Systems

Source:

Internal Records	Customer profiles, previous orders, inventory, product sales histories
Proprietary Marketing Research	Survey findings, test market results, new product forecasts
Salesperson Input	Customer complaints and comments, changes in competitors' goods and services
Behavioral Tracking	Scanner data, click-through sequences, Global Positioning Satellite (GPS) System records, automated customer counts
Web Tracking	Social networking sites, Internet blogs, chat
Outside Vendors and External Distributors	Industry sales trends, competitors' market shares, demographics

■ **INTERNAL RECORDS :** Internal records, such as accounting reports of production costs and sales figures, provide considerable data that may become useful information for managers. An effective data collection system establishes orderly procedures to ensure that data about costs, shipments, inventory, sales, and other aspects of regular operations are routinely collected and entered into the computer.

■ **PROPRIETARY BUSINESS RESEARCH:** Business research has already been defined as a broad set of procedures and methods. To clarify the DSS concept, consider a narrower view of business research. **Proprietary business research** emphasizes the company's gathering of new data. Few proprietary research procedures and methods are conducted regularly or continuously. Instead, research projects conducted to study specific company problems generate data; this is proprietary business research. Providing managers with nonroutine data that otherwise would not be available is a major

function of proprietary business research. Earlier, we discussed four categories of research. Proprietary research often involves either the testing and/or issues types of research.

■ **SALESPERSON INPUT :** Salespeople are typically a business's boundary spanners, the link between the organization and the external environments. Since they are in touch with these outside entities, they commonly provide essential business data. Sales representatives' reports frequently alert managers to changes in competitors' prices and new product offerings. It also may involve the types of complaints salespeople are hearing from customers. As trends become evident, this data may become business intelligence, leading to a change in product design or service delivery.

■ **BEHAVIORAL TRACKING:** Modern technology provides new ways of tracking human behavior. Global positioning satellite (GPS) systems allow management to track the whereabouts of delivery personnel at all times. This is the same system that provides directions through an automobile's navigation system. For example, if your delivery person takes a quick break for nine holes of golf at Weaver Ridge or decides to stop at Gorman's Pub for a couple of beers mid-afternoon, management can spot these as deviations from the appropriate delivery route. Thus, it can help track which employees are doing their jobs well.

Technology also allows firms to track actual customer behavior. While it's true that GPS tracking data of customers is also sometimes possible, as the photograph suggests, the Internet also greatly facilitates customer behavior tracking. For instance, Google tracks the "click-through" sequence of customers. Therefore, if a customer is searching for information on refrigerators, and then goes to BestBuy.com, Google can track this behavior and use the information to let Best Buy know how important it is to advertise on Google and even automate pricing for advertisers.

Purchase behavior can also be tracked at the point of sale. **Scanner data** refers to the accumulated records resulting from point-of-sale data recordings. In other words, each time products are scanned at a checkout counter, the information can be stored. The term *single-source* data refers to a system's ability to gather several types of interrelated data, such as type of purchase, use of a sales promotion, or advertising frequency data, from a single source in a format that will facilitate integration, comparison, and analysis.

■ **OUTSIDE VENDORS AND EXTERNAL DISTRIBUTORS:** Outside vendors and external distributors market information as their products. Many organizations specialize in the collection and publication of high-quality information. One outside vendor, the ACNielsen Company, provides television program ratings, audience counts, and information about the demographic composition of television viewer groups. Other vendors specialize in the distribution of information.

Public libraries have always purchased information, traditionally in the form of books, and they have served as distributors of this information. Media representatives often provide useful demographic and lifestyle data about their audiences. *Advertising Age, The Wall Street Journal, Sales and Marketing Management,* and other business-oriented publications are important sources of information. These publications keep managers up-to-date about the economy, competitors' activities, and other aspects of the business environment.

Companies called *data specialists* record and store certain business information. Computer technology has changed the way many of these organizations supply data, favoring the development of computerized databases.

Computerized Data Archives

Historically, collections of organized and readily retrievable data were available in printed form at libraries. The *Statistical Abstract of the United States,* which is filled with tables of statistical facts, is a typical example. As with many resources, the *Statistical Abstract* is now available electronically. Users can purchase it via CD-ROM or access it via the Internet. The entire 2000 U.S. census, the 2007 Economic Census, as well as projections through the current year is available at **http://www.census.gov**. More and more data are available in digitized form every day.

Numerous computerized search and retrieval systems and electronic databases are available as subscription services or in libraries. Just as a student can query the school library to find information for a term paper without leaving home, data acquisition for businesses has also become far more convenient in recent years. Today, business people access online information search and retrieval services, such as Dow Jones News Retrieval and Bloomberg Financial Markets, without leaving their offices. In fact, an increasing range of information services can be accessed from remote locations via digital wireless devices.

Modern library patrons can command a computer to search indexes and retrieve databases from a range of vendors. Just as wholesalers collect goods from manufacturers and offer them for sale to retailers who then provide them to consumers, many information firms serve as data wholesalers. **Data wholesalers** put together consortia of data sources into packages that are offered to municipal, corporate, and university libraries for a fee. Information users then access the data through these libraries. Some of the better known databases include Wilson Business Center, Hoovers, PROQUEST, INFOTRAC, DIALOG (Dialog Information Services, Inc.), LEXISNEXIS, and Dow Jones News Retrieval Services. These databases provide all types of information including recent news stories and data tables charting statistical trends.

DIALOG, for example, maintains more than 600 databases. A typical database may have a million or more records, each consisting of a one- or two-paragraph abstract that summarizes the major points of a published article along with bibliographic information. One of the DIALOG databases, ABI/INFORM, abstracts significant articles in more than one thousand current business and management journals. Many computerized archives provide full-text downloads of published articles about companies and various research topics.

Exhibit 2.4 illustrates the services provided by two popular vendors of information services that electronically index numerous databases. For a more extensive listing, see the *Gale Directory of Databases*.

Several types of databases from outside vendors and external distributors are so fundamental to decision support systems that they deserve further explanation. The following sections discuss statistical databases, financial databases, and video databases in slightly more detail.

EXHIBIT 2.4 **Vendors of Information Services and Electronic Indexing**

Vendors	Selected Databases	Type of Data
DIALOG	ABI/INFORM	Summaries and citations from over 1,000 academic management, marketing, and general business journals with full text of more than 500 of these publications
	ASI (American Statistics Index)	Abstracts and indexes of federal government statistical publications
	PROMT (The Predicast Overview of Markets and Technologies)	Summaries and full text from 1,000 U.S. and international business and trade journals, industry newsletters, newspapers, and business research studies; information about industries and companies, including the products and technologies they develop and the markets in which they compete
	Investext	Full text of over 2 million company, industry, and geographic research reports written by analysts at more than 600 leading investment banks, brokerage houses, and consulting firms worldwide
Dow Jones News Retrieval	Business Newsstand	Articles from *New York Times, Los Angeles Times, Washington Post,* and other leading newspapers and magazines
	Historical Data Center	Historical data on securities, dividends, and exchange rates
	Web Center	Information obtained from searches of corporate, industry, government, and news Web sites

■ **STATISTICAL DATABASES :** Statistical databases contain numerical data for analysis and forecasting. Often demographic, sales, and other relevant business variables are recorded by geographical area. Geographic information systems use these *geographical databases* and powerful software to prepare computer maps of relevant variables. Companies such as Claritas, Urban Decision Systems, and CACI all offer geographic/demographic databases that are widely used in industry. One source for these huge data warehouses is scanner data. Substituting electronic recordkeeping like optical scanners for human record-keeping results in greater accuracy and more rapid feedback about store activity.

One weakness of scanner data is that not all points of sale have scanner technology. For instance, many convenience stores lack scanner technology, as do most vending machines. Thus, those purchases go unrecorded. The Universal Product Code, or UPC, contains information on the category of goods, the manufacturer, and product identification based on size, flavor, color, and so on. This is what the optical scanner actually reads. If a large percentage of a brand's sales occur in environments without the ability to read the UPC code, the business should be aware that the scanner data may not be representative.

■ **FINANCIAL DATABASES**

Competitors' and customers' financial data, such as income statements and balance sheets, are of obvious interest to business managers. These are easy to access in financial databases. CompuStat publishes an extensive financial database on thousands of companies, broken down by industry and other criteria. To illustrate the depth of this pool of information, CompuStat's Global Advantage offers extensive data on 6,650 companies in more than 30 countries in Europe, the Pacific Rim, and North America.

■ **VIDEO DATABASES**

Video databases and streaming media are having a major impact on many goods and services. For example, movie studios provide clips of upcoming films and advertising agencies put television commercials on the Internet (see **http://www.adcritic.com**). McDonald's maintains a digital archive of television commercials and other video footage to share with its franchisees around the world. The video database enables franchisees and their advertising agencies to create local advertising without the need for filming the same types of scenes already archived. Just imagine the value of digital video databases to advertising agencies' decision support systems!

Networks and Electronic Data Interchange

Individual personal computers can be connected through networks to other computers. Networking involves linking two or more computers to share data and software.

Electronic data interchange (EDI) systems integrate one company's computer system directly with another company's system. Much of the input to a company's decision support system may come through networks from other companies' computers. Companies such as Computer Technology Corporation and Microelectronics data services low corporations to exchange business information with suppliers or customers. For example, every evening Wal-Mart transmits millions of characters of data about the day's sales to its apparel suppliers. Wrangler, a supplier of blue jeans, for instance, shares the data and a model that interprets the data. Wrangler also shares software applications that act to replenish stock in Wal-Mart stores. This DSS lets Wrangler's managers know when to send specific quantities of specific sizes and colors of jeans to specific stores from specific warehouses. The result is a learning loop that lowers inventory costs and leads to fewer stockouts.

The Internet and Research

How Is the Internet Useful in Research?

The Internet is useful to researchers in many ways. In fact, more and more applications become known as the technology grows and is adopted by more and more users. The Internet is particularly useful as a source for accessing available data and as a way of collecting data.

■ **ACCESSING AVAILABLE DATA**

The Internet allows instantaneous and effortless access to a great deal of information. Noncommercial and commercial organizations make a wealth of data and other resources available on the Internet. For example, the U.S. Library of Congress provides full text of all versions of House and Senate legislation and full text of the *Congressional Record*. The Internal Revenue Service makes it possible to obtain information and download a variety of income tax forms. Cengage Learning (**www.cengage.com**) and its college divisions (**www.cengage.com/highered/**) have online directories that allow college professors to access information about the company and its textbooks.

The Gale Research Database provides basic statistics and news stories on literally thousands of companies worldwide. Thus, information that formally took a great deal of time and effort to obtain is

now available with a few clicks. Further, since it can often be electronically downloaded or copied, it isn't necessary for a person to transcribe the data. Therefore, it is available in a more error-free form.

