

After studying this chapter, you should be able to:

- A Discuss the importance of control systems to a firm.
- A List the elements of control systems.
- ▲ Explain the four functions of control.
- ▲ Discriminate between the top-down and bottom-up approaches to control.
- ▲ Explain the three different levels of control systems.
- A Discuss the three main categories of control systems.
- A Describe the four main activities involved in a control process and their importance.
- A Identify three control strategies and explain the differences among them. A Discuss how to design an effective control system. A Examine four dysfunctional side effects of control and why they occur.

In 1985, Wang Laboratories, a producer of word-processing and data-processing equipment, was having financial problems. Wang elected to examine its control systems for managing costs and for delivering products. The company's rapid growth had led to difficulties in meeting its performance goals. An Wang, the founder, came out of retirement to help develop cost-cutting controls in a company that previously had not paid much attention to items such as travel budgets and discretionary expenses.

Incidents involving the cyanide contamination of Extra Strength Tylenol led to an industry-wide evaluation of the packaging and quality controls of medications. Johnson & Johnson, the maker of Tylenol, decided to remove all capsule products from the shelves of stores and to discontinue manufacturing or selling capsules. Spokespersons for the company said that the safety of the capsules could not be guaranteed using the safety standards set by Johnson & Johnson.

Merrill Lynch & Company was surprised to learn that one of its top brokers had tampered with data and changed information in the firm's *computer files*. The result was that the computers produced falsified reports. These reports led a client to believe that he had a balance of about \$36 million, while in actuality, the balance was roughly \$8 million. Merrill Lynch was put into the compromising position of explaining how its control systems could have missed the discrepancies and tampering.

General Motors has hired undercover detectives to help control drug and alcohol abuse in its plants. Some employees have been found to

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be high on drugs or alcohol when they are operating dangerous equipment. This behavior affects worker productivity, plant safety, and product quality. GM is not alone in this problem: About 25 percent of the *Fortune* 500 companies utilize tactics for controlling the use of drugs in the workplace.

These are just a few examples of attempts by firms to control their operations, budgets, product quality, plant safety, and worker behavior. This chapter helps to identify the importance of the control function for firms and its place in keeping the firm competitive. As the examples illustrate, effective control can improve the firm's overall performance and reputation.

Control is a process that attempts to assure that the actual activities performed match the desired activities, or goals, that have been set. Control assures that deviations from the goals are corrected. It provides feedback that can aid in setting future goals and standards. The control process involves setting standards, measuring actual performance, comparing actual performance to the standards, and taking corrective action when necessary. Control is effective when the desired activities or objectives are achieved.¹

We are all familiar with various kinds of control techniques: budgets, college entrance requirements, waiting lines at ticket stands, performance evaluations, product quality controls, and so on. A control technique is a mechanism designed to help achieve the desired performance and can be specifically designed for the activity being controlled. Since there are many different organizational activities, control techniques are numerous and varied. For example, on assembly lines, workers usually have a minimum work rate to meet; restaurants are inspected to meet health codes; and most organizations issue parking stickers to control who parks in their lots.

Control techniques are numerous and varied. Management must select techniques appropriate to the activity.



1. R. N. Anthony and J. Dearden, *Management Control Systems* (Holt, Rinehart & Winston, 1976); Richard D. Irwin, 1976.

Sometimes firms utilize too many control techniques and too much control, causing dysfunctional side effects such as "bureaucratic red tape." At other times, the control systems are not tight enough, allowing undesirable actions.

The purpose of this chapter is to describe the nature of the control process and to examine its importance to management. We will explore the types of control methods, analyze control strategies, and describe resistance to control and how to overcome it.

IMPORTANCE OF CONTROL

Every year, *Fortune* magazine lists America's most admired corporations. IBM, 3M, Dow Jones, and Coca-Cola are frequently rated highly. Why? Besides having excellent records, the firms are admired for their abilities to control ongoing activities, to meet their performance goals, and to attract quality management.

Excellent reputations evolve as firms are able to accomplish their goals. Firms rely on effective control techniques to do this. Control is a necessary part of management. Its importance lies in its purpose—that of focusing organizational energies in the desired direction while allowing managers some discretion in decision making.

Companies that are considered excellent, such as IBM, have well thought-out and thoroughly designed control systems. Various management systems, such as the budgeting process, the planning process, the reward system, and the organizational structure, are evaluated to see that the planned activities are actually being carried out. Control systems are designed to assure that this occurs.

Control systems direct behavior toward important goals. For example, the Massachusetts Eye and Ear Infirmary designed a productivity-oriented method of control that related manpower costs to a patient's needs, thus creating a billing system that truly reflects the resources used. Performance evaluation systems, such as MBO systems, develop evaluations based on projected objectives. Control systems are important because they monitor, reward, and reinforce the behavior and activities that management desires.

All organizations must control their activities, and the management of every kind of organization must be aware of how to design effective control systems. Not-for-profit organizations, such as social service agencies or hospitals, must keep track of their resources. Religious organizations maintain budgets for keeping track of how money is spent and where. Publicly held organizations must report financial and other business-related information to the government.

Control systems coordinate the activities of all members of the organization. They provide methods of integration and measurement.

Part 6 A CONTROLLING

Control ensures that the efforts of all members of the firm will be coordinated through standards, rules, norms, budgets, and reporting systems. In a sense, control provides the mechanism for providing order to the diverse activities of a firm.

Managing uncertainty is another reason for control's importance. Control systems limit options in decision making by setting rules and regulations to handle repetitive situations. This limits idiosyncratic behavior and provides standards for future events. For example, banks have credit standards that loan officers utilize in issuing loans. If these standards did not exist, each officer would use different standards for issuing loans,

Without controls, members of an organization might act in diverse ways. Dress codes, for example, ensure that everyone dresses in a way desired by management. Control systems thus limit the options available; in decision making.

The importance of control systems lies in their purpose of evaluating, monitoring, and correcting the performance of the firm. They provide a coordinating, integrating, and motivating force for every type of organization. They reduce the uncertainty of dealing with repetitive decisions and situations. Firms that are excellent have designed effective control systems that enhance their ability to execute their strategies.



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Academic Profile



WILLIAM H. NEWMAN

William H. Newman (Ph.D., University of Chicago) is Bronfman Professor Emeritus and Chairman of the Strategy Research Center at the Graduate School of Business, Columbia University, New York. Professor Newman has authored or co-authored such books as *Strategy, Policy, and Central Management*, *Managerial Control*, *Managers for the Year 2000*, and *Constructive Control: Design and Use of Control Systems*. Because of his recognition as a scholar around the world, many of his works have been translated into foreign languages, Japanese in particular. Professor Newman is an international consultant and has served as a director or consultant for many prominent corporations in the United States. In addition, he is a past president of the Academy of Management and has served as dean of fellows. Previously, Professor Newman was employed by McKinsey & Company, Marshall Field & Company, and was a consultant to the War Production Board from 1942-1943.

