A BRIEF HISTORY OF MANAGEMENT

"Those who cannot learn from history are doomed to repeat it."

—George Santayana

The World of Work: Tony considers his style

On the way home from the restaurant—soon to be *his* restaurant, Tony thought—the news of his promotion finally started to sink in. Jerry's promotion to regional manager didn't give either of them a lot of time to manage the transition, so the day had been filled with a lot of information—forms, rules, regulations, guidelines, and plenty of tips and tricks from Jerry on how to cope with the unexpected.

In the peace and quiet of his apartment, Tony started thinking back to his earlier days at the Taco Barn and to the many lessons he had learned from both Jerry and Dawn. They were very different in their approach to their jobs. Dawn was all about the numbers. Whenever she visited the restaurant, she and Jerry would always end up huddled in one of the corner booths over her laptop screen or a spreadsheet printout discussing numbers—food costs, labor costs, and the figures for the latest marketing campaign to increase sales. Dawn always ended her visit by walking around and checking in with everyone to make sure they were doing okay. Since Jerry ran such a good crew, there were never any problems, but Tony wondered what Dawn's reaction would have been if she had found any.

Jerry's style always seemed to Tony to be more about the people than the numbers. He obviously hit

CHAPTER 2

LEARNING objectives

After studying this chapter, you will be able to:

1. Explain the role of the Industrial Revolution in the development of managerial thought and identify the captains of industry and their role in management's evolution.
2. Define scientific management, and outline the role Frederick W. Taylor played in its development.
3. Identify and explain the human relations movement.
4. Explain the systems approach.
5. Explain the differences between Theory X, Theory Y, and Theory Z.
6. Define the contingency approach to management.
7. Explain the concepts of the search for excellence and the emphasis on quality.
8. Understand what is required for an organization to move from good to great.

the financial targets that he needed to; otherwise he wouldn't have kept his job, thought Tony, but Jerry was always taking the time to work with his staff. He was hardly ever in his office—not that you could call the broom closet in the back of the kitchen an office. Jerry was always out in the kitchen working with the chefs or in the dining room, working with the servers before opening and checking on customers once the restaurant was open.

Tony suddenly realized that he would have to establish his own style of management now that he would be in charge of the restaurant. He had filled in for Jerry when he was on vacation a couple of times, but then he was really just minding the store until Jerry came back. This time was different—Tony was the manager now, and he wondered what kind of manager he should be.

QUESTIONS

1. Why should Tony be concerned about establishing his own style of management in the Taco Barn?
2. Which management style do you like better—Jerry's or Dawn's? Why?
3. Do you think Tony will choose Jerry's style or Dawn's? Why?
4. If you are currently in a management role, how would you describe your style? If you are working toward a management position, do you think you would be more like Dawn or Jerry? Why?

THE HISTORY OF MANAGEMENT

Knowledge of the history of any subject is necessary to understanding where the subject came from, where it is now, and where it is going. Management is no exception. For example, how often have you read a news story covering a particular incident and formed an opinion only to change it when you understood the events leading up to the incident? Many of today's managerial problems began during the early management movement. Understanding the historical evolution of these problems helps the modern manager cope with them. It also helps today's managers develop a feel for why the managerial approaches that worked in earlier times do not necessarily work today. The challenge to present and future managers is not to memorize historical names and dates; it is to develop a feel for why and how things happened and to apply this knowledge to the practice of management.

Some forms of management have existed since the beginning of time. Ever since one human tried to direct another, management thought has been developing. The development of management as we know it is a relatively modern concept. The age of industrialization in the nineteenth century and the subsequent emergence of large corporate organizations called for new approaches to management.

U.S. INDUSTRIAL REVOLUTION

Industrial Revolution
Starting in 1860, the U.S. Industrial Revolution encompassed the period when the United States began to shift from an almost totally farming-based society to an industrialized society.

As the name suggests, the U.S. **Industrial Revolution** encompassed the period when the United States began to shift from an almost totally farming-based society to an industrialized society. The year 1860 is generally thought of as the start of the Industrial Revolution in this country.

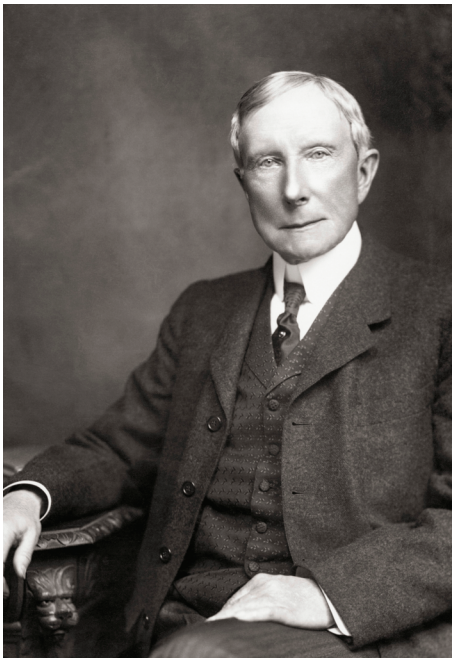
Daniel Wren has described the Industrial Revolution in America as having three components : power, transportation, and communication.[1] Many new inventions, such as the steam engine, allowed industries to expand and locate in areas that at one time were completely lacking in factories and other signs of progress. Industry was no longer dependent on water and horses for its power.

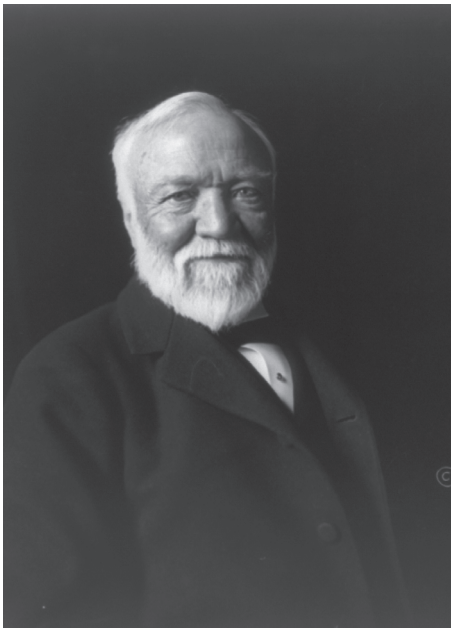
Transportation moved through periods of industrial and commercial traffic on canals, railroads, and eventually efficient road systems. However, progress always brings its own set of unique problems. Communication lines were extended, decisions had to be made within a rapidly changing framework, scheduling difficulties arose, and new markets developed. All these changes required new management skills.

