

Internal and External Environmental Information

Nothing is permanent, except change.

• *Heraclitus* •

Change. The world is constantly changing. Business must be able to strategically adapt to ever-changing internal and external environments in order to survive and prosper. Furthermore, the pace of change is accelerating and firms are confronted with "megatrends" and "future shock" every day, making their strategic management tasks more difficult. 256K personal computers, gourmet frozen food dinners, video disks, paper bottles, natural soda, lightning storm lamps, the People's Express, Reunite, and the space shuttle all became prominent products in the period from 1980 to 1985. In the same period we also saw a prime rate ranging from 21 percent to 10 percent, a federal debt of \$2 trillion-plus, devastation followed by recovery in the housing and domestic auto industries, national recognition of the need for improved quality and increased productivity, major changes in energy supplies (from rationing to surplus), an annual inflation rate ranging from 13.5 percent to 4 percent, supply-side economics, havoc in the bond markets, a dollar that once was weak and became strong again, and the People's Republic of China deciding to try capitalism instead of continuing to focus on former economic beliefs.

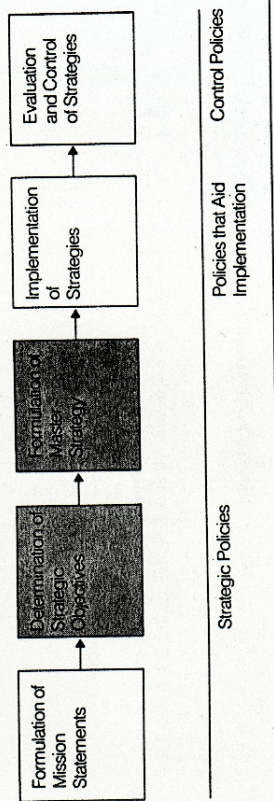
These and numerous similar events and facts illustrate that business currently faces an external environment that is more changeful and more demanding than anything business has previously encountered. And unfortunately, the future holds little promise of a more stable situation.

Furthermore the internal organizational environment is also changing rapidly. As employee education levels and expectations rise, as computers provide more information-processing capabilities, as the mix of employees changes, as the emphasis in management changes toward quality—and the quality of life—the internal environment must change. And it must also change as the organization adapts to its external environment. As with changes in the external environment, changes in the internal environment of the organization necessitate changes in the master strategy.

It can be argued that if a business is not growing, not changing, not meeting the current needs of society, and preparing to meet its future needs, it is declining. To the unaware, strengths too soon become weaknesses, and opportunities too soon become threats.

Just ask Joseph E. Seagram & Sons Inc. Once masters of the hard-liquor industry, they must now diversify as hard-liquor sales plummet in a more health-conscious America, an America where consumers now prefer the "light" liquors and wines to the formerly domi-

Figure 2.1 The Organization—a Strategic Management Process Model



nant "brown" liquor blends, bourbons, and scotches.¹ Or query a major airline about the impact that small airlines with fuel-efficient airplanes for shorter flights have had on its profits since deregulation.² Or investigate the fortunes of the Victoria Station restaurant chain. That firm faces dire problems caused by the invasion by others into its niche, the theme restaurant.³ The examples are numerous and are readily found in the bankruptcy courts or in reports of management terminations and corporate takeovers.

Organizational strategists must make themselves aware of the changing world and of the organization's internal situation as well. The basis of successful strategic action is in the formation. Chapter 1 discussed mission, strategic policy, and strategists, three of the four major influences on the determination of strategic objectives and the formulation of the master strategy. Information is the fourth major factor, and it is information about reality and not the reality itself that causes strategies to be formulated in one way or another.

A danger facing all organizations is that top management's understanding of the environment can become obsolete.

▪ R. T. Lenz and Jack L. Engeldow ▪

This chapter reviews internal and external environmental information and how this information can be gathered and used in the strategic management process. (Figures 2.1 and 2.2 show which components of this process are examined in this chapter.) The objective of obtaining strategic information is to ascertain organizational strengths and weaknesses and organizational opportunities and threats in order to better determine objectives and strategy. This chapter first defines strengths, weaknesses, opportunities, and threats (SWOT) in order to provide the necessary background regarding what information is necessary. The discussion then moves to strategic information systems and the sources of information. The information sought at both the internal and the external level is reviewed. Special emphasis is given to external environmental events and their impacts on

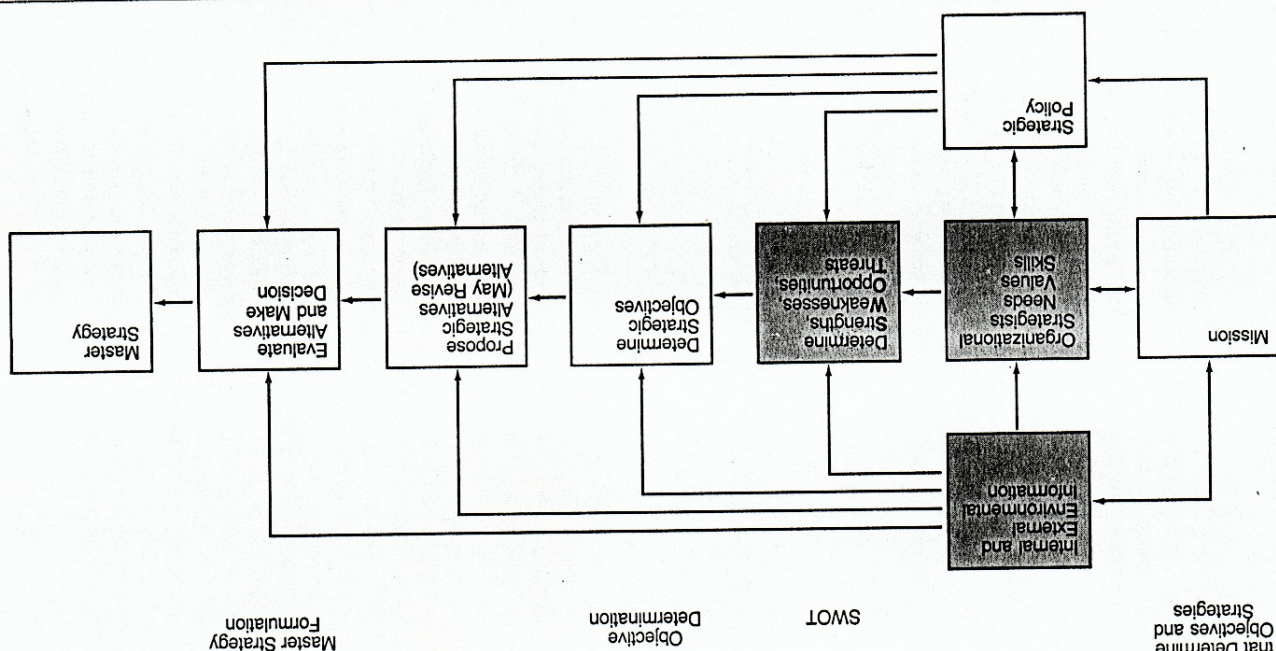
¹"How Seagram is Scrambling to Survive the Sobering of America," *Business Week*, September 3, 1984, pp. 94-95.

²W. M. Carley, "Some Major Airlines Are Being Threatened by Low-Cost Carriers," *The Wall Street Journal*, October 12, 1983, pp. 1, 23.

³James Higgins's personal analysis.

Figure 2.2 Objectives Determination and Master Strategy Formulation

Four Initial Factors that Determine Objectives and Strategies



the organization. The chapter then examines the analysis and forecasting of information. The appendix which follows this chapter provides a more detailed listing of sources of external environmental information.

As you analyze any cases which might be used in a course on strategic management, you will use such external environmental information. The knowledge gained from this chapter is important to you in class, as well as being important to strategists in business organizations. *The second appendix to this book provides an extensive checklist similar to what organizations use in determining SWOT. You should use this "strategic audit" in examining any cases assigned to you.*

SWOT

The organization's strategists observe mission, strategic policies, and current and forecasted information and then determine current and future organizational strengths, weaknesses, opportunities, and threats in order to determine where they are, where they want to be, and how they plan to get there—the essence of strategy. Strategists then perform their most important roles by determining strategic objectives and formulating the strategic plans to accomplish those objectives.

Organizations have certain characteristics—strengths—which make them uniquely adapted to carry out their tasks. Conversely they have other features—weaknesses—which inhibit their ability to fulfill their purposes.

■ Howard H. Stevenson ■

What Are SWOT?

Identifying SWOT is essential if the organization is to be successful. The process is complicated; and there are no simple solutions, as you will see in later chapters. First, though, exactly what are SWOT?

Strengths. Strengths are positive internal abilities and situations which might enable the organization to possess a strategic advantage in achieving its objectives.

At the business level, strengths are defined in terms of how the SBU can market its products competitively. There are five primary variables in marketing strategy: target market, product, promotion, price, and distribution. The strategies developed in these five areas are essential to success; but functional strategies, both economic and managerial, can make important contributions to a successful marketing effort. For example, in 1984, General Motors purchased 10 percent of Phil Crosby Associates, the nation's leading quality consulting firm.⁴ Why? Because in the automobile industry, price and product quality are essential ingredients in successful competition, especially against the highly efficient and highly productive Japanese firms. This investment will help GM remain competitive in the future because it guarantees GM the necessary quality management training and development programs it needs to maintain and improve the quality of its products.

⁴ Authors' personal knowledge plus see, "GM Moves into a New Era," *Business Week*, July 16, 1984, pp. 48–54; and S. Crawford, "GM Invests \$4 Million in Quality," *The Orlando Sentinel*, May 16, 1984, p. D-1.

Strengths at the corporate level for multiple-SBU firms are defined most often in terms of the synergy and balance among the SBUs within the firm. Synergy is the degree to which SBUs reinforce each other in pursuit of objectives. For example, an organization such as General Electric is considered to have very strong synergy among its SBUs. All are essentially technologically based and have more than adequate profit margins or potentials. Balance refers to the relative cash requirements of the SBUs. The balance among GE's SBUs is also satisfactory; some are growing, some are stable, and some have strong cash flows that can support the total company's growth efforts.

Weaknesses. Weaknesses are internal inabilities and situations that might result in or have resulted in the firm's not achieving its objectives. Weaknesses are the opposite of strengths.