Q: Management has many facets. What prompted you to focus one of your recent books on control?

A: In most companies, and in organizations in general, controls have been neglected. There are all sorts of opportunities to improve results by giving closer attention to control. Because of past neglect, a manager or a young assistant can often make a greater impact by working on control than on a more glamorous topic like strategy. The payoff is richer. Q: Do the many executives that you deal with recognize this need for more attention on control?

A: Only partially. There is a sharp increase in their concern with actually getting results—in contrast to fancier planning models. But control is only one of the tools executives grasp to "make things happen." I think such bypassing of controls is due to a mistaken view that some executives have of controlling. These executives think of controls as number-crunching and negative, whereas people with positive motivation seem to be the key to the good execution of plans.

Q: Don't you stress the behavior of people in your approach to controlling?

A: Yes, indeed. The design of standards that are meaningful to persons doing the work, the emphasis on steering controls rather than post-action controls, the operator's acceptance—even internaliza-

tion—of control targets, all contribute to positive behavioral responses. This is crucial. Anybody who thinks of controlling only as a numbers game, comparing actual expenses versus budget, is lost in procedures. In a ball game, we do need a score-keeper, but it's the behavior on the field that really matters. When control is seen from this behavioral perspective, it becomes a vital tool for achieving results. Q: In this regard, what future role do you see for computers in controlling actions in the workplace?

A: For effective controls, computers are both good news and bad news. The good news is that computers coupled with electronic communication can feed some useful information back (and forward) very rapidly. If a good control loop has already been established, corrective action can take place rapidly. The bad news is that computers will further emphasize quantitative features. Accounting data already dominates many control systems, and there is real danger that computers will overwhelm operating people with even more bewildering numbers—moving the game from something like checkers to chess. I recognize that chess is a sophisticated sport, but it is not the motivator needed in the vast majority of control situations. So, the danger of misusing computers is a further reason for designing controls with care and human empathy.

THE NATURE OF CONTROL

The nature of a control system is unique to each firm, but there are similar features and elements. Controls are a means to an end; they help get something done. Each firm, because of its unique characteristics in terms of culture, work, and human resources, will have a control system that is unique. But the nature of the control system aims to assure that the objectives are met. Ongoing control efforts are designed to influence individuals and coordinate subunits. They include financial controls, administrative controls, structuring techniques, and behavioral controls.

The effectiveness of a control system is defined by how well the firm achieves its goals. The type of organization, the control method it uses, and the impact of that control method all determine the effectiveness of a control system. For example, Westinghouse Electric found that in designing a flextime system, the effectiveness of the system as a control technique was influenced by the system's impact on the people. The employees were asked to punch their arrival and departure times into a computer. This worked well with the draftspeople and the clerical staff, but professional engineers strongly resisted it.

The type of organization helps to determine the appropriate control technique to be used. The chemical division of Borg-Warner requires different control methods than does your local Computerland store, based simply on the type of work that is done. Also, a small firm requires fewer formalized regulations and rules than does a larger firm.

The control systems directly or indirectly affect human behavior within the subunits of the organization.² People respond to the control method being used, thus determining its impact. The employees will determine how committed they are to meeting organizational goals and how hard they are willing to work partially as a result of the impact of the control system. Subunits are controlled by the interrelationships established and by the resource allocation processes. These are influenced by rules, reporting relationships, and budgeting systems.

Although each firm has its own unique control systems, there are certain elements that are common to all control systems. These are **listed** in Figure 17-1. The important elements of control systems include monitoring systems; evaluation systems; feedback; corrective actions; standards, rules, and regulations; and reward techniques. They also include the goals of an organization and the ability to influence and to motivate people.

² W. H. Newman, *Constructive Control: Design and Use of Control Systems* (Englewood Cliffs, NJ: Prentice-Hall, 1975); and W. G. Ouchi, "The Relationship between Organizational Structure and Organizational Control," *Administrative Science Quarterly* 11 (March 1977); 1, 95-113.

Figure 17-1 ELEMENTS OF CONTROL

1. Monitoring Systems
2. Evaluation Systems
3. Feedback
4. Corrective Actions
5. Standards, -Rules, Regulations
6. Goals
7. Influence Techniques
8. Rewards

These elements are part of the nature of the control system, because the way these elements are defined will determine the character of the control system. The monitoring systems measure and assess ongoing activities to determine the actual performance. The evaluation systems compare the actual performance to the desired performance. This information is fed back to management, who determines if corrective actions are necessary. Standards, rules, and regulations are part of every control system and serve to set guidelines for activities and decisions. Goals are an integral element of a control system, because they communicate what performance is expected. Management utilizes influence techniques to control behavior. Reward systems help the effectiveness of the control systems by rewarding the desired behaviors.

Every control process includes these elements that serve to carry out the functions of control. A discussion of the four functions of control follows.

Functions of Control

There are four functions that control systems serve in organizations. The functions are interrelated, and all four functions should be present for the control system to be effective. The functions are overseeing, comparing, correcting deviations, and influencing future decisions (see Figure 17-2).

Overseeing. Control systems oversee ongoing activities to achieve the desired performance level. They assure that the appropriate action is taking place while the activity is in progress. The immediate supervisor oversees through observing or conferring, usually at the place of the activity. Overseeing is particularly useful when the process is well known, such as the preparation of food at a fast-food restaurant.

Figure 17-2

FUNCTIONS OF

function	Purpose	Methods
Overseeing	Assures that appropriate activities are taking place	Observing Conferring
Comparing	Determines the degree of agreement between actual performance and desired performance	Measuring Collecting data Evaluating Disseminating information Reporting
Correcting deviations	Corrects deviations from desired performance	Immediate Basic
Influencing future decisions	Feedback to management to assess future goals	Reporting Goal setting

Comparing. Comparing the degree of agreement between actual performance and performance standards can take place at or away from the point of operation. It is possible to use actual budgets to compare with projected budgets, but the manager does not have to be physically in the department when the comparison is taking place. Comparing involves measuring, collecting data, evaluating, disseminating information, and reporting to the decision makers.