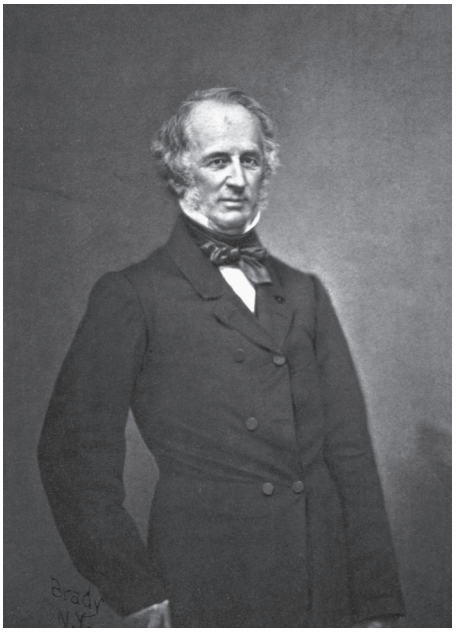
Communication by way of the telegraph, telephone, and radio changed the way U.S. organizations functioned. Speed and efficiency dramatically increased. The trend away from an agricultural society forced many behavioral changes on the workers of the land. Schedules, work tasks, workloads, compensation, and safety were hotly debated issues well into the twentieth century.

CAPTAINS OF INDUSTRY

Once industrialization began, it continued at a rapid pace. By the end of the nineteenth century, the economy had shifted from being mainly agricultural to being heavily involved with manufactured goods and industrial markets.[2]







John D. Rockefeller, James B. Duke, Andrew Carnegie and Cornelius Vanderbilt were the original *captains of industry.* Their collective contributions helped shape how we view business today.

During the last quarter of the nineteenth century, American business was dominated and shaped by captains of industry. These included John D. Rockefeller (oil), James B. Duke (tobacco), Andrew Carnegie (steel), and Cornelius Vanderbilt (steamships and railroads). In contrast to the nonjudgmental attitudes of previous generations, these individuals often pursued profit and self-interest above all else. Although their methods have been questioned, they did obtain results. Under these individuals, giant companies were formed through mergers in both the consumer and producer goods industries. They created new forms of organizations and introduced new methods of marketing. For the first time, nationwide distributing and marketing organizations were formed. The birth of the corporate giant also altered the business decision-making environment.

For the empire building and methods of the captains of industry, previous management approaches no longer applied. Government began to regulate business. In 1890, the Sherman Antitrust Act, which sought to check corporate practices "in restraint of trade," was passed.

By 1890, previous management methods were no longer applicable to U.S. industry. No longer could managers make on-the-spot decisions and maintain records in their heads. Corporations had become large scale, with national markets. Communication and transportation had expanded and spurred great industrial growth. Technological innovations contributed to industrial growth: The invention of the internal combustion engine and the use of electricity as a power source greatly increased industrial development at the close of the nineteenth century.

However, despite what seemed to be an ideal climate for prosperity and productivity, wages were low.[3] Production methods were crude, and worker training was almost nonexistent. There were no methods or standards for measuring work. Work had not been studied to determine the most desirable way to complete a task. The psychological and physical aspects of a job such as boredom, repetitiveness, and fatigue were not studied or even considered in the design of most jobs.

At this point in the development of management, the engineering profession made significant contributions. Engineers designed, built, installed, and made operative the production systems. It was only natural, then, for them to study the methods used in operating these systems.

PROGRESS CHECK QUESTIONS

1. Explain why management did not emerge as a recognized discipline until the twentieth century.
2. Describe the three key components of the U.S. Industrial Revolution.
3. Who were the four leading captains of industry during this period?
4. What role did the captains of industry play in the development of modern organizations?

SCIENTIFIC MANAGEMENT AND FREDERICK WINSLOW TAYLOR

Timekeeping was fundamental to Frederick Winslow Taylor's theories on management.

The development of specialized tasks and of departments within organizations had come with the rapid industrial growth and the creation of big business. One person no longer performed every task but specialized in performing only a few tasks. This created a need to coordinate, integrate, and systematize the workflow. The time spent on each item could be significant if a company was producing several thousand items. Increased production plus the new need for integrating and systematizing the workflow led engineers to begin studying workflows and job content.

The spark generally credited with igniting the interest of engineers in general business problems was a paper presented in 1886 by Henry Towne, president of the Yale and Towne Manufacturing Company, to the American Society of Mechanical Engineers. Towne stressed that engineers should be concerned with the financial and profit orientations of the business as well as their traditional technical responsibilities.[4] A young mechanical engineer named Frederick Winslow Taylor was seated in the audience. Towne's talk sparked an idea in Taylor's mind for studying problems at Midvale Steel Company. During his years at Midvale, Taylor worked with and observed production workers at all levels. It did not take him long to figure out that many workers put forth less than 100 percent effort. Taylor referred to this tendency to restrict output as **soldiering.**

soldiering
Describes the actions of employees who intentionally restrict output.

Taylor quickly saw that workers had little or no reason to produce more; most wage systems of that time were based on attendance and position. Piece-rate systems had been tried before but generally failed because of poor use and weak standards. Taylor believed a piece-rate system would work if the workers believed the standard had been fairly set and management would stick to that standard. Taylor wanted to use scientific and empirical methods rather than tradition and custom for setting work standards. Taylor's efforts became the true beginning of what would become known as **scientific management.**

scientific management
Philosophy of Frederick W. Taylor that sought to increase productivity and make the work easier by scientifically studying work methods and establishing standards.

Scientific management, as developed by Taylor, was based on four main principles:

- *The development of a scientific method of designing jobs to replace the old rule-of-thumb methods.* This involved gathering, classifying, and tabulating data to arrive at the "one best way" to perform a task or a series of tasks.

- *The scientific selection and progressive teaching and development of employees.* Taylor saw the value of matching the job to the worker. He also emphasized the need to study worker strengths and weaknesses and to provide training to improve employee performance.
- *The bringing together of scientifically selected employees and scientifically developed methods for designing jobs.* Taylor believed that new and scientific methods of job design should not merely be put before an employee; they should also be fully explained by management. He believed employees would show little resistance to changes in methods if they understood the reasons for the changes and saw a chance for greater earnings for themselves.
- *A division of work resulting in interdependence between management and workers.* Taylor believed if they were truly dependent on each other, cooperation would naturally follow.[5]

For both management and employees, scientific management brought a new attitude toward their respective duties and toward each other.[6] It was a new philosophy about the use of human effort. It emphasized maximum output with minimum effort through the elimination of waste and inefficiency at the operational level of the organization.[7] A methodological approach was used to study job tasks. This approach included research and experimentation methods (scientific methods). Standards were set in the areas of personnel, working conditions, equipment, output, and procedures. The managers planned the work; the employees performed it. The result was closer cooperation between managers and employees.

The scientific study of work also emphasized specialization and division of labor. Thus, the need for an organizational framework became more and more apparent. The concepts of line and staff emerged. In an effort to motivate employees, wage incentives were developed in most scientific management programs. Once standards were set, managers began to monitor actual performance and compare it with the standards. Thus began the managerial function of control.