At the business level, marketing is still the principal concern. Even successful firms such as McDonald's have weaknesses. In 1984, McDonald's found itself very vulnerable to competition because its product line is limited in a time of changing consumer tastes. Sales growth has declined. One market analyst suggests that complacency may be McDonald's most significant weakness.⁵

At the corporate level in the multiple-SBU firm, weaknesses are again a function of synergy and balance. For example, McGraw-Hill, a major U.S. electrical equipment manufacturer, finds itself making money with its U.S. operations but losing money in total, thanks to its overseas operations' losses in currency transactions. The balance is absent.⁶

Opportunities. Opportunities are external factors and situations which will assist the organization in achieving or exceeding its objectives. At the business level, they, too, are almost always expressed in terms of market potentials. The founders of Apple Computers saw a need for a personal computer at a low price. They created one and made a fortune. At the corporate strategy level in multiple-SBU firms, opportunities usually involve acquisitions or mergers. The Coca-Cola Company acquired Columbia Pictures because it saw that the corporation should become less dependent on soft drinks—and on its single most important product, Coke—and move into an often-profitable industry. It was correct in its evaluation of the opportunities, at least in 1984, as Columbia's "Ghostbusters" grossed some \$220 million as the year's number one box office attraction.

"When I came out of [Columbia's] Ghostbusters, I thought, 'Gee, we're going to lose our shirts.'"

■ Roberto C. Goizueta, 52, board chairman of Coca-Cola ■

Threats. Threats are external factors which might result in or have resulted in the firm's not achieving its objectives. Historically, threats have been defined in terms of the firm's

⁵ "The Fast-Food War: Big MAC Under Attack," *Business Week*, January 30, 1984, pp. 44–46; Sue Shellenbarger and Jeffrey Zaslow, "Fast-Food Chains Improve Menus to Tap Big Change in Public Tastes," *The Wall Street Journal*, October 27, 1983, pp. 33, 45.

⁶ Carol J. Loomis, "How Companies Are Coping with the Strong Dollar," *Fortune*, November 26, 1984, pp. 116–124.

competitors, but more recently the focus has expanded to include government, unions, society, and other stakeholders. At the business strategy level, an example of a threat is a technological innovation introduced by a competitor. Within a few months of the introduction of the digital watch, time had begun to run out on the Bulova Watch Company as a dominant force in the industry. It still depended upon pin-lever watches. Digital watches quickly captured Bulova's traditional markets. An example of how government can be a threat to business is the safety and environmental legislation which has placed extensive demands on the U.S. auto industry. An example of a societal threat is the successful campaigns of environmental groups to keep real estate developers from turning natural areas into suburbia in numerous areas in states such as Florida, California, Oregon, and the Carolinas.

At the corporate strategy level in multiple-SBU firms, threats are often the same as at the SBU level. Additional threats involve acquisitions and mergers. Rival multiple-SBU firms may compete to acquire the same SBU. A threat also exists in an unfriendly takeover attempt. In 1983 and 1984, for example, Disney was embroiled in an unfriendly takeover battle with "greenmailer" Saul Steinberg. Though the attempt was thwarted, both the CEO, Ron Miller, and the Chairman of the Board, Ray Watson, were deposed as a consequence of the ultimate resolution of this takeover attempt.⁷

At any time many businesses are confronted with a host of external technological threats. Managements of threatened firms realize that many threats may not materialize, at least in the short run. However, one or more of those potential threats may develop in ways that will have devastating impact.

• Arnold C. Cooper and Dan Schendel •

How Managers Define SWOT. H. H. Stevenson studied 50 managers in six diverse business organizations to find out how they defined organizational strengths and weaknesses. He found that while the steps for defining strengths and weaknesses were essentially the same, the specific factors examined and the criteria used in judging these factors varied, and many factors modified the exact definitions. Strengths tended to be relatively well known and based on historical data; but weaknesses were less well known, and often little relevant data about them was available. Further, interpretation of data by the managers was partly a function of the managers' positions and responsibilities in their organizations, their personalities, and their perceived roles in the organizations.⁸

The implications of this study are important. Stevenson notes that in conducting an internal evaluation, managers should: View the evaluation as an aid to task accomplishment; develop areas of examination tailored to the responsibility and authority of each manager; make criteria explicit to provide a common framework; understand the differences in use of identified strengths and weaknesses; and recognize the strategic importance of defining these attributes. In addition, it also seems possible that having the evaluation conducted by an external consultant would alleviate most of the problems mentioned above.

⁷ Discussed in detail in Case 17 (Project Fantasy: A Behind-the-Scenes Account of Disney's Desperate Battle Against the Raiders) of this text.

⁸ H. H. Stevenson, "Defining Corporate Strengths and Weaknesses," *Sloan Management Review*, Spring 1976, pp. 51-66.

Omar A. El Sawy, in interviewing 37 executives from small- and medium-sized high-tech firms, found that scanning of the external environment was an ongoing process characterized by at least three stages: initial detection, threshold attainment, and confirmation. Various cues were used to verify threats and opportunities, strengths and weaknesses, and very importantly high levels of intuitive input to the identification if SWOT occurred. In short, SWOT identification was less rational than we have conceptualized here.⁹

On the basis of two research studies, one can hardly discount the rationality of all evaluations of strengths and weaknesses, threats and opportunities. However, these studies point out the need to be aware of the human variable in the strategic decision process. While this chapter is devoted to the techniques involved in strategic decision making, Chapter 6 concentrates on this human variable. As will be seen, the strategic decision process is extremely complex, much more so than the models which describe it usually depict. In fact, much of the rationality desired and built into the decision system through techniques is negated by the human variable.

Information

*To manage a business well is to manage its future;
and to manage its future is to manage information.*

• Marion Harper, Jr. •

Information has two primary strategic roles—in objective setting and in strategy formulation. Information on the strengths and weaknesses of the organization in relation to external environmental opportunities and threats is used to set objectives and formulate strategies. Strategists generate and evaluate alternatives based on this information.

Information systems indicate the existence of many strengths, weaknesses, opportunities, and threats. Most of them will not require the reformulation of the master strategy, but they often cause strategic objectives to be changed. Most threats are resolved and most opportunities taken advantage of at lower levels of planning, control, and implementation. Occasionally strategic information systems may indicate the need to formulate or reformulate the master strategy and cause the strategic decision process to be pursued.

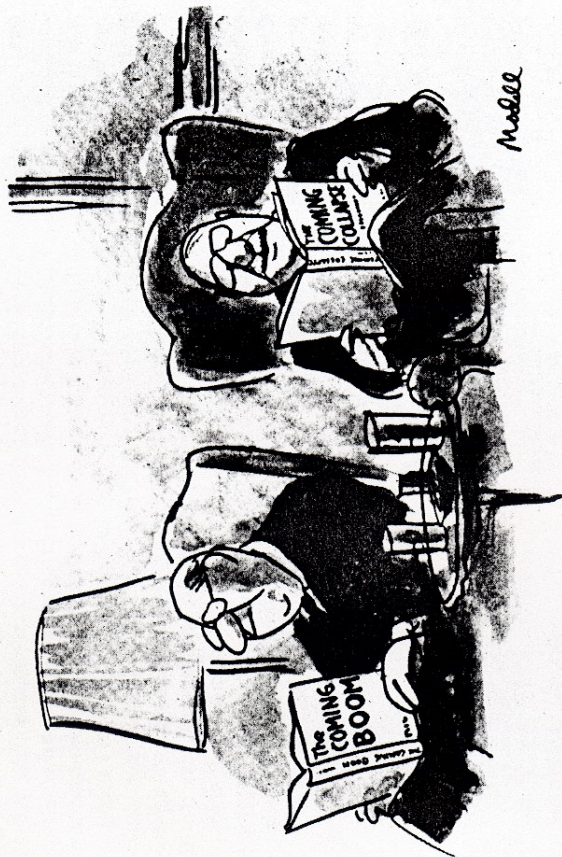
Strategic Information Systems

Getting an idea from one place to another is as important as getting an idea.

• Advertisement by TRW, 1985 •

It is the function of the strategic information system (SIS) to provide the informational inputs required in the strategic decision process. Any decision, and specifically the strategic decision, can be only as satisfactory as the information upon which it is based. An information system which provides accurate, timely, and relevant information for use in

⁹ O. A. El Sawy, "Undertaking the Process by Which Chief Executives Identify Strategic Threats and Opportunities," *Academy of Management Proceedings*, ed. John A. Pearce II and Richard B. Robinson, Jr. (Boston, 1984), pp. 37-41.



Source: Drawing by Modell; © 1983 The New Yorker Magazine, Inc.

the strategic decision process is an important organizational resource, because executives can be virtually overwhelmed by information. Various structural arrangements exist in organizations to provide strategic information. In larger organizations, elaborate management information systems (MIS) may provide this information. In smaller organizations, the CEO may scan the environment and assess his or her organization in an attempt to collect information to help determine where the organization is and where it ought to be. Numerous variations exist between these two extremes. The personal computer and its related software have provided smaller organizations with scanning, analysis, and forecasting capabilities that only larger firms used to enjoy. In addition to providing strategic information, major functions of the MIS include communication of objectives and plans and provision of information related to performance control.

Gathering information is not always easy as Information Capsule 2.1 illustrates. And information doesn't always ensure success—especially when not enough is gathered, or when it is contradictory as this chapter's cartoon reveals. Strategic information systems can be either formal or informal. Both types play a vital role in strategy formulation. The formal SIS is a component of the formal MIS. Of special concern to SBU strategic planning are demand forecasts for products and services balanced against the capacity and capabilities to produce them. Ultimately these balances are reflected in the operating plan and the operating budget. Also appearing in the operating budget are resource distribution actions and actual production commitments.

INFORMATION CAPSULE 2.1

The Intelligence Function

In the past few years, competition has intensified; for many it has become global. Finding out what your competitor is doing isn't always easy, but it's a lot easier than most people think. Companies like to tell others a lot about themselves, and if they don't, their employees do. It is this latter source of intelligence information that is becoming much more widely exploited. True, companies rightfully still subscribe to clipping services, and analyze competitors' annual reports, advertisements, job-opening announcements, and other potential information sources, but there is apparently no substitute for listening to your competitors' current or former employees.

Among the many strategies for gathering intelligence from competitors' employees are: probing potential employees who just happen to work for or who have worked for competitors in real or phony job interviews; picking the brains of competitors' employees at conferences and trade shows; and hiring competitors' employees and then debriefing them. But one of the most interesting ways is simply to sit in a popular restaurant or bar frequented by members of your competitors' staffs, and listen to them. For example, the Silicon Valley has several popular night spots, any of which may provide the astute and educated listener with numerous tactical and often important strategic bits of information. Known to have been leaked several weeks to several months in advance of product release were accurate descriptions of the Hewlett-Packard portable PC and Apple's Macintosh. Other common secrets that have been uncovered in such evening spots are: the existence of joint venture agreements, the strengths and weaknesses of competitor-customer relationships, circuit diagrams, and software capabilities. It pays, so it appears, to become an eavesdropper. It's all quite legal, although there are some "accepted" rules to the game as to what's fair.

Sources: Steven Flax, "How to Snoop on Your Competitors," *Fortune*, May 14, 1984, pp. 28–33; Erik Larson, "Many Top Secrets in the Silicon Valley Are Spilled at Tables," *The Wall Street Journal*, June 29, 1984, pp. 1, 26.