■ **COLLECTING DATA**

The Internet is also revolutionizing the way researchers collect data. Later in this text, we discuss in more detail the use of Web-based surveys. In short, questionnaires can be posted on a Web site and respondents can be invited to go to the particular URL and participate in the survey. This cuts down on the expense associated with traditional mail surveys and also reduces error since the data can be automatically recorded rather than transcribed from a paper form into an electronic format.

Furthermore, when a consumer uses the World Wide Web, his or her usage leaves a record that can be traced and observed. For instance, Zappos.com can determine how many pages were visited at their shopping site before a purchase was made. They can see if products were abandoned in the "virtual shopping cart" without a purchase being made. Online auctions provide another mechanism to track consumers' behavior. Prototype products can be offered for sale in an online auction to help assist with product design, forecasting demand, and setting an appropriate price.

Interactive Media and Environmental Scanning

The Internet is an **interactive medium** because users click commands and often get customized responses. So the user and equipment can have a continuing conversation. Two or more individuals who communicate one-to-one via e-mail using an Internet service provider are also using interactive media. So are individuals who communicate with many senders and receivers via bulletin boards or chat rooms. Because of its vastness, the Internet is an especially useful source for scanning many types of environmental changes. **Environmental scanning** entails all information gathering designed to detect changes in the external operating environment of the firm. These things are usually beyond the control of the firm, but they still can have a significant impact on firm performance.

Ford Motor Company maintains an Internet-based relationship marketing program that, among other things, helps the automaker scan its environment using the Internet. Its dealer Web site creates a centralized communication service linking dealers via an Internet connection. Its buyer Web site allows prospective buyers to visit a virtual showroom and to get price quotes and financial information. Its owner Web site allows an owner who registers and supplies pertinent vehicle information to get free e-mail and other ownership perks. A perk might be a free Hertz upgrade or an autographed photo of one of the Ford-sponsored NASCAR drivers. In return, Ford collects data at all levels, which allow managers to scan for trends and apply what they learn at a local level.

Information Technology

Data and information can be delivered to consumers or other end users via either **pull technology** or **push technology**. Conventionally, consumers request information from a Web page and the browser then determines a response. Thus, the consumer is essentially asking for the data. In this case, it is said to be pulled through the channel. The opposite of pull is push. Push technology sends data to a user's computer without a request being made. In other words, software is used to guess what information might be interesting to consumers based on the pattern of previous responses.

Smart information delivery (known by a variety of technical names, including *push phase technology*) allows a Web site, such as the Yahoo portal, to become a one-on-one medium for each

individual user. Today's information technology uses "smart agents" or "intelligent agents" to deliver customized content to a viewer's desktop. **Smart agent software** is capable of learning an Internet user's preferences and automatically searching out information and distributing the information to a user's computer. My Yahoo! and MyExcite are portal services that personalize Web pages. Users can get stock quotes relevant to their portfolios, news about favorite sports teams, local weather, and other

personalized information. Users can customize the sections of the service they want delivered. With push technology, pertinent content is delivered to the viewer's desktop without the user having to do the searching.

Cookies, in computer terminology, are small computer files that record a user's Web usage history. If a person looks up a weather report by keying a zip code into a personalized Web page, the fact that the user visited the Web site and the zip code entered are recorded in the cookie. This is a clue that tells where the person lives (or maybe where he or she may be planning to visit). Web sites can then direct information to that consumer based on information in the cookie. So, someone in Hattiesburg, Mississippi, may receive pop-up ads for restaurants in Hattiesburg. Information technology is having a major impact on the nature of business research.

Intranets

An **intranet** is a company's private data network that uses Internet standards and technology.15 The information on an intranet—data, graphics, video, and voice—is available only inside the organization or to those individuals whom the organization deems as appropriate participants. Thus, a key difference between the Internet and an intranet is that security software programs, or "firewalls," are installed to limit access to only those employees authorized to enter the system. Intranets then serve as secure knowledge portals that contain substantial amounts of organizational memory and can integrate it with information from outside sources. For example, Caterpillar has an intranet that includes their knowledge network, a portal that provides Caterpillar employees and dealership personnel with a vast array of information about the company and its product offering. The challenge in designing an intranet is making sure that it is capable of delivering relevant data to decision makers. Research suggests that relevance is a key in getting knowledge workers to actually make use of company intranets.

An intranet can be extended to include key consumers as a source of valuable research. Their participation in an intranet can lead to new product developments. Texas Instruments has successfully established an intranet that integrated communications between customers and researchers leading to the introduction and modification of its calculators. An intranet lets authorized users, possibly including key customers, look at product drawings, employee newsletters, sales figures, and other kinds of company information.

What Is a Theory?

A theory consists of a coherent set of general propositions that offer an explanation of some phenomena by describing the way other things correspond to this phenomena. Put another way, a **theory** is a formal, testable explanation of some events that includes explanations of how things relate to one another.

A theory can be built through a process of reviewing previous findings of similar studies, simple logical deduction, and/or knowledge of applicable theoretical areas. For example, if a Web designer is trying to decide what color background is most effective in increasing online sales, he may first consult previous studies examining the effects of color on package design and retail store design. He may also find theories that deal with the wavelength of different colors, affective response to colors, or those that explain retail atmospherics. This may lead to the specific prediction that blue is the most effective background color for a Web site.

While it may seem that theory is only relevant to academic or basic business research, theory plays a role in understanding practical research as well. Before setting research objectives, the researcher must be able to describe the business situation in some coherent way. Without this type of explanation, the researcher would have little idea of where to start. Ultimately, the logical explanation helps the researcher know what variables need to be included in the study and how they may relate to one another.

What Are the Goals of Theory?

Suppose a researcher investigating business phenomena wants to know what caused the financial crisis. Another person wants to know if organizational structure influences leadership style. Both of these individuals want to gain a better understanding of the environment and be able to predict behavior; to be able to say that if we take a particular course of action we can expect a specific outcome to occur. These two issues—understanding and predicting—are the two purposes of theory. Accomplishing the first goal allows the theorist to gain an understanding of the relationship among various phenomena. For example, a financial advisor may believe, or theorize, that older investors tend to be more interested in investment income than younger investors. This theory, once verified, would then allow her to predict the importance of expected dividend yield based on the age of her customer. Thus a theory enables us to predict the behavior or characteristics of one phenomenon from the knowledge of another phenomenon. The value of understanding and anticipating future conditions in the environment or in an organization should be obvious. In most situations, of course, understanding and prediction go hand in hand. To predict phenomena, we must have an explanation of why variables behave as they do. Theories provide these explanations.

Research Concepts and Constructs

A **concept** or **construct** is a generalized idea about a class of objects, attributes, occurrences, or processes that has been given a name. If you, as an organizational theorist, were to describe phenomena such as supervisory behavior or risk aversion, you would categorize empirical events or real things into concepts. Concepts are the building blocks of theory. In organizational theory, leadership, productivity, and morale are concepts. In the theory of finance, gross national product, risk aversion, and inflation are frequently used concepts. Accounting concepts include assets, liabilities, and depreciation. In marketing, customer satisfaction, market share, and loyalty are important concepts.

Concepts abstract reality. That is, concepts express in words various events or objects. Concepts, however, may vary in degree of abstraction. For example, the concept of an asset is an abstract term that may, in the concrete world of reality, refer to a wide variety of things, including a specific punch press machine in a production shop. The abstraction ladder in below indicates that it is possible to discuss concepts at various levels of abstraction. Moving up the **ladder of abstraction**, the basic concept becomes more general, wider in scope, and less amenable to measurement.
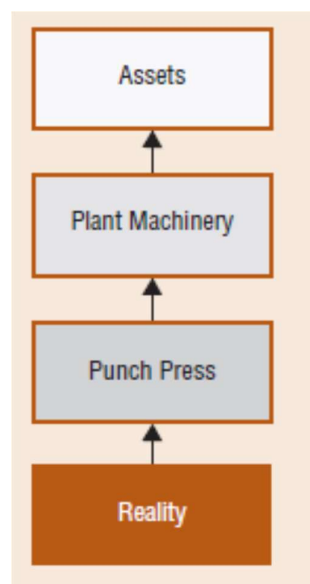
The basic or scientific business researcher operates at two levels: on the **abstract level** of concepts (and propositions) and on the empirical level of variables (and hypotheses). At the **empirical**

level, we "experience" reality—that is, we observe, measure, or manipulate objects or events. For example, we commonly use the term job performance, but this is an abstract term that can mean different things to different people or in different situations. To move to the empirical level, we must more clearly define this construct and identify actual measures that we can assess and measure to represent job performance as shown in below diagram. In research, we use the term **latent construct** to refer to a concept that is not directly observable or measurable, but can be estimated through proxy measures. Job performance, customer satisfaction, and risk aversion are just three examples of the many latent constructs in business research. While we cannot directly see these latent constructs, we can measure them, and doing so is one of the greatest challenges for business researchers.
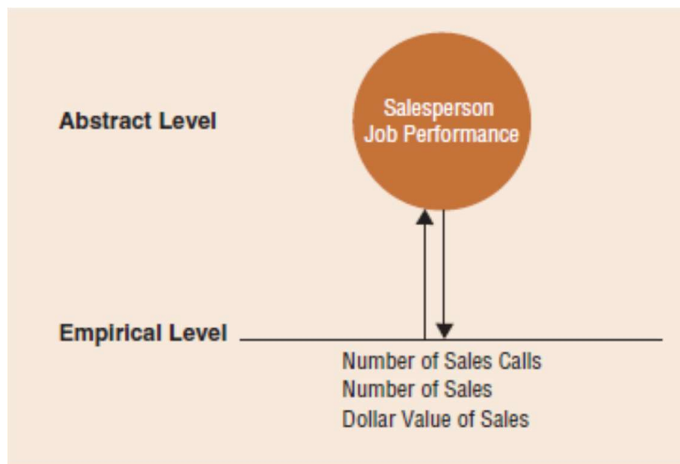
If an organizational researcher says "Older workers prefer different rewards than younger workers," two concepts—age of worker and reward preference—are the subjects of this abstract statement. If the researcher wishes to test this relationship, John, age 19, Chuck, age 45, and Mary, age 62—along with other workers—may be questioned about their preferences for salary, retirement plans, intrinsic job satisfaction, and so forth. Recording their ages and assessing their reward preferences are activities that occur at the empirical level. In this example, we can see that researchers have a much easier time assessing and measuring age than the latent construct of reward preference.

In the end, researchers are concerned with the observable world, or what we shall loosely term reality. Theorists translate their conceptualization of reality into abstract ideas. Thus, theory deals with abstraction. Things are not the essence of theory; ideas are. Concepts in isolation are not theories.