Scientific management is a philosophy about the relationship between people and work, not a technique or an efficiency device. Taylor's ideas and scientific management were based on a concern not only for the proper design of the job but also for the worker. This aspect has often been misunderstood. Taylor and scientific management were (and still are) attacked as being inhumane and aimed only at increasing output. In this regard, scientific management and Taylor were the targets of a congressional investigation in 1912.[8]

Study Skills

Rate Your Study Skills

Consider the following areas:

- Study knowledge (understanding the many approaches to good study habits).
- Study preparation (utilizing all the tools to get the most out of studying).
- Study execution (transforming all the techniques and skills into maximizing your results, usually shown by consistently getting good grades).

Based on the above, how would you rate your skills in these areas? Give yourself a grade:

- Study knowledge _____
- Study preparation _____
- Study execution _____

How does your report card look? Stay tuned.

The key to Taylor's thinking was that he saw scientific management as benefiting management and employees equally: Management could achieve more work in a given amount of time; the employee could produce more—and hence earn more—with little or no additional effort. In summary, Taylor and other scientific management pioneers believed employees could be motivated by economic rewards, provided those rewards were related to individual performance.

Other Scientific Management Pioneers

Several followers and colleagues of Taylor helped to promote scientific management. *Henry Lawrence Gantt* worked with Taylor at both Midvale Steel and later at Bethlehem Steel. Gantt is best known for his work in production control and his invention of the Gantt chart, which is still in use today. The Gantt chart graphically depicts both expected and completed production. Gantt was also one of the first management pioneers to state publicly the social responsibility of management and business. He believed the community would attempt to take over business if the business system neglected its social responsibilities.[9]

Frank and Lillian Gilbreth were important to the early management movement both as a husband-and-wife team and as individuals. The Gilbreths, inspired by Taylor and scientific research, were among the first to use motion picture films to study hand and body movements to eliminate wasted motion. Frank Gilbreth's major area of interest was the study of motions and work methods. Lillian Gilbreth's primary field was psychology. Following Frank's untimely death in 1924 (he was in his mid-50s), Lillian continued their work for almost 50 years until her death in 1972. During this time, Lillian's work emphasized concern for the worker, and she showed how scientific management should foster rather than stifle employees. Because of her many achievements (see Figure 2.1), Lillian Gilbreth became known as the First Lady of Management. By combining **time and motion study** and psychology, the Gilbreths contributed greatly to research in the areas of fatigue, boredom, and morale.

Lillian Gilbreth, the First Lady of Management, spent over 50 years of her life emphasizing concern for the worker and showing how scientific management should foster rather than stifle employees.

time and motion study
In order to find the 'one best way' to perform a task, Frederick Winslow Taylor began to measure individual tasks within jobs–measuring both the time taken to do the task and observing the motions involved. This area of research has since been incorporated into *ergonomics.*

Fayol's Theory of Management

Henri Fayol, a Frenchman, was the first to issue a complete statement on a theory of general management. Though popular in Europe in the early 1900s, the theory did not really gain acceptance in America until the late 1940s. Today, Fayol's greatest contribution is considered to be his theory of management principles and elements. Fayol identified the following 14 principles of management:

figure 2.1

LILLIAN M. GILBRETH: FIRST LADY OF MANAGEMENT

Source: From Daniel A. Wren, *Evolution of Management Thought*, 4/e, 1994, p. 143. Reprinted with permission of John Wiley & Sons, Inc.

- First female member of the Society of Industrial Engineers (1921).
- First female member of the American Society of Mechanical Engineers.
- First female selected to attend the National Academy of Engineering.
- First woman to receive the degree of Honorary Master of Engineering (University of Michigan).
- First female professor of management at an engineering school (Purdue University, 1935).
- First female professor of management at Newark College of Engineering.
- First and only female recipient of the Gilbreth Medal (1931).
- First female awarded the Gantt Gold Medal.
- First and only recipient of the CIOS Gold Medal.
- Received over 20 honorary degrees and served five U.S. presidents as an adviser.

Division of work: Concept of specialization of work.

Authority: Formal (positional) authority versus personal authority.

Discipline: Based on obedience and respect.

Unity of command: Each employee should receive orders from only one superior.

Unity of direction: One boss and one plan for a group of activities having the same objective.

Subordination of individual interests to the general interest: A plea to abolish the tendency to place individual interest ahead of the group interest.

Remuneration: The mode of payment of wages was dependent on many factors.

Centralization: The degree of centralization desired depended on the situation and the formal communication channels.

Scalar chain (line of authority): Shows the routing of the line of authority and formal communication channels.

Order: Ensured a place for everything.

Equity: Resulted from kindness and justice.

Stability of tenured personnel: Called for orderly personnel planning.

Initiative: Called for individual zeal and energy in all efforts.

Esprit de corps: Stressed the building of harmony and unity within the organization.

Fayol developed his list of principles from the practices he had used most often in his own work. He used them as general guidelines for effective management but stressed flexibility in their application to allow for different and changing circumstances.

CASE INCIDENT 2.1

Granddad's Company

J.R.V. Company, which manufactures industrial tools, was founded in 1905 by James R. Vail Sr. Currently, James R. Vail Jr. is the president of the company; his son Richard is executive vice president. James Jr. has run the company for the past 30 years in a fashion very similar to that of his father.

When the company was founded, James Sr. had been a big supporter of scientific management. He had organized the work very scientifically with the use of time and motion studies to determine the most efficient method of performing each job. As a result, most jobs at J.R.V. were highly specialized and relied on a high degree of division of labor. In addition, there was always a heavy emphasis on putting people in jobs that were best suited for them and then providing adequate training. Most employees are paid on a piece-rate incentive system, with the standards set by time and motion studies. James Jr. has largely continued to emphasize scientific management since he took over. All employees now receive two weeks of paid vacation and company insurance. Also, employees are generally paid an average wage for their industry. The present J.R.V. building was constructed in 1920, but it has had several minor improvements, such as the addition of fluorescent lighting and an employee lunchroom.

James Jr. is planning to retire in a few years. Recently, he and Richard, his planned successor, have disagreed over the management of the company. Richard's main argument is that times have changed and time and motion studies, specialization, high division of labor, and other company practices are obsolete. James Jr. counters that J.R.V. has been successful under its present management philosophy for many years and change would be "foolish."

Questions

1. Do you agree with Richard? Why or why not?
2. Are the principles of scientific management applicable in today's organization? Explain your answer.
3. What are James Jr.'s reasons for keeping things the way they are?
4. What kind of changes do you think Richard would like to make?