An important aspect of comparing is determining what is a significant deviation from the plan. The aim is to compare the difference between actual performance and desired performance and then to evaluate whether that difference is acceptable. Some deviation is expected for most activities and a certain amount of deviation is acceptable. Management must determine what is an unacceptable level of deviation. To some extent, this level will depend on the activity. Some activities are more critical than others, and even a small deviation may not be tolerated. For example, before the shuttle disaster of 1986, NASA's control system allowed some deviation from standard in the design of the booster rockets. But after the disaster, the extensive control systems were tightened to tolerate very little deviation. **If**

Correcting Deviations. Control involves correcting the deviations that may occur or altering the plan to allow for any obstacles that cannot be removed. There are two types of corrective actions: immediate and basic. **Immediate corrective action** is taken to influence present performance. For example, putting employees on overtime in order to meet a deadline is an immediate corrective action. **Basic corrective action** influences performance in the future. It involves an analysis of the causes of

Basic corrective actions are sometimes necessary.



the deviations to prevent their occurrence in the future. Disciplinary actions or new hiring practices are basic controls that affect future performance.

Influencing Future Decisions. Providing feedback to management for future decision making is another function of control. It maintains the momentum of the organization by influencing and rewarding the people. Learning from past performance and from current problems provides information to help control the future.

Control Cycle

A simplified version of the control process is shown in Figure 17-3. It includes all of the control elements and represents a control cycle in which goals and standards are set. Behavior and ongoing activities are monitored to determine what actual performance results. This output is measured and compared with the desired performance. If it is determined that corrective action is needed, actions will be taken to redirect the activities toward the desired standards. Rewards are given to reinforce the desired behaviors and activities.

The measurement of the results is used by management for evaluating the current goals and standards. Apple Computer was not able to sell the number of Macintosh computers that it expected. This information was fed back through the established control system to managers,

Top-Down versus Bottom-Up Approaches

As the name implies, the control cycle is a circular process that involves decisions being made at the top which influence the types of controls that are implemented. Input from those at lower levels in the organization indicates what is possible to implement and control. The three levels of management in a firm are concerned with different control questions. These will be discussed in the next section. This section describes the differences between a top-down approach and a bottom-up approach. The control cycle usually involves the interaction of these two approaches.

Top-Down Approach. The left side of Figure 17-3 shows management setting the goals and objectives that are then implemented by subordinates in the firm. This is a **top-down approach** in which management sets the direction and gives directives to subordinates. A typical set of management control concerns might be the budget, implementation of the strategic plan, the allocation of resources such as personnel or computers, or the timing of specific activities. The top-down approach addresses the control process from the perspective of upper management and from the vantage point of seeing how all the control techniques fit together.

Bottom-Up Approach. The **bottom-up approach** is represented by the dotted line in Figure 17-3. Through means such as the budgetary process or planning for capital investments, subordinates influence the goals and standards. The budgetary process and the planning process allow ideas to filter up and to be eventually incorporated in new goals.

Levels of Control

Within every firm, the nature of control changes with the level of management. Upper level management is concerned with issues relating to strategic control, while lower level management is concerned with operational issues. The three levels of control—strategic, managerial, and operational—are shown in Figure 17-4. These correspond to the levels of management discussed in Chapter 1.

Strategic Control. **Strategic control** concerns the direction of the firm, the evaluation of strategy, the interrelationships of the business units, external reporting, and the maintenance of cash flows across business units. Strategic control involves a long time frame in which information about the future is frequently sketchy. If the environment is constantly changing, feedback from current performance may not be a good indicator of future opportunities or new goals.

figure 17-4

LEVELS OF CONTROL

One of the roles of upper management is that of a figurehead which controls the organization by influencing the employees and gaining their commitment to organizational goals. Upper level management is responsible for keeping all of the subunits' performance in line with corporate goals even though each subunit may have different interests.

Frequently, control at this level is that of overseeing and monitoring the implementation of strategy and making changes as events change. Decisions are made to determine the priorities of the firm and its various activities. Control is also concerned with corporate-wide capital expenditures, dividends paid, the performance of business units, environmental surveillance, and external reporting.

Managerial Control. Managerial control allocates resources so that businesses, units, and departments have what they need to accomplish their goals, to schedule activities, and to monitor progress. It pertains to a business unit, a department, or a division as a whole and has a periodic time schedule. The collection of data and its assembly into meaningful reports help the evaluation process. Managerial control is also concerned with scheduling, taking corrective actions, and reviewing the functional areas.

Operational Control. **Operational control** oversees individual tasks and performance and concerns the integration of work groups. Usually, we think of operational controls as those that deal directly with getting the job done, monitoring absenteeism, and keeping to a schedule. This type of control ensures compliance with rules and regulations and assures that work will be completed within the constraints given. The time frame is short, and most of the information is concrete and quantitative.

TYPES OF CONTROL SYSTEMS

Control systems can be classified in several ways, but for our purposes, we are concerned with three main categories: managerial discretion, timing, and information. The first classification relates to the amount of discretion that an individual manager has in completing the task. By discretion, we mean the freedom or authority to make decisions or choices about a particular situation. Some control systems allow management little or no discretion, while other systems allow a great deal of discretion.

The second classification of control systems depends upon where the ongoing activities the control technique is used.⁵ It can be used before the activity begins, during its execution, or after it is completed. **Output** controls measure and evaluate the results of behavior. **Behavioral controls** monitor, measure, and evaluate the behavior as it occurs. For behavioral controls to be used, there must be some knowledge of the transformation process.⁴

The third classification identifies the type of information that is handled by the control system.⁵ For example, the control system and the techniques used may be designed to handle financial data or human resource data.

Managerial Discretion

The first classification scheme of control systems is based on managerial discretion. Such systems may be either cybernetic or noncybernetic in nature.

3. Newman, *Constructive Control*

4. Ouchi, "The Relationship between Organizational Structure and Organizational Control."

5. E. E. Lawler and J. G. Rhode, *Information and Control in Organizations* (Santa Monica, CA: Goodyear, 1976)

Cybernetic Controls. Cybernetic control systems are self-regulating in that the control systems have built-in devices to automatically correct any deviations that occur. In cybernetic control systems, there is little managerial discretion. Ideally, these systems operate with very little need for humans. They are self-regulating and self-operating. Robotics and automatic factories are incorporating cybernetic controls that attempt to eliminate the need for people overseeing the tasks. This type of system is useful for tasks and processes in which all of the steps and standards are very well known. If a deviation occurs, it can be automatically corrected and does not rely on human intervention.