Research Propositions and Hypotheses

As we know, concepts are the basic units of theory development. However, theories require an understanding of the relationship among concepts. Thus, once the concepts of interest have been identified, a researcher is interested in the relationship among these concepts. **Propositions** are statements concerned with the relationships among concepts. A proposition explains the *logical* linkage among certain concepts by asserting a universal connection between concepts. For example, we might propose that treating our employees better will make them more loyal employees. This is certainly a logical link between managerial actions and employee reactions, but is quite general and not really testable in its current form.

A **hypothesis** is a formal statement explaining some outcome. In its simplest form, a hypothesis is a guess. A sales manager may hypothesize that the salespeople who are highest in product knowledge will be the most productive. An advertising manager may hypothesize that if consumers' attitudes toward a product change in a positive direction, there will be an increase in consumption of the product.

A human resource manager may hypothesize that job candidates with certain majors will be more successful employees.

A hypothesis is a proposition that is empirically testable. In other words, when one states a hypothesis, it should be written in a manner that can be supported or shown to be wrong through an empirical test. For example, using the color of the background for a Web site discussed previously, the researcher may use theoretical reasoning to develop the following hypothesis:

H1: A web site with a blue background will generate more sales than an otherwise identical Web site with a red background.

We often apply statistics to data to empirically test hypotheses. **Empirical testing** means that something has been examined against reality using data. The abstract proposition "Treating our employees better will make them more loyal employees" may be tested empirically with a hypothesis. Below diagram shows that the hypothesis "Increasing retirement benefits will reduce intention to leave the organization" is an empirical counterpart of this proposition. Retirement benefits and intention to leave are **variables**, reflecting the concepts of employee treatment and employee loyalty. When the data are consistent with a hypothesis, we say the hypothesis is *supported*. When the data are inconsistent with a hypothesis, we say the hypothesis is *not supported*. We are often tempted to say that we prove a hypothesis when the data conform to the prediction, but this isn't really true. Because our result is based on statistics, there is always the possibility that our conclusion is wrong. Now, at times we can be very, very confident in our conclusion, but from an absolute perspective, statistics cannot prove a hypothesis is true.
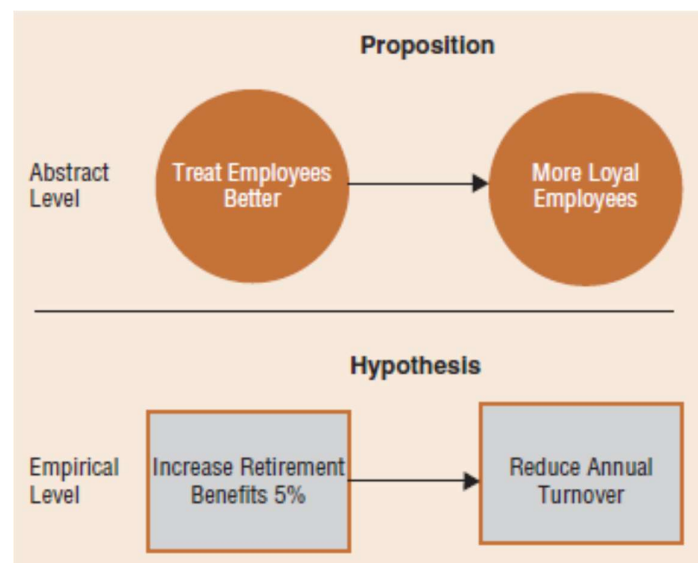

Because variables are at the empirical level, variables can be measured. In this case, retirement benefits might be measured quite easily and precisely (e.g., the actual percentage change in matching retirement funds), while the latent construct of intention to leave would be more challenging for the researcher. This step is known as **operationalizing** our variables—the process of identifying the actual measurement scales to assess the variables of interest.

Understanding Theory

Below given diagram is a simplified portrayal of a theory to explain voluntary job turnover—the movement of employees to other organizations. Two concepts—(1) the *perceived desirability of movement* to another organization and (2) the *perceived ease of movement* from the present job—are expected to be the primary determinants of *intention to quit.* This is a proposition. Further, the concept *intention to quit* is expected to be a necessary condition for the actual *voluntary job turnover behavior*

to occur. This is a second proposition that links concepts together in this theory. In the more elaborate theory, *job performance* is another concept considered to be the primary determinant influencing both *perceived ease of movement* and *perceived desirability of movement.*

Moreover, perceived ease of movement is related to other concepts such as *labor market conditions, number of organizations visible* to the individual, and *personal characteristics.* Perceived desirability of movement is influenced by concepts such as *equity of pay, job complexity,* and *participation in decision making.* A complete explanation of this theory is not possible; however, this example should help you understand the terminology used by theory builders.
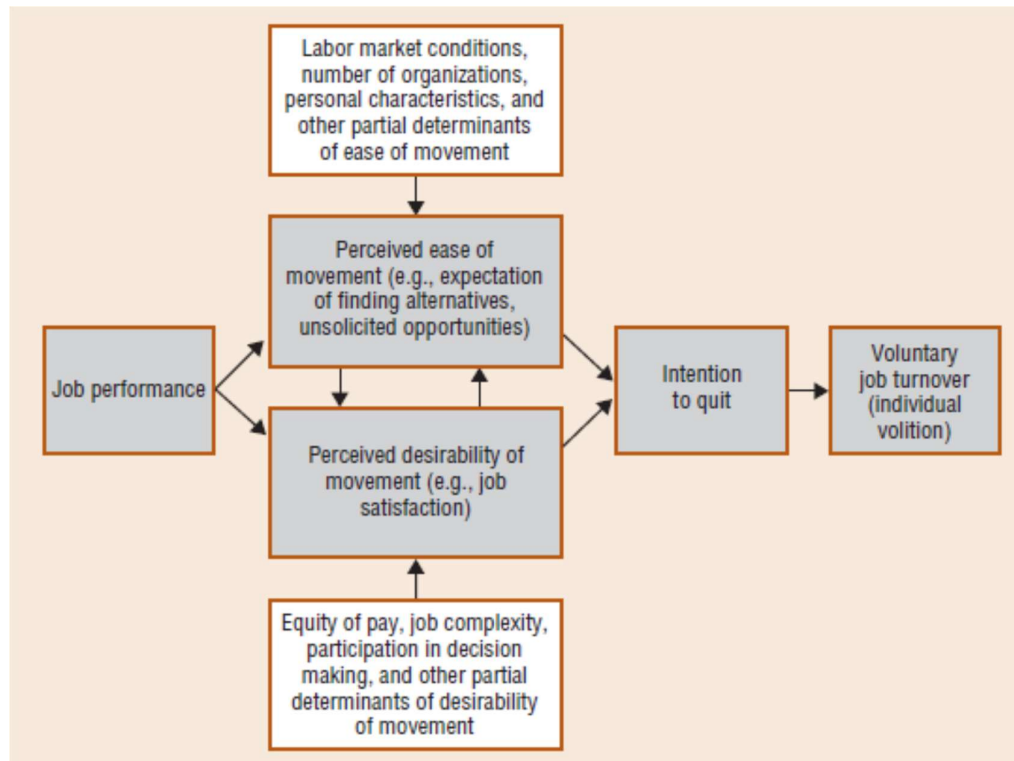
Verifying Theory

In most scientific situations there are alternative theories to explain certain phenomena. To determine which is the better theory, researchers make observations or gather empirical data to verify the theories. Maslow's hierarchical theory of motivation offers one explanation of human behavior. Maslow theorizes that individuals will attempt to satisfy physiological needs before self-esteem needs. An alternative view of motivation is provided by Freudian (psychoanalytic) theory, which suggests that unconscious, emotional impulses are the basic influences on behavior. One task of science is to determine if a given theoretical proposition is false or if there are inconsistencies between competing theories. Just as records are made to be broken, theories are made to be tested.

Theory Building

You may be wondering "Where do theories come from?" Although this is not an easy question to answer in a short chapter on theory in business research, we will explore this topic briefly. In this chapter, theory has been explained at the abstract, conceptual level and at the empirical level. Theory generation may occur at either level.

At the abstract, conceptual level, a theory may be developed with deductive reasoning by going from a general statement to a specific assertion. **Deductive reasoning** is the logical process of deriving

a conclusion about a specific instance based on a known general premise or something known to be true. For example, while you might occasionally have doubts, we know that *all business professors are human beings.* If we also know that *Barry Babin is a business professor,* then we can deduce that *Barry Babin is a human being*.

At the empirical level, a theory may be developed with inductive reasoning. **Inductive reasoning** is the logical process of establishing a general proposition on the basis of observation of particular facts. All business professors that have ever been seen are human beings; therefore, all business professors are human beings.

Suppose a stockbroker with 15 years' experience trading on the New York Stock Exchange repeatedly notices that the price of gold and the price of gold stocks rise whenever there is a hijacking, terrorist bombing, or military skirmish. In other words, similar patterns occur whenever a certain type of event occurs. The stockbroker may induce from these empirical observations the more general situation that the price of gold is related to political stability. Thus, the stockbroker states a proposition based on his or her experience or specific observations: "Gold prices will increase during times of political instability." The stockbroker has constructed a basic theory.

Over the course of time, theory construction is often the result of a combination of deductive and inductive reasoning. Our experiences lead us to draw conclusions that we then try to verify empirically by using the scientific method.

The Scientific Method

The **scientific method** is a set of prescribed procedures for establishing and connecting theoretical statements about events, for analyzing empirical evidence, and for predicting events yet unknown. It is useful to look at the analytic process of scientific theory building as a series of stages. While there is not complete consensus concerning exact procedures for the scientific method, we suggest seven operations may be viewed as the steps involved in the application of the scientific method:

1. Assessment of relevant existing knowledge of a phenomenon
2. Formulation of concepts and propositions
3. Statement of hypotheses
4. Design of research to test the hypotheses
5. Acquisition of meaningful empirical data
6. Analysis and evaluation of data
7. Proposal of an explanation of the phenomenon and statement of new problems raised by the Research.

Outside Agency Vs In-House Research

Research is sometimes performed in-house, meaning that employees of the company that will benefit from the research project actually perform the research. In other cases, the research is performed by an **outside agency**, meaning that the company that will benefit from the research results hires an independent, outside firm to perform a research project.

While it would seem that **in-house research** would usually be of higher quality because of the increased knowledge of the researchers conducting the studies, there are several reasons why employees of the firm may not always be the best people to do the job.