Fayol's real contribution, however, was not the 14 principles themselves but his formal recognition and combination of these principles. In presenting his principles of management, Fayol was probably the first to outline what today are called the **functions of management.** In essence, he identified planning, organizing, commanding, coordinating, and controlling as elements of management. He most heavily emphasized planning and organizing because he viewed these elements as essential to the other functions. Recent translations and interpretations of some of Fayol's very early papers have further reinforced the fact that Fayol was ahead of his time in recognizing the role of administration (management) in determining the success of an organization.[10]

functions of management
Fayol's summary of the key responsibilities of a manager - planning, organizing, commanding, coordinating, and controlling.

The works of Taylor and Fayol are essentially complementary. Both believed proper management of personnel and other resources is the key to organizational success. Both used a scientific approach to management. The major difference is in their orientation. Taylor stressed the management of work, whereas Fayol emphasized the management of organization.

PROGRESS CHECK QUESTIONS

5. Define scientific management.
6. What were Taylor's four main principles of scientific management?
7. List Fayol's 14 principles.
8. Explain Fayol's five functions of management.

THE HUMAN RELATIONS MOVEMENT

The Great Depression of 1929–32 saw unemployment in excess of 25 percent. Afterward, unions sought and gained major advantages for the working class. In this period, known as the Golden Age of Unionism, legislatures and courts actively supported organized labor and the worker. The general climate tended to emphasize understanding employees and their needs (as opposed to focusing on the methods used to conduct work). Figure 2.2 summarizes several of the most important pro-union laws passed during the 1920s and 1930s. A major research project, known as the Hawthorne studies, is generally recognized as igniting the interest of business in the human element of the workplace.[11]

The Hawthorne Studies

The Hawthorne studies began in 1924 when the National Research Council of the National Academy of Sciences began a project to define the relationship between physical working conditions and worker productivity. The Hawthorne plant of Western Electric in Cicero, Illinois, was the study site. First, the researchers lowered the level of lighting, expecting productivity to decrease. To their astonishment, productivity increased. Over the next several months, the researchers repeated the experiment by testing many different levels of lighting and other variables. Regardless of the level of light, output was found to increase.

Cicero, Illinois, home of the Hawthorne Plant of Western Electric, was the backdrop for studies that would revolutionize the interaction between management and employees.

Baffled by the results, in early 1927 the researchers called in a team of psychologists from Harvard University led by Elton

Railway Labor Act of 1926	Gave railway workers the right to form unions and engage in collective bargaining; established a corresponding obligation for employers to recognize and collectively bargain with the union.
Norris–La Guardia Act of 1932	Severely restricted the use of injunctions to limit union activity.
National Labor Relations Act of 1935 (Wagner Act)	Resulted in full, enforceable rights of employees to join unions and to engage in collective bargaining with their employer, who was legally obligated to do so.
Fair Labor Standards Act of 1938	Established minimum wages and required that time-and-a-half be paid for hours worked over 40 in one week.

figure 2.2

SIGNIFICANT PRO-UNION LEGISLATION DURING THE 1920s AND 1930s

Mayo. Over the next five years, hundreds of experiments were run involving thousands of employees. In these experiments, the researchers altered such variable elements as wage payments, rest periods, and length of workday. The results were similar to those obtained in the lighting experiments: Production increased, but with no obvious relationship to the environment. After much analysis, the researchers concluded that other factors besides the physical environment affected worker productivity. They found that employees reacted to the psychological and social conditions at work, such as informal group pressures, individual recognition, and participation in decision making.

The researchers also discovered that the employees responded positively to the attention paid to them by the researchers. This phenomenon has since become known as the **Hawthorne effect.** Yet another finding was the significance of effective supervision to both productivity and employee morale. While the methods used and the conclusions reached by the Hawthorne researchers have been questioned, they did generate great interest in the human problems in the workplace and focused attention on the human factor.[12]

Hawthorne effect
The positive behavior change demonstrated by employee when managers pay attention to them.

Early Champions of Human Relations

Mary Parker Follett was not a businesswoman in the sense that she managed her own business. However, through her writings and lectures, she had a great impact on many business and government leaders. While concerned with many aspects of the management process, her basic theory was that the fundamental problem of any organization is to build and maintain dynamic yet harmonious human relations within the organization.[13] In 1938, Chester Barnard, president of New Jersey Bell Telephone for many years, published a book that combined a thorough knowledge of organizational theory and sociology.[14] Barnard viewed the organization as a social structure

CASE INCIDENT 2.2

Return to Scientific Management

Recently, a professor at State University was lecturing in a management development seminar on the topic of motivation. The participants candidly discussed problems that existed in their respective organizations. Problem areas mentioned included absenteeism, turnover, and poor workmanship. The participants managed a variety of workers, such as automobile assembly workers, clerical workers, computer operators, sanitation workers, and even some middle-level managers.

During the discussion, one of the participants made the following statement: "What we need to stop all of these problems is a little scientific management."

Questions

1. What do you think the person means?
2. Do you agree? Discuss.
3. Take one of the jobs in the above case, and show how you could apply scientific management.
4. What would be the human relations approach to the same job you selected in question 3?

and stressed the behavioral aspects of organizations. Effectively integrating traditional management and the behavioral sciences, Barnard's work had a great impact on managers and teachers of management.

PROGRESS CHECK QUESTIONS

9. What were "the Hawthorne experiments"?
10. Explain "the Hawthorne effect."
11. Who were Elton Mayo, Mary Parker Follett, and Chester Barnard?
12. Why was the human relations movement important in the development of management theory?

The Professional Manager

professional manager
A career person who does not necessarily have a controlling interest in the company for which he or she works. Professional managers realize their responsibility to three groups: employees, stockholders, and the general public.

The career manager, or **professional manager,** did not exist until the 1930s. Until this time, managers were placed into one of three categories: owner-managers, captains of industry, or financial managers. The owner-managers dominated until after the Civil War. The captains of industry controlled organizations from the 1880s to the turn of the century. The financial managers operated in much the same ways the captains of industry did, except that they often did not own the enterprises they controlled and operated. The financial managers dominated from around 1905 until the early 1930s, when the Great Depression severely weakened public confidence in business organizations.

In the late 1930s, the professional manager emerged. The professional manager is a career person who does not necessarily have a controlling interest in the enterprise for which he or she works. Professional managers realize their responsibility to three groups: employees, stockholders, and the public. With expanded technology and more complex organizations, the professional manager became more and more widespread.

THE SYSTEMS APPROACH

The fragmentation period of the late 1950s and early 1960s was followed by an era of attempted integration. Many management theorists sought to use a systems approach to integrate the various management schools. A **system** is a set of connected elements that function as a whole.

The systems approach to management was viewed as "a way of thinking about the job of managing . . . [which] provides a framework for visualizing internal and external environmental factors as an integrated whole."[15] Under this approach, the organization can be seen as either an **open system** where it interacts with its external environment or a **closed system** where it has no interaction with its external environment. Most organizations are run as open systems, but even then they can make the mistake of ignoring their environment and acting as though they can operate independently of the world around them.

system
A system is an assemblage or combination of things or parts forming a complex or unitary whole.

open system
Under the systems approach to management, the organization is seen as an open system that is influenced by its internal and external environmental factors. The organization then, in turn, influences these same internal and external environmental factors; as a result, a dynamic relationship is created.

closed system
By contrast closed systems do not interact with their external environments.