Noncybernetic Controls. Many organizational activities do not lend themselves to cybernetic controls since most activities are not completely routinized and standardized. These activities benefit from a system utilizing **noncybernetic controls** in which managers use their own discretion in making decisions about how best to complete an activity and meet performance goals. The more creative and unusual the task, the more managerial discretion is needed. Quality circles allow the discretion of work groups in determining how best to complete the job and eliminate problems. At the strategic level, there is more reliance on self-control and managerial discretion than there is at the operational level.

Timing

The second method of classifying control systems is based on when systems are implemented. Controls may be steering, yes-no, or post-action in nature.

Steering Controls. When an attempt is made to control the activity before it occurs, it is called a **steering control**. This is also **called a preliminary, or feedforward, control**. These controls anticipate the results and guide the activities before the operation is begun. New product development frequently involves steering controls in which the market demand is predicted, production schedules are set, and expected delivery dates are defined beforehand. As the activity progresses, corrective actions are taken based on the predicted results.

Steering controls face several problems. The results are predicted: based on estimates utilizing current conditions. These predictions may be wrong or current conditions can change, leading to an error in the predicted results. Steering controls build in a lead time between the start and the completion of the project. Sometimes the estimates of these lead times may be incorrect or other factors may interfere. II

Yes-No Controls. A **yes-no control** assesses an activity while it is in progress. Checkpoints occur at which time progress is okayed, corrective action is taken, or progress is halted. Behavioral controls also

attempt to control the behavior or the process as the activity is in progress. By correcting the process as it occurs, it is hoped that the actual performance can be kept close to the desired output. The more that is known about the tasks to be accomplished, the greater will be the tendency to use yes-no or behavioral controls.⁶ Yes-no controls are utilized in the scheduling and timing of steps or procedures, such as the critical path method [CPM] or project evaluation and review technique (PERT).

Post-Action Controls. A post-action control measures and evaluates the results of an activity after it is completed. Changes in new performance levels or goals are based on these evaluations, and rewards are determined by these controls. These controls provide information for rewards and planning. In order to control activities in which the processes are not well known, the activity will be measured post-action, or after it is completed. This is a measure of output performance that can be evaluated and compared with the desired goals.

Information

Finally, control systems may also be categorized based on the type of information being handled. Control systems are designed to monitor and evaluate certain activities; therefore, they are designed to accumulate and evaluate certain types of information—financial, production (physical), and human or administrative being the most common. Figure 17-5 identifies several control mechanisms and the types of information they are designed to handle.

Information about financial resources is usually in the form of figures that show the dollar amounts allocated and spent. Budgets, capital expenditures, and cash flow analysis require a set of targets or standards against which current expenditures are compared.

In order to control the production operations of a firm, information about scheduling, inventories, quality control, and material resources has to be collected, stored, and retrieved. This information reports such things as the volume produced, product quality, inventory levels, and the amount and cost of supplies.

Human resource or administrative information is collected showing the employment and performance record of each employee. Information about absenteeism, pay raises, involvement in training seminars, and performance evaluations may be kept. Benefits information may include background information about such things as health care benefits, retirement or pension information, and stock options.

6. W. G. Ouchi and M. A. Maguire, "Organizational Control: Two Functions," *Administrative Science Quarterly* 26 (December 1975): 559-69.

Figure 17-5

CONTROL SYSTEMS BY INFORMATION TYPE

Resource to Be Controlled	Typical Mechanism for Control	Focus of the Control System
Financial resources	Budgets Capital expenditures Cash flow analysis	Expenditure projections Capital investments Cash management
	Production schedule Quality control Resource control	Volume produced Quality of product Amount and cost of supplies and resources
	Absenteeism Performance Socialization	Days worked Evaluation of personnel Conformity of personnel

Source: 1. A. Pearcc and R. R. Robinson, jr., *Strategic Management*•(Home IL: Richard D. Irwin, 1982], 305

These are just three examples of the kinds of information coitt that are necessary in a firm. They do not represent all types of informa-tion. For example, firms must control their marketing information including sales and customer data. Chapter 19 addresses the topic of how to manage and design a system to help control the information.

ACTIVITIES IN THE CONTROL PROCESS

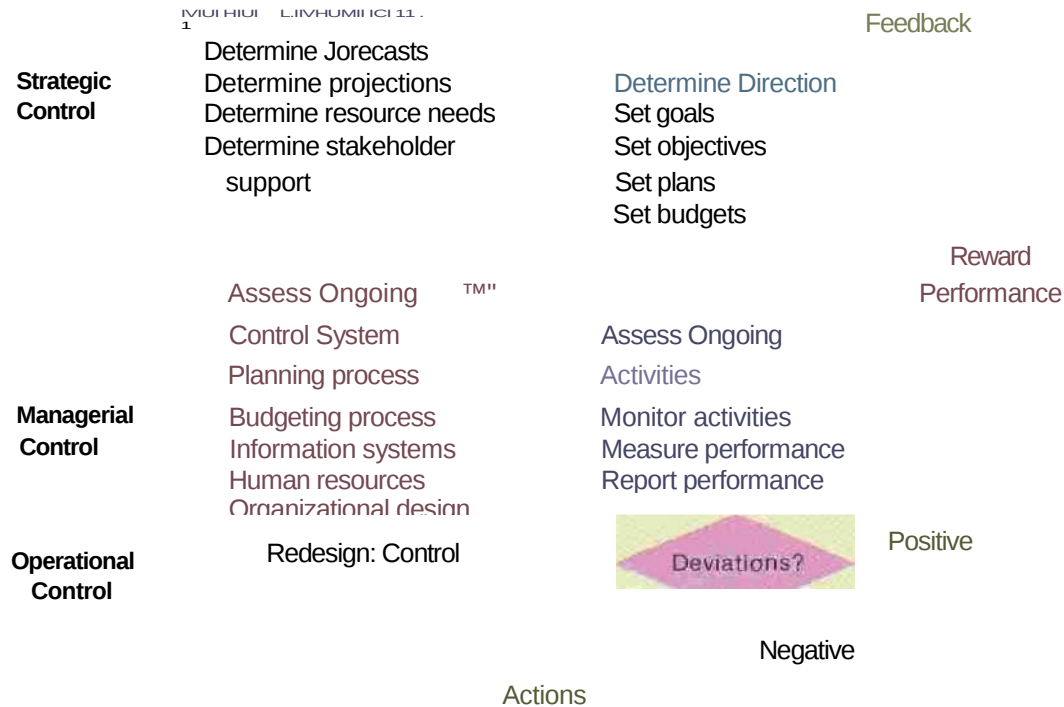
We have previously determined that the control process several elements which are included by managers at all levels, whether they are controlling the strategy of the firm or controlling the cosis tit new product development. The control process contains four main aci' -. ties that incorporate these elements (see Figure 17-6].