When the firm facing a decision encounters one of the following situations, they should consider having the research performed by an outside agency:

- An outside agency often can provide a fresh perspective. Creativity is often hindered by too much knowledge. When a firm is seeking new ideas, particularly in discovery-oriented research, an outsider is not constrained by the groupthink that often affects a company employee. In other words, employees who spend so much time together in their day-to-day work activities begin to act and think alike to a large degree. For example, history is filled with stories of products that remained unsuccessful commercially for years until someone from outside the company discovered a useful application.
- An outside agency often can be more objective. When a firm is facing a particularly sensitive situation that may even impact a large number of jobs within the company, it may be difficult for researchers to be objective. Alternatively, if a particular chief executive within the firm is in love with some new idea, researchers may feel a great deal of pressure to present results that are supportive of the concept. In these cases, outside researchers may be a good choice. Since they don't have to work for the company and interact with the players involved on a daily basis, they are less concerned about presenting results that may not be truly welcome.
- An outside agency may have special expertise. When a firm needs research requiring a particular expertise that some outside agency specializes in, it may be a good idea to use that firm to conduct the research. For example, if a company is searching for new ideas about how to use its Web site, an online focus group interview may be needed. While this is a skill that may not be prevalent within the company, there are several research firms that specialize in this particular type of research. Thus, the outside agency may have greater competency in this specific area.

Likewise, there are conditions that make in-house research more attractive as well, as in the following situations:

- ➢ If the research project needs to be completed very quickly, chances are that in-house researchers can get started more quickly and get quicker or better access to internal resources that can help get the project done in short order.
- ➢ If the research project will require the close collaboration of many other employees from diverse areas of the organization, then in-house research may be preferable. The in-house research team can usually gain cooperation and more quickly ascertain just who needs to be interviewed and where those people can be found.
- ➢ A third reason for doing a project in-house has to do with economy. In-house research can almost always be done more cheaply than that done by an outside research firm.
- ➢ If secrecy is a major concern, then the research is best done in-house. Even though the outside firm might be trusted, it may take slightly less care in disguising its research efforts. Thus, other companies may pick up on signals in the marketplace that suggest the area of research for a firm.

Organizational Structure of Business Research

The placement of business research within a firm's organizational structure and the structure of the research department itself vary substantially, depending on the firm's acceptance of the concept of internal research and its stage of research sophistication. A research department can easily become isolated with poor organizational placement. Researchers may lack a voice in executive committees when they have no continuous relationship with management. This can occur when the research department is positioned at an inappropriately low level. Given the critically important nature of the intelligence coming out of a research department, it should be placed relatively high in the organizational structure to ensure that senior management is well informed. Research departments should also be linked with a broad spectrum of other units within the organization. Thus, they should be positioned to provide credible information both upstream and downstream within the organization.

Research departments that perform a staff function must wait for management to request assistance. Similar to Amy's situation, often the term "client" or "internal consultant" is used by the research department to refer to line management for whom services are being performed. The research department responds to clients' requests and is responsible for the design and execution of all research. It should function like an internal consulting organization that develops action-oriented, data-based recommendations.

Business Research Jobs

Research organizations themselves consist of layers of employees. Each employee has certain specific functions to perform based on his or her area of expertise and experience. A look at these jobs not only describes the potential structure of a research organization, but it also provides insight into the types of careers available as a business research specialist.

■ SMALL FIRMS

While it is difficult to precisely define the boundaries between small firms, mid-sized firms, and large firms, generally speaking, government statistics usually consider firms with fewer than 100 employees to be small. In small firms, the vice president of marketing may be in charge of all significant internal research projects. This officer may focus on organizational research projects that relate to staffing or stakeholder relations, or may be a sales manager who collects and analyzes sales histories, trade association statistics, and other internal data. Small companies usually have few resources and special competencies to conduct large-scale, sophisticated research projects. An advertising agency or a business consulting firm that specializes in research will be contracted if a large-scale survey is needed. At the other extreme, a large company like Procter & Gamble may staff its research departments with more than 100 people.

■ MID-SIZED FIRMS

Mid-sized firms can be thought of as those with between 100 and 500 employees. In a mid-sized firm, the research department may reside in the organization under the director of marketing research, as shown in figure. This person provides leadership in research efforts and integrates all
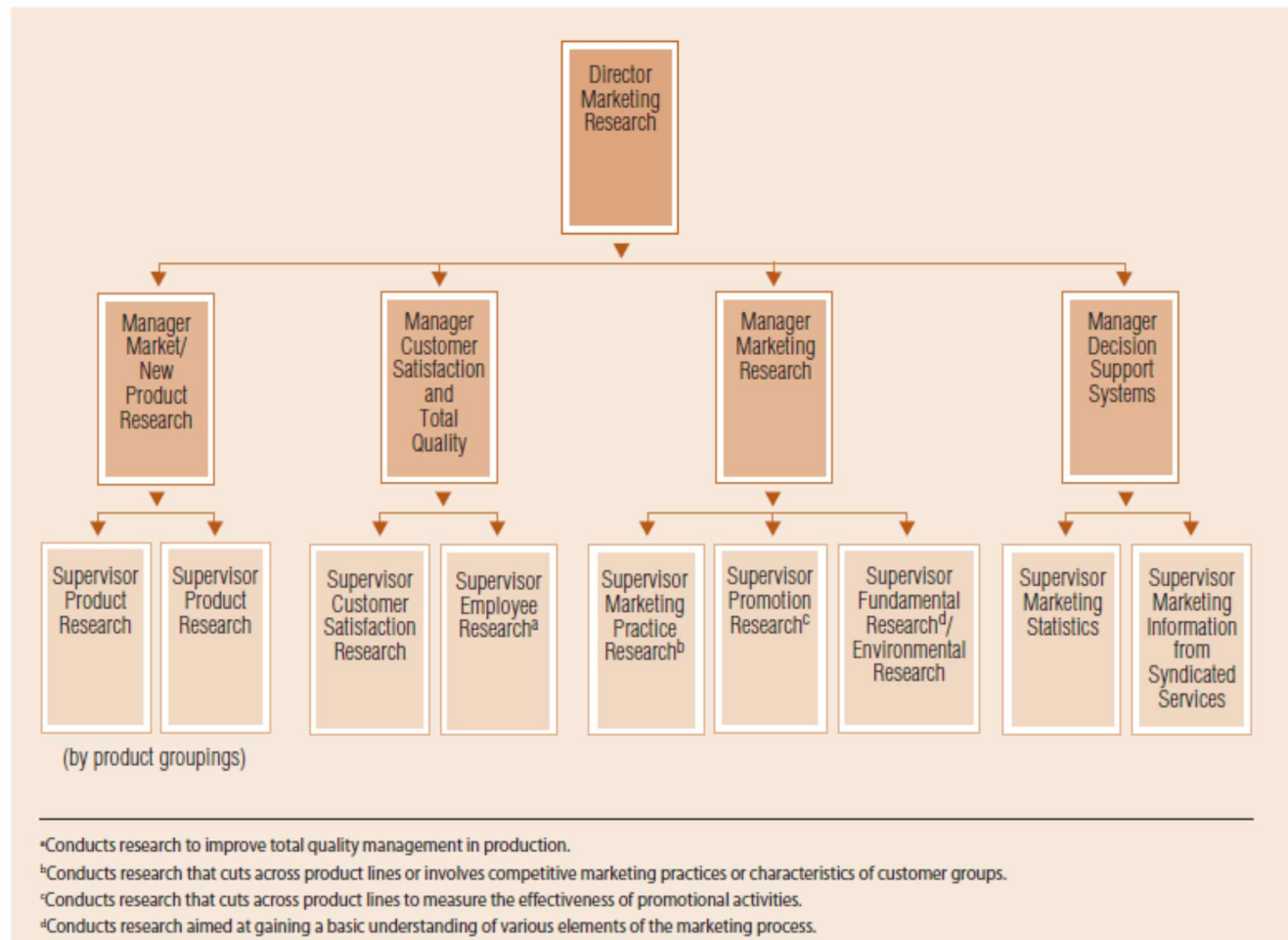
staff-level research activities.

A **research analyst** is responsible for client contact, project design, preparation of proposals, selection of research suppliers, and supervision of data collection, analysis, and reporting activities. Normally, the research analyst is responsible for several projects simultaneously covering a wide spectrum of the firm's organizational activities. He or she works with product or division management and makes recommendations based on analysis of collected data.

Research assistants (or associates) provide technical assistance with questionnaire design, data analyses, and so forth. Another common name for this position is *junior analyst.* The **manager of**

decision support systems supervises the collection and analysis of sales, inventory, and other periodic customer relationship management (CRM) data. Sales forecasts for product lines usually are developed using analytical and quantitative techniques. Sales information is provided to satisfy the planning, analysis, and control needs of decision makers. The manager of decision support systems may be assisted by a **forecast analyst** who provides technical assistance, such as running computer programs and manipulating data to forecast sales for the firm.

Personnel within a planning department may perform the research function in a mid-sized firm. At times, they may outsource some research functions, depending on the size of the project and the degree of sophistication. The planner may design research studies and then contract with outside firms that supply research services such as interviewing or data processing. They can combine the input from these outside agencies with their own work to write research reports.

EXHIBIT 5.3 Organization of the Marketing Research Department in a Large Firm

ᵃConducts research to improve total quality management in production.
ᵇConducts research that cuts across product lines or involves competitive marketing practices or characteristics of customer groups.
ᶜConducts research that cuts across product lines to measure the effectiveness of promotional activities.
ᵈConducts research aimed at gaining a basic understanding of various elements of the marketing process.

■ LARGE RESEARCH FIRMS

As research departments grow, they tend to specialize by product or strategic business unit. Major firms can be thought of as those with over 500 employees. Marriott Corporation has a director of research for lodging (for example, Marriott Hotels and Resorts, Courtyard by Marriott, and Fairfield Inn) and a director of research for contract services and restaurants (for example, Roy Rogers, Big Boy, and Senior Living Services). Each business unit's research director reports to the vice president of corporate marketing services. Many large organizations have managers of customer quality research who specialize in conducting surveys to measure consumers' satisfaction with product quality. In many instances, business research units are located within a firm's marketing function. Exhibit 5.3 illustrates

the organization of a typical major firm's marketing research department. Within this organization, the centralized research department conducts research for all the division's product groups. This is typical of a large research department that conducts much of its own research, including fieldwork.

Other positions within a major firm's research department may include director of data collection (field supervisor), manager of quantitative research, focus group moderator, and manager of data processing. These are not shown in Exhibit 5.3. Even large firms sometimes outsource some research functions or even an entire project from time to time. For now, we turn our attention to the job of director of research and the interface between the research department and other departments.

The Director of Research as a Manager

A director of research plans, executes, and controls the firm's research function. This person typically serves on company executive committees that identify competitive opportunities and formulate strategies that involve customers or other organizational stakeholders. The various directors from each functional area generally make up this committee (such as finance, sales, production, and so forth). The director of research provides the research perspective during meetings. For instance, the researcher can provide input as to what types of business intelligence can be feasibly obtained given the decision being discussed. Research directors typically face problems like these:

➢ Skilled research professionals may like conducting research better than managing people. They pride themselves on being hands-on researchers. However, a director is a manager and spends more time in meetings and managing than actually conducting research.
➢ The research management role often is not formally recognized.
➢ Outstanding research professionals often have trouble delegating responsibility. The pride that comes with being a knowledgeable researcher makes it difficult to give up control. They may genuinely feel "I can do it better myself." As a result, they delegate only elementary or tedious tasks to subordinates. The subordinates can sometimes become disenchanted and thus become unhappy with their work.
➢ Finally, research is often seen as a hodgepodge of techniques available to answer individual, unrelated questions. According to this view, a research operation encompasses an array of more or less equal projects, each handled by a project director. Hence, many firms view a full-time director as unnecessary.

Sources of Conflict between Senior Management and Research

In principle, the functions of research should merge harmoniously with the objectives of management for the benefit of both parties. In practice, the relationship between a research department and the users of research frequently is characterized by misunderstanding and conflict.

■ **RESEARCH THAT IMPLIES CRITICISM**

As we saw in the chapter vignette, a product manager who requests a survey of dealer loyalty will not be happy if the survey finds that the dealers are extremely critical. Similarly, a sales manager who informally projects a 5 percent increase in sales will not like hearing from the research department that the market potential indicates sales volume should be up by 20 percent. In each of these situations, the research presents information that implies criticism of a line executive's decision. In personal life, a sure way to lose a friend is to be openly critical of him or her. Things are no different in business.

■ **MONEY**

Research budgets are a source of conflict between management and researchers. Financial managers often see research as a cost rather than as an investment or a way of lowering risk. Successful decisions that are supported by research are seldom attributed to the researcher. Thus, as is often true in many areas of business, managers often want to spend as little as possible on research. In contrast,

researchers often vigorously resist cutting corners in conducting research. For instance, they may feel that a large random sample is necessary to adequately address a research question using descriptive research. This approach can be very expensive and sometimes time consuming. Inevitably, management's desire to save money and the researcher's desire to conduct rigorous research conflict. Successful research projects often are those that are based on compromise. This may involve working within a budget that will produce meaningful results and sacrifice precision and rigor minimally.

■ **TIME**

Researchers say, "Good research takes time!" Managers say, "Time is money!" Like oil and water, these two views do not go together easily. A look back at the research process in the last chapter makes it clear that it can take some time to complete a research project. Simply planning one can involve days, if not weeks, of study and preparation. For instance, conducting a literature review or a review of previous studies can take weeks. Without them, the researcher may not be able to develop specific research hypotheses that would direct the project very specifically toward the current issue. Other times, the researcher may wish to interview more people than time can allow or take the time to use a more sophisticated data analysis approach.

Oftentimes, the more quickly the research project is done, the less likely it is to be successful. This doesn't mean it can't provide valuable information. It simply is not as certain that a quickly put together study will provide valuable answers as would a more deliberately planned project. When studies are rushed, the following sources of error become more prominent than they would be otherwise:

- Conducting a study that is needed. Taking more time to perform a literature search, including through company and industry reports, may have provided the needed intelligence without a new study.
- Addressing the wrong issue. Taking more time to make sure the decision statement is well defined and that the research questions that follow will truly address relevant issues can lessen the chance that the research goes in the wrong direction.
- Sampling difficulties. Correctly defining, identifying, and contacting a truly representative sample is a difficult and time consuming task. However, in some types of research, the quality of results depends directly on the quality of the sample.
- Inadequate data analysis. The researcher may analyze the data quickly and without the rigor that would otherwise be taken. Therefore, certain assumptions may not be considered, and important information within the data is simply not discovered.

Sometimes a researcher will have to submit to the time pressure and do a quick-and-dirty study. A sudden event can make it necessary to acquire data quickly—but rush jobs can sometimes be avoided with proper planning of the research program. If it is necessary to conduct a study under severe time limitations, the researcher is obligated to point this out to management. The research report and presentation should include all the study limitations, including those that resulted from a shortage of time or money.

■ **INTUITIVE DECISION MAKING**

The fact of the matter is that managers are decision makers. They are action-oriented, and they often rely on gut reaction and intuition. Many times their intuition serves them well, so it isn't surprising that they sometimes do not believe a research project will help improve their decision making. At other times, they resist research because it just may provide information that is counter to their intuition or their desires. They particularly abhor being held back while waiting for some research report.

If managers do use research, they often request simple projects that will provide concrete results with certainty. Researchers tend to see problems as complex questions that can be answered only within probability ranges. One aspect of this conflict is the fact that a research report provides findings, but cannot make decisions. Decision-oriented executives may unrealistically expect research to make

decisions for them or provide some type of guarantee that the action they take will be correct. While research provides information for decision making, it does not always remove all the uncertainties involved in complex decisions. Certain alternatives may be eliminated, but the research may reveal new aspects of a problem. Although research is a valuable decision-making tool, it does not relieve the executive of the decision-making task.

Presentation of the right facts can be extremely useful. However, decision makers often believe that researchers collect the wrong facts. Many researchers view themselves as technicians who generate numbers using sophisticated mathematical and statistical techniques; they may spend more time on technical details than on satisfying managerial needs. Each person who has a narrow perspective of another's job is a partial cause of the problem of generating limited or useless information.

Consider this situation: An Internet retailer (Send.com) used a television ad to try to stimulate more gift purchasing among its customers. The spot centers on several men on the golf course drinking champagne. The "punch line" comes when one of the guys is hit in the groin. The voice over exclaims, "He just got hit in the little giver!"

A male executive may like punch lines like this. However, the audience for these ads is not all male. Had research been used to test these ideas prior to spending the money to produce the ads and buy the spots, it would have revealed that men didn't respond as favorably as expected to these ads and women found them boorish.2 Thus, intuition has its limits as a replacement for informed research intelligence.

■ **FUTURE DECISIONS BASED ON PAST EXPERIENCE**
Managers wish to predict the future, but researchers measure only current or past events. In 1957, Ford introduced the Edsel, one of the classic business failures of all time. One reason for the Edsel's failure was that the research conducted several years before the car's introduction indicated a strong demand for a medium-priced car for the "man on his way up." By the time the car was introduced, however, consumer preference had shifted to two cars, one being a small import for the suburban wife. Not all research information is so dated, but all research describes what people have done in the past. In this sense, researchers use the past to predict the future. As seen in the preceding Research Snapshot, experiences can affect how decision makers see results.

Reducing the Conflict between Management and Researchers

Given the conflicting goals of management and research, it is probably impossible to completely eliminate the conflict. However, when researchers and decision makers work more closely together, there will be less conflict. The more closely they work together, the better the communication between decision makers and researchers. In this way, business decision makers will better understand the information needs and work requirements of researchers. It will allow for better planning of research projects and a greater appreciation for the role that research plays in minimizing the riskiness of business decision making. Exhibit 5.4 lists some common areas of conflict between research and management. Many of these can be avoided through improved understanding of the other's position.

With closer cooperation, managers are more involved with projects from the beginning. Early involvement increases the likelihood that managers will accept and act on the results. Researchers' responsibility should be made explicit by a formal job description. Better planning and an annual statement of the research program for the upcoming year will help minimize emergency assignments, which usually waste resources and demoralize personnel.

Business researchers likewise will come to understand management's perspective better. Researchers enhance company profits by encouraging better decisions. The closer together managers and researchers work, the more researchers realize that managers sometimes need information urgently. Thus, they should try to develop cost-saving research alternatives and realize that sometimes a quick-

and-dirty study is necessary, even though it may not be as scientifically rigorous as might be desired. Sometimes, quick-and-dirty studies still provide usable and timely information. In other words, they should focus on results.

EXHIBIT 5.4 **Areas of Conflict between Top Management and Marketing Researchers**

Area of Potential Conflict	Top Management's Position	Business Researcher's Position
Research responsibility	Researchers lack a sense of accountability. The sole function of the researcher is to provide information.	The responsibility for research should be explicitly defined, and this responsibility should be consistently followed. The researcher should be involved with top management in decision making.
Research personnel	Researchers are generally poor communicators who lack enthusiasm, skills, and imagination.	Top managers are anti-intellectual. Researchers should be hired, judged, and compensated on the basis of their research capabilities.
Budget	Research costs too much. Since the research department's contribution is difficult to measure, budget cuts in the department are defensible.	"You get what you pay for." Research must have a continuing, long-term commitment from top management.
Assignments	Projects tend to be overengineered and not executed with a sense of urgency. Researchers have a ritualized, staid approach.	Top managers make too many nonresearchable or emergency requests and do not allocate sufficient time or money.
Problem definition	The researcher is best equipped to define the problem; it is sufficient for the top manager to give general direction. Top managers cannot help it if circumstances change. The researcher must appreciate this and be willing to respond to changes.	Researchers are often not given all the relevant facts about situations, which often change after research is under way. Top managers are generally unsympathetic to this widespread problem.
Research reporting	Most reports are dull, use too much jargon and too many qualifiers, and are not decision oriented. Reports too often are presented after a decision has been made.	Top managers treat research reports superficially. Good research demands thorough reporting and documentation. Top managers give insufficient time to prepare good reports.
Use of research	Top managers should be free to use research as they see fit. Changes in the need for and timing of research are sometimes unavoidable.	Top managers' use of research to support a predetermined position or to confirm or excuse past decisions represents misuse. Also, it is wasteful to request research and then not use it after it has been conducted.

Perhaps most important is more effective communication of the research findings and research designs. The researchers must understand the interests and needs of the users of the research. If the researchers are sensitive to the decision-making orientation of management and can translate research performance into management language, organizational conflict will diminish.

A **research generalist** can effectively serve as a link between management and the research specialist. The research generalist acts as a problem definer, an educator, a liaison, a communicator, and a friendly ear. This intermediary could work with specialists who understand management's needs and demands. The student with research skills who has a business degree seems most suited for this coordinating function.

Several strategies for reducing the conflict between management and research are possible. Managers generally should plan the role of research better, and researchers should become more decision-oriented and improve their communication skills.

Cross-Functional Teams

Cross-functional teams are composed of individuals from various functional areas such as engineering, production, finance, and marketing who share a common purpose. Cross-functional teams help organizations focus on a core business process, such as customer service or new product development. Working in teams reduces the tendency for employees to focus single mindedly on an isolated functional activity. Cross-functional teams help employees increase customer value since communication about their specific desires and opinions are better communicated across the firm.

At trendsetting organizations, many research directors are members of cross-functional teams. New-product development, for example, may be done by a cross-functional team of engineers, finance executives, production personnel, marketing managers, and staff researchers who take an integrated approach to solve a problem or exploit opportunities. In the old days, research may not have been involved in developing new products until long after many key decisions about product specifications and manufacturing had been made. Now researchers' input is part of an integrated team effort. Researchers act both as business consultants and as providers of technical services. Researchers working in teams are more likely to understand the broad purpose of their research and less likely to focus exclusively on research methodology.

The effective cross-functional team is a good illustration of the business research concept in action. It reflects an effort to satisfy customers by using all the organization's resources. Cross functional teams are having a dramatic impact on views of the role of business research within the organization.

Ethical Questions Are Philosophical Questions

Ethical questions are philosophical questions. There are several philosophical theories that address how one develops a moral philosophy and how behavior is affected by morals. These include theories about cognitive moral development, the bases for ethical behavioral intentions, and opposing moral values. While ethics remain a somewhat elusive topic, what is clear is that not everyone involved in business, or in fact involved in any human behavior, comes to the table with the same ethical standards or orientations.

Business ethics is the application of morals to behavior related to the business environment or context. Generally, good ethics conforms to the notion of "right," and a lack of ethics conforms to the notion of "wrong." Highly ethical behavior can be characterized as being fair, just, and acceptable. Ethical values can be highly influenced by one's moral standards. **Moral standards** are principles that reflect beliefs about what is ethical and what is unethical. More simply, they can be thought of as rules distinguishing right from wrong. The Golden Rule, "Do unto others as you would have them do unto you," is one such ethical principle.

An **ethical dilemma** simply refers to a situation in which one chooses from alternative courses of actions, each with different ethical implications. Each individual develops a philosophy or way of thinking that is applied to resolve the dilemmas they face. Many people use moral standards to guide their actions when confronted with an ethical dilemma. Others adapt an ethical orientation that rejects absolute principles. Their ethics are based more on the social or cultural acceptability of behavior. If it conforms to social or cultural norms, then it is ethical. From a moral theory standpoint, idealism is a term that reflects the degree to which one accepts moral standards as a guide for behavior. **Relativism** is a term that reflects the degree to which one rejects moral standards in favor of the acceptability of some action.

This way of thinking rejects absolute principles in favor of situation-based evaluations. Thus, an action that is judged ethical in one situation can be deemed unethical in another. In contrast, **idealism** is a term that reflects the degree to which one bases one's morality on moral standards. Someone who is an ethical idealist will try to apply ethical principles like the golden rule in all ethical dilemmas.

For example, a student may face an ethical dilemma when taking a test. Another student may arrange to exchange multiple choice responses to a test via electronic text messages. This represents an ethical dilemma because there are alternative courses of action each with differing moral implications. An ethical idealist may apply a rule that cheating is always wrong and therefore would not be likely to participate in the behavior. An ethical relativist may instead argue that the behavior is acceptable because a lot of the other students will be doing the same. In other words, the consensus is that this sort of cheating is acceptable, so this student would be likely to go ahead and participate in the behavior. Researchers and business stakeholders face ethical dilemmas practically every day. The following sections describe how this can occur.

General Rights and Obligations of Concerned Parties

Everyone involved in business research can face an ethical dilemma. For this discussion, we can divide those involved in research into three parties:

1. The people actually performing the research, who can also be thought of as the "doers"
2. The research client, sponsor, or the management team requesting the research, who can be thought of as "users" of research
3. The research participants, meaning the actual research respondents or subjects Each party has certain rights and obligations toward the other parties. Below diagrams these relationships.

Like the rest of business, research works best when all parties act ethically. Each party depends on the other to do so. A client depends on the researcher to be honest in presenting research results. The researcher depends on the client to be honest in presenting the reasons for doing the research and in describing the business situation. Each is also dependent on the research participant's honesty in answering questions during a research study. Thus, each is morally obligated toward the other. Likewise, each also has certain rights. The following section elaborates on the obligations and rights of each party.

Rights and Obligations of the Research Participant

Most business research is conducted with the research participant's consent. In other words, the participation is active. Traditional survey research requires that a respondent voluntarily answer questions in one way or another. This may involve answering questions on the phone, responding to an e-mail request, or even sending a completed questionnaire by regular mail. In these cases, **informed consent** means that the individual understands what the researcher wants him or her to do and consents to the research study. In other cases, research participants may not be superstore purchases via an electronic scanner. The information may assist in understanding how customers respond to promotions. However, no consent is provided since the participant is participating passively. The ethical responsibilities vary depending on whether participation is active or passive.

■ THE OBLIGATION TO BE TRUTHFUL

When someone willingly consents to participate actively, it is generally expected that he or she will provide truthful answers. Honest cooperation is the main obligation of the research participant. In return for being truthful, the subject has the right to expect confidentiality. **Confidentiality** means that information involved in the research will not be shared with others. When the respondent truly believes that confidentiality will be maintained, then it becomes much easier to respond truthfully, even about potentially sensitive topics. Likewise, the researcher and the research sponsor also may expect the respondent to maintain confidentiality. For instance, if the research involves a new food product from Nabisco, then they may not want the respondent to discuss the idea for fear that the idea may fall into the competition's hands. Thus, confidentiality is a tool to help ensure truthful responses.

■ PARTICIPANT'S RIGHT TO PRIVACY

Active Research

Most people relish their privacy. Hence, the right to privacy is an important issue in business research. This issue involves the participant's freedom to choose whether to comply with the investigator's request. Traditionally, researchers have assumed that individuals make an informed choice. However, critics have argued that the old, the poor, the poorly educated, and other underprivileged individuals may be unaware of their right to choose. They have further argued that an interviewer may begin with some vague explanation of a survey's purpose, initially ask questions that are relatively innocuous, and then move to questions of a highly personal nature. It has been suggested that subjects be informed of their right to be left alone or to break off the interview at any time. Researchers should not follow the tendency to "hold on" to busy respondents. However, this view definitely is not universally accepted in the research community.

The privacy issue is illustrated by these questions:

   • "Is a telephone call that interrupts family dinner an invasion of privacy?"
   • "Is an e-mail requesting response to a 30-minute survey an invasion of privacy?"

Generally, interviewing firms practice common courtesy by trying not to interview late in the evening or at other inconvenient times. However, the computerized random phone number interview has stimulated increased debate over the privacy issue. As a practical matter, respondents may feel more relaxed about privacy issues if they know who is conducting the survey. Thus, it is generally recommended that field interviewers indicate that they are legitimate researchers and name the company they work for as soon as someone answers the phone. For in-person surveys, interviewers should wear official name tags and provide identification giving their name and the names of their companies.

Research companies should adhere to the principles of the "do-not-call" policy and should respect consumers' "Internet privacy." **Do-not-call legislation** restricts any telemarketing effort from calling consumers who either register with a no-call list in their state or who request not to be called. Legislators aimed these laws at sales-related calls. However, legislation in several states, including California,

Louisiana, and Rhode Island, has extended this legislation to apply to "those that seek marketing information." Thus, the legislation effectively protects consumers' privacy from researchers as well as salespeople.

Consumers often are confused about the difference between telemarketing efforts and true marketing or business research. Part of this is because telemarketers sometimes disguise their sales efforts by opening the conversation by saying they are doing research. The resulting confusion contributes to both increased refusal rates and lower trust. In 1980, a public opinion poll found that 19 percent of Americans reported having refused to participate in a marketing survey within the past year. Today, that number approaches 50 percent. In 2001, only 40 percent of Americans either agreed or strongly agreed that marketers will protect their privacy. That number is down from 50 percent in 1995.

Companies using the Internet to do research also face legislative changes. Much of this legislations aimed at making sure consumers are properly notified about the collection of data and to whom it will be distributed. Researchers should make sure that consumers are given a clear and easy way to either consent to participation in active research or to easily opt out. Furthermore, companies should ensure that the information consumers send via the Internet is secure.

Passive Research

Passive research involves different types of privacy issues. Generally, it is believed that unobtrusive observation of public behavior in places such as stores, airports, and museums is not a serious invasion of privacy. This belief is based on the fact that the consumers are indeed anonymous in that they are never identified by name nor is any attempt made to identify them. They are "faces in the crowd." As long as the behavior observed is typical of behavior commonly conducted in public, then there is no invasion of privacy. In contrast, recording behavior that is not typically conducted in public would be a violation of privacy. For example, hidden cameras recording people (without consent) taking showers at a health club, even if ultimately intended to gather information to help improve the shower experience, would be considered inappropriate.

Technology has also created new ways of collecting data passively that have privacy implications. Researchers are very interested in consumers' online behavior. For instance, the paths that consumers take while browsing the Internet can be extremely useful in understanding what kinds of information are most valued by consumers. Much of this information can be harvested and entered into a data warehouse. Researchers sometimes have legitimate reasons to use this data, which can improve consumers' ability to make wise decisions. In these cases, the researcher should gain the consumers' consent in some form before harvesting information from their Web usage patterns. Furthermore, if the information will be shared with other companies, a specific consent agreement is needed. This can come in the form of a question to which consumers respond yes or no, as in the following example:

From time to time, the opportunity to share your information with other companies arises and this could be very helpful to you in offering your desirable product choices. We respect your privacy, however, and if you do not wish us to share this information, we will not. Would you like us to share your information with other companies?

* *Yes, you can share the information*
* *No, please keep my information private*

Not all of these attempts are legitimate. Most readers have probably encountered spyware on their home computer. **Spyware** is software that is placed on your computer without consent or knowledge while using the Internet. This software then tracks your usage and sends the information back through the Internet to the source. Then, based on these usage patterns, the user will receive push technology advertising, usually in the form of pop-up ads. Sometimes, the user will receive so many pop-up ads that the computer becomes unusable. The use of spyware is illegitimate because it is done without consent and therefore violates the right to privacy and confidentiality.

Legislators are increasingly turning their attention to privacy issues in data collection. When children are involved, researchers have a special obligation to insure their safety. COPPA, the Children's Online Privacy Protection Act, was enacted into U.S. federal law on April 12, 2000. It defines a child as anyone under the age of 13. Anyone engaging in contact with a child through the Internet is obligated to obtain parental consent and notification before any personal information or identification can be provided by a child. Therefore, a researcher collecting a child's name, phone number, or e-mail address without parental consent is violating the law. While the law and ethics do not always correspond, in this case, it is probably pretty clear that a child's personal information shouldn't be collected. The Research Snapshot on the next page further explains how conducting research with children is ethically complex.

■ DECEPTION IN RESEARCH DESIGNS AND THE RIGHT TO BE INFORMED

Experimental Designs

Experimental manipulations often involve some degree of deception. In fact, without some deception, a researcher would never know if a research subject was responding to the actual manipulation or to their perception of the experimental variable. This is why researchers sometimes use a placebo.

A **placebo** is a false experimental effect used to create the perception of a true effect. Imagine two consumers, each participating in a study of the effect of a new herbal supplement on hypertension. One consumer receives a packet containing the citrus-flavored supplement, which is meant to be mixed in water and drunk with breakfast. The other also receives a packet, but in this case the packet contains a mixture that will simply color the water and provide a citrus flavor. The second consumer also believes he or she is drinking the actual supplement. In this way, the psychological effect is the same on both consumers, and any actual difference in hypertension must be due to the actual herbs contained in the supplement. Interestingly, experimental subjects often display some placebo effect in which the mere belief that some treatment has been applied causes some effect.