THEORY X AND THEORY Y

In his 1960 book *The Human Side of Enterprise,* American social psychologist Douglas McGregor proposed a simple division of management styles that captured what he argued were fundamentally different ways of managing people:[16]

> **Theory X.** The controlling/authoritative manager believes that most employees don't like to work and will only work at the required level of productivity if they are forced to do so under the threat of punishment.
>
> **Theory Y.** The democratic/participative manager believes that employees can be trusted to meet production targets without being threatened and that they will often seek additional responsibilities because they enjoy the satisfaction of being creative and increasing their own skills.

Theory X and Theory Y managers have now become featured players in many management-training videos as the direct opposition of these management styles is reviewed. However, as managerial research progressed in the twentieth century, this division of styles was considered to be too simplistic, and a broader approach to management was proposed.

Theory X
Argues there is a simple division of management styles that capture what are fundamentally different ways of managing people. Theory X managers manage in a very controlling and authoritative manner.

Theory Y
Managers believe employees can be trusted to meet production targets without being threatened, and that they will often seek additional responsibilities because they enjoy the satisfaction of being creative and increasing their own skills. As a result they manage in a democratic and participative manner.

THE CONTINGENCY APPROACH

contingency approach to management
Theorizes that different situations and conditions require different management approaches.

The 1970s were characterized by the so-called contingency approach. In the **contingency approach to management,** different situations and conditions require different management approaches. Proponents believe there is no one best way to manage; the best way depends on the specific circumstances. Recognizing the rarity of a manager who thinks one way to manage works best in all situations, one might ask, "What is new about this approach?" What is new is that contingency theorists have often gone much further than simply saying, "It all depends." Many contingency theories outline in detail the style or approach that works best under certain circumstances. Contingency theories, many of which are discussed in this book, have been developed in areas such as decision making, organizational design, leadership, planning, and group behavior.

Theory Z
Attempts to integrate American and Japanese management practices by combining the American emphasis on individual responsibility with the Japanese emphasis on collective decision making, slow evaluation and promotion, and holistic concern for employees.

THE JAPANESE MANAGEMENT MOVEMENT AND THEORY Z

The tremendous economic success many Japanese companies enjoyed following World War II drew worldwide attention to their management practices. As management scholars studied Japanese management, they identified certain characteristics that differed somewhat from traditional American approaches. In general terms, Japanese managers encouraged more employee participation in decision making, they showed a deeper concern for the personal well-being of employees, and they placed great emphasis on the quality of their products and services. Top management acted more as a facilitator of decision making than as an issuer of orders. The flow of information and initiatives from the bottom to the top of the organization was emphasized.

Realizing there were many valuable lessons to be learned from the Japanese, and in a direct acknowledgment to Douglas McGregor's Theory X and Theory Y, William Ouchi developed a theory, called **Theory Z,** that attempts to integrate American and Japanese management practices.[17] Theory Z combines the American emphasis on individual responsibility with the Japanese emphasis on collective decision making, slow evaluation and promotion, and concern for employees. Other factors recommended by Ouchi, such as length of employment and career path characteristics, represent

career management

Developing Skills for a Successful Career

Career planning and development are comprehensive skills that cannot be obtained by a single learned experience. To capture the necessary skills to become competent in building your career, you must learn the many variety of tasks and, over time, apply this comprehensive learning.

What skills will you need to become "better" at developing and executing your career goals? The list might look like this:

- Leadership skills
- Team building skills
- Analytical skills
- Marketing skills
- Industry knowledge
- Management skills
- Problem-solving skills
- Planning skills
- Empathetic skills
- Technology skills

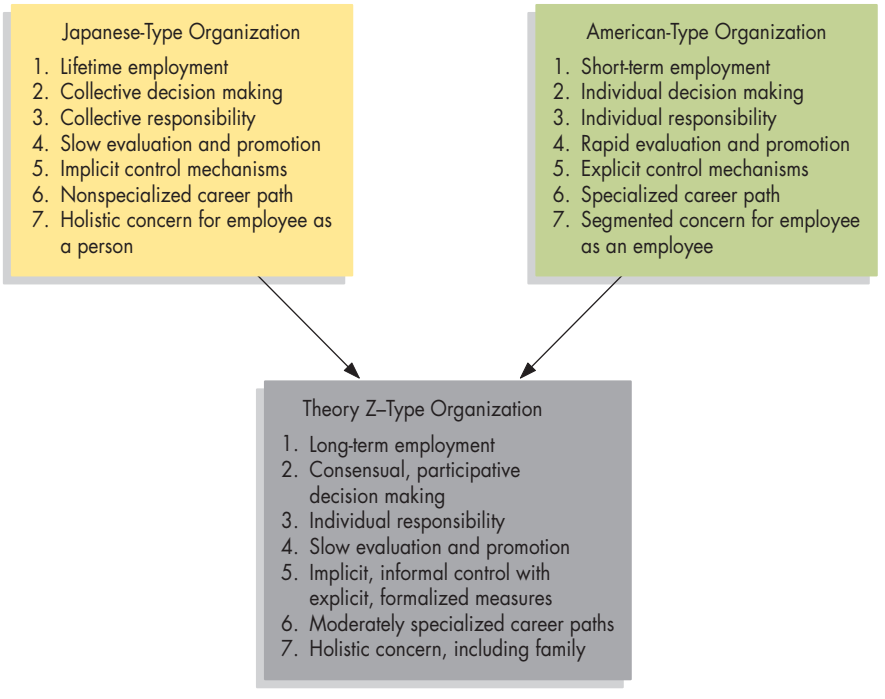


figure 2.3

COMPARISON OF JAPANESE, AMERICAN, AND THEORY Z ORGANIZATIONS

Source: Adapted from William Ouchi, *Theory Z* (Reading, MA: Addison-Wesley Publishing, Inc., 1984), pp. 58, 71–88.

compromises between traditional American and Japanese practices. Figure 2.3 summarizes the profile of traditional American and Japanese organizations as well as Ouchi's Theory Z organization.

THE SEARCH FOR EXCELLENCE

In 1982, Thomas J. Peters and Robert H. Waterman Jr. released a book, *In Search of Excellence,* which soon became, at the time, the best-selling management-related book ever published.[18] Working as management consultants at a time when Japanese management styles were receiving worldwide attention (in the late 1970s), Peters and Waterman asked, "Can't we learn something from America's most successful companies?" Using a combination of their own standards and six measures of financial success covering a 20-year period (1961 through 1980), the authors identified a final group of 36 American companies. According to the authors' measurements, these companies had demonstrated excellent performance over the 20-year period studied. Most of the 36 companies in the final group were well-known companies, such as IBM, McDonald's, Delta Air Lines, and Eastman Kodak. After interviewing each company in the group and analyzing their findings, Peters and Waterman identified eight "attributes of excellence," summarized in Figure 2.4.