Monitor Environment

I

The control process is affected by many factors including changes that occur outside the organization. Resources are affected by environ-mental changes that may lead to internal changes in goals and in resource allocations. To keep information up to date, it is important to keep track of events that are occurring; such as governmental regulations, IRS reporting requirements, safety regulations, consumer attitudes, and

re 17-S

ACTIVITIES IN THE CONTROL PROCESS

social responsibility concerns. The firm must be aware of the availability of resources and the attitudes of its suppliers and distributors. Every organization has contracts with other organizations. Joint ventures are becoming more and more common, and sales are often determined by environmental demands.

Because of all these factors, the interface between the environment and the firm affects the firm's ability to forecast, to project its needs, and to control its activities. These forecasts and external relationships are important for determining the direction of the firm and the resources available.

Determine Direction

The control process depends upon the goals, objectives, plans, and resource allocations that are determined in the planning, goal setting and

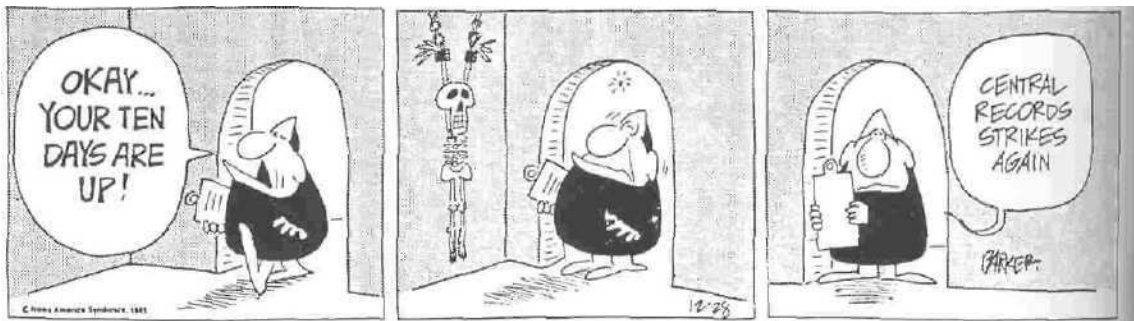
budgetary processes. They determine which subunits grow or retrench, which new projects are funded, and how much money is available for raises. They provide the targets against which the ongoing activities are compared, and they reflect the strategy of the firm. Setting these goals and standards is not always an easy process. It is often difficult to know what level to set the standards or when to expect activities to be completed.

Assess Ongoing Operations

Measuring, comparing, and evaluating ongoing operations involve a continual monitoring of activities. Comparing the actual results to the standards or goals means that accurate information about performance must be gathered and interpreted. Appropriate deviation measures must be devised for the activity. Management usually sets upper and lower performance limits that indicate the acceptable amount of deviation from the standard.

WIZARD OF ID

BY BRANT PARKER & JOHNNY HART



Source; By permission of Johnny Hart and News America Syndicate

If actual activity deviates beyond these limits, then a decision must be made as to whether corrective actions are necessary to get the results back in line. Taking corrective actions only when there is *m* unusual deviation is called management by exception. Sometimes the feedback from assessing ongoing operations indicates that the goals or standards should be changed, because the original goals may have been set too high or too low.

II

Assess Control System

Part of the control process involves a continual assessment of the control system itself to determine if it is remaining effective. The

mation provided must be timely, accurate, and relevant to the decisions being made. Resistance to controls, boredom with rules, and poorly developed standards have an effect on actual performance. The objective of the control process is to obtain the desired behavior and performance from the people within the firm; consequently, control systems need to be continually evaluated, updated, and improved.

CONTROL STRATEGIES

There are several strategies for managers to consider when deciding to design a control system. We will examine three strategies developed by William Ouchi that represent different approaches to control.⁷ All three strategies may be used within the same organization; in fact, some form of all three strategies is used in most organizations since each serves a different purpose.

These control strategies rely on the theory that cooperation between the subunits of a firm depends upon exchanges taking place. People exchange their time and efforts for money, security and excitement. Firms exchange money, products, and services to achieve a goal or purpose. These exchanges have a cost or a price associated with them. William Ouchi calls this a transaction cost, which is "any activity which is engaged in to satisfy each party to an exchange that the value given and received is in accord with his or her expectations."⁸ Transaction costs assure that the value assigned to any good or service is considered fair.

The three control strategies identified by Ouchi are market control, bureaucratic control, and clan control. Their components are shown in Figure 17-7.

Market Control

Market control strategy requires that standards or goals of the control system are set by market mechanisms such as competition. This strategy assumes that market mechanisms are most efficient for setting the price of certain exchanges or transactions. The market strategy relies on the presence of competition to keep the costs efficiently priced. Without competition, a monopoly could be established and any price charged for the product or service. For example, many organizations have their subunits charge other internal subunits for products or services used.

7. W. G. Ouchi, "A Conceptual Framework for the Design of Organizational Control Mechanisms," *Management Science* 25 119791: 833-48.

8, _____, "Markets, Bureaucracies, and Clans," *Administrative Science Quarterly* vol. 25, no. 1 11980: 130.

Figure 17-7 CONTROL STRATEGIES

Type	Components
Market	Self-contained' units Prices Exchange relationships Clear responsibilities Specified outputs Semi-autonomy
bureaucratic	Rules Identifiable task elements Routine decision-making Hierarchy Rewards enforcing conformity
Clan	Culture Personal commitment Social norms

Thus, the marketing department might be charged for the computer or human resource services that it uses. Market control relies on the assumption that a competitive price can be determined for these services.

Consequently, this first control strategy requires clearly defined outputs upon which a price can be set. It puts a cost on all activities and develops a quantitative measurement of the contribution of the business unit, department, subunit, or person. Frequently, divisions within the firm become profit centers, and their performance is measured by their contribution to profits.^{vj} This strategy requires clear responsibilities, activities, specified outputs, and some sense of the market value of an activity. The value of individuals is frequently measured by market-life measures such as salaries or merit raises.

Generally, the firm should be engaged in competition with other firms in order to establish a market value for the output. Because this strategy relies solely on the measurement of outputs, semi-autonomy, develops and there is little need for reporting on the internal activities such as the cost of personnel within the subunit.