This type of deception can be considered ethical. Primarily, researchers conducting an experiment must generally (1) gain the willful cooperation of the research subject and (2) fully explain the actual experimental variables applied following the experiment's completion. Every experiment should include a **debriefing** session in which research subjects are fully informed and provided a chance to ask any questions that they may have about the experiment.

Descriptive Research

Researchers sometimes will even withhold the actual research questions from respondents in simple descriptive research. A distinction can thus be made between deception and discreet silence. For instance, sometimes providing the actual research question to respondents is simply providing them more information than they need to give a valid response. A researcher may ask questions about the perceived price of a product when his or her real interest is in how consumers form quality impressions

■ PROTECTION FROM HARM

Researchers should do everything they can to make sure that research participants are not harmed by participating in research. Most types of research do not expose participants to any harm. However, the researcher should consider every possibility. For example, if the research involves tasting food or drink, the possibility exists that a research participant could have a severe allergic reaction. Similarly, researchers studying retail and workplace atmospherics often manipulate odors by injecting certain scents into the air.11 The researcher is sometimes in a difficult situation. He or she has to somehow find out what things the subject is allergic to, without revealing the actual experimental conditions. One way this may be done is by asking the subjects to provide a list of potential allergies ostensibly as part of a separate research project. Other times, research may involve some potential psychological harm. This may come in the form of stress or in the form of some experimental treatment that questions some

strongly held conviction. For instance, a researcher studying helping behavior may lead a subject to believe that another person is being harmed in some way. In this way, the researcher can see how much a subject can withstand before doing something to help another person. In reality, the other person is usually a research confederate simply pretending to be in pain. Three key questions that can determine whether a research participant is being treated unethically as a result of experimental procedures are:

1. Has the research subject provided consent to participate in an experiment?
2. Is the research subject to substantial physical or psychological trauma?
3. Can the research subject be easily returned to his or her initial state?

The issue of consent is tricky in experiments because the researcher cannot reveal exactly what the research is about ahead of time or the validity of the experiment will be threatened. In addition, experimental research subjects are usually provided some incentive to participate. We will have more on this later in the book, but ethically speaking, the incentives should always be noncoercive. In other words, a faculty member seeking volunteers should not withhold a student's grade if he or she does not participate in an experiment. Thus, the volunteer should provide consent without fear of harm for saying no and with some idea about any potential risk involved.

If the answer to the second question is yes, then the research should not be conducted. If the answer to the second question is no and consent is obtained, then the manipulation does not present an ethical problem, and the researcher can proceed.

The third question is helpful in understanding how far one can go in applying manipulations to a research subject. If the answer to the third question is no, then the research should not be conducted. For example, researchers who seek to use hypnosis as a means of understanding preferences may be going too far in an effort to arrive at an answer. If the hypnotic state would cause the participant severe trauma, or if he or she cannot be easily returned to the prehypnotic state, then the research procedure should not be used. If, for instance, the consumer makes a large number of purchases under hypnosis, going deeply into debt, returning him or her to the original state may be difficult. If so, the application of hypnosis is probably inappropriate. If the answer to this question is yes, then the manipulation is ethical.

Many research companies and practically all universities now maintain a **human subjects review committee**. This is a committee that carefully reviews a proposed research design to try to make sure that no harm can come to any research participant. A side benefit of this committee is that it can also review the procedures to make sure no legal problems are created by implementing the particular design. This committee may go by some other name such as internal review board, but despite the name difference, the function remains to protect the company from doing harmful research.

Rights and Obligations of the Researcher

Research staff and research support firms should practice good business ethics. Researchers are often the focus of discussions of business ethics because of the necessity that they interact with the public. Several professional organizations have written and adopted codes of ethics for their researchers, including the American Marketing Association, the European Society for Opinion and Market Research, and the Marketing Research Society.

In addition, the researchers have rights. In particular, once a research consulting firm is hired to conduct some research, they have the right to cooperation from the sponsoring client. In addition, the researchers have the right to be paid for the work they do as long as it is done professionally. Sometimes, the client may not like the results. But not liking the results is no basis for not paying. In addition, the client should pay the researcher in full and in a timely manner.

■ **THE PURPOSE OF RESEARCH IS RESEARCH**
Mixing Sales and Research

Consumers sometimes agree to participate in an interview that is purported to be pure research, but it eventually becomes obvious that the interview is really a sales pitch in disguise. This is unprofessional at best and fraudulent at worst. The Federal Trade Commission (FTC) has indicated that it is illegal to use any plan, scheme, or ruse that misrepresents the true status of a person seeking admission to a prospect's home, office, or other establishment. No research firm should engage in any sales attempts. Applied market researchers working for the sponsoring company should also avoid overtly mixing research and sales. However, the line is becoming less clear with increasing technology.

Research That Isn't Research

Consider the vignette that opened this chapter. Despite her best efforts, Amy is clearly feeling pressure to justify certain results obtained from the employee survey, while ignoring others. It's probably pretty easy to see what is actually going on. The manager really wants research that will justify a decision that already has been made. If the employees' responses contradict the decision, the manager will almost certainly disregard the research. This isn't really research so much as it is **pseudo-research** because it is conducted not to gather information for decisions but to bolster a point of view and satisfy other needs.

The most common type of pseudo-research is performed to justify a decision that has already been made or that management is already strongly committed to. A media company may wish to sell advertising space on Internet search sites. Even though they strongly believe that the ads will be worth the rates they will charge advertisers, they may not have the hard evidence to support this view. For example, an advertiser's sales force may provide feedback indicating customer resistance to moving their advertising from local radio to the Internet. The advertising company may then commission a study for which the only result they care to find is that the Internet ads will be effective. In this situation, a researcher should walk away from the project if it appears that management strongly desires the research to support a predetermined opinion only. While it is a fairly easy matter for an outside researcher to walk away from such a job, it is another matter for an in-house researcher to refuse such a job. Thus, avoiding pseudo-research is a right of the researcher but an obligation for the manager.

Occasionally, research is requested simply to pass blame for failure to another area. A product manager may deliberately request a research study with no intention of paying attention to the findings and recommendations. The manager knows that the particular project is in trouble but plays the standard game to cover up for his or her mismanagement. If the project fails, marketing research will become the scapegoat. The ruse may involve a statement something like this: "Well, research should have identified the problem earlier!"

Also, technology is making the line between research and sales less clear. It is very likely that research data collected by companies we transact with online could be used to push products toward us that we may truly like. This is the point of push technology. What makes this ethical or not ethical? With consent, it is clearly ethical. What other ethical challenges may be faced as the technology to collect consumer information continues to develop?

Push Polls

Politicians have concocted a particular type of pseudo-research as a means of damaging opposing candidates' reputations. A **push poll** is telemarketing under the guise of research. Its name derives from the fact that the purpose of the poll is to push consumers into a predetermined response. For instance, thousands of potential voters can be called and asked to participate in a survey. The interviewer then may ask loaded questions that put a certain spin on a candidate.

Service Monitoring

Occasionally, the line between research and customer service isn't completely clear. For instance, Toyota may survey all of its new car owners after the first year of ownership. While the survey appears to be research, it may also provide information that could be used to correct some issue with the customer. For example, if the research shows that a customer is dissatisfied with the way the car handles, Toyota could follow up with the specific customer. The follow-up could result in changing the tires of the car, resulting in a smoother and quieter ride, as well as a more satisfied customer. Should a pattern develop showing other customers with the same opinion, Toyota may need to switch the original equipment tires used on this particular car.

In this case, both research and customer service is involved. Since the car is under warranty, there would be no selling attempt. Researchers are often asked to design satisfaction surveys. These may identify the customer so they may be contacted by the company. Such practice is acceptable as long as the researcher allows the consumer the option of either being contacted or not being contacted. In other words, the customer should be asked whether it is okay for someone to follow up in an effort to improve their satisfaction. There are actually situations in which a customer could be made more satisfied by purchasing a less profitable product, as described by the preceding Research Snapshot.

Push polls, selling under the guise of research, and pseudo-research are all misrepresentations of the true purpose of research and should be avoided. It is important that researchers understand the difference between research and selling.

■ **OBJECTIVITY**

The need for objective scientific investigation to ensure accuracy is stressed throughout this book. Researchers should maintain high standards to be certain that their data are accurate. Furthermore, they must not intentionally try to prove a particular point for political purposes.

■ **MISREPRESENTATION OF RESEARCH**

It should go without saying, but research results should not be misrepresented. This means, for instance, that the statistical accuracy of a test should be stated precisely and the meaning of findings should not be understated or overstated. Both the researcher and the client share this obligation. There are many ways that research results can be reported in a less than full and honest way. For example, a researcher may present results showing a relationship between advertising spending and sales. However, the researcher may also discover that this relationship disappears when the primary competitors' prices are taken into account. In other words, the relationship between advertising spending and sales is made spurious by the competitors' prices. Thus, it would be questionable to say the least to report a finding suggesting that sales could be increased by increasing ad spending without also mentioning the spurious nature of this finding.

Honesty in Presenting Results

Misrepresentation can also occur in the way results are presented. For instance, charts can be created that make a very small difference appear very big. Likewise, they can be altered to make a meaningful difference seems small. Each chart presents exactly the same data. The data represent consumer responses to service quality ratings and satisfaction ratings. Both quality and satisfaction are collected on a 5-point strongly-disagree-to-strongly-agree scale. In frame A, the chart appears to show meaningful differences between men and women, particularly for the service-quality rating. However, notice that the scale range is shown as 4 to 5. In frame B, the researcher presents the same data but shows the full scale range (1 to 5). Now, the differences are reported as trivial.

All charts and figures should reflect fully the relevant range of values reported by respondents. If the scale range is from 1 to 5, then the chart should reflect a 1 to 5 range unless there is some value that is simply not used by respondents. If no or only a very few respondents had reported a 1 for their service quality or satisfaction rating, then it may be appropriate to show the range as 2 to 5. However, if there is any doubt, the researcher should show the full scale range.

Honesty in Reporting Errors

Likewise, any major error that has occurred during the course of the study should not be kept secret from management or the sponsor. Hiding errors or variations from the proper procedures tends to distort or shade the results. Similarly, every research design presents some limitations. For instance, the sample size may be smaller than ideal. The researcher should point out the key limitations in the research report and presentation. In this way, any factors that qualify the findings can be understood. The decision maker needs this information before deciding on any risky course of action.
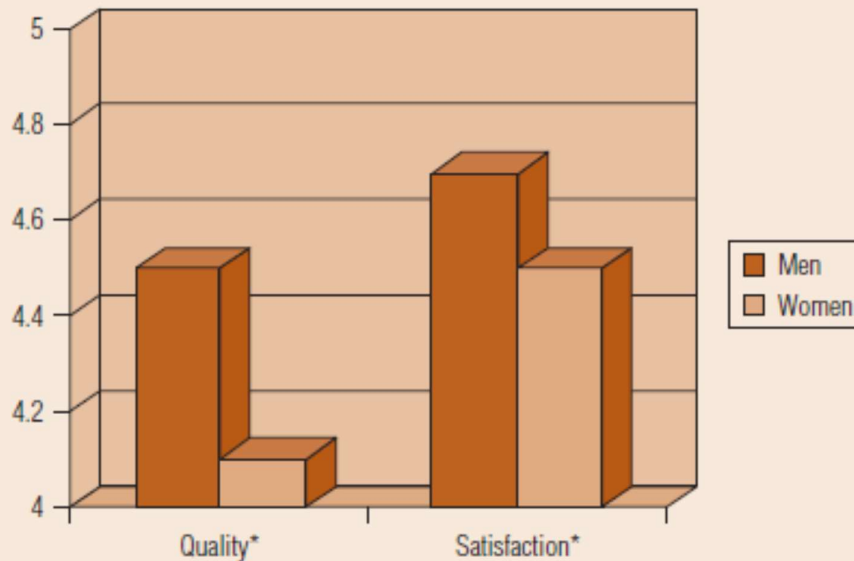
A) Researcher points to a "large" difference in quality ratings. Men report much higher quality service than do women. In contrast, women report only "slightly" less satisfaction than do men.
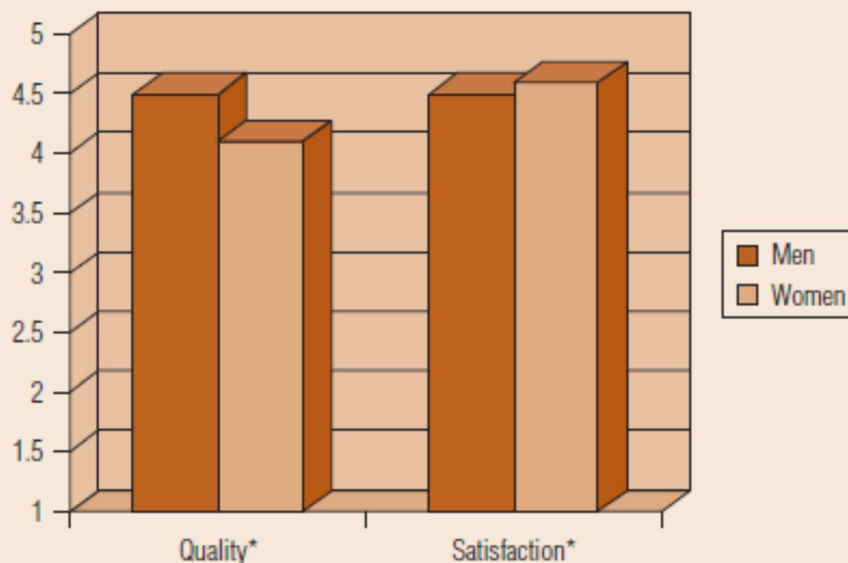
B) The researcher points to a "trivial" difference in quality perceptions between men and women. There is no difference in the satisfaction ratings of men and women.

■ **CONFIDENTIALITY**

Confidentiality comes into play in several ways. The researcher often is obligated to protect the confidentiality of both the research sponsor and the research participant. In fact, business clients value researchers' confidentiality more than any other attribute of a research firm. Imagine a researcher conducting a test-market for a new high-tech Apple iPod device that allows interactive video. Just after conducting the research, the same researcher is contacted by Samsung. Samsung, which has yet to develop video capability, wants research that addresses whether or not there is a market for iPod video of any type. The researcher is now in a difficult position. Certainly, an ethical dilemma exists presenting multiple choices to the researcher, including

   • Agreeing to do the research for Samsung and using some results from the Apple study to prepare
   a report and recommendation for Samsung
   • Agreeing to sell the new concept to Samsung without doing any additional research. In other
   words, provide Apple's company secrets to Samsung
   • Conducting an entirely new project for Samsung without revealing any of the results or ideas
   from the Apple study
   • Turning down the chance to do the study without revealing any information about Apple to
   Samsung.

       Which is the best choice? Obviously, both of the first two options violate the principle of maintaining client confidentiality. Thus, both are unethical. The third choice, conducting an entirely new study, may be an option. However, it may prove nearly impossible to do the entire project as if the Apple study had never been done. Even with the best of intentions, the researcher may inadvertently violate confidentiality with Apple. The last choice is the best option from a moral standpoint. It avoids any potential **conflict of interest**. In other words, actions that would best serve one client, Samsung, would be detrimental to another client, Apple. Generally, it is best to avoid working for two direct competitors.

       Likewise, the researcher must also predict any confidentiality agreement with research participants. For instance, a researcher conducting a descriptive research survey may have identified each participant's e-mail address in the course of conducting the research. After seeing the results, the client may ask for the e-mail addresses as a logical prospect list. However, as long as the researcher assured each participant's confidentiality, the e-mail addresses cannot ethically be provided to the firm. Indeed, a commitment of confidentiality also helps build trust among survey respondents.

■ **DISSEMINATION OF FAULTY CONCLUSIONS**

       The American Marketing Association's marketing research Code of Ethics states that "a user of research shall not knowingly disseminate conclusions from a given research project or service that are inconsistent with or not warranted by the data." A dramatic example of a violation of this principle occurred in an advertisement of a cigarette smoker study. The advertisement compared two brands and stated that "of those expressing a preference, over 65 percent preferred" the advertised brand to a competing brand. The misleading portion of this reported result was that most of the respondents did *not* express a preference; they indicated that both brands tasted about the same. Thus, only a very small percentage of those studied actually revealed a preference, and the results were somewhat misleading. Such shading of results violates the obligation to report accurate findings.

Rights and Obligations of the Client Sponsor (User)

■ **ETHICAL BEHAVIOR BETWEEN BUYER AND SELLER**

       The general business ethics expected between a purchasing agent and a sales representative should hold in a marketing research situation. For example, if a purchasing agent has already decided to purchase a product from a friend, it would be unethical for that person to solicit competitive bids from others because they have no chance of being accepted. Similarly, a client seeking research should

only seek bids from firms that have a legitimate chance of actually doing the work. In addition, any section on the ethical obligation of a research client would be remiss not to mention that the user is obligated to pay the provider the agreed upon wage and pay within the agreed upon time.

■ AN OPEN RELATIONSHIP WITH RESEARCH SUPPLIERS

The client sponsor has the obligation to encourage the research supplier to objectively seek out the truth. To encourage this objectivity, a full and open statement of the decision situation, a full disclosure of constraints in time and money, and any other insights that assist the researcher should be provided. This means that the researcher will be provided adequate access to key decision makers. These decision makers should agree to openly and honestly discuss matters related to the situation. Finally, this means that the client is open to actually using the research results. Time is simply too valuable to ask a researcher to perform a project when the results will not be used.

■ AN OPEN RELATIONSHIP WITH INTERESTED PARTIES

Conclusions should be based on data—not conjecture. Users should not knowingly disseminate conclusions from a research project in a manner that twists them into a position that cannot be supported by the data. Twisting the results in a self-serving manner or to support some political position poses serious ethical questions. A user may also be tempted to misrepresent results while trying to close a sale. Obviously, this is also morally inappropriate.

Advocacy research—research undertaken to support a specific claim in a legal action or to represent some advocacy group—puts a client in a unique situation. Researchers often conduct advocacy research in their role as an expert witness. For instance, a researcher may be deposed to present evidence showing that a "knock-off" brand diminishes the value of a better known name brand. In conventional research, attributes such as sample size, profile of people actually interviewed, and number of questions asked are weighed against cost in traditional research. However, a court's opinion on whether research results are reliable may be based exclusively on any one specific research aspect. Thus, the slightest variation from technically correct procedures may be magnified by an attorney until a standard research result or project no longer appears adequate in a judge's eyes. How open should the client be in the courtroom?

The ethics of advocacy research present a number of serious issues that can lead to an ethical dilemma:

- Lawyers' first responsibility is to represent their clients. Therefore, they might not be interested as much in the truth as they are in evidence that supports their client's position. Presenting accurate research results may harm the client.
- A researcher should be objective. However, he or she runs the risk of conducting research that does not support the desired position. In this case, the lawyer may ask the researcher if the results can somehow be interpreted in another manner.
- Should the lawyer (in this case a user of research) ask the researcher to take the stand and present an inaccurate picture of the results?

Ethically, the attorney should certainly not put the researcher on the stand and encourage an act of perjury. The attorney may hope to ask specific questions that are so limited that taken alone, they may appear to support the client. However, this is risky because the opposing attorney likely also has an expert witness that can suggest questions for cross-examination. Returning to our branding example, if the research does not support an infringement of the known brand's name, then the brand name's attorney should probably not have the researcher take the stand.

Advocacy researchers do not necessarily bias results intentionally. However, attorneys rarely submit advocacy research evidence that does not support their clients' positions. The question of advocacy research is one of objectivity: Can the researcher seek out the truth when the sponsoring client wishes to support its position at a trial? The ethical question stems from a conflict between legal ethics and

research ethics. Although the courts have set judicial standards for research methodology, perhaps only the client and individual researcher can resolve this question.

Privacy

People believe the collection and distribution of personal information without their knowledge is a serious violation of their privacy. The privacy rights of research participants create a privacy obligation on the part of the research client. Suppose a database marketing company is offering a mailing list compiled by screening millions of households to obtain brand usage information. The information would be extremely valuable to your firm, but you suspect those individuals who filled out the information forms were misled into thinking they were participating in a survey. Would it be ethical to purchase the mailing list? If respondents have been deceived about the purpose of a survey and their names subsequently are sold as part of a user mailing list, this practice is certainly unethical. The client and the research supplier have the obligation to maintain respondents' privacy.

Consider another example. Sales managers know that a research survey of their business to business customers' buying intentions includes a means to attach a customer's name to each questionnaire. This confidential information could be of benefit to a sales representative calling on a specific customer. A client wishing to be ethical must resist the temptation to identify those accounts (that is, those respondents) that are the hottest prospects.

Privacy on the Internet

Privacy on the Internet is a controversial issue. A number of groups question whether Web site questionnaires, registration forms, and other means of collecting personal information will be kept confidential. Many business researchers argue that their organizations don't need to know who the user is because the individual's name is not important for their purposes. However, they do want to know certain information (such as demographic characteristics or product usage) associated with an anonymous profile. For instance, a Web advertiser could reach a targeted audience without having access to identifying information. Of course, unethical companies may violate anonymity guidelines. Research shows that consumers are sensitive to confidentiality notices before providing information via a Web site. Over 80 percent of consumers report looking for specific privacy notices before they will exchange information electronically. In addition, over half believe that companies do not do enough to ensure the privacy of personal information. Thus, research users should not disclose private information without permission from the consumers who provided that information.