While Peters and Waterman's work has been criticized as being overly subjective and not based on sound research methods, it has caused many managers to rethink their ways of doing things.[19] Specifically, Peters and Waterman reemphasized the value of on-the-job experimentation and

figure 2.4

PETERS AND WATERMAN'S EIGHT CHARACTERISTICS OF EXCELLENT COMPANIES

Source: Thomas J. Peters and Robert H. Waterman, Jr., *In Search of Excellence* (New York: Harper & Row, 1982), pp. 13–16.

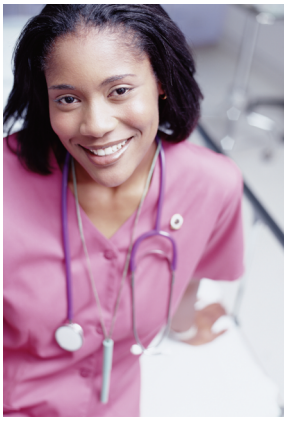
CHARACTERISTICS OF EXCELLENCE	DESCRIPTION OF CHARACTERISTICS
1. A bias for action	A tendency to get on with things; a willingness to experiment.
2. Close to the customer	The provision of unparalleled quality/service; a willingness to listen to the customer.
3. Autonomy and entrepreneurship	Encouragement of practical risk taking and innovation; tolerance of a reasonable number of mistakes as a part of the innovative process.
4. Productivity through people	Rank-and-file employees are viewed as the root source of quality and productivity gains; employees are treated with respect and dignity; enthusiasm and trust are encouraged.
5. Hands on; value driven	The company philosophy and values are clearly communicated; managers take a hands-on approach.
6. Stick to the knitting	Companies diversify only into businesses that are closely related; emphasis is on internal growth as opposed to mergers.
7. Simple form; lean staff	Companies have simple structure with clear lines of authority; headquarters staff is kept small.
8. Simultaneous loose-tight properties	Autonomy is pushed down to the lowest levels, but at the same time certain core values are not negotiable.

creative thinking, the need to place the customer first, and the need to treat employees as human beings.

However, as soon as two years after *In Search of Excellence* was published, at least 14 of the "excellent" companies highlighted by Peters and Waterman had lost some of their luster. Of the 14 companies that stumbled, 12 were unable to adapt to fundamental changes in their markets. Some maintain that being overly devoted to Peters and Waterman's eight characteristics, which do not emphasize reacting to broad economic and business trends, may have contributed to their problems. Others, including Peters and Waterman, argue that these companies ran into trouble because they strayed from the principles that had been key to their earlier successes. By the early 1990s, some of the stars of Peters and Waterman's original list, such as IBM, were also having difficulties. One company, Delta Air Lines, filed for bankruptcy protection in 2005. Some critics have also questioned the standards originally used by Peters and Waterman (continuous innovation, large

size, and sustained financial performance over the 20-year period from 1961 to 1980) for selecting their "excellent" companies. Critics have also questioned whether the so-called excellent firms provided exceptional returns to stockholders in either the short run or the long run.

At least two lessons can be drawn from the experiences of these companies: (1) The excellent companies of today will not necessarily be the excellent companies of tomorrow and (2) good management requires much more than following any one set of rules.



The emphasis on preventing mistakes is key to every company, but is potentially life-saving for this manager. Can you think of other fields in which the stokes extend beyond money?

THE EMPHASIS ON QUALITY

Beginning in the late 1970s, gathering steam throughout the 1980s, and reaching its height in the early 1990s was an emphasis on overall quality of the product or service. The quality of American products and services had reached a low by the early 1970s. This phenomenon, coupled with the quality successes of the Japanese, forced managers to look to the quality issue as one way of improving the position of American products and services.

The major change that resulted from this increased attention to quality was a shift from finding and correcting mistakes or rejects to *preventing* them. This led to the development of total quality management (TQM), which is a management philosophy that emphasizes "managing the entire organization so that it excels in all dimensions of products and services that are important to the customer."[20] TQM is discussed in much more detail later in this book.

ETHICAL MANAGEMENT

The XYZ Corporation has been growing rapidly over the past three years. To help manage this growth, the CEO decides to create a new director level position. The position requires extensive business expertise, an understanding of the XYZ Corporation's industry, and exemplary strong people skills.

Two candidates remain after the final interviews: John, an external candidate with a strong business background, and Mary, a candidate from within the company, who also has the required skills. After two rounds of interviews, the vice president for human resources decides to offer the position to John. John considers the offer for several days, but decides to turn it down.

The vice president then meets with Mary and offers her the position. Upon hearing the offer, Mary pauses. She looks the VP straight in the eye and asks, "Was the job offered to John first?" How should the vice president respond?

Source: Adapted from "The Second Choice Asks a Hard Question," Institute for Global Ethics, www.globalethics.org.

MOVING FROM GOOD TO GREAT

Following in the footsteps of Peters and Waterman's *In Search of Excellence,* Stanford University business professors Jim Collins and Jerry Porras published a book in 1994 entitled *Built to Last: Successful Habits of Visionary Companies* that took the business world by storm, selling over 3.5 million copies and replacing Peters and Waterman as the best-selling business book to date.[21] Arguing for the need to focus on creating a lasting organization by relying on "homegrown management," *Built to Last* (BTL) featured many well-known organizations such as Motorola, Disney, Ford, and Boeing—many of which have gone on to struggle in much the same way as many of Peters and Waterman's excellent organizations. The lessons here seem to be that excellence or superior vision can be very short term commodities and that managers can never rely on their current successes to guarantee future success.

hedgehog concept
Drawn from Isaiah Berlin's essay "The Hedgehog and the Fox" in which "The fox knows many things but the hedgehog knows only one". In other words, great companies develop a simple core concept that guides all their future strategies, as opposed to chasing every new management fad or policy implementation.