Bureaucratic Control

Market mechanisms do not always operate efficiently, especially when there is no competition or when the subunit has a lot of power.;

these cases, it may be necessary to rely on legitimate authority, such as upper management, to set standards and rules. Upper management is assumed to be wise and fair; thus, it is considered to be an acceptable judge for setting fair methods for handling exchanges. Legitimate authority is the first part of a **bureaucratic control strategy**.

Rules, regulations, and policies comprise the other part of bureaucratic controls. Rules help to establish order. The bureaucratic strategy depends upon tight controls based on rules that ensure standardization and upon data management that reports the current level of activity to management. In order to use this strategy, there must be clearly defined tasks, authority relationships, and hierarchy.

This approach depersonalizes decision making: Rules help to reduce tensions arising from conflicts. Solutions can always be blamed on the rules. It is easy for people to say that they cannot break the rules for anyone. In order for this approach to be effective, rewards must reinforce the rules and enforce conformity.

Paul Lawrence and Davis Dyer have found that organizations that use bureaucratic controls rely on rules and on leaders.¹⁰ They are usually large organizations that are concerned with order and well-defined communication and decision channels. Most American organizations utilize a combination of market and bureaucratic controls.

Clan Control

A **clan control strategy** capitalizes on people's social needs of wanting to belong to a group and develops control through rituals and myths. The market strategy may not work when there is an absence of competition or when costs get too high. The bureaucratic strategy may not work when it is not possible to set concrete standards and rules. Thus, when a situation is unique or ambiguous, it becomes impossible to determine the value beforehand or externally. In these cases, the clan strategy helps to control the organization by achieving an agreement to higher level organizational goals, such as the usefulness of a firm or its ability to contribute to society, and by allowing differences in individual performance. William Ouchi suggests that goal congruity and a strong sense of community are important for clan control, and it occurs "where teamwork is common, technologies change often, and therefore individual performance is highly ambiguous."¹¹

The clan strategy is becoming more popular in America as firms pay more attention to developing their organizational cultures. One recent example is Ford Motor Company, which is attempting to move

10. P. R. Lawrence and D. Dyer, *Renewing American Industry* [New York: Free Press, 1983]

11. Ouchi, "Markets, Bureaucracies^ and Clans," 136.

Teamwork is common in a clan control strategy.



Part 6 A CONTROLLING

away from its reputation for competitive personalities and autocratic management to that of a firm known for its team orientation.

The clan strategy relies on the individual to utilize self-control and to perform as desired. It manages through informal mechanisms for control. Establishing trust, making informal contacts, and developing a company culture comprise part of this strategy.¹² Thomas Peters and Robert Waterman describe it this way;

Without exception, the dominance and coherence of culture proved to be an essential quality of the excellent companies. Moreover, the stronger the culture and the more it was directed toward the marketplace, the less need was there for policy manuals, organization charts, or detailed procedures and rules. In these companies, people way down the line know what they are supposed to do in most situations because the handful of guiding values is crystal clear.¹³

Japanese management approaches incorporate clan strategies keeping employees committed and working hard.¹⁴ Lincoln Electric Company has been cited as an American firm that uses a control system]

12. R. L. Dunbar, "Designs for Organizational Control." In P. C. Nystrom and 119.1 Starbuck, eds., *Handbook Of Organizational Design I* [Oxford: Oxford Univ. Press,

13. T. I. Peters and R. H. Waterman, Jr., *In Search of Excellence* [New York: Harper&1 Row, 1982), 75-76.

14. A. M. Jaeger and B. R. Baliga, "Control Systems and Strategic Adaptation: Lessons*] from the Japanese Experience," *Strategic Management journal* 6 (1985): 115-34.

similar to that of the Japanese. It uses no formal budgeting system: The managers are trusted to keep expenses to a minimum, and they do.

The clan strategy utilizes few formal controls. It emphasises selection, training, and socialization of employees. It is particularly appropriate in smaller firms, at higher levels of management in larger firms, and in firms needing to encourage innovation.

DESIGNING EFFECTIVE CONTROL SYSTEMS

In order to design effective control systems, management must assess the impact of the control systems on the organization. The objectives for designing effective control systems include the following:

- A To establish order and consistency in recurring problems.
- A To provide information about what should get done, how it should get done, and in what time period.
- A To meet corporate objectives and to correct deviations in performance.
- A To provide information to management that is accurate and useful for evaluating current goals and operating procedures.
- A To encourage compliance with regulations, but also to encourage innovation and commitment.

Control systems are designed to meet these objectives. But there is an inherent dilemma built into control systems. They are meant to standardize activities, but they are not meant to limit self-initiative or innovativeness. An effective control system achieves the desired results but maintains freedom and self-initiative.

Realistically, control systems may create side effects that prevent organizations from meeting these objectives. It has been suggested that the control system limits self-initiative and freedom, and this may cause side effects. Dysfunctional side effects may range from game playing to actual sabotage to inaccurate information generation.

These side effects of control systems are caused by the fact that organizations change and develop over time and that people are social entities having individual needs and motivations. Different people will respond differently to the same control technique, and their response may vary over time. Firms adapt and change at varying rates. A particular control technique may be out of date by the time it is implemented.

Control frequently has a negative connotation and control techniques may create resistance. Any control technique should be designed with the realization that behavioral consequences may occur.

Dysfunctional Side Effects of Control

In this section of the chapter, we will describe the dysfunctional effects of control systems and methods for overcoming them. Figure 17-8 summarizes the effects, causes, and tactics associated with designing control systems.

Figure 17-8

DESIGNING SYSTEMS		CONTROL
Dysfunctional Effects	Causes	Design Tactics
Game playing	Personal differences	Create valuable information
Sabotage		Create a control
Inaccurate information	Conflicting goals	Continuous redesign
Illusion of control	Impact on power and status	Maintain grievance procedures

Game Playing. One of the behavioral consequences of control systems is that people look at controls as something to be beaten.¹⁵ Many¹ people view filling out their income tax forms as a game to beat the IRS. Similarly, people look at rules and regulations as things to circumvent. The budget game is one of the most commonly played games in organizations.¹⁶ It is frequently a version of "Pad the Budget," or maybe "Pad the Expense Account." The objective of this particular game is to obtain more money for expenses. Universities frequently play a version of "Be the Clock" in which every penny of money allocated to them is used up before the next budgeting period begins. It can thus be justified that more resources are needed. Games are played within the procedures of the control system. People do not attempt to change the rules of the

Sabotage. In sabotage, employees attempt to create such a gap to the control system that it will not work in the future and will be abandoned by management. Computerized time clocks are frequently broken or manipulated by workers. Another form of sabotage is to

15. Dunbar, "Designs for Organizational Control."

16. R. J. Swienkpa and R. H. Moncur, "The Relationship between Managers' Budget-Oriented Behavior and Selected Attitude, Position, Size, and Performance," *Empirical Research in Accounting: Selected Studies*, Supplement to *Journal of Research* 10 (1972): 194-209.

confusion. Experts can make projects seem so complex that management cannot understand them nor understand the resources necessary to support the project. To simply ignore the rules and to do whatever pleases you is another form of sabotage.

Inaccurate Information. Control systems rely on the accuracy and timeliness of the information provided about the actual performance and its comparison with projected goals. Managers may supply inaccurate information in order to make themselves appear better. It is well documented that subordinates will report what they perceive management wants to hear.¹⁷ Realistic progress reports and expenses may not be reported if they contradict what management expects. Sometimes management will ask for information that has not been collected, and subordinates will make up the numbers or give their best guess.

Illusion of Control. Appearing to be in control is particularly important at the upper levels of the firm. If the firm reports good financial results, the president takes full credit. If the firm has had poor performance, the results were caused by unforeseen environmental changes that could not be controlled by the president.¹⁸ Managers attempt to appear in control and to assure their superiors that everything is in order and flowing smoothly. Even in performance evaluation sessions, subordinates will attempt to appear in control and to deny the existence of any negative deviations from performance standards.

Causes of Dysfunctional Effects

The occurrence of dysfunctional effects in control systems is the result of a myriad of complex administrative, technical, and behavioral processes. However, these effects are not inevitable in the sense that nothing can be done to arrest their momentum. It is fruitful first to discuss some of the causes for these effects and then to discuss some design tactics to deal with them.

Personal Differences. Each individual is motivated by different things at different times, and people will uniquely perceive the same situation or instructions based on their own backgrounds. Chapter 3 gives greater insight into the differences in perception. For example, given the same department, one manager might report that the department is doing well and meeting its goals while another might be more aware of poor

17. E. Carter, "Behavioral Theory of the Firm and Top Level Corporate Decisions," *Administrative Science Quarterly* vol. 16, no. 4 [December 1971]: 413-39.

18. C. R. Salancik and J. R. Mcindl, "Corporate Attributions as Strategic Illusions of Management Control," *Administrative Science Quarterly* vol. 29, no. 2. [June 1984]: 238-54.

morale and report that the department is not doing well. Sometimes managers simply are not aware that they are reporting inaccurate information or that they are involved in game playing. They may sincerely believe that they are doing the best job that they possibly can.

Differences in mental capabilities can produce cognitive strain for some individuals who are afraid of making mistakes and who need to follow rules and procedures very carefully.¹⁹ Some subordinates resent having their superiors oversee their activities and intervene to make adjustments. Standards set by other people are less likely to be understood than if the individual is directly involved in the setting of the standards. The individual differences cause differences in perceptions and reactions to the control system.

Overcontrol. Too much control can be as much of a problem as too little control. People need to feel some responsibility for themselves, and for their work. Frequent evaluations, too many rules, and repeated interventions by superiors can be distracting and disturbing. Overcontrol can lead to people doing what is necessary but no more than that. A draftsman may refuse to work overtime because it is not part of his job description.

Conflicting Goals. It is possible to cite a number of instances when one aspect of the control system conflicts with another aspect. For example, many firms require their managers to put together a long-range plan. However, the performance evaluations are based on short-range activities. Or, a real estate broker who is paid only sales commissions may refuse to help a customer after the sale is finalized. Filling out reports to meet management's expectations may be caused by conflicting standards which are built into the control system.

Standardized procedures are usually based on what happened in the past and are an attempt to avoid conflict in the future. Over time, the procedures may become outdated but still be in effect, even though the reasons for maintaining them are no longer valid. These procedures may conflict with getting the work done efficiently and effectively now. A firm may also view the questioning of authority and rules as an act of insubordination.

The linkages between the rules, regulations, standards, and procedures have a combined effect. The combined effects of the technological control processes, performance evaluations, allocations of resources, work procedures may be different from that produced by singularly looking at each one.

19. R. T. Lenz and M. A. Lyles, "Managing the Planning Process: A Field Study of the Human Side of Planning," *Strategic Management Journal* vol. 3, no. 2 (April-June 1982), 105-118.

Impact on Power and Status. The ability to control the making of rules, to disseminate information, and to establish rewards gives a person power over other people. A change in the control system may threaten people because it will also change their power and status. In this case, people would resist any change from the status quo.

Control systems can create new experts and eliminate old ones. People familiar with new aspects of the control system become experts and acquire power to obtain resources and to withhold information from others. Changing the organizational structure of AT&T created new work groups with new leaders, new rules, and new power relationships-
Overcoming Dysfunctional Side Effects

The general nature of control that is appropriate varies according to the environmental conditions, the nature of the work, the type of firm, and the people involved.³⁰ It depends upon the amount of managerial discretion that is needed, the interdependencies among subunits, the time span, and the type of information that is needed for evaluations. An effective control system must be a unique design for each organization, but there are certain guidelines that are appropriate for all firms.

Create Valuable Information. Valuable information is information that is timely, accurate, and relevant to the decision makers. In attempting to control ongoing activities, managers must have information, about performance that truly reflects actual performance, and it must be available when comparison decisions need to be made. Valuable information contributes to designing well-conceived standards and goals. Chapter 19 goes into more depth on how to design a management information system effectively.

Create a Control Culture. A culture is shared values and norms. For control systems to be effective, it is essential that a culture be developed in which the purpose and Limits of the controls are recognized and fully understood. This is a particularly important contribution of upper management. Organizations that have been successful at implementing control systems spend a great amount of energy developing trust, flexibility, and shared understandings of the purpose of controls and rules. In no sense is controlling an exact science, and employees should understand that the control systems are solely a means to reaching the desired goals. Reaching those goals depends upon everyone in the firm. Participation leads to shared understandings, a sense of ownership, and a more effective system.

20. R. F. Vancil "What Kind of Management Control Do You Need?" *Harvard Business Review* [March-April 1973], 75-86.

Continuous Redesign. Rules, procedures, and standards should be held constant only in the short term. The control system should be flexible and responsive to changing events that influence the firm. Change should be built into the control system so that there is a continual assessment of current levels of controls, the standards used and the control methods. Evaluation should center as much on the information presented as on how that information was collected and how it will be used.

Maintain Grievance Procedures. IBM has a procedure by which anyone can present to upper management something that is perceived to be a major deviation from the plan. Individuals can bypass the normal hierarchical communication lines if they think it is necessary. This illustrates a nonthreatening method for bringing to the attention of management problems within the existing control system. Lawrence Hrebiniak suggests that to create more effective control systems, organizations must embrace error and not be threatened by deviations.²¹ Sometimes errors, mistakes, deviations, and bad luck are punished. Yet, these provide important learning experiences and may represent the acceptance of risk taking and creative approaches to a problem. Control systems should provide for deviations that may occur and for a discussion of the causes without the threat of punishment.

IMPLICATIONS FOR MANAGEMENT

The control function will be part of your job as a manager. The control systems that you utilize will help you to monitor your own performance and to look better to your superiors. At the same time, however, control can have dysfunctional effects. You must carefully analyze the impact of each control technique to determine if it is functioning effectively.

It would be helpful if you would involve your subordinates in determining the appropriate controls rather than imposing these controls on them. Participation in designing controls does mean that the process may take longer and that you may have to negotiate on some of the controls used. However, it does produce a better understanding of and commitment to the controls.

It is important to remember that control systems must have some flexibility in order to handle the exceptions that occur. Customer relations are very important, and customers like to feel that their problems are being individually addressed. They do not like receiving routine

El, L. Q. Hrebiniak, *Complex Organizations* (St. Paul, West Publishing Co., 1981).

answers. Even when proper procedures are being followed, it is helpful to make it seem that it is a solution designed especially for that situation. Control systems provide guidelines that should incorporate some flexibility.

As a manager, you need to recognize that control techniques do have a life cycle and, at some point, they are no longer as effective as they once were. About the time that the control technique is most effective, other things begin to change. For example, new technology may be introduced, new employees who are better educated may start work, or government regulations may change. All of these factors may influence the effectiveness of the technique. Change and redesign can keep the control system more viable.

The most important implication is to understand your own individual strengths and weaknesses in managing other people. Some people may be very uncomfortable with informal controls while others may be uncomfortable with formal controls. You need to find what works best in getting the work done and in keeping your subordinates motivated and committed.

KEY TERMS AND CONCEPTS

basic corrective action
behavioral controls bottom-up approach
bureaucratic control strategy
clan control strategy control
control process control technique
cybernetic control immediate corrective action
management by exception managerial control

market control strategy noncybernetic controls
operational control output controls
post-action control preliminary or feedforward control
steering control strategic control
top-down approach transaction cost yes-no control

REVIEW QUESTIONS

1. Give four reasons why control is an important management function.
2. Describe the process of management control.
3. How do strategic, managerial, and operational control differ? Give an example of each.
4. How does the control process with a top-down approach differ from the control process with a bottom-up approach?
5. Provide examples of cybernetic, noncybernetic, steering, yes-no, and post-action controls.
6. Describe controlling through market controls, bureaucratic controls, and clan controls. Which do you think is most effective?

7. Describe the control process. Pick an example and follow it through the control activities.
8. What are the five objectives of an effective control system?
9. Describe four dysfunctional side effects of control systems.
10. Describe an effective control system.

CASE 17 A Will Stricter Controls Save Nike?

Since Nike Inc. started making its own running shoes in 1972, its corporate environment has been, well . . . laid back. Philip Knight, the former college miler who co-founded the company and is now its chairman, president, and chief executive, once kept a limousine full of investment bankers waiting for an hour while he finished a run.

Now, the biggest U.S. athletic shoe and apparel maker is being forced to adopt a more button-down approach. After a decade of phenomenal growth in sales and profits, Nike has stumbled. Its 1983 net income fell 29 percent from a year earlier to \$40.7 million, on a 6-percent sales gain to \$919.8 million. "Certainly there's a need to have more formalized procedures," Mr. Knight says, "but that doesn't mean a 'sledgehammer' approach." With a 5-percent increase in sales and a 5-percent cut of operating expenses, you restore margins and have a very, very healthy performance."

Nike's strategy for restoring profit growth involves several tactics. One is cutting bloated inventories, which swelled to 22 million pairs of shoes in 1983. The stockpile has now been cut to 15 million pairs, and the target is 12 million. George Porter, a vice-president and general manager of the footwear division, says one way Nike intends to reach that goal is through better service for its larger national accounts, such as J.C. Penney & Company.

The company is also trying to sharpen its corporate identity, following a proliferation of shoe models and apparel products.

"The problem for us has been, which markets do we go after and which do we leave alone?" says Mr Knight. Nike officials say, they're being more choosy about what cuts carry the company's distinctive "swoosh" label. By the spring of 1986, they planned to slash the total number of models by 30 percent.

Management is another top priority. The 46-year-old Knight reassumed the presidency just a year after he had appointed Robert Woodell to the job. Mr. Woodell, 40, is now working on special projects and, future strategies for the company. Mr. Knight says the decision to split senior managerial functions into long-term day-to-day responsibilities "wasn't planned" very well by me. Next time this happens, it'll be planned a little better."

Some things aren't likely to change much. Nike will continue to make nearly 10 percent of its footwear overseas, in South Korea, Taiwanese, Chinese, and other Asian factories. By next year, it plans to increase foreign sales to 20 percent of total turnover from about 16 percent now. And Nike will keep using big-name athletes to promote its products. Major campaigns involving basketball star Michael Jordan and tennis ace John McEnroe will highlight 1986 advertising.

Nike plans to promote itself as a fitness company, and recently acquired Proform, a small, privately held maker of home weight-lifting and other equipment. But Mr. Knight says there aren't any

marie announcements ahead. His goal is to "manage our existing business better over the next couple of years."

Meeting that objective will mean doing a better job of keeping pace with a growing number of competitors and changing consumer tastes. As many as 10 athletic-shoe companies now report annual sales of \$50 million or more, and at least some of the newcomers' gains have been at the expense of Nike and other more established firms. Nike's market share declined from 36 percent in 1982 to an estimated 32 percent in 1983, according to San Francisco-based Montgomery Securities.

Meanwhile, consumers are developing new interests, which other companies have been quicker to spot. For example, Nike lagged behind Reebok and other small companies in bringing out a special shoe for aerobics and has tried unsuccessfully ever since to play catch-up. There are also signs that the

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running boom, which Nike capitalized on and some say helped start, has peaked.

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1. What information did Philip Knight obtain that led him to believe that stricter controls were necessary at Nike? What corrective action does he plan to take?
2. What information in the case addresses strategic control: managerial control? operational control?
3. In what ways does market control affect Nike's operations? What efforts were made to apply bureaucratic controls at Nike? Do you believe clan control is important to the success of Nike? Explain.