Most organizations plan strategy on an annual, cyclical basis. For such purposes, routines for data storage and reporting should exist. Since strategic decision making may occasionally be crisis oriented, however, there are few predictable boundaries as to the types of information which might be needed. It is therefore necessary to store almost all conceivable types of information, often in a "raw" form, in order to meet the demands of various situations.

As shown in Figure 2.3, a centralized formal data bank stores the data necessary for generating both routine and nonroutine reports on internal and external environmental phenomena. Internal information is presented in this figure as being reported on a functional basis. It could be sorted on a divisional/functional or other basis if necessary. Much of the strategic information routinely exists in reports and reporting formats already in use in the firm, especially formal internal data such as financial statements, cost control reports, quality control reports, inventory level reports, division performance reports, absenteeism and turnover reports, and the like.

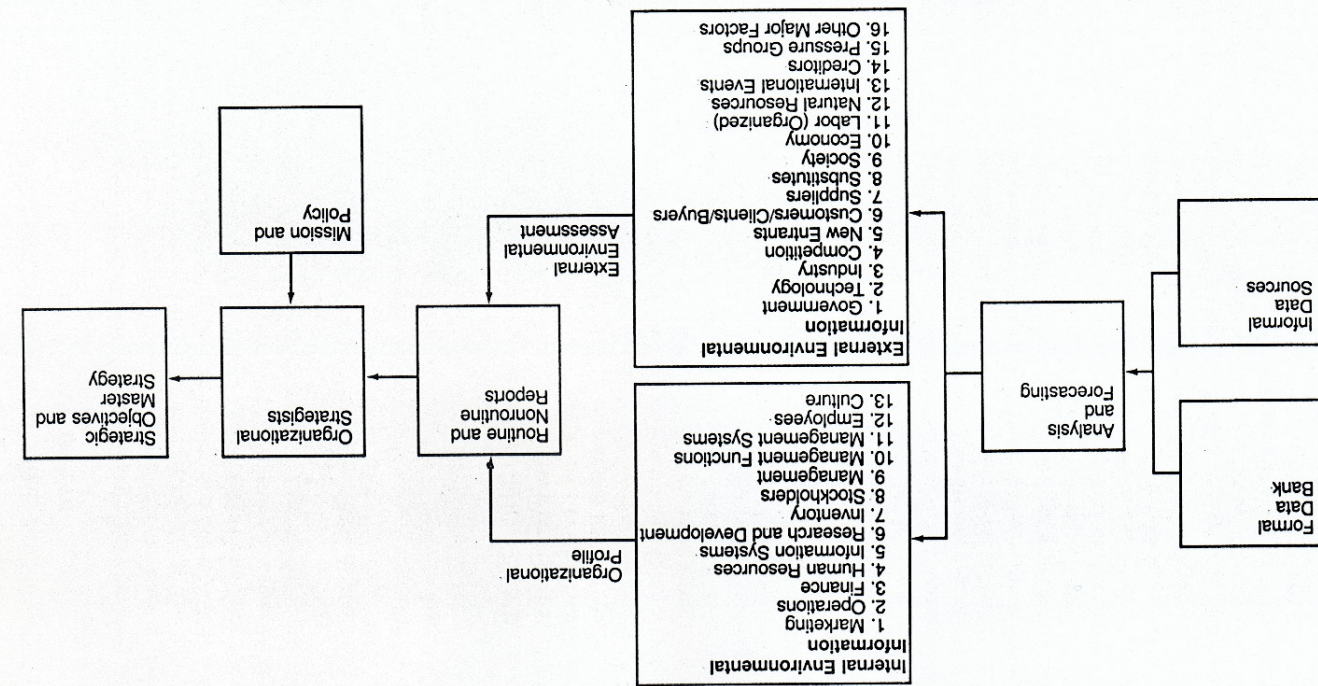


Figure 2.3 Strategic Information Systems

One manifestation of the computerized information system is the corporate "war room" with comprehensive computer-linked visual data display systems. While "war rooms" have existed for many years, in the past they used hand-printed charts on limited subjects. Now any corporate information can appear instantaneously on large television screens.¹⁰ The microcomputer, which functions as a "smart" terminal, further increases the capabilities of such systems, providing top-line managers and staff with strategic information, and with sophisticated analysis and forecasting capacities.

To this point the discussion of the SIS has stressed the formal information system. But the importance of informal information should not be overlooked. Many times, personal contacts with individuals inside or outside the organization produce significant information related to the future. For example, tips on federal government legislation may prove extremely beneficial. Or rumors about a competitor's strategy may, when investigated, prove to be an important indicator of profitable strategic actions. The evidence strongly suggests that, while the formal system may be proposed as the critical element, the informal system is the most consistently used basis for many top management decisions. Research indicates that 40 to 75 percent of the information used by top managers comes from informal sources.¹¹

Finally, a pragmatic note: management must make strategic decisions based on forecasts—not simply based on past history. Normally, this necessity is understood with respect to the external environment, the information about which often has already been changed in time horizon before it reaches top management. Strategists, however, often overlook forecasting when dealing with internal strengths and weaknesses. Even though the decisions must be made now, it is future as well as current strengths and weaknesses that must be compared with future as well as current threats and opportunities in the strategic decision process.

In the very large organization, the processes of information gathering and analysis described above would be accomplished in the formal information system under the direction of members of the professional planning group. At the opposite extreme, the CEO of a small organization may occasionally find it necessary to search for information or perform analyses personally.

Sources of Internal and External Environmental Information

As suggested earlier, information related to the internal strengths and weaknesses of the organization should be available in the organization's MIS. This information may also be gathered through informal sources. Typically, this type of information will be found in annual, quarterly, and monthly financial reports; in cost analyses; in capital budget statements; in cost/benefit analyses; in personnel reports on major human resource concerns;

¹⁰ "Corporate 'War Rooms' Plug into the Computer," *Business Week*, August 23, 1976, pp. 65-67.

¹¹ C. R. Adams, "How Management Users View Information Systems," *Decision Sciences*, April 1975, pp. 337-345; J. Dearden, "MIS Is Mirage," *Harvard Business Review*, January/February 1972, pp. 90-99; R. E. Linnemann and J. D. Kennell, "Shirtsleeve Approach to Long-Range Planning," *Harvard Business Review*, March/April 1977, pp. 141-150; P. Lorange, "The Planner's Dual Role—a Survey of U.S. Companies," *Long Range Planning*, March 1973, pp. 12-16; K. S. Ringbaek, "Organized Corporate Planning Systems: An Empirical Study of Planning Practice and Experiences in American Big Business" (Ph.D. dissertation, University of Wisconsin, 1968); R. N. Taylor, "Psychological Aspects of Planning," *Long Range Planning*, April 1976, pp. 66-74.

in marketing reports on sales and related information; and so forth. Few problems should exist in obtaining relevant internal information if the MIS is properly designed and implemented (a big "if"). However, the human resource and cultural information contained in most systems is limited in nature. Organizations are only beginning to recognize the need for and application of this type of information. While organizations usually collect data on absenteeism, tardiness, turnover, and so forth, seldom do they measure organizational climate, satisfaction, leadership style, and the like—important ingredients in explaining human resource productivity.

In addition to standardized control reports, nonroutine control activities may be desirable. These activities include organizational climate surveys, management audits, social audits, operational audits (of any subsystem), productivity audits, financial audits, strategic audits, and so forth. Both routine and nonroutine control activities are discussed at greater length in Chapter 9.

The strategic purpose of obtaining information on internal strengths and weaknesses is to compare them with perceived external environmental threats and opportunities and to make decisions based on these comparisons. F. J. Aguilar has described four modes of scanning the external environment for information about threats and opportunities:¹²

1. Undirected viewing—general exposure to information with no purpose other than exploration.
2. Conditioned viewing—directed exposure to, but not active search for, specific kinds of data, which will be assessed as they are encountered.
3. Informal search—search for specific information carried out in a limited and relatively unstructured manner.
4. Formal search—active, deliberate, structured search for specific information undertaken with a purpose in mind.

Most organizations use all four types of scanning, depending on the cost benefit of each. These four approaches form a continuum from general exposure to information to active and deliberate search for specific information. Every firm must remain alert to the general environment and to its own operations. As bits and pieces of information obtained in this scanning indicate changes in factors relevant to the formulation of strategy, then other, more directed types of scanning should begin. Conducting formal searches is desirable any time specific information is needed for strategy formulation.

Information on environmental factors can be obtained through various sources: for example, *The Wall Street Journal*; *Fortune*; *Business Week*; *Harvard Business Review*; numerous scholarly, popular, and trade journals; and newspapers are important sources. Any number of government, industry, news media, research, and reporting services provide additional information. The appendix to this chapter lists sources for each of the major environmental factors identified in Figure 2.3.

The various information sources vary in validity and reliability, as well as accessibility and timeliness. Much of the information used is gathered from secondary sources, but primary data gathering through research may be undertaken if the organization can afford the cost. While internal information sources may allow the organization to approach a real-time (or up-to-date), on-line MIS, constraints on environmental sources make a real-

time environmental MIS unlikely. The informal information system may be used more than the formal system. Information sharing among organizations is useful and has proven to be successful.

We've named some sources of information and how we find them and what we want them for, but we have not yet examined exactly what types of information we seek. Internal information regarding existing situations and external environmental information related to government, technology, competition, society, the economy, labor, natural resources, international events, and other major variables are critical to the success of the organization. First, let us examine the internal information needed.

The Internal Information Sought

Whatever information can be gathered regarding strategic strengths and weaknesses is important. Each business unit should concern itself with identifying the results of its efforts and its strengths and weaknesses, both current and potential, with respect to:

- Functional areas such as marketing, finance, operations, human resources, information systems, R&D, and inventory.
- Management values and capabilities.
- Performance of management functions.
- Performance of management systems.
- Stockholder orientations.
- Employee perspectives.
- Organizational culture.

Organizational Assessment

This information is best obtained through a total management audit covering every facet of the business, performed annually in conjunction with routine control reports. What the unit wants to know is where it is; and, if it is not where it wants to be, why it isn't there and how it can get there. Such an audit follows as part of the strategic audit in Appendix 2 to this text and is useful in analyzing cases or other organizational situations. However, more typically this information is "put together" from existing sources. Turn now to this audit and review the major issues which are to be addressed in an internal analysis.

The External Information Sought

At one level, environment is not a very mysterious concept. It means the surroundings of an organization; the "climate" in which the organization functions. The concept becomes challenging when we try to move from simple description of the environment to analysis of its properties.

• William R. Dill •

External information that will have a direct impact on opportunities and threats or provide inputs for defining strengths and weaknesses should be sought. Typically, this includes information in the following areas:

¹²F. J. Aguilar, *Scanning the Business Environment* (New York: MacMillan, 1967).

- Government.
- Technology.
- Competition.
- The industry.
- New entrants.
- Customers/clients.
- Substitutes.
- Suppliers.
- Society.
- The economy.
- Labor (organized).
- Natural resources.
- International events.
- Pressure groups.
- Creditors.
- Other factors.

The purpose of seeking this information is to assess the environment and determine the fit between this environment, its opportunities and threats, and the organization's strengths and weaknesses as revealed in the organizational profile above.

Now let us examine in more detail the types of information sought and the reasons for seeking this information in each of these areas.

Government

During the 1960s and 1970s, government dominated the external business environment. While competition was of concern, businesses probably spent as much time complying with governmental requirements as they did worrying about competition, perhaps more time.

Table 2.1 presents a list of major federal laws in several vital areas. Some were recently passed; some have been enforced more stringently in recent years. As can be seen by this table, in each of several major categories, business has had many of its strategic alternatives limited. These laws have served to increase business's social responsibility. Alternatives may be limited additionally through the enforcement of these laws, since enforcement varies from law to law and geographic area to geographic area. For example, the operations of almost all manufacturing organizations have been affected by the environmental protection requirements, resulting, in numerous situations, in significant additions to production costs. Also, virtually all organizations of any size have had to make comprehensive changes in their personnel practices as the result of equal opportunity laws. For many organizations, personnel practices have been dictated by federal agencies as the result of these laws. The consumer issue has resulted in numerous recalls of automobiles to Detroit and of other products to other manufacturers in other cities. And the energy problem and related laws have caused U.S. automakers to completely redesign their automobiles, making them lighter, smaller, and more fuel efficient.

Table 2.1 Laws That Affect Business

RECENT LAWS

Environment

Federal Insecticide, Fungicide, and Rodenticide Act of 1947
 Federal Water Pollution Control Act of 1956
 Clean Air Act of 1963
 Solid Wastes Disposal Act of 1965, as amended
 Water Quality Act of 1965
 A federal court broadly interprets the provisions of the Refuse Act of 1899 in 1966
 Air Quality Act of 1967
 National Environmental Policy Act of 1970
 Noise Abatement and Control Act of 1970
 Resource Recovery Act of 1970
 Clean Air Act Amendments of 1970

Equal Employment Opportunity

Equal Pay Act of 1963 as amended by the Education Amendments of 1972
 Title VII of the Civil Rights Act of 1964 as amended by the Equal Employment Opportunity Act of 1972
 Presidential Executive Orders 11246, 11375, 11478, 11758 (1967–1975)
 Age Discrimination in Employment Act of 1967
 Sections 500 and 503 of the Rehabilitation Act Amendments of 1974
 Veteran's Employment and Readjustment Act of 1972, as amended

Consumerism

Meat Inspection Act of 1906
 Federal Food, Drug and Cosmetic Act 1938, as amended by presidential executive order: The Office of Consumer Affairs, 1964
 National Traffic and Motor Vehicle Safety Act of 1966, as amended
 Fair Packaging and Labeling Act of 1966
 Federal Cigarette Labeling and Advertising Act, 1967
 Consumer Credit Protection Act, 1968
 Toy Safety Act, 1969
 Truth in Lending Act of 1969
 Consumer Product Safety Act of 1972
 Fair Credit Billing Act of 1974
 The Equal Credit Opportunity Act of 1974
 Consumer Product Warranties Act of 1975
 Consumer Goods Pricing Act of 1975
 Fair Trade Laws repealed, 1977
 Fair Debt Collection, 1978
 Revised Trademark Laws, 1985 (probable)

Energy

Federal Energy Administration Act of 1974
 Energy Reorganization Act of 1974 (establishes ERDA)
 Energy Supply and Environmental Coordination Act of 1974
 Energy Policy and Conservation Act of 1975

Economics

Chrysler Loan Guarantee Act of 1979
 Revised Bankruptcy Act of 1980 (used to avoid major economic catastrophes by some firms)
 Tax Act of 1981
 Deregulation of airlines, trucking, 1979–1981
 FCC allows AT&T to sell nonregulated services, 1979
 The Federal Reserve Bank permits banks to pay interest on checking accounts, 1980
 The Economic Recovery Act of 1981
 Tax Act of 1984
 Tax Act of 1985
 AT&T divests itself of its local telephone companies, 1984

Labor

Occupational Safety and Health Act of 1970
 Employee Retirement Income Security Act, 1974

continued

photocopy machines are just a few of the many examples of major industrial products which are technology-based. When a major technology comes into existence, an entire new industry may be created, such as occurred with the microcomputer industry or the photocopying industry.

Businesses must first of all concern themselves with new technology in the particular industry—that is, with the technological developments of their competitors. This concern has often led to industrial espionage. Moreover, the rapid changes occurring in the business technological environment have resulted in an increase in business' efforts to forecast technology. This process involves using many judgmental forecasting techniques. Technological forecasting is not easy, nor is it very accurate. The management of strategic surprises is at best difficult. Most competitors' technologies are unknown until their products are brought to the market. This is one major reason that environmental scanning for "weak signals" of change is so critical.

In an interesting study of responses to technological threats, A. C. Cooper and others found that traditional firms encounter great difficulty in responding successfully to major technological innovations introduced into their industry, especially during maturity or saturation stages of the product life cycle. While their sample was small, virtually no well-established firm studied was able to launch a successful counterthreat to the introduction of a new technology into its industry. This finding suggests that even when firms know about new technologies and respond to them, the response strategy may be ill-advised.¹³ When we consider the product life cycle, we can see that when new technology is introduced, the introducer gains a distinct strategic advantage over those who lack the technology. If the new technology captures a considerable share of the market, then the competitor who previously had the market has no advantage over any other firm coming into the market for this new product. J. M. Utterback and M. J. Abernathy found that firms in early stages of growth tended to introduce more technological innovations than did firms which were very large and complex in nature. This suggests that as firms mature, they may stagnate.¹⁴

In sum, these studies suggest that technological innovation may be difficult to counteract for a firm in the mature stage of the product life cycle although certainly numerous firms have prolonged their products' life cycles through technological innovation or adaptation. The available information also suggests that technology is the source of product innovation, and that new firms and new industries can be successfully based on such innovation.

The Japanese have been quite successful in adapting to someone else's technology and underpricing their international competitors through highly productive operations and other management and marketing systems strategies. However, only a few U.S. and Canadian firms have been able to achieve the high levels of productivity which allow firms to take advantage of others' technological advances. Clearly, technology is an advantage, and so is information. The firm that does not keep pace is destined for decline, as Information Capsule 2.2 indicates.

¹³A. C. Cooper et al., "Strategic Responses to Technological Threats," *Proceedings, Academy of Management*, 1974.

¹⁴J. M. Utterback and M. J. Abernathy, "The Test of a Conceptual Model Linking States in Firms' Process and Product Innovation," Working Paper No. 74-23, Harvard School of Business, 1974.

Table 2.1 continued

OTHER LAWS

Interstate Commerce Act of 1887
Sherman Act, 1890
Pure Food and Drug Act, 1906
Sixteenth Amendment, 1913 (income tax)
Clayton Act, 1914
Federal Trade Commission Act, 1914
Federal Communications Act, 1934
Social Security Act, 1935
Wagner Act, 1935
Robinson-Patman Act, 1936
Fair Labor Standards Act, 1938 (Wage and Hour Act)
Taft-Hartley Act, 1947
Anti-Merger Act, 1950
Automobile Information Disclosure Act of 1958
Landrum-Griffin Act, 1959

But these laws are not the only government constraints on business. There are regulatory agencies whose primary functions involve the observation and control of business. Indeed, the number of agencies and individuals at the federal level whose function is to regulate business is extremely high. In addition, there are state regulatory agencies, which control, for example, all public utilities; state environmental protection agencies, which are the primary enforcement mechanisms of the federal environmental law; state consumer protection agencies; various state agencies related to the building of houses; and various licensing and permit-granting organizations—state, federal, and local. These agencies, as well as various pressure groups such as the NAACP, the Sierra Club, and Ralph Nader and his group, have significant impact upon the strategy formulation of many businesses. As can be seen in some of the cases presented in this book, it is often necessary to change the major plans of action known as strategies in order to accommodate the demands of these organizations. The courts, especially the U.S. Supreme Court, may also greatly influence business activity through interpretations of laws and regulations.

The future holds some promise of less constraint; in 1985, public attitudes and the Reagan administration seemed to favor fewer constraints. But the task of control is not simple. Business's future appears to be one of continued regulation and control by federal, state, and local governments, especially the federal government. Because of these constraints and the frequent changes in them, business must continually monitor the environment and adapt to it or change it. Legal, ethical, and socially responsible political actions and lobbying are important strategic actions. All strategic actions depend on awareness.

Technology

Many, if not most, businesses depend on some type of technology for a competitive advantage or for products to sell. The American way of life has come to involve consuming more and more of the latest and greatest, and that involves technological advances. Since business is so dependent on technology, it must be ever mindful of technological surprises from competitors.

There are few major industries in this country which do not depend on technology. Television, computers, calculators, airplanes, pacemakers, Corningware, lasers, and

INFORMATION CAPSULE 2.2

New Home-Computer Design May Revive Japanese Market

Microsoft Corporation of Bellevue, Washington, previewed its new MSX computer at the preeminent Japan Electronics Show in Osaka, Japan, in October 1983. By all measures of success, the MSX promises to be the dominant type of personal computer in the next five years. The MSX incorporates a new computer design that allows it to handle programs written for most other personal computers—something unheard of previously. In addition, the MSX is inexpensive, is the only computer to operate while several memory cartridges are plugged into it, and is expected to be able to incorporate disk-drive features currently under design—making it superior to computers such as Coleco's Adam * which incorporate less desirable tape memory systems.

The MSX incorporates a new master control program, the MSX-DOS to control the flow of information to and from magnetic disks. The program is quite similar to the popular CP/M control program used on IBM's personal computer. As a result, software firms should be able to readily adapt current programs to the new system. The MSX computer will be sold first as a game system, but will move rapidly into the personal computer line. Earlier MSX systems are to be manufactured to accommodate readily later modifications to the system. The MSX will be sold first in Japan for approximately one year, but after that, it is likely to be introduced into the U.S. market by a number of manufacturers. Industry experts estimate that the MSX system will cause computer prices to drop significantly.

* Note: the Adam computer is no longer produced.

Source: Excerpted from "New Home-Computer Design May Revive Japanese Market," by Richard A. Shaffer, *The Wall Street Journal*, October 14, 1983, p. 33. Reprinted by permission of *The Wall Street Journal*, © Dow Jones & Company, Inc., 1983. All Rights Reserved.

While technology plays an important role in business success, it also poses problems for many companies. The unexpected consequences of a new technology can sometimes result in damage to the physical environment. All organizations, not just business, must engage in ongoing assessment of the impacts of technology on the physical environment. Nuclear waste (governmental and commercial), oil spills, DDT's effects on the food chain, acid rain, and PCB contamination are all examples of the use of technology getting out of control. Even the less-dramatic wastes and products of industry and government can, in mass, damage the environment. For example, in Louisiana, the waste material from oil and related chemical by-product industries have significantly polluted the environment. In affected areas, health problems are much greater than would be considered normal; cancer and other major illnesses abound. Many feel it is the pollution that caused these diseases.¹⁵ Such is also the case with automobile exhaust fumes, waste water, and garbage. From a strategic viewpoint, therefore, industry must be responsive not just to the profit

motive, but also to the greater needs of the society and to the quality of life. This is not only a moral position, but also hard reality. Where business has not been responsive to these needs, it has in the past often been forced by society and by government to respond in a manner that may be ultimately more costly and less profitable.

Technology assessment recognizes that within the ecosystem, all systems are interrelated and what affects one ultimately affects another. Technology assessment requires environmental surveillance. Business must chart a careful course of technological action. Indeed, the Environmental Protection Agency and other federal and state agencies require that such plans be made and recorded in environmental impact statements for areas of obvious impact. Business and other organizations must be ever alert to the less obvious impacts of their actions as well. The activities of various pressure groups must also be monitored. The attitudes of society should be determined. Governmental responses should be anticipated. All of this requires a satisfactory strategic information system.

Competition, Industry, New Entrants, Customers/Clients, Substitutes, Suppliers

In recent years, considerable interest has been shown in what has come to be known as "competitor analysis." The subjects of this section of the chapter—competition, industry, new entrants, customers/clients (buyers), substitutes, and suppliers, are all related to the subject of competitor analysis through the works of Michael E. Porter. You can apply this material directly to several cases that follow the text portion of this book.

Porter's Competitor Analysis. M. E. Porter proposes that the intensity of competition is the most critical element in the firm's environment. Porter suggests that the level of this intensity is a function of five basic competitive forces as depicted in Figure 2.4. Porter contends that "The collective strength of these forces determines the ultimate profit potential in the industry, where profit potential is measured in terms of long-run return on invested capital."¹⁶

According to Porter, a corporation must carefully monitor its environment to determine the impact of these five factors on the firm's potentials for success.¹⁷

1. Threat of New Entrants. New entrants typically

- have substantial resources.
- pursue actions that increase industry capacity.
- attempt to increase their market share.

As a consequence

- prices often go down.
- incumbents' costs may become inflated.
- incumbents' profits may therefore go down.

Because of the above factors, new entrants must be viewed as threats to incumbents. Miller's entry into the beer industry is a classic example of this type of situation.

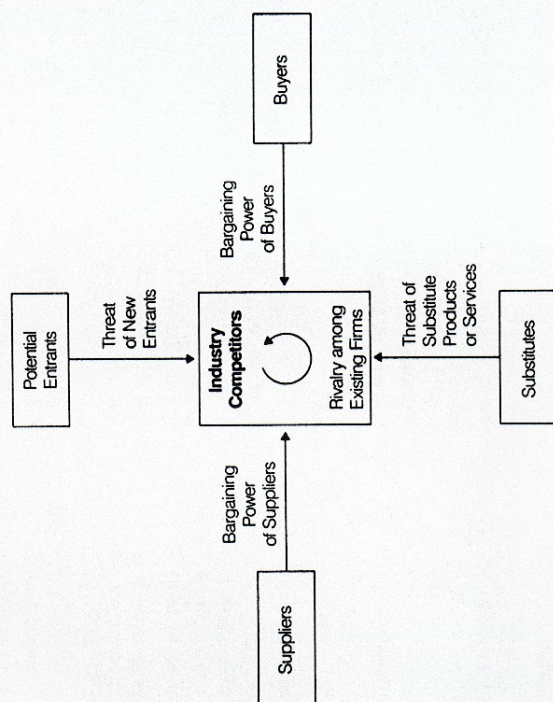
Porter identifies seven major sources of barriers to entry into an existing industry. These barriers assist incumbents because they reduce the number of potential new entrants:

¹⁶M. E. Porter, *Competitive Strategy* (New York: Free Press, 1980), p. 3.

¹⁷The sections on Porter's model are taken from *Competitive Strategy*, pp. 3–33.

¹⁵Thomas Petzinger, Jr. and George Getschow, "In Louisiana Pollution and Cancer are Rife in the Petroleum Area," *The Wall Street Journal*, October 23, 1984, pp. 1, 24.

Figure 2.4 Forces Driving Industry Competition



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- economies of scale—to obtain these requires high-entry investment.
- existing product differentiation which leads to customer loyalty.
- capital requirements.
- switching costs—for buyers switching from incumbent's product to the new entrant's product.
- access to distribution channels.
- cost disadvantages independent of scale.
- government policy.

2. *Intensity of Rivalry among Existing Firms.* Porter views rivalry as a process of move and countermove among existing, mutually dependent competitors employing tactics such as price competition, advertising, new products, and so forth. He sees intense rivalry as resulting from any number of critical industry factors which can and do change:

- numerous or equally balanced competitors.
- slow industry growth.
- high fixed or storage costs.
- lack of differentiation or switching costs.
- capacity augmented in large increments.
- diverse competitors.
- high strategic stakes.
- high exit barriers.

3. *Pressure from Substitute Products.* "All firms in an industry are competing, in a broad sense, with industries producing substitute products."¹⁸ These substitutes result in a price lid on industry products.

- The key to identifying substitutes is to look for those products that perform the same "function" as the product of the industry even though they may not appear to be obvious substitutes.
- Firms should pay attention to those products whose price-performance tradeoff with the industry's products is improving.
- Furthermore, the higher the industry's profits, the more likely that substitutes will be sought.

A good example of substitution is the problem faced by the security guard industry. Electronic alarms are a strong substitute. They are cheaper to operate and effective. Their advantage should increase in the future as labor costs increase and the cost of the electronic devices decreases.

4. *Bargaining Power of Buyers.* Customer/clients (buyers) compete with the industry in the sense that they are able to force prices down, bargain for higher-quality or more goods and services, or play one competitor in the industry against another. A particular buyer or group of buyers is powerful in the industry if:

- it purchases a large portion of the seller's total sales.
- its purchases from the industry are a significant portion of its cost of goods sold.
- its purchases from the industry are standard or undifferentiated.
- switching costs are low.
- it earns low profits.
- it has the potential for backward integration.
- the industry's product is unimportant to the quality of the buyer's product.
- the buyer has full information.

5. *Bargaining Power of Suppliers.* Suppliers can impact on an industry through their abilities to control prices and product/service quality. The conditions making suppliers powerful tend to mirror those that make buyers powerful. A supplier group is powerful if:

- it is dominated by a few companies, and is more concentrated than the industry to which it sells.
- there are few substitutes.
- the supplier's products are differentiated or switching costs are high.
- suppliers pose a threat of forward integration.
- labor, by the way, is a supplier group.

With respect to obtaining the information necessary to determine the characteristics about the industry and its competitors, suppliers, new entrants, substitutes, and buyers, Porter suggests the sources depicted in Figure 2.5. An additional list of general information sources is provided as an appendix to this chapter. Furthermore, W. E. Rothschild has prepared a more detailed list of sources and concerns specifically with regard to competitors, and his approach is discussed in the next section. One final note: Porter recom-

¹⁸ Ibid., p. 23.

thor and integrative strategist for General Electric, suggests that the following key questions must be answered if a firm is to be successful:¹⁹

- Who is the competition now and who will it be in the future?
- What are the key competitors' strategies, objectives, and goals?
- How important is a specific market to the competitors, and are they committed enough to continue to invest?
- What unique strengths do the competitors have?
- Do they have any weaknesses that make them vulnerable?
- What changes are likely in the competitors' future strategies?
- What are the implications of competitors' strategies on the market, industry, and one's own company?

As Rothschild suggests, these questions boil down to "Who are they?" and "What are they up to?"

Although these questions seem rather straightforward, answering them, according to Rothschild, is complicated by three problems:

1. Many managers are overconfident. They have won the previous battles and assume they'll win the next ones. Laxity results.
2. Many strategists do not know what they need to know or how to obtain information.
3. Many strategists are concerned that it may be necessary to act unethically to obtain the necessary information.

In response to problems 2 and 3, Rothschild assures strategists that the environment abounds with information. To help them find it, he provides a table indicating the information required and another giving sources for this information. These tables appear here as Tables 2.2 and 2.3.

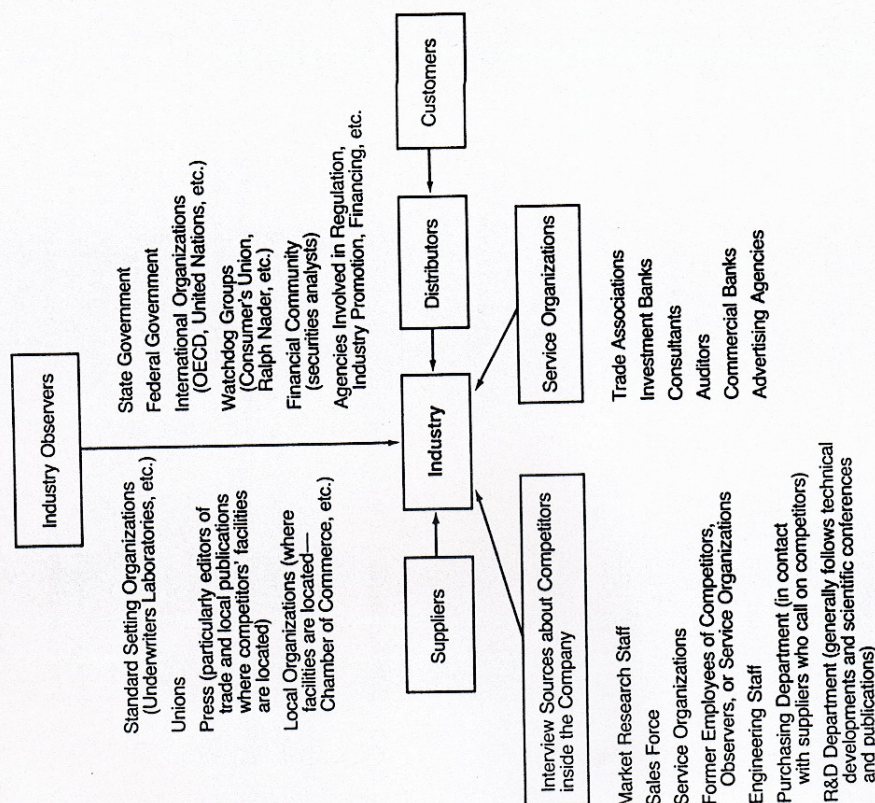
The inputs from competitor analysis contribute to the identification of SWOT. Without such inputs, management is operating as would the captain of a ship without charts of the waters.

Society

Until the 1960s, business most often considered itself a closed system, one which operated without having significant transactions with those outside. But the demands placed on business by society primarily through government legislation in the 1960s and the 1970s convinced business that society did not hold the same view. Society was concerned with the impact business had on it. Government responded to society's concerns and created numerous laws which affected the operation of business. (See Table 2.1.) The perceived role of business was expanded to include much more than the mere production of goods and services. Business is now expected to contribute to the society in other ways, for example, through the employment of the economically and culturally disadvantaged. Information search must be continually maintained in order that no surprises occur in the

¹⁹W. E. Rothschild, "Competitor Analysis: The Missing Link in Strategy," *Management Review*, July 1979, pp. 22-39.

Figure 2.5 Sources of Data for Industry Analysis



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mends certain types of "generic" strategies for competing, and these are reviewed in more detail in Chapter 4.

Induce your competitors not to invest in those products, markets, and services where you expect to invest the most. That is the most fundamental rule of strategy.

• Bruce D. Henderson •

Competitor Analysis: Another Perspective. At the business level of strategy formulation, competition is of critical concern. Any business must know what its competition is doing and is going to do and how these actions will affect it. William E. Rothschild, au-

Table 2.2 Information Needed for Competitor Analysis

Conceptive Design	Physical Resources	Market	Finance	Management
Technical resources	Capacity	Sales force	Long-term	Key people
Concepts	Plant	Skills	Debt/equity ratio	Objectives and priorities
Patents and copyrights	Size	Size	Cost of debt	Values
Technological sophistication	Location	Location	Line of credit	Reward systems
Human resources	Equipment	Distribution network	Short-term	Decision making
Key people and skills	Age	Location	Liquidity	Location
Use of external	Automation	Research	Cost of debt	Speed
technical groups	Maintenance	Type	Cash flow	Planning
Funding	Processes	Service and sales policies	Days of receivables	Type
Total	Uniqueness	Advertising	Inventory turnover	Emphasis
Percentage of sales	Flexibility	Skills	Accounting practices	Time span
Consistency over time	Degree of integration	Human resources	Human resources	Staffing
Internally generated	Key people and skills	Key people and skills	Key people and skills	Longevity and turnover
Government supplied	Work force	Turnover	Turnover	Replacement policies
	Skills mix	Funding	Budgeting	Centralization
	Unions	Total	Forecasting	Functions
	Turnover	Consistency over time	Controlling	Use of staff

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Table 2.3 Sources of Information for Competitor Analysis

Public	Trade/Professionals	Government	Investors
What competitors say about themselves	Advertising	Security and Exchange reports	Annual meetings
Promotional materials	Manuals	Annual reports	Prospectuses
Press releases	Technical papers	FIC	Stock/bond issues
Speeches	Testimony	Law suits	
Books	Patents	Antitrust	
Articles	Courses		
Personnel changes	Seminars		
Want ads			
Books			
Case studies	Suppliers/vendors	Law suits	Security analyst reports
Articles	Trade press	Antitrust	Industry studies
Consultants	Industry study	State/federal agencies	Credit reports
Newspaper reporters	Customers	National plans	
Environmental groups	Subcontractors	Government programs	
Consumer groups			
Unions			
"Who's Who"			
Recruiting firms			

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The Economy

Significant changes in the economy are often caused by the actions of the federal government, either through its fiscal policies or through the monetary policies of the Federal Reserve Board. It is often argued that deficits in federal spending with "easy" money (high money supply), have been the main contributors to past double-digit inflation; that the monetary policies of the Federal Reserve have increased unemployment; and that its high interest rates have, in the early 1980s, devastated the housing and banking industries. Furthermore, presidential economic strategies, such as President Reagan's "supply-side economics," clearly move the economy in certain directions. Whatever the specific causes, the results of federal action have often dictated the level and composition of business activity.

The nature of federal expenditures, which has been changing in recent years, also clearly impacts on the economy. For example, direct benefit payments to individuals, almost nonexistent 20 years ago, accounted in 1984 for 42 percent of the federal budget, and expenditures by the Department of Defense (DOD), which not too many years ago constituted almost 60 percent of the total federal budget, in 1984 accounted for 29 percent of the budget. Within departments, expenditures have also changed in nature, and these changes have greatly affected the economy. For example, a few years ago, procurement accounted for nearly 60 percent of the DOD allocation. In 1984, procurement accounted for only 30 percent of the DOD's budget (but this was up significantly from the Carter administration years when procurement hit a low, and military pay and benefits accounted for over 50 percent of the DOD budget) as opposed to their 1984 combined level of about 33 percent.

Another major impact of federal spending in these two major areas, transfer payments and the DOD, is the manner in which these expenditures are funded. In 1984, the national debt will require \$103 billion in current expenditures for debt service. This constitutes slightly over 12 percent of the federal budget, significantly higher than past years.²¹ It is no secret that the huge deficits in current federal budgets are a matter of major concern to all because of their impact on the long-term viability of the economy. At the very minimum, these deficits raise interest rates in the business money markets and tighten the supplies of monies available for business expansion.²²

Businesses must respond to these changes. Firms must gear up to produce the military hardware to be procured, and/or to enter basic industries that typify the spending of transfer payments. They must also be prepared for the changing monetary conditions and be able to respond accordingly. Change is the name of the game. And to keep on top of change, businesses must have information.

Labor

Organized labor has made significant strides over the years in securing increased wages and benefits for workers; and in its efforts to organize both blue-collar and white-collar workers, especially in the South, can be expected to continue. Organized labor has an

²¹ *The Budget of the United States Government, Fiscal Year 1984* (Washington, D.C.: Government Printing Office, 1984), MS.2, 3-38, 5-1 to 5-16.

²² "Ballooning Deficits—What the Real Danger Is," *U.S. News & World Report*, August 13, 1984, p. 73; "A Beasty Question," *Time*, October 15, 1984, pp. 88-89.

area of societal demands. Business has learned that it must respond to the demands of the society, especially the demands of those groups which can bring significant pressure on business.

This responsiveness can lead to a reduction of strategic alternatives. In fact, E. A. Murray, Jr., has suggested that for many businesses, especially those who are regulated to a great extent by the federal government or against whom significant action has been taken by large pressure groups, decisions are more negotiated than formulated from within. Murray has proposed the following:²⁰

1. The less the effective power of the firm relative to that of other institutions in its environment with which it must interact, the more the change in strategy of the firm over time will be disjointed and incremental rather than integrated and comprehensive, irrespective of nature and environmental opportunities and threats facing the firm.
2. The greater the degree of fragmentation of decisions of strategic significance to the firm yet external to it, the more the change in the strategy of the firm over time will be disjointed and incremental rather than integrated and comprehensive, irrespective of nature and environmental opportunities and threats facing the firm.

The concept of incremental decision making and coalition bargaining will be discussed in Chapter 6. While that chapter stresses internal coalitions, Murray's comments relate to planning that results from the need to adapt to powerful external influences. Murray examined a public utility and its frustration in attempting to comply with requirements of its environment—specifically, environmentalists and the federal government. His examination of this utility and its problems supported both of his propositions. He also found that many organizations must often comply with what seem to be irrational or contradictory regulations and requirements of different groups—or more commonly, requirements levied upon them by different agencies of the federal government. Often even the same agency of the federal government may issue contradictory requirements. Murray has raised an important issue as to whether strategy under these circumstances—circumstances which are increasingly common—can be described as having been formulated.

Many times, companies have abandoned plans or strategies because of the demands of society's pressure groups. For example, Walt Disney Productions Inc. abandoned a ski resort project at King's Mountain, California, because of pressure from environmentalists. Similarly, many nuclear power projects have been halted as a consequence of pressure from environmentalists. Finally, numerous steel plants have been shut down because of the cost of adding environmental protection equipment. It should be noted that the demands of these external organizations are appropriate, given the greater requirements of the society. Sometimes some businesses take actions which are highly questionable with respect to overall benefit to society. Regardless of the moral perspective, however, these external forces act as constraints on business, and business must have strategies for coping with them.

Businesses must continually explore the issues of social responsibility to better determine the impacts they have on society. No surprises should occur. Again, information is critical.

²⁰ E. A. Murray, Jr., "Limitations to Strategic Alternatives," *Proceedings, Academy of Management*, 1976, pp. 140-144.

extremely powerful influence on the national economy and on the supportive strategies and policies of the businesses which operate within that economy. Labor's impact on the presidential as well as gubernatorial and mayoral races has historically been significant, but labor's impact on government and on the economy appears to be lessening, and business must be attuned to that change.

Changes in employees' attitudes also affect business. Significant changes in the attitudes of all employees, whether organized or not, occurred during the 1960s and 1970s. These changes are primarily related to the work ethic and to the extent to which lower-level employees help the organization's management make decisions, sometimes strategic as well as operational.

One factor often cited as significant in the much-discussed decrease of productivity in the United States in the 1970s and early 1980s was a change in workers' attitudes toward work. In 1985, the evidence indicates that the "Protestant work ethic" is strengthening. An apparent shift from emphasis on equality of opportunity to equality of reward regardless of effort was seen in the United States in the 1970s, but the country now appears to be moving away from this approach. Workers at all levels of the organization have also begun to expect more personal satisfaction from their work and more participation in decision making.

These and other factors make the successful implementation of strategy difficult, because they make motivation difficult. The manager today who must motivate employees is highly constrained by numerous conditions, many of which he or she cannot control. Since many businesses must increase productivity to survive, they must pay close attention to the attitudes of workers.

Natural Resources

Energy is not the only resource in questionable supply in the United States. Government studies have revealed that several major metals and other primary manufacturing materials are in short supply. Living space in large cities, clean air and water, and natural areas of beauty are also scarce. And, on a worldwide basis, food is in extremely short supply for most of the population. In short, the earth's inhabitants face an ever-increasing population with a limited amount of supplies with which to support this multitude. This creates great problems for businesses and for governments. The resource-shortage problem will be further compounded in the future as developing nations seek to emulate industrialized nations. The United States depends upon many developing nations for the provision of scarce materials, a situation which has led and will continue to lead to a bargaining advantage for the providing nations.

While stockpiles of some of the metals and other materials which are needed may be created, stockpiling of some resources—for example, energy—is rather difficult. And while the United States has made significant strides toward energy independence, this goal will probably not be achieved until the late 1980s. Yet the tremendous positive changes in energy supply caused by reduced consumption led in 1985 to a short-term energy glut. This oversupply has caused problems for certain businesses and opportunities for others. Business must be prepared to react quickly to changing conditions. This requires information!