In 2000 Collins and his team of researchers took another look at what it takes to turn a good organization into a great one with the publication of *Good to Great: Why Some Companies Make the Leap . . . and Others Don't,* a book that went on to sell over 2.5 million copies.[22] Starting with 1,435 companies and five years of research, the study produced 11 finalists that met Collins's standards as "great" companies that had made the move from good to great and maintained that status for a minimum of 15 years. One of the keys to making that move, Collins argued, was the **hedgehog concept,** by which managers focus on simple, basic principles that allow the company to focus on performance rather than pursuing several strategic projects at the same time. Figure 2.5 presents a comparison between *Built to Last* and *Good to Great* (GTG).

figure 2.5

COMPARISON OF BUILT TO LAST VERSUS GOOD TO GREAT

	BUILT TO LAST Successful Habits of Visionary Companies	GOOD TO GREAT Why Some Companies Make the Leap and Others Don't
Author(s)	James C. Collins & Jerry I. Porras	James C. Collins
Published	1994	2001
Research Study	18 visionary corporations measured against a control set of 18 comparison companies in a six year research study at the Stanford University Graduate School of Business	21 business students from the University of Colorado spent 15,000 hours studying 11 companies identified as examples of great management using a similar control set of comparison companies
Recognized Companies	3M, American Express, Boeing, Citicorp, Ford, General Electric, Hewlett-Packard, IBM, Johnson & Johnson, Marriott, Merck, Motorola, Nordstrom, Philip Morris, Procter & Gamble, Sony, Wal-Mart, Walt Disney	Abbott, Circuit City, Fannie Mae, Gillette, Kimberly-Clark, Kroger, Nucor, Philip Morris, Pitney Bowes, Walgreens, Wells Fargo
Key Concepts	• 12 shattered myths • Clock Building, Not Time Telling • Big Hairy Audacious Goals • Good Enough Never Is	• Level 5 Leadership • First Who . . . Then What • The Hedgehog Concept

Tony selects a style

Tony had learned a lot from Jerry and he knew that he could always turn to his mentor for help and advice, even though Jerry would now be in charge of a region on the other side of the state. He liked Jerry's style of management—focused on the people who work in the restaurant as well as keeping the bosses happy by turning in good numbers. As Jerry always said, "You can't run the place on your own, Tony—if you don't have good people in your restaurant, you won't be able to take care of your customers. Without good people, you won't produce good food or happy diners, so take the time to hire the right employees, and when you find them, take good care of them so that they'll stay with you."

Tony believed in that approach—he had heard too many other unit managers complain about how hard it was to find good staff—but he also realized that a successful future with Taco Barn required you to turn in profitable numbers for your unit. In other words, if Dawn wasn't happy with his weekly numbers—sales, food cost, and labor cost—it wouldn't matter how happy his people were.

Tony also realized that if he were to move on in the future and become a regional manager like Jerry and Dawn, he had to make a name for himself within the organization. It didn't take him long to decide that being a popular manager with his staff wasn't going to be enough to get it done. He had to take care of the numbers, and if he could find a way to squeeze more profit out of his restaurant by increasing sales and reducing costs, then he would really be on his way. Sure, the employees might miss the old days with Jerry, but they would appreciate Tony's new approach and maybe even respect him as a mentor who could help them build a future with Taco Barn.

QUESTIONS

1. Tony appears to have chosen a management style. How would you categorize that style based on the information in this chapter?
2. Is Tony right in thinking that better numbers will bring him more attention? Why or why not?
3. Do you think the Taco Barn employees will like the new Tony? Why or why not?
4. How would you advise Tony in this situation? What approach do you think he should follow? Why?

PROGRESS CHECK QUESTIONS

13. Describe the contingency approach to management.
14. What are the differences between Theory X, Theory Y, and Theory Z?
15. Summarize the eight characteristics of excellent companies identified by Peters and Waterman in their book *In Search of Excellence*.
16. Explain Jim Collins's hedgehog concept.

CONCLUSION

This chapter summarized some of the major events that affected management discipline from the nineteenth century to the present. But the discipline did not develop and mature at the same rate in all parts of the

country. Similarly, it did not develop from a series of isolated events; rather it grew from a series of minor and major events.

In Chapter 3 we begin to examine the challenging mix of tasks and responsibilities that a manager needs to succeed in the modern business environment. Ironically, as we shall see, many of those tasks and responsibilities are fundamentally the same as those identified by the management scholars of a century ago.

key terms

closed system 39
contingency approach to management 40
functions of management 35
Hawthorne effect 37
hedgehog concept 44
Industrial Revolution 28
time and motion study 33
open system 39
professional manager 38
scientific management 31
soldiering 31
system 39
Theory X 39
Theory Y 39
Theory Z 40

review questions

1. What are the benefits of understanding how management theory and practice has changed over the past 100 years? How could you use this information as a manager?
2. Why do you think many people have interpreted Taylor's scientific management principles as being inhumane?
3. What are the key differences between the principles of scientific management and the key elements of human relations management?
4. Would you describe your management style as that of a scientific principles manager or a human relations one? Why?

internet exercise

Visit the Web site of the National Academies (comprised of four organizations: the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and the National Research Council) at www.nationalacademies.org.

1. Describe the history of the National Academy of Sciences and its expansion into the National Academies.

2. List the six major divisions of the National Academies.
3. What are the objectives of the Division of Behavioral and Social Sciences and Education (DBASSE)?
4. Select the "Featured Reports in Behavioral Sciences" page and summarize the description of one of the reports relating to a business topic.

team exercise

FINDING THE ONE BEST WAY

Suppose you have been assigned the simple task of stuffing 1,000 two-page flyers (8½ × 11 inches) into a normal size envelope (4 × 9½ inches). The envelopes come in boxes of 250, and the flyer pages are in stacks of 1,000 each. The flyers must be stapled together, folded, and then placed into the envelopes.

a. Get a stapler, a few envelopes, and several 8½ × 11 inch sheets of paper, and determine how you might accomplish this task. Identify where each component will be positioned and exactly how you will perform the task.
b. After you have tried your first method, see if you can determine any ways in which it might be improved.
c. Compare your method with others in your class.
d. Vote as a group on the "one best way" to perform the task.

Questions

1. Were you able to improve your first method in step *b*?
2. Did you pick up further improvements from others in your class (step *c*)?
3. Were you able to agree on one best way (step *d*)?
4. How different was your original method from the final one best way?

Face Time: The New Assembly Line

In This Era of the "Knowledge Worker," Why Do So Many Managers Still Insist on Long Office Hours?

Back in the day, Henry Ford put out some fine automobiles and, while he was at it, revolutionized the workplace: He perfected the assembly line, which required workers to arrive at a designated time and work together in a complex, multitask operation. Good going, Henry!

A century later, sophisticated information technologies have given rise to the "knowledge worker"—a person whose chief contribution to a company is intellectual. In Ford's time, a great day on the assembly line occurred when employees worked *without* mistakes and accidents. In 2005, a good day is when a brilliant idea comes to mind that will help an organization leap ahead.

It's wonderful, slippery stuff, this knowledge work. Its tools are smooth and efficient minds that think and brainstorm nonstop— morning, evening, and suppertime, on the job or off. So, why do we so often manage knowledge workers as though they were assembly line folk?

CHAINED TO A DESK

Why do we insist on what, in the current lingo, is known as "face time"? I define it as the love some managers have for the sight of workers sitting obediently at their desks hour after hour. Face time made perfect sense for factory workers, who literally had to stay on the line to do their jobs. But today, many of the people who are encouraged, prodded, and shamed into staying at the office from sunup to sundown could work—probably more productively—from almost anywhere.

Why? Because the assembly line of ideas chugs on night and day. Knowledge work is 24/7/365, and proceeds whether any one worker is well or unwell, present or absent, alive or dead. In fact, one of the challenges of working in the knowledge economy is the difficulty of taking a vacation. You miss a couple of weeks of work, and you face catch-up frenzy upon return.

So, to hold knowledge workers to the same face-time requirements that Henry Ford used defies common sense. Although companies can use business results to evaluate sales managers, marketing gurus, telecommunications engineers, financial analysts, and most other office types, managers still love to ride herd on their work hours, too. And not just their work hours: Face-time addicts fixate on in-the-office work hours specifically. We all know that our employees jump back on their PCs after dinner at home, but somehow that doesn't count.

It's as though managers say to themselves: "Now that Fran is in charge of the product launch, the plan should be in great shape. Fran has a terrific track record and excellent relationships in the industry. Our weekly one-on-one will keep me up to date on her progress. She's also great about copying me on correspondence with our partners. But hey—if I can see her in the office every day from 6 a.m. to 8:30 p.m., I'll feel even better about how her project is going."

A WOMAN'S PLACE

See? There's very little logic behind face-time addiction. For instance, who knows what you're really up to when your ear is glued to your phone? You could be tracking stock prices or talking to your bookie or wedding caterer. You could be doing any number of things. But, by gum, if your face is visible and your butt is in the chair, whatever you're doing must be work.

Face time for managers has turned into a crutch. It has less to do with managing people well than with making the boss feel better. Even when managers know that people are burned out, sick of one another's company, and grievously in need of a walk around the block—yo, they still insist on that face time.

ABSURDITY PREVAILS

Employees buy into the face-time addiction, too. I remember saying to my boyfriend before we were married: "Pick me up at my office around 1:30." I meant 1:30 a.m. We lived in Chicago, so there were plenty of places to eat at that hour. I loved my job, for sure. But I also loved being an obsessed worker bee and essential to the company's success. Having kids knocked that fixation out of me right quick. But many people aren't so lucky. They go on working ungodly hours right up until retirement. And this is unfortunate, for three reasons:

One, it's unhealthy. Open the wellness section of any newspaper to read about what workplace stress is doing to Americans, and to the cost of health care.

Two, it reinforces the obviously disturbed notion that face time is what counts, even more than business results. It strengthens the absurd idea that more hours in the office will make the business run better.

Three, an unholy alliance of face-time-obsessed managers and face-time-addicted employees will create an environment where any balanced person will feel hated.

You think I'm exaggerating? In the booming 1990s, I worked for a fast-growing technology company, where a macho work ethic reigned supreme. The lengths to which workers would go to prove their loyalty struck me as almost sad.

EXTREME FACE TIME

One evening, I watched a young man meet the Chinese restaurant delivery person at the side entrance. He returned to his office, opened the container, stuck a fork in the chicken chow mein, turned up his desk radio, and arranged his jacket over the back of his chair. Then, leaving his light on, the dinner on his desk, and his office door ajar, he went to his car.

A carton of food wasted! Well, not in his mind: He had bought himself an extra hour or two of face time, because if a higher-up walked by that open door, he'd be likely to think the employee was still working (just at the copier or in the men's room). I wanted to write BUSTED on the plastic fork, but that would have been cruel, and this person was already in a bad way: When an organization's culture goes gaga over face time, everyone suffers.

Am I anti-face time, then? No way. I think teamwork is essential, and time together as a group makes for a wonderful way to move ideas forward quickly. I just don't think it's an everyday essential, like vitamin C or calcium. Many companies balance face-time requirements and human requirements with

something called core hours. They'll say: "We all have obligations outside of work, but we also need to see one another for some period every day. So let's all agree to be in the office from 10 to 3 Monday through Friday, while putting in a full week and getting lots of great stuff done."

CUT THE CORD

Core hours are the ticket—as long as you don't establish them and then start quizzing people about where they were off to at 4:15 last Thursday.

Questions

1. What are the three reasons why "working ungodly hours" can work against you?
2. What kind of "face time" does your boss expect at your current job (or a job you have held in the past)?
3. Have you ever felt pressure to put in more face time to keep up with your co-workers? How did you handle that pressure?
4. Is there a solution to the pressure of face time? How could you reassure your boss that you are being productive even when he can't see you every minute of the working day?

Source: Adapted from Liz Ryan, "Employment Trends," *BusinessWeek Online,* April 22, 2005.

3M: A Struggle between Efficiency and Creativity

How CEO George Buckley Is Attempting to Balance both Discipline and Imagination

Not too many years ago, the temple of management was General Electric. Former CEO Jack Welch was the high priest, and his disciples spread the word to executive suites throughout the land. One of his most highly regarded followers, James McNerney, was quickly snatched up by 3M after falling short in the closely watched race to succeed Welch. 3M's board considered McNerney a huge prize, and the company's stock jumped nearly 20 percent in the days after Dec. 5, 2000, when his selection as CEO was announced. The mere mention of his name made everyone richer.

McNerney was the first outsider to lead the inward-looking St. Paul Minnesota company in its 100-year history. He had barely stepped off the plane before he announced he planned to dramatically change the place. His playbook was classic GE. McNerney axed 8,000 workers (about 11 percent of the workforce), intensified the performance-review process, and tightened the purse strings at a company that had become an extravagant spender. He also brought in GE's famous Six Sigma program—a series of management techniques designed to decrease production defects and increase efficiency. Thousands of staffers became trained as Six Sigma "black belt" specialists. The plan appeared to work: McNerney brought 3M's declining stock back to life and won rave reviews for bringing discipline to an organization that had become clumsy, inconsistent, and slow.

Then, four and a half years after arriving, McNerney abruptly left for a bigger opportunity, the top job at Boeing. Now his successors face a challenging question: whether the relentless emphasis on efficiency had made 3M a less creative company. That's a vitally important issue for a company whose very identity is built on innovation. After all, 3M is the birthplace of masking tape, Thinsulate, and the Post-it note. It is the invention machine whose methods were honored in the influential 1994 best seller *Built to Last* by Jim Collins and Jerry I. Porras. But those old hits have become distant memories. At the company that has always prided itself on drawing at least one-third of sales from products released in the past five years, today that fraction has slipped to only one-quarter. Those results are not coincidental. Efficiency programs such as Six Sigma are designed to identify problems in work processes—and then use thorough measurement to reduce variation and eliminate defects. When these types of initiatives become fixed in a

company's culture, as they did at 3M, creativity can easily get squelched. After all, a breakthrough innovation is something that challenges existing procedures and norms.

PROUD CREATIVE CULTURE

The tension that current CEO George Buckley is trying to manage—between innovation and efficiency—is one that's challenging CEOs everