

The Business Research Process and Decision Making



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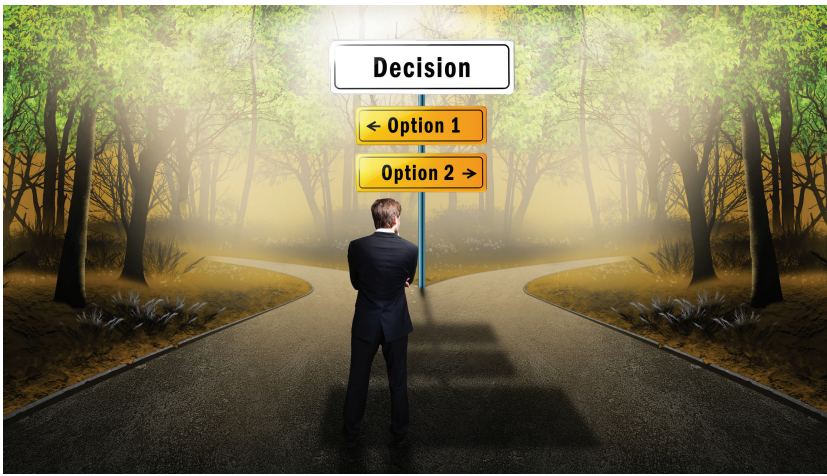
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Learning Objectives

Upon completing this chapter, you should understand:

- What is involved in the decision-making process.
- How research contributes to the decision-making process.
- The differences among the following: management problems and opportunities, decisional alternatives, and decisional criteria.
- How the research questions lead to formulating research hypotheses.



THE BUSINESS-DECISION ENVIRONMENT

Managers in contemporary organizations are required to make many important decisions. These decisions include what consumer segments to serve, where to locate retail outlets, and whether to hire or outsource salespeople and impact all areas of the firm. The decision to emphasize quality products, for example, affects decisions on procurement, production personnel, and quality control, among other areas.

Many companies are discovering that seemingly routine decisions involving management, marketing, human resources, and

production have long-run implications for the organization and are being viewed as strategic in nature necessitating input from top managers. As some of these business decisions become strategic, they may involve commitments and directions that continue to guide efforts as long as they prove successful. A belief that future success requires the organization to become “market oriented”¹ or “market sensitive” has increased the importance of the intelligence function within organizations as they seek to make the right responses to an ever-changing business environment. Right responses become increasingly important as competition heats up in markets. Firms are discovering that they must be market driven in order to make decisions that meet with market approval.

Developing an understanding of consumer needs, wants, and perceptions is a prerequisite to effective decision making. Consider the different results of marketing Pepsi AM in the United States and Cheetos in China. Pepsi AM was introduced without research, which would have revealed that the name suggested it to be drunk only in the morning, thereby restricting market size to specific-occasion usage. Frito-Lay did extensive research on the market for snack foods in China before introducing Cheetos there. They learned that cheese was not a common item in the Chinese diet. Thus, traditional Cheetos flavors did not appeal to consumers there, though other flavors such as American cream and zesty Japanese steak were found to be appealing. They also researched Chinese reaction to Chester Cheetah, the cartoon character on the bag, and the Chinese translation of “Cheetos” (luckily corresponding to Chinese characters *qi duo* or “new surprise”). Pepsi AM was a flop; Cheetos were such a success that Frito-Lay could not keep store shelves stocked.²

Business research is the specific management function relied upon to provide information for managerial decisions. However, it should be stressed at the outset that merely doing business research does not guarantee that better decisions will be made. The quality of each stage of a business research project will either contribute to better decision making or will make it an ever-elusive goal. If research results are correctly analyzed and imaginatively applied, studies have shown that increased profitability is often the outcome.³

BUSINESS RESEARCH

Business research the function that links the business to information and knowledge that can be used for determining, implementing, and evaluating the opportunities and goals for a firm.

Business research is the function that links the business to information and knowledge that can be used for determining, implementing, and evaluating the opportunities and goals for a firm. Business research specifies the information required to address management issues; designs the method for collecting information; manages and implements the data-collection process; analyzes the results; and communicates the findings and their implications.

This rather lengthy definition suggests the connection between research and decision making in business organizations.

Research, in a business context, is defined as an organized, formal inquiry into an area to obtain information for use in decision making. There are generally two types of business research: **basic business research** and **applied business research**.

Applied business research is used to answer a specific question that has direct application to a particular business. Basic research, on the other hand, is more exploratory in nature and is not directly applicable to a specific business **problem**. Instead, basic research expands our knowledge and understanding of an issue. The difference between the two types of research, then, is for what purposes each will be used.

An example of a basic research question is, “What are customer attitudes toward wait times at a fast-food drive-through?” Here we are expanding our knowledge about customer perceptions of service. Perhaps customers are generally satisfied with wait times. Or perhaps customers feel the wait is too long. In the latter case, the manager of a fast-food outlet may want to look at how to increase the speed of service as a competitive advantage.

Having conducted the basic research, the manager now has a specific question to investigate: how to decrease drive through wait time in her fast-food outlet. In this case, she will use applied research to answer the question. She can experiment with having different windows for payment and food delivery, use two order call boxes, or reorganize the food production line. The point is that each type of research can be used to fit the particular decision-making environment with which management is faced.

BUSINESS RESEARCH AND DECISION MAKING

Although conducting the activities of business research requires using a variety of research techniques, the focus of the research *should not* be on the techniques. Business research should focus on decisions to be made rather than the collection techniques used to gather information to facilitate decision making. This focus is central to understanding the business research function in terms of what it should be and to the effective and efficient use of research as an aid to decision making. Any user or provider of business research who loses sight of this central focus is likely to end up in one of two awkward and costly positions: (1) failing to collect the information actually needed to make a decision or (2) collecting information that is not needed in a given decision-making context.⁴ The result of the first is ineffectiveness—not reaching a desired objective, and the result of the second is inefficiency—failing to reach an objective in the least costly manner. The chances of either of these occurring is greatly reduced when the decision to be made is the focus of the research effort.

To maintain this focal point, an understanding of the purpose and role of business research in decision making is necessary. The basic purpose of business research is to reduce uncertainty or error in decision making. It is the uncertainty of the outcome surrounding a decision that makes decision making difficult. If the outcome of choosing one alternative over another is known, then choosing the right alternative would be simple, given the decision-making criteria. If it were certain that alternative A would result in \$100,000 in profit and that alternative B would result in \$50,000 in profit, and the decision criterion was to maximize profits, then the choice of alternative A would be obvious. However, business decisions must be made under conditions of uncertainty—it is unknown if alternative A will produce \$50,000 more than B. In fact, either or both alternatives may result in losses. It is the ability to reduce uncertainty that gives information its value.