While material shortages appear to be the key resource problems of the United States, the inadequate supply of food is the most critical resource shortage for most other nations. And while the United States is able to produce a great deal of food, its food technology is

highly energy-dependent. It is clear that the nations of the world must come to grips with the reality that the supply of materials is not inexhaustible and that the number of people who are to live upon this planet must be somehow limited if each of the individuals in the world is to enjoy a desirable quality of life. The impact upon business of these worldwide problems includes expropriation, import or export quotas, higher prices, and political power demonstrations by the underdeveloped nations who possess natural resources. Again, the needs for materials change and supplies diminish. Astute strategists observe and predict such changes. More importantly, they anticipate them, preparing their organizations for these events.

International Events

There appears to be one major factor in the international situation which business must recognize, and that is the change taking place in economic, political, and social power structures.

Immediately after World War II, the United States was clearly the most powerful nation in the world, since it alone possessed the atomic bomb and it had the most successful economy. Now, however, several European nations, the U.S.S.R., China, India, Brazil, Canada, the OPEC nations, and Japan, among others, have economic or military power significant enough to create major spheres of influence which can counteract the efforts of the United States both economically and militarily.

Furthermore, many nations are undergoing internal social change to achieve redistribution of wealth. Frequently, this change is accomplished through violence and under the banner of communism. The ability of businesses to engage in trade with communist countries is limited. Why? Because many communist nations are unwilling or unable to trade with the United States or Canada on a large scale, especially the new emerging nations. Furthermore, trade with communist countries is sometimes reduced to barter, since some of their currencies have little value outside of the communist bloc countries. These factors restrict both the number of potential consumers and the sources of raw materials for U.S. businesses.

Other problems in doing business in foreign countries include cultural differences, lack of local managerial talent, double taxation, monetary translations, tariff and trade barriers, and lack of infrastructure. As a result of the difficulties of coping with various problems in foreign countries, many firms are reassessing the need to operate in many of these countries.

Yet, the world is full of consumers. The problem is finding them and meeting their needs. Wealth changes drastically. The newly wealthy OPEC countries consume. Business need only find out what these countries want to consume and whether it can supply the goods. If people in the United States and Canada seek fuel-efficient cars, are U.S. and Canadian firms content to let the Japanese supply them? Where are the international markets? What are the needs of international consumers? Without information, a company will never know the answers to such questions. Chapter 10 reviews these issues in more detail.

Other Significant Factors

Numerous other factors affect individual businesses; perhaps the most significant remaining factor affecting most businesses is demographics.

Demographic Changes. Perhaps the most significant demographic changes which will affect businesses are increases in population, geographic shifts in population, and changes in the composition of the population by age group. In the United States, the median age of the population has increased as the "baby-boom" generation has aged and the birthrate has fallen. (Information Capsule 2.3 profiles the baby-boomers.) It is also expected that many people who currently live in the North, Northeast, and Midwest will move to the South and the West.

INFORMATION CAPSULE 2.3

The Baby Boomers

The "baby-boomers" are that group of persons born in the period from 1946 to 1962. Since the "leading edge" of this group is now entering their forties and hence their peak ages of consumption, the baby-boomers will greatly influence the economy in the next 30–40 years. These 68 million people, nearly one-third of the U.S. population, are being closely observed by marketers for the latest trends in their consumption patterns. They are also being closely watched by government, especially as they age and require increased government services, for example, Social Security.

As they enter their peak buying years, these industries will be buoyed by the "boomers": housing, furniture and appliances, automobiles, specialty foods, clothing and cosmetics, travel, financial services, and possibly children's goods and services as the boomers themselves reproduce. However, not all industries have fared well from their consumption patterns. As they have aged, they have left behind them several markets which have consequently been significantly reduced in size—baby foods, education, soft drinks, candies, and beer, for example. Due to their aging past these products, you will notice the increased use of older persons in most of these industries' advertisements as they try to prolong the life of their product and increase their traditional target markets.

The baby-boomers are also going to have a significant effect on the organizations in this country, and on U.S. politics as well. Many of them have already arrived in positions of power with business and government and have been able to alter substantially the strategies and policies of their organizations. Politically, their votes seemed to go mostly to Reagan in the 1984 election, but their attitudes are mixed, and do not at this time seem to favor either party's long-term platforms. Because of their better educations and higher expectations than those of their predecessors, they expect more from organizations and their jobs, and these expectations are causing changes in the way business and other organizations must be managed. Conflicts between old and new values within organizations and within the society will not always be easily resolved. Because of the more structured environments in which they work, blue-collar boomers have been called the most frustrated boomers of them all.

The "yuppies" (young urban professionals) as they are often called (technically only about one-third of the boomers), have come to symbolize the boomers, but there are many other boomers who are unskilled, poorly educated, and who are likely to be drains on the economy in the future.

Sources: Geoffrey Colvin, "What the Baby-Boomers Will Buy Next," *Fortune*, October 15, 1984; "Baby-Boomers Push for Power," *Business Week*, July 2, 1984, pp. 52–62; "Here Come the Baby-Boomers," *U.S. News & World Report*, November 5, 1984, pp. 68–73.

On an international basis, the most significant demographic factor is the sheer increase in population, especially in the developing nations. In 1979, the world's population was more than 4.4 billion. Some estimate that the world population could double by the year 2000, and most believe that it will certainly reach 7 billion by then. The consequences of this enormous population growth have not even begun to be fully imagined. For example, many feel that the thousands dying of starvation in Ethiopia in 1984 and 1985 will turn into millions worldwide by the year 2000. One current negative impact on the United States has been an increase in the entrance of illegal aliens into this country. On the other hand, the increasing population represents a huge potential market if the developing nations can achieve economic success. Businesses must continue surveillance of these critical population changes if they are to take advantage of the opportunities created and negate the threats involved.

Other demographic changes are expected to occur. For example, more white-collar jobs will be created in proportion to those in the blue-collar occupations. Incomes may rise, but it is difficult at this time to determine the impact that inflation will have upon this rise. Several economists are concerned that the future mix of jobs may significantly reduce the size of the middle class.²³ The shifts in market areas, as well as the shifts in the composition of the market, will provide both growth opportunities and problems for the business community.

Making Use of the Data: Analytical and Forecasting Techniques

Forecasting is difficult, especially about the future.

• Chinese proverb •

Once strategic data have been accumulated, they must be transformed into information that will enable decision makers to make appropriate choices of objectives and alternatives, and that will aid in their determination and formulation. These decisions, while made in the present, relate to future events. Techniques designed specifically to provide inferences about the future are called *forecasting techniques*. Other methodologies, labeled *descriptive techniques*, provide information about current situations; decision makers can draw inferences about the future after examining the information provided by these methodologies. Some forecasting methods with which you may be familiar include regression, correlation, Delphi, Box-Jenkins, seasonal trend, and expert opinion. Simulation, one of the most important forecasting techniques, is reviewed later in this section.

The role of forecasting in strategic management is to reduce uncertainty and aid in decision making. In strategic decision situations, uncertainty can never be totally eliminated. Ultimately, decision makers attempt to quantify the uncertainty that remains. This process is usually referred to as risk analysis.

Compounding the problem of reducing uncertainty, there is evidence that the amount of uncertainty is increasing as the environment becomes more volatile and previously unknown strategic problems confront organizations. These events are made more pronounced because of the long time horizons present in most strategy formulation sit-

²³V. F. Zonana, "Is the U.S. Middle-Class Shrinking Alarmingly?" *The Wall Street Journal*, June 20, 1984, pp. 1, 26; "Is Middle-Class Really Doomed to Shrive Away?" *U.S. News & World Report*, August 20, 1984, p. 65.

uations. Three or more years frequently may transpire from conception to the actual marketing of a new product or the acquisition or divestment of an SBU. During this time the assumptions (premises) upon which the strategy was based may change significantly. But rapid change is compressing these time horizons.

However, much uncertainty can be reduced, and the strategic manager should become familiar with those uncertainty-reduction techniques at his or her disposal. Put simply, forecasting is vital. While it is assumed as given in most planning models, forecasting is not an easy task.²⁴

*We look at the present through a rear-view mirror.
We march backwards into the future.*

• Marshall McLuhan •

Simulation Modeling and Other Uses of the Computer

One of the most significant analytical/forecasting techniques is simulation modeling. Simulation allows the strategist to ask what-if questions—for example, "What if the price of raw material rises 1 percent?"; "What if the union negotiates a 10-percent increase in benefits?"; "What if our firm raises prices by 5 percent?" The answers to these and many other vital questions can be rendered quickly and accurately if the organization possesses a valid simulation model of its operations.

Simulations are computerized models which aid management in decision making. Simulation models abstract reality—normally an organization's internal flows—in terms of logically arranged equations, expressed symbolically. These models are interactive; that is, they allow managers to "talk" with them. The normal use of simulations is to assume a change in one or more inputs to the system and view the resulting changes in the system as portrayed by the model. Simulations have evolved over a period of years but have been important only since 1970, when appropriate systems-oriented software packages were developed and time-sharing became feasible.

The more complex simulation models are expensive, so not every organization can afford one. For those who can, such models are becoming a necessity, not a luxury. To date, only complex simulations of internal operations are available; environmental simulations, with the exception of models of the national economy, are not widely available. However, such simulations are in the developmental stages. Conversely, spreadsheet programs for microcomputers offer the smallest of firms the opportunity to ask what-if questions for some fairly complex issues.²⁵ The complex simulations commence with an exhaustive analysis of the actual interrelationships of the organization, its subsystems, and

²⁴ J. C. Chambers, S. K. Mullick, and D. D. Smith, "How to Choose the Right Forecasting Technique," *Harvard Business Review*, July/August 1971, pp. 45–74; W. Bouton, "The Changing Requirements for Managing Corporate Information Systems," *MSU Business Topics*, Summer 1978, pp. 1–12; W. K. Hall, "Forecasting Techniques for Use in the Corporate Planning Process," *Managerial Planning*, November/December 1972, pp. 5–10; D. LeBell and O. J. Krasner, "Selecting Forecasting Techniques from Business Planning Requirements," *Academy of Management Review*, July 1977, pp. 373–383; S. Makridakis and S. Wheelwright, "Integrating Forecasting and Planning," *Long Range Planning*, September 1973, pp. 53–63; J. Uitterback, "Environmental Analysis and Forecasting," in *Strategic Management*, A New View of Business, eds. Charles Hofer and Dan Schendel (Boston: Little/Brown, 1979).

²⁵ "How Personal Computers Are Changing the Forecasters' Jobs," *Business Week*, October 1, 1984, pp. 123–124.

the subsystems components. Most simulations use a modular approach. They develop models for each of the major structural divisions, functions, or subsystems, combining them at an interface point into a total corporate model. The modules comprising the total model are usually at the business or functional level.²⁶ Eventually, every quantifiable internal resource, event, or flow is incorporated into a modular model. Modules are then combined and interrelationships interfaced. Spreadsheets for microcomputers typically analyze only major variables, but as their memories increase in capacity, spreadsheets will be able to handle these more complex analyses. *Lotus 1-2-3* and other similar programs already do, especially IFPS Personal (Interactive Financial Planning Systems).

The evidence indicates that the number of business firms employing complex simulations is large and growing. Numerous types of simulations are utilized, but few totally integrated corporate models exist. That is, few firms have combined simulations of various aspects of their operations to develop a model of the total corporation. Firms most frequently employ models in the areas of financial analysis and planning and evaluation of policy alternatives. Virtually any firm can employ a spreadsheet package and indeed most probably do.

In addition to simulation modeling, uses of the computer in strategic management include the provision of timely information at lower levels, which should eventually improve strategic decision making; the provision of more common models for financial analysis, forecasting, descriptive statistical analysis, capital budgeting, and so on; and even the training of executives to ask the right questions in strategy formulation. The future seems to lie in a mainframe tied to PC terminals, thus allowing the SIS to be utilized by affected personnel throughout the organization. For smaller firms, stand alone micros will serve this function.

It is important to remember that the computer only aids the strategist; it does not and cannot replace him or her. The strategist must use a certain amount of intuition as well as science in the strategic management process. It is this ability to meaningfully interpret and relate the scientifically derived information and to make appropriate strategic decisions that separates the successful strategist from the unsuccessful one.

The Micro Advances Our Ability to Forecast

Information and information processing have become accessible to a much larger segment of the management population than ever before possible with the advent of the microcomputer. This computer has given access to many who were previously financially or technologically denied the opportunity to employ the computer in managing their organizations. Of critical importance are the numerous software programs available to assist individuals and corporations in managing strategically. For example, the above referenced spreadsheet analyses, which allow managers to forecast the impacts of selected changes in financial and operating performance, enable even the smallest organizations and their managers to make more sophisticated, more rational decisions with respect to their strate-

²⁶ "Breakthrough in Management Planning" (Chicago: Planmetrics); "What If? Help for Management," *Business Week*, January 21, 1980, pp. 73, 74; E. R. McLean and G. L. Neale, "Computer-Based Planning Models Come of Age," *Harvard Business Review*, July/August 1980, pp. 46–48; both EPS (Environmental Planning Systems) and IFPS (Interactive Financial Planning Systems) are computer-simulation software packages which use this approach.

gies. Numerous manipulations of balance sheets, income statements, and cash flows are also available. And, quite frankly, for the first time many smaller organizations will now consequently develop such fundamental planning statements as budgets, which, while apparently simple, are time consuming and much more readily accomplished using appropriate software packages. Similar advances have been made in word processing, in ratio analyses, in capital needs forecasting, in sales forecasting, and so forth. Even some of the more sophisticated programs, such as those employing Box Jenkins, Interactive Financial Planning Systems, or Environmental Planning Systems are available for microcomputers. Even the very complex econometrics models of the U.S. economy have been placed on personal computers.²⁷ The ability to crunch numbers better and faster does not guarantee that improved decision making will occur, but the improvement in both hardware and software does suggest, at least, that better decisions are possible, if not more likely.

Analytical Techniques: A Comment

Numerous forecasting techniques exist. For example, virtually hundreds of methodologies have been suggested for societal and technological forecasting; but there is not space to discuss all of them here. The important points to remember are these:

1. Numerous techniques exist, some better than others for a particular situation.
2. Using more than one technique should improve forecasting.
3. The output of a technique is no better than its inputs and its assumptions.
4. Cost-benefit analysis should be performed before expensive techniques are undertaken.
5. The techniques should be evaluated.
6. Regardless of the amount of time and money invested, the environment is uncertain and is undergoing an increasing amount of change. Forecasting failures will occur. Flexibility must be maintained.
7. Somebody has to put it all together. Someone must make the decision as to what the information means. That person is not always right.

Summary

Change typifies the environment of all organizations, but the pace of change seems to be accelerating. The purpose of obtaining internal and external environmental information is to determine strengths, weaknesses, opportunities, and threats in order to better establish objectives, formulate strategic alternatives, and decide upon courses of strategic action. Strengths and weaknesses, threats and opportunities are not always perceived in the same ways or determined in the same ways. Differences in approaches to managing them consequently result.

The strategic information system is a critical element in achieving success. Both formal and informal sources are used to identify and determine the nature of internal and external factors. Strategists must continually scan the environment for information which

²⁷ "How Personal Computers Are Changing the Forecaster's Job," *Business Week*, October 1, 1984, pp. 123-124.

could necessitate changing strategies. The internal information sought relates at the corporate level to SBU performance, and at the SBU level to functions such as marketing, operations, finance, human resources management, R&D, management systems and functions, and so forth. Externally, the organization monitors information related to government, technology, competition, the industry, competitor-analysis factors, society, the economy, labor, natural resources, pressure groups, and international situations.

It must be remembered that strategic decisions are based on forecasts related to current information. Any number of forecasting techniques exist, each better in some situations than in others. Modeling through the microcomputer seems to offer much hope for the future, especially in terms of helping strategists understand how changes will affect the organization.

Key Terms and Concepts

After completing this chapter, you should be familiar with the following terms and concepts: how change affects the need for information; why information is critical to strategy formulation; how information is used in the strategic decision process; the definitions of strengths, weaknesses, opportunities, and threats; how SWOT are defined operationally; strategic information system (SIS); management information system (MIS); major sources of internal and external environmental information; scanning; the internal information sought; the external information sought, including major factors involved in each; the importance of forecasting; modeling; the impacts of the microcomputer on forecasting; Porter's model of competitor analysis.

Discussion Questions

1. Why is information critical to strategy formulation?
2. M. E. Porter proposed that the intensity of competition is the most critical element in the firm's environment. He then suggests five basic competitive factors that should be monitored. What are these five factors? Show how they apply to an organization.
3. What is the role of forecasting in strategic management?
4. Discuss any organization and its strategic situation with regard to the contents of this chapter and the key terms and concepts noted above.
5. Now that you have examined all four of the primary formative factors in the strategy formulation process, which do you believe is the most critical, and why?

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APPENDIX TO CHAPTER 2

Sources for Environmental Information

1. Government.
 - a. *Code of Federal Regulations, Federal Register*, other federal publications.
 - b. Various publishing house services—Commerce Clearing House (CCH), Bureau of National Affairs (BNA), Prentice-Hall (PH), and the like.
 - c. Lobbyists.
 - d. *Kiplinger Washington Newsletter*.
 - e. *Monthly Catalog of United States Government Publications*.
 - f. Monthly checklist of state publications.
2. Technology.
 - a. *Statistical Abstract of the United States*.
 - b. *Applied Science and Technology Index*.
 - c. Scientific and Technical Information Service.
 - d. Congressional hearings, university reports, "think-tank" reports.
 - e. Department of Defense and military department publishers.
 - f. Industrial reports.
 - g. Computer-assisted information searches.
 - h. National Science Foundation, *Annual Report*.
 - i. *Research and Development Directory*.
 - j. Industry contacts, salespeople, professional meetings.
 - k. Patents.
3. Industry and competition.
 - a. Annual reports of companies in question.
 - b. Securities and Exchange Commission—"10-K Report."
 - c. *Fortune 500 Directory*, *Forbes*, *Wall Street Transcript*, *Barrows*.
 - d. Investment services and directories: Dun & Bradstreet, Standard & Poor's Value Line, Moody's, Starch Marketing.
 - e. Trade association publications.
 - f. Professional meetings, salespeople, industry contacts.
 - g. Espionage.
 - h. Surveys, for example, market research.
 - i. *County and City Data Book*.
 - j. *County Business Patterns*.
 - k. Standard and Poor's *Industry Surveys*.
4. Society.
 - a. Pressure-group publications and pronouncements.
 - b. Books which might affect societal attitudes.
 - c. Government (see section 1 in this list).
 - d. Surveys.
 - e. Judgment, opinion, scenario forecasting (Delphi).
 - f. The media, especially television and newspapers.
 - g. Articles in sociological, psychological, and political journals.
 - h. Various institute and foundation reports such as the Ford Foundation's and the Brookings Institute's.

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5. Economy.
 - a. National economy.
 - i. U.S. Department of Commerce.
 - (a) Bureau of Census—*Survey of Manufacturers, Statistical Abstract of the United States, Current Population Reports*, census reports on various industries, housing, population, and so on.
 - (b) Office of Business Economics—*Survey of Current Business*.
 - (c) Bureau of Economic Analysis—*Business Conditions Digest*.
 - (d) Business and Defense Services Administration—*U.S. Industrial Outlook*.
 - ii. Council of Economic Advisors—*Economic Indicators, Annual Report*.
 - iii. Securities and Exchange Commission—“Quarterly Financial Reports,” “Quarterly Report of Plant and Equipment Expenditures of U.S. Corporations,” “Quarterly Report of Working Capital of U.S. Corporations.”
 - iv. St. Louis Federal Reserve Bank—“Quarterly Report.”
 - v. The Conference Board.
 - vi. Trade association publications.
 - vii. Federal Trade Commission.
 - viii. U.S. Chamber of Commerce/American Manufacturers Association.
 - ix. University of Michigan Survey Research Center.
 - x. *Federal Reserve Bulletin*.
 - xi. Econometric Models—Chase Econometrics, Michael Evans Econometrics, Wharton Econometrics.
 - b. International economic conditions.
 - i. U.S. Department of Commerce.
 - (a) Bureau of Census—“Guide to Foreign Trade Statistics.”
 - (b) Bureau of International Commerce—“Overseas Business Reports,” “Foreign Economic Trends and Their Implications for the United States.”
 - ii. OECD—*Economic Outlook and Main Economic Indicators*.
 - iii. United Nations—*Statistical Yearbook*.
 - iv. OIT; International Labor Office—*Yearbook of Labor Statistics*.
 - v. Business International newsletters.
 - vi. St. Louis Federal Reserve Bank.
 - vii. National plans of European countries.
 - viii. INSEAD (The European Institute of Business Administration); IMEDE (Management Development Institute, Lausanne).
6. Labor.
 - a. *Labor Law Journal* and other related journals, including law school journals.
 - b. Various publishing house services, such as CCH, BNA, PH.
 - c. Various labor union publications.
 - d. U.S. Department of Labor publications, *Monthly Labor Review*.
 - e. U.S. Department of Commerce.
7. Natural resources.
 - a. U.S. Department of the Interior, Bureau of Mines—*Minerals Yearbook, Geological Survey*.
 - b. U.S. Department of Agriculture—*Agricultural Abstract*.

- c. Federal Power Commission statistics of electric utilities/statistics of gas pipe companies.
- d. Publications of various institutions: American Petroleum Institute, U.S. Atomic Energy Commission, Coal Mining Institute of America, American Steel Institute, Brookings Institute.

8. General information.
 - a. Indexes and periodical directories.
 - b. Bibliographies and special guides.
 - c. Other basic sources.

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