Analyzing what is involved in making a decision will help in understanding how information aids decision making. *Decision making* is defined as a choice among alternative courses of action. For purposes of analysis, a decision can be broken down into four distinct steps (see Figure 1.1): (1) identify a problem or opportunity, (2) analyze the problem or opportunity, (3) identify alternative courses of action, and (4) select a specific course of action.

Basic business research
business research that is exploratory in nature and is not directly applicable to a specific business problem. Instead, basic research expands our knowledge and understanding of an issue.

Applied business research
used to answer a specific question that has direct application to a particular business.

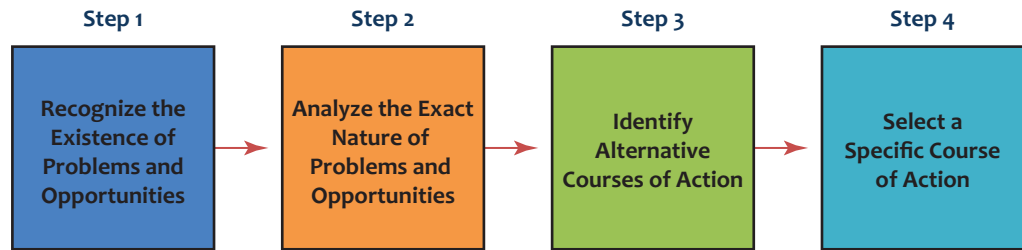


FIGURE 1.1
Steps in Decision Making

Identify a Problem or Opportunity

Problem anything that stands in the way of achieving an objective.

Opportunity a chance to improve overall performance.

A **problem** or **opportunity** is the focus of management efforts to maintain or restore performance. A problem is anything that stands in the way of achieving an objective, whereas an opportunity is a chance to improve overall performance.

Managers need information to aid in recognizing problems and opportunities because before a problem can be defined and alternatives developed, it must be recognized. An example

of this type of information is attitudinal data that compare attitudes toward competing brands. Because attitudes usually are predictive of sales behavior, if attitudes toward a company's product were less favorable than before, the attitudinal information would make the managers aware of the existence of a problem or potential problem. Opportunities may depend upon the existence of pertinent information, such as knowing that distributors are displeased with a competitor's new policy of quantity discounts and as a result may be willing to place increased orders for your product. In this digital age, having the right information at the right time has created the need for information technology (IT) managers, who have become prominent in most organizations as an integral part of the organization's ability to respond to the changing environment. The COVID-19 pandemic has amplified the need for quick and

accurate information, and many organizations have set up plans to report and treat any confirmed cases and also change operating times and procedures to stop the spread of the virus.

Analyze the Problem or Opportunity

Once a problem or opportunity has been recognized, it must be analyzed. Until the nature and sources of the problem have been analyzed, no alternative courses of action can be considered. Sometimes the symptoms of the problem are recognized first, and there may be several problems that produce the same set of symptoms. An analogy using the human body may help in understanding this point. A person experiencing a headache (symptom) may be suffering from a sinus infection, stress, the flu, or a host of other illnesses (potential problems). Treating the headache may provide temporary relief, but not dealing with the root problem will ensure its return, perhaps worsening physical conditions.

The same type of phenomenon occurs in business. A firm, experiencing a decline in sales (symptom), may find it to be the result of a decline in total industry sales, lower prices by competitors, low product quality, or a myriad of other potential problems. No alternative courses of action should be considered until the actual problem has been analyzed. Thus, information aids the manager at this stage in the decision-making process by analyzing the problem.

In some cases, an entire research project must be devoted to defining the problem or identifying an opportunity because of a lack of prior knowledge of a particular area. This type of study is usually called an exploratory study and is discussed more fully in Chapter 4.



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Identify Alternatives

The third stage in the decision-making process involves identifying viable alternatives. For some problems, developing alternatives is a natural outcome of analyzing the problem, especially if that particular problem or opportunity has occurred before. A manager's past knowledge and experiences are used to develop the alternatives in these situations. However, in other situations a real contribution of research is to inform the decision maker of the options available to him or her. A company considering introduction of a new product may use consumer information to determine the position of current offerings to evaluate different ways its new product could be positioned in the market. Information on the significant product attributes and how consumers position existing products on these attributes would be an evaluation of possible "openings" (options) available at a given time.

Select an Alternative

The final stage in the decision-making process is the choice among the alternative courses of action available to the decision maker. Information provided by research can aid a manager at this stage by estimating the effects of the various alternatives on the decision criteria. For example, a firm considering introduction of a new product may test-market two versions of that product. The two versions of the product are two alternatives to be considered, and the sales and profits resulting from test-marketing these two versions become the information needed to choose one alternative over another. Another example is the pretest of television commercials using different themes, characters, and scripts to provide information on consumer reactions to alternative commercials. This information also aids the decision maker in selecting the best advertising approaches to use.

Information collected through research must be directly related to the decision to be made in order to accomplish its purpose of risk reduction. Thus, the focus of research should be the decision-making processes in general and, specifically, the decision to be made in a given situation, rather than the data or the techniques used to collect the data. There is always the danger of a person involved in business research viewing himself or herself as a research technician rather than as someone who provides information to help managers make decisions to solve problems and take advantage of opportunities. In fact, it is safe to say that the best researchers think like decision makers in search of information to make decisions rather than as researchers in search of answers to research questions.

STRATEGIC VERSUS TACTICAL INFORMATION NEEDS

Managers are called upon to make two broad categories of decisions, strategic and tactical. The strategic decisions are those that have long-run implications and effects. These decisions are critical to a firm's success and may not be altered if successful. Tactical decisions are short run in scope and effect and are usually altered on a regular basis. An example of these two types of decisions will help clarify the distinction and also clarify what many researchers and managers have failed to understand.

A company analyzing a market for possible entry would be considering a strategic move—entering a new market. This requires information on such things as competitor strengths and weaknesses, market shares held by competitors, market growth potential, production, financial and marketing requirements for success in the industry, strategic tendencies of competitors, and the like. This is strategic information. Once the decision to enter the market has been made, information on current prices charged by specific competitors, current package designs and sizes, and other criteria is needed to make the tactical decisions for the short run—a year or less. This is tactical information.

Thus, strategic decisions require strategic information, and tactical decisions require tactical information. Failure to recognize the distinction between decision types and information types will result in information that deals with the right areas—prices, for example—but with the wrong time frame. For tactical decisions, a manager needs to know competitive prices and their emphasis by both competitors and consumers. For strategic decisions, the manager is more interested in competitors' abilities and tendencies to use pricing as a retaliatory weapon.

The researcher and the manager must be certain that the time frame for the decision is specified in advance to ensure that the right type of information is collected. This should be a joint effort by both information user and provider.

THE NATURE OF BUSINESS RESEARCH

It is obvious at this point that the key to understanding when business research can be of greatest value to organizations is to understand the decisions facing managers. These areas and the related forms of business research include the following:

Concept/product testing. A concept or product test consists of evaluating consumer response to a new product or concept. This is often a part of the test-market in the development of a new product. It is also used to determine how a product or service can best be positioned in a particular sector of the marketplace. For example, product testing would answer what the consumer's perception of new products or services to be offered might be. It can also examine how users perceive a product's value as well as its attributes and benefits or how perceived values and attributes relate to actual need and demand.

Tracking study. A tracking study is an ongoing periodic survey of recruited consumers who record their use of various products or services. Specific preferences are measured and compared to evaluate changes in perceptions, preferences, and actual usage over time.

Absenteeism. An absenteeism study is conducted by or for a human resources department and assesses the direct and indirect costs of employee absences in the production of the firm's products and services. Once these costs are determined, the firm can look for ways to reduce absenteeism.

Product or brand service usage. Product or brand usage studies serve to determine current demand for the various brands of a product or service. This type of approach may also determine which brand name has primary awareness in consumers' minds or which they prefer as well as how often and why it is used.

Advertising penetration. Advertising penetration analyses evaluate the message that is actually being communicated to the target audience. This type of study serves to determine if the intended message is understood, how persuasive it is, or how well it motivates. These studies may also evaluate the effectiveness of individual media for a particular target market.

Image evaluation. Image studies provide feedback relative to the image that a company, product, or service has in the eyes of the consumers. Image studies may reveal attribute perceptions of a particular brand or determine its strengths and weaknesses.

Public opinion surveys. Public opinion surveys determine the key issues in the minds of the public or specific customers (or investors) relative to specific issues, individuals, or business sectors. They reveal whether opinion is positive or negative, determine the degree of importance of specific issues, or evaluate awareness levels of key issues.

Copy testing. Copy testing allows for an evaluation of consumer response to ad copy being considered. It determines how well the intended message is actually being communicated. Copy tests ensure that the wording used is consistent with the language of the target audience. Copy testing



is used most effectively in the conceptual stages of copy development to allow for consumer feedback on concepts portrayed by various preliminary ad copy.

Performance evaluation. Many larger companies have a formal employee evaluation system. Research is regularly conducted to make sure that the system is fair, is objective, measures desired performance, and meets all Equal Opportunity Commissions (EEOC) requirements.

Test-marketing and product placements. Product placements are a bit more extensive than product tests. Product tests take place in a controlled setting, such as a shopping mall, where consumers are recruited to test a product. In a product placement study, the product to be test-marketed is placed in the home of the consumer for a specific period. After this period, a personal or telephone interview is used to record the specific responses of the user concerning the product. This type of study will determine how consumers respond to a product that often has no name or packaging appeals associated with it.

Taste tests. Taste tests are conducted in a controlled environment where consumers are recruited to taste a product and give their evaluations. Taste tests serve to determine the acceptance of a product without brand or packaging appeals relative to attributes of flavor, texture, aroma, and visual appeal. Taste tests may be conducted with variations of a single product or with samples of competitors' products tasted for comparison testing.

Risk management. Risk management studies assess the potential property, liability, and environmental hazards the firm faces and the best method to reduce or mitigate potential lossless.

Market segmentation. Market segmentation studies determine how a market is segmented by product usage, demand, or customer profiles. These studies usually develop demographic, psychographic, product preference, and lifestyle profiles of key market segments.

Media measurement. These studies determine what share of the market the medium being tested actually has and how a target market is identified demographically and psychographically. Media studies also evaluate preferences in programming as well as promotional appeals that are most effective in reaching and expanding a particular target audience.

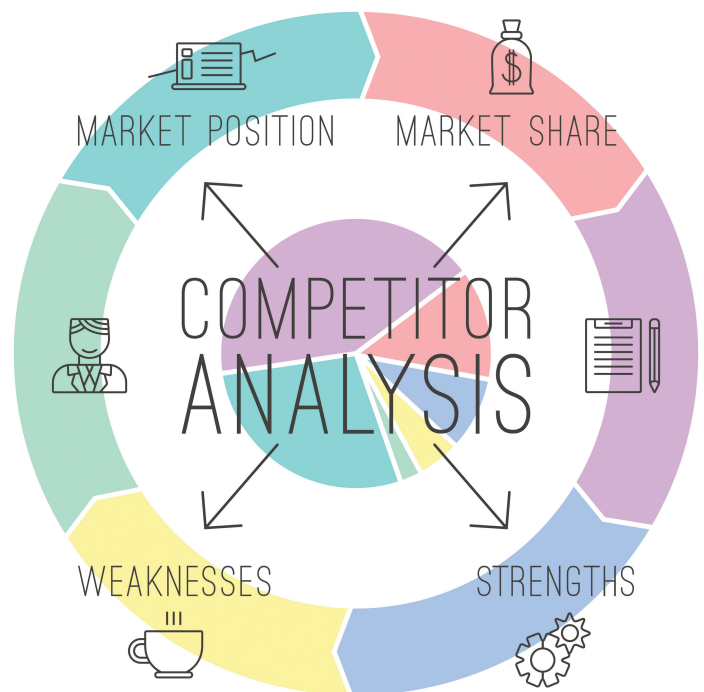
Financial analysis. Research in finance helps the firm decide the best method for obtaining money for a new product or service. For example, a firm might study the pros and cons of debt financing as opposed to equity financing.

Market feasibility. A market feasibility study analyzes the market demand for a new product, brand, or service. This type of study usually evaluates potential market size, determines what kind of demand might be expected, what market dynamics are interacting, and what market segments might be most receptive to the introduction of a new product or brand. Feasibility studies may also determine market feedback relative to similar products or services, attributes sought, as well as pricing and packaging perspectives.

Location studies. For local customer-intensive businesses, the location must be determined. Location studies serve to evaluate the size of the potential market surrounding a proposed location and whether local demand will support the facility.



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Market share and market size studies. Market share and market size studies determine what products are being purchased at what volume and the actual size of sales being realized by each competitor. These studies can also identify and determine the strength of new firms that have recently entered the market in a strong growth mode.

Competitive analysis. A competitive analysis is often part of a market share and market size study. It consists of an evaluation of the strengths and weaknesses of competitors. It may also include pertinent data relative to locations, sales approaches, and the extent of their product lines and manufacturing capabilities.

Positioning studies. Positioning studies evaluate how leading companies or brands are viewed in the minds of consumers concerning key product or image attributes. This type of study will evaluate perceived strengths and weaknesses of each as well as determine key attributes consumers associate with their idea of an “ideal” supplier of a particular product or service.

Customer satisfaction studies. Customer satisfaction studies evaluate the level of satisfaction that existing customers have with the products or services of a company or organization. The basic philosophy is that it is cheaper to keep an existing customer than to try to attract a new one. Therefore, continuous analysis of existing customers provides input on how to change what is being done to increase satisfaction or lessen dissatisfaction.

Business Research for Small Organizations

Although it is true that larger corporations would account for the largest share of expenditures for the aforementioned applications of research, small businesses and entrepreneurial ventures are certainly interested in obtaining research results that can help them make better decisions in these areas. Such firms would typically seek answers to the following types of questions as well.

Customer Research

- Which customer groups represent the best target markets for my product or service?
- How large is the existing and potential market? What is its rate of growth?
- What unfulfilled needs exist for my product? How are customers currently fulfilling those needs?
- Under what circumstances would customers use the product? What benefits are customers seeking to gain in these circumstances?
- Where would customers expect to buy the product? What decision process do they go through when buying the product?
- Who makes the purchase decision for this type of product? How are they influenced by others in the household (or company) when making this decision?
- What is the value customers place on having their needs fulfilled by this type of product?

Competitor Analysis

- Who are my competitors (i.e., alternatives to addressing the needs of potential customers)?
- How brand loyal are customers to my competitors?
- How do potential buyers perceive competitors’ offerings?
- What are my competitors’ competitive advantages and how are they exploiting them through their marketing programs?

Operational Environment

- By what means (channels, methods) is this type of production made available to customers? Is there an opportunity to innovate here?

- How are customers made aware of this type of product? What opportunities exist to increase efficiency and effectiveness in promotion?
- What technological developments are likely to occur in this market and how will they affect our competitive position?
- What cultural/social environmental trends could impact our business? How?
- What will be the impact of the regulatory environment on our business now and in the foreseeable future?
- What economic and demographic trends are occurring that could affect the nature of the market opportunity? How?

These examples of issues of interest to small businesses are typical of the kinds of questions that business research can seek to answer. How research arrives at the answers to these questions can vary from project to project.

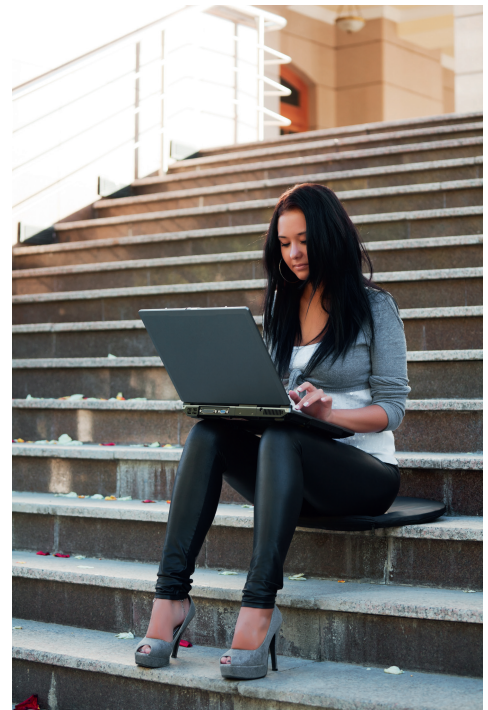
The Nature of Conventional and Unconventional Research

It is important to reiterate that a study of business research should begin with this understanding—business research is not focused on the use of surveys or experiments or observations (i.e., techniques). Business research is about finding solutions to management problems and aiding in better decision making. Therefore, the goal of using business research is not to propagate convention in the use of research methods, but rather to find solutions. When it is obvious that the best method of finding a solution to a problem is to conduct a survey (or conduct an experiment, or use observational methods), then it is important to use such techniques scientifically so that we have faith that the findings contain as much “truth” as we can afford. Sometimes the method we use to search for the truth in order to reduce uncertainty and make better decisions follows convention. Sometimes it is unique and unconventional. We do not “score points” for conventionality; we succeed by finding efficient and effective means of gathering information that aids decision making. The following example will help to illustrate this point:

A producer of frozen dinner entrees set an objective that the company’s food products should not just be good heat-and-serve meals but should aim higher and be considered excellent cuisine in general. At an advanced stage of product development, they wanted to see how close they were getting to their objective and decided upon a somewhat unconventional method of testing product quality. They rented the ballroom of a local hotel noted for its excellent catering service and under the guise of a professional organization invited local business professionals to attend a meeting where a well-known speaker would make a presentation on a topic of interest to the business community. Unbeknownst to the attendees, the company had the hotel kitchen heat and serve the food company’s frozen entrees instead of the hotel’s usual catered meal. At each table of eight in the audience the company had a member of its staff playing the role of just another invited guest. During the meal, the employee would engage others at the table in a discussion of the quality of the food (e.g., “I see you got the lasagna while I got chicken Kiev. How is the lasagna here?”). After the meal and speech, the other guests at each table were debriefed about the ruse.

By taking this approach, the firm was able to obtain insights into how close they were to having a product that could compare favorably to cuisine prepared by chefs and with high expectations by diners. Although not the only research conducted by the firm for this line of products, this rather unconventional method gave them good insights at this stage of the process that might have exceeded what traditional taste tests could have achieved. Once again, our overriding objective is to improve decision making, not pursue convention.

We would be remiss, however, if we did not follow up that admonition with this caveat—we are not suggesting an “anything goes” approach to research. We must always ensure



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	Is Research Relevant to a Real Management Problem?		
		YES	NO
Does the Research Follow Scientific Methods?	YES	1. Results are relevant and believable.	2. Results are believable, but not relevant.
	NO	3. Results are relevant but not believable.	4. Results are neither relevant nor believable.

FIGURE 1.2
Outcomes of Research

that we pursue research that is both related to the management problem and its related decisional issues and must make certain that our methods are scientific and represent the most efficient means of seeking answers to our questions. Figure 1.2 helps to show the possible combinations of these variables.

Better decision making by using research results only comes from research that falls in cell #1. However, you can imaginatively apply scientific methodology that goes against “convention” and still end up in cell #1. The point here is that when we set out to do our research, we do not set out to write a questionnaire, or conduct in-depth interviews, or run an experiment. We set out to solve a problem, to evaluate an opportunity, or to test hypotheses so that we can reduce uncertainty and improve our decision making. So, we need to understand that it is possible to be both scientific *and* unconventional, and we must be open to using whatever method represents the most efficient and effective means of generating relevant and believable results and not be bound by our past proclivities to use certain “comfortable” methods.



FIGURE 1.3
Basic Steps in a Business Research Project
Source: Silver, Stevens, Kernek, Wrenn, & Loudon

STEPS IN A BUSINESS RESEARCH PROJECT

Ensuring that data collected in a research project not only are related to management’s information needs, but also fit management’s time frame, requires an approach to research that is centered on the management problem—the decision to be made. Such an approach is shown in Figure 1.3.

A venerable work adage states, “Plan your work; work your plan,” and this is the approach that should be used in carrying out a research project. A research project does not begin with a questionnaire or a focus group interview or any other research technique, but with a carefully thought-out plan for the research that includes: (1) a statement of the management problem or opportunity, (2) a set of research objectives, and (3) a statement of the research methodology to be used in the project.

Define the Management Problem

The starting point in a research project should be an attempt by both the user and the provider of information to clearly define the problem. Mutual understanding and agreement are vitally necessary at this point in the research process. Failure by either party to understand or clearly define the major issue requiring information will surely lead to disappointment and wasted effort. Studies have shown that the proper utilization of the findings from business research by managers is directly affected by the quality of interactions that take place between managers and researchers, plus the level of researcher involvement in the research decision-making process.⁵ Many information users, especially the uninitiated, have been “burned,” never to be “burned” again, by someone who has collected some data, then collected the money and left them with a lot of “useful” information.⁶



A health care administrator recently related such a story. He had heard a great deal about marketing and the need for having information on consumers, although he was unclear about both. He was approached by a marketing research firm that offered to supply a lot of “useful marketing information” for a reasonable fee. Several months after he had received the final report and the marketing research firm had received its check, he realized that he had no idea of how to use the information or if it was what he really needed.

This type of problem can be avoided, or at least minimized, through user-provider interaction, analysis, and discussion of the key management issues involved in a given situation. The information provider’s task is to convert the manager’s statement of symptoms to likely problems and decision issues and then finally to information needs. Two key questions that must always be dealt with at this stage are: (1) what information does the decision maker believe is needed to make a specific decision and (2) how will the information be used to make the decision? Asking these questions will cause the information user to begin thinking in terms of the information needed to make the decision rather than the decision itself. Also, the user can move to a level of thinking specifically about how the information will be used.

An example of this interaction process will help clarify this point. An executive vice president for a franchise of a national motel-restaurant chain was evaluating his information needs with one of the authors about a major remodeling of one of the chain’s restaurants. The author posed the question about how the information was going to be used in the decision-making process. The chain’s vice president then realized that corporate policy would not permit deviating from the established interior designs currently used even if information were available that an alternative design would be more acceptable to consumers. He then concluded that he did not need the information! The information could have been easily obtained through a survey, but the bottom line would have been management’s inability to act on it. The manager realized that he needed to work on a policy change at the corporate level and if information were needed, it would be to evaluate that particular policy.

A problem exists when there is a difference between the ideal state and the actual state. An opportunity exists when the environment favorably values something the organization can do. Ask the client to describe “the bottom line” of what he or she sees as the problem or opportunity that requires research in order to make decisions. This is a starting point, but more work is needed to determine the focus of the research.

Research Project Tip

One type of question that can aid in the process of identifying the real problem in its proper scope is the “why” question. The researcher uses the why question to help separate what is known (i.e., facts) from what is merely assumed (i.e., hypotheses). The following example of a manufacturer of capital equipment will help illustrate the use of the why question.

The Compton Company was a capital equipment manufacturer with a market share larger than its next two competitors combined. All companies in this business sold through independent distributors who typically carried the lines of several manufacturers. Compton had for several years been suffering a loss of market share. In an effort to regain share they fired their ad agency. The new agency conducted a study of end-use customers and discovered that the fired ad agency had done an outstanding job of creating awareness and interest in the Compton line. The study also revealed that these end-users were buying competitors’ equipment from the distributors. The switch from interest in Compton to the competition was not a failure of the advertising, but rather the result of the distributors’ motivation to sell the products of manufacturers’ running sales contests, offering cash bonuses, and supplying technical sales assistance.⁷

If a business researcher had been called in to help address Compton's problem, the resulting conversation might have been as follows:

Manager: We need you to help us find a new advertising agency.

Researcher: Why do you believe you need a new ad agency?

Manager: Because our market share is slipping.

Researcher: Why do you believe that is the fault of your ad agency?

Manager: Because we think they have not created a high enough level of awareness and interest in our product among target market members.

Researcher: OK, but why do you believe that? What evidence do you have that ties your declining market share to a problem with advertising?

At this point it will become obvious that the company does not have any evidence that supports the contention that poor advertising is the source of the decline in market share. This realization should open the door for the researcher to suggest that the issue be defined as a decline in market share, and that some research could be done to identify the source of the problem. Asking "why" questions allows all parties involved to separate facts from hypotheses and give direction to research that can help solve real problems in their proper scope. Once the problem has been determined, the researcher can enter into discussions with the decision maker regarding the appropriate purpose for the research.

Research Project Tip

You will need to ask "why" questions similar to the Compton Company example to distinguish between facts and hypotheses. Sometimes the client believes a hypothesis so strongly that it has become a "fact" in the client's mind. Asking "why" questions helps focus researchers and decision makers on the real problem (i.e., the problem in its proper scope).

Specify Research Purpose⁸

It is important to establish an understanding between the decision maker and the researcher as to the role the research will play in providing information for use in making decisions. This suggests that one of the first things that researchers should do is identify the decision alternatives facing the decision maker.

Identify Decision Alternatives

As has been repeatedly stressed in this chapter, effective research is research that results in better decision making. Hence, as a first step in determining the role of research in solving the management problem, the researcher should ask "what if" questions to help identify the decisions under consideration. For example, continuing the Compton Company dialog between researcher and decision maker:

Researcher: *What if* the research revealed that potential customers believed our products failed to offer features comparable to our competitors and so bought competitors' products?

Manager: Well, I do not think that is happening, but if it were then we would change our product to offer those features.

A review of such "what if" questions will identify those areas in which decisions might be made to solve the management problem. If the answer to the question is that knowing such information would not make a difference in the decisions made, then the researcher knows not to include that issue in the research because it would not positively influence decision making. It is obvious that it is necessary for the researcher to think like a decision maker in order to know what questions to ask. Putting yourself in the position of a decision maker, thinking what decisions you might be faced with, and then asking "what if" questions to determine if the actual decision maker sees things as you do is an effective means of beginning the process of determining the research purpose.

Asking “what if” questions aids the researcher in determining the purpose of the research. Write down all the topics where the answers to “what if” questions reveal decisions that are to be made based on such findings. Research will attempt to provide information that makes a difference in decision making.

Research Project Tip

Determine Decisional Criteria

Once the decision alternatives facing the decision maker seeking to solve the management problem have been specified, the researcher must determine what criteria the manager will use to choose among the alternatives. Different managers facing a choice among alternatives might desire different information, or information in different forms, to feel comfortable in distinguishing which alternative is best. The decisional criteria are those pieces of information that can be used to identify which alternatives are truly capable of solving the problem. For example, in the Compton Company case the dialog to help identify one of the decisional criteria might have looked like the following:

Researcher: So, one area where we might want to consider making a decision would be redesigning the product with the latest features. What information would you need to have in order to make those types of decisions?

Manager: I would want to know the features desired by our target market customers, and how those features are expected to deliver specific benefits to those customers. I would also like to see how our customers compare our products to our competitors' products.

You may have to ask a series of probing questions intended to get the client to reveal what information in what form he or she will need in order to make the decisions faced. Sometimes these criteria have not been explicitly identified before such questioning. By thinking like a business decision maker, you can determine if the client might be interested in the same information you might use if you were in the client's position.

Research Project Tip

A similar dialog would help to identify other decisional criteria. Through this process of specifying decisional alternatives and the criteria used to choose among the alternatives, the researcher is also helping the decision maker to clarify in his or her own mind how to arrive at a decision to solve the real management problem.

Indicate Timing and Significance of Decisions

Other areas of concern to the researcher trying to arrive at a statement of research purpose are the amount of time available to the decision maker within which to make the decision, and how important the decision is to the firm. The same management problem could result in vastly different research purposes if decision makers see the timing and significance of the research differently. Researchers are responsible for ensuring that the research purpose not only fits the decisional criteria needs but is also consistent with the timing and significance accorded the research and the associated decision-making process.

Statement of research purpose. Once the decision alternatives, criteria, and timing and significance of the decisions have been considered, it is useful for the researcher to construct a one (or two) sentence declaration of the research purpose. For the Compton Company case such a sentence might be as follows:

Research Purpose: To determine the cause(s) of the decline in our market share and identify possible actions that could be taken to recover the lost share.

The researcher would need to obtain agreement with the decision maker as to the appropriateness of such a statement as well as agreement with the research questions.



State Research Objectives

Research objectives consist of questions and hypotheses. The research questions represent a decomposition of the problem into a series of statements that constitute the end results sought by the research project. The questions should be stated in such a way that their accomplishment will provide the information necessary to solve the problem as stated. The objectives serve to guide the research results by providing direction, scope of a given project, and serve as the basis for developing the methodology to be used in the project.

In the area of research questions, both the user and provider should interact to maximize the research results that the user and provider are anticipating. The provider of the information usually assumes the role of interpreting

needs and developing a list of questions that serve as a basis of negotiation for final research objectives. It is helpful to use the form of questions so that the researcher can think in terms of finding ways to provide answers to those questions. The following illustration will help make this clear.

In the Compton Company case, the research questions might be framed as follows:

- Where has market share declined (e.g., products, geographic areas, channel type)?
- What is the level of awareness and interest in our products among target market members?
- What competitive actions have attracted our customers?
- What are the perceptions of our dealers and distributors for our policies and practices (i.e., what is the status of our relationships with dealers)?
- How do customers rate the quality, features, and price of our products versus the competitors'?

Other questions could be stated. Note that in each case research must be done (sometimes internal to the company, sometimes external) to discover information that can answer the research questions.

Research Project Tip

Be sure that your research questions are in the form of questions and require research of some type (internal or external to the organization) to get answers to the questions. Plan on spending a fair amount of time developing these questions (and hypotheses) because all the remaining steps of the research process will be seeking to get answers to these questions (and testing your hypotheses).

Research Project Tip

Because the research process from this point on will focus on achieving the research objectives (i.e., answering the research questions and testing the hypotheses), the researcher needs to step back and objectively look at these objectives and ask the question: *Do I really believe that getting answers to these questions (and testing these hypotheses) will provide the information needed to make the necessary decisions to solve management's problem?* Sometimes all the research questions look good individually, but collectively they just do not provide the information necessary to make the decisions. In this case more research questions are needed.

Hypotheses are speculations regarding specific findings of the research. They are helpful to researchers when their presence results in actions taken by the researcher that might not have occurred in the absence of the hypothesis. If the presence of a hypothesis in no way affects the research or the analysis of the data, the hypothesis is superfluous and does

not need to be stated. If, on the other hand, the hypothesis influences the research in any one of the following ways, it should be included:

1. **Choice of respondents.** If the researcher believes that an important part of the research is to determine if a speculated difference in attitudes, behaviors, and preferences exists between two groups of respondents, the hypothesis is useful to the research. For example:

Hypothesis: Customers on the west coast favor this product feature more than customers on the east coast.

Hypotheses can be very helpful in identifying issues for the research to investigate but are superfluous if they do not work, as the three examples illustrate. Include them when their presence results in the research being somehow different than it would be if they were not there.

Research Project Tip

Such a hypothesis affects the research by causing the researcher to include customers from both coasts in the sample. Without the need to test such a hypothesis, the sample may not include enough customers on the east and west coasts to allow for comparisons. Of course, as with all research questions and hypotheses, there should be some decision-making relevance in pursuit of an answer to the question or testing the hypothesis (see Figure 1.4).

2. **Questions asked.** A second area where hypotheses work for researchers is in influencing the questions asked of respondents. For example:

Hypothesis: Customer interest in our product declines when they see what it costs.

Prepare a short (no more than three single-spaced pages) Statement of Management Problem, Research Purpose (include decision alternatives, criteria, timing, and importance), Research Objectives, and Hypotheses based on your dialogs with the client. Get the client's reactions, revise as necessary, and submit to your instructor.

Research Project Assignment

To test this hypothesis the researcher must find some way to ask questions that determine the role of price in affecting customer interest in the product. So, hypotheses that aid the researcher by suggesting variables to be included in the data-collection instrument are useful.

3. **Analysis of data.** Another use of hypotheses that argues for their inclusion is when the hypothesis identifies analytical tasks that must be performed to test the hypothesis, as shown below:

Hypothesis: Sales declines for this product are not uniform across the country.

Here, a test of the hypothesis requires the researcher to examine the sales data on a regional, district, state, or some other appropriate geographical breakout. Absent such a hypothesis, the data might not be examined in this manner.

Develop Research Design

Once we have established the research questions and hypotheses, we must plan a research design by which we will get answers to our research questions and test our hypotheses. Although it is important that the researcher be precise and comprehensive in the development of research questions and hypotheses in order that the research design directly address those research needs, the researcher must also be flexible in order to make changes

Definition of Terms: Management Problems/Opportunity, Research Purposes, Research Questions, Hypotheses

Management Problem/Opportunity

Idle curiosity is an insufficient reason to undertake research. To justify research, management must need research information in order to reduce the risk of making decisions intended to either solve a problem or investigate an opportunity. A problem exists whenever the ideal state differs from the actual state (e.g., sales are down, and management doesn't know why). An opportunity is a chance to improve performance if the correct decisions can be made (e.g., what do we need to know about the market that can help us determine whether we should introduce this new product line or not?).

Research Purpose

Decision Alternative

What actions might we take to solve the problem or exploit the opportunity if the research reveals that those actions are warranted (e.g., change our target market, promote convenience as our competitive advantage)?

Decisional Criteria

The information we need to know from the marketplace that helps us choose among the decision alternatives (e.g., if we discovered the opportunities to grow our current target market we'll better know if we should change our target market; if we know the prospective customers' attraction to convenience as a selling point, we'll know if that should be our Unique Selling Proposition).

Research Purpose

A declarative statement that indicates how the research will contribute to solving the problem or evaluating the opportunity (e.g., "To determine the cause(s) of our sales decline and the possible actions to reverse the decline.").

Research Questions

The specific questions that must be answered by the research in order to provide all the decisional criteria information needed. In other words, what exactly does the research need to discover that will help us know what we should do to ultimately solve our problem or exploit our opportunity? For example, our decision alternatives include changing our target market, our criterion is the extent of the opportunity to grow our current target market, and our questions might include:

- What are our current target market's needs? Have they changed? Why?
- Does our current target market believe that our product fully satisfies their needs? Why or why not?
- How well do our competitors satisfy the needs of the target market?
- What is the expected growth rate of the current target market (i.e., people who share this need)? Other market segments?

We'll need numerous questions answered before we are fully ready to choose among our decision alternatives.

Research Hypothesis

Possible findings from the research that could make a difference in what we decide to do (e.g., Hypothesis: Our product appeals more to the older market segment than the younger.).

This possible finding (we don't know whether it is true or not until we do the research) could affect our target market selection. To determine whether it is true or not requires that we ask both young and old consumers in our research about the attractiveness of our product.

FIGURE 1.4
Definition of Terms

to both the research questions/hypotheses and the design in the course of conducting the research. This flexibility is important because unanticipated discoveries during the research may require reformulation of the questions and hypotheses and the research design followed to address them.

The research design will involve the use of one or more of three broad categories of research approaches: exploratory, descriptive, and causal. Exploratory research is usually called for if the management problem is vague or can be only broadly defined. Research at this stage may involve a variety of techniques (literature review, focus groups, in-depth interviews, psychoanalytic studies, and case studies) and is characterized by the flexibility allowed to researchers in the exploration of relevant issues. Descriptive research is conducted when there is a need to measure the frequency with which a sampled population behaves, thinks, or is likely to act or to determine the extent to which two variables co-vary. Research must be highly structured in descriptive research so that any variation in the variables under investigation can be attributed to differences in the respondents rather than to variations in the questioning. Causal research is also highly structured and

includes exercise of control over variables in order to test cause-and-effect relationships between variables. While exploratory research is used to generate hypotheses, both descriptive and causal research are used to test hypotheses.

Select Data-Collection Methodology

A research design provides the overall plan indicating how the researcher will obtain answers to the research questions and test hypotheses. The researcher must also identify the specific methodology that will be used to collect the data. These decisions include determining the extent to which the questions can be answered using **secondary data**—data that has already been collected for purposes other than the research under investigation—or must be answered by the use of **primary data**—which is collected explicitly for the research study at hand. If primary data must be collected, decisions must be made with regard to the use of communication and observation approaches to generating the data, the degree of structure and disguise of the research, and how to administer the research—observation by either electronic, mechanical, or human methods; communication in person, through the mail, over the phone; or via computer.

Secondary data data that has already been collected for purposes other than the current research project.

Primary data data that is collected explicitly for the research study at hand.

Determine Measurement and Data-Analysis Methods

The next research decision area concerns the methods used to measure and analyze the data. The major criterion used in making this decision is the nature of the data to be analyzed. The purpose of the analysis is to obtain meaning from the raw data that have been collected.

For many researchers, the area of data analysis can be the most troublesome. Whereas some data-analysis techniques do require an understanding of statistics, it is not true that all research results must be managed by statistical experts to be interpretable or useful. However, use of the *proper* data-analysis approach will mean the difference between capitalizing on all the careful work done to generate the data versus not being able to discover the answers to research objectives, or worse, drawing erroneous conclusions.

It is important to identify how the information will be measured before a data-collection instrument is developed because it is necessary to know how one plans to use the data in getting answers to research objectives before the question that generates the data can be asked. For example, if one needs to examine the differences in attitudes of people aged 13 to 16, 17 to 20, 21 to 24, and 25 to 28, one cannot ask about the respondent's age by using categories less than 18 years, 18 to 25, or 25 and older.

The researcher is therefore trying to determine the answer to this difficult question: "How will we measure what we need to measure?" For example, if attitudes are to be measured, which technique will be used? The method of equal-appearing intervals? The semantic differential? The Likert technique? In many cases no validated measuring techniques are available, so the researcher must rely on what has been used in past studies and on his or her own judgment to decide upon the appropriate technique.

It is extremely important that the researcher develop operational definitions of the concepts to be measured and that these be stated explicitly. Even seemingly simple concepts, such as awareness, can be defined in several ways, each having different meaning and relative importance. To know that 60 percent of the respondents said they had heard of Kleenex is not the same as 60 percent saying that Kleenex is what comes to mind when they think of facial tissues. Yet both of these approaches could be considered as measuring awareness.

Design Data-Collection Forms

The specific instruments (forms) that will be used to measure the variables of interest must now be designed. This would involve the design of the observation form or questionnaire. In either case, these forms should coincide with the decisions made with respect to what should be measured and how.

Constructing a data-collection form is part art and part science. We are attempting to construct an instrument that is capable of generating the measures and allowing for the

data-analysis procedures determined in the previous step. However, we are also focusing on the decision that we are faced with making that was both the beginning point and the end point of our research. Thus, the data-collection instrument must accomplish more than merely generating measures; it must provide the insights needed that lead to better decision making. As we'll see in Chapter 6, there is a great deal more to achieving such a goal than merely converting our needed measures (data) into questions capable of producing those measures. For example, in addition to expressing the study objectives in question form (i.e., obtaining measures), a questionnaire must contextualize the information collected, create harmony and rapport with the respondent, and generate data that might not have been specified in the study objectives but that is needed to direct decision making. These goals require a blend of both art and science to be successfully achieved. We won't ultimately be successful, however, if we ask the wrong people the right questions. Hence the importance of our next step in the process.

Define Sampling Methods

The next step in the research is to define the population or universe of the study. The research universe includes all of the people, stores, or places that possess some characteristic management is interested in measuring. The universe must be defined for each research project, and this defined universe becomes the group from which a sample is drawn. The list of all universe elements is sometimes referred to as the sampling frame.

It is extremely important that the sampling frame include all members of the population. Failure to meet this requirement can result in bias. If, for example, the researcher is trying to estimate the potential market for a new memory impaired nursing home and intends to use currently diagnosed Alzheimer patients as the population listing or sampling frame, at least two problems would be encountered. First, not everyone who is memory impaired has Alzheimer because there are other forms of dementia. Additionally, there is a percentage of the population with the disease who have not been diagnosed. Thus, the difference between the sampling frame (Alzheimer patients) and area residents could be substantial and would bias the results.

It is imperative that the population be carefully identified, and a sampling technique used that minimizes the chance of bias introduced through the sampling frame not containing all elements of the population. Sampling methods also include determination of techniques and sample size. Two separate decisions are called for in this step. The first is how specific sample elements will be drawn from the population. There are two broad categories of sampling techniques: probability and nonprobability. The approach selected depends on the nature of the problem and the nature of the population under study. For probability designs the objective is to draw a sample that is both representative and useful. For nonprobability designs the objective is to select a useful sample even though it may not be representative of the population it comes from. These distinctions will be clarified later, but it is important to note that the sample design influences the applicability of various types of statistical analysis—some analysis types are directly dependent upon an assumption about how sample elements are drawn.

Sampling issues are pertinent even when we are dealing with decision makers who say “I cannot afford the time or money to do a big survey. I just want to get a feel for the market opportunity and then I will take my chances.” For example, if in the Compton Company case the decision makers held such an opinion about what competitor policies were with dealers, the researcher is still faced with the need to define the population



of interest (all dealers, dealers of a certain volume of business or location), develop a sampling frame (list) of the dealers, and determine how many and who to talk with in order to get answers to the research questions.

Sample size represents the other side of the decision to be made. Determining how many sample elements are needed to accomplish the research objectives requires both analysis and judgment. The techniques for determining sample size are discussed in Chapter 9, including a whole series of other nonstatistical questions, such as costs, response rate, homogeneity of sample elements, which must be considered to determine sample size. In some studies, the cost may dictate a lower sample size than would be required given requirements about sampling reliability.

Collect, Analyze, and Interpret the Data and Present the Results

Once the previous steps have been completed and the planning stage of the research project has been carried out, the plan is now ready for execution. The execution stages involve collecting the data from the population sampled in the ways specified, and analyzing the data using the analysis techniques already identified in the research plan. If the research plan or proposal has been well-thought-out and de-bugged early through revisions of objectives and research designs, then the implementation steps will flow much better.

Once the data are collected and analyzed, the researcher must interpret the results of the findings in terms of the management problem for which the data were collected. This means determining what the results imply about the solution to the management problem and recommending a course of action to management. If the purpose of the research project was to determine the feasibility of introducing a new product and the results of the research project show that the product will produce an acceptable level of profits, then the research should recommend introduction of the product unless there are known internal or external barriers to entry that cannot be overcome. This means the researcher must move beyond the role of the scientist in objectively collecting and analyzing data. Now a researcher must assume the role of a management consultant in a science that states: Given these facts and this interpretation, I recommend this action. This does not, of course, mean that the action recommended will be followed by management. Because the researcher is usually in a staff capacity, only recommendations for action can be offered. Management can accept or reject the recommendations; this is management's prerogative. However, to be effective in getting results implemented, the researcher must assume this role of recommending action. The researcher should be involved in the problem definitions and objectives to be able to recommend courses of action based on interpretation of results.

To some this approach may seem to be overstepping the researcher's responsibilities to make recommendations. Yet most managers appreciate this approach because it at least represents a starting point in deciding what action should be taken given certain research results. Remember, information has not really served its basic purpose until it is used in decision making.

BUSINESS INFORMATION SYSTEMS

Many organizations have moved beyond the stage of thinking of information needs in terms of projects and have focused attention on creating information systems that provide a continuous flow of information to users. Although such a focus may shift priorities in terms of the amount spent on information for a database and that spent for specific projects, it should be pointed out that even if information is collected on a regular basis as a part of the information system, the principles of good business research set forth in this book are still applicable to these information systems. The fact that information is collected on a regular basis does not negate the need for relating it to the decisions to be made and for using correct sampling techniques. The basic principles outlined are applicable to all information flows, some directly and others indirectly, but nonetheless applicable. Therefore, an understanding of these principles will help ensure better quality of information regardless of the nature of the system or procedures used to provide the information.

SUMMARY OF KEY POINTS

What is involved in the decision-making process.

The decision-making process involves four steps: (1) identify a problem or opportunity; (2) analyze the problem or opportunity; (3) identify alternatives; and then, (4) select an alternative.

How research contributes to the decision-making process.

To accomplish its purpose of risk reduction, information collected through research must be directly related to the decision to be made. Thus, the focus of research should be the decision-making processes in general and, specifically, the decision to be made in a given situation, rather than the data or the techniques used to collect the data.

The differences among the following: management problems and opportunities, decisional alternatives, and decisional criteria.

Management Problems and Opportunities

To justify research, management must emphasize the need for research information to reduce the risk of making decisions intended to either solve a problem or investigate an opportunity. A problem exists whenever the ideal state differs from the actual state (e.g., sales are down, and management doesn't know why). An opportunity is a chance to improve performance if the correct decisions can be made (e.g., what do we need to know about the market that can help us determine whether we should introduce this new product line or not?).

Decisional Alternatives

What actions might we take to solve the problem or exploit the opportunity if the research reveals those actions are warranted (e.g., change our target market, promote convenience as our competitive advantage)?

Decisional Criteria

The information we need to know from the marketplace that helps us choose among the decision alternatives (e.g., if we discovered the opportunities to grow our current target market, we'll better know if we should change our target market; if we know the prospective customers' attraction to convenience as a selling point, we'll know if that should be our Unique Selling Proposition).

How the research questions lead to formulating research hypotheses.

Research questions are the specific questions that must be answered by the research to provide all the decisional criteria information needed. In other words, what exactly does the research need to discover that will help us know what we should do to ultimately solve our problem or exploit our opportunity? This then leads to the development of a research hypothesis, which we need to confirm or reject. For example, we might develop the following hypothesis: Our product appeals more to the older market segment than it does to the younger market segment.

KEY TERMS

Applied business research (p. 5)
Basic business research (p. 5)
Business research (p. 4)
Opportunity (p. 6)

Primary data (p. 19)
Problem (p. 6)
Secondary data (p. 19)

DISCUSSION QUESTIONS

1. "The best business researchers think like decision makers." Discuss the validity of this statement, using examples from the text, class discussion, and other readings to make your point.
2. The Compton Company made a serious error in problem formulation. Describe what happened and what lessons we can learn from their experience.
3. Describe what should have been the statement of management problem, research purpose, and research questions for Compton had the company done research instead of deciding without collecting information.
4. Which is more important to get right if research that contributes to better decision-making is to occur: the management problem, the research purpose, or the research objectives? Defend your answer.
5. Why is it necessary for business research to be both managerially relevant and scientifically believable to result in better management decision making? Use examples from the text and class to help illustrate your answer.
6. Define the following terms and describe the process used by the researcher in determining what they would be for a research project: management problem or opportunity, decisional alternatives, decisional criteria, research questions, research hypotheses. Use specific examples to illustrate your points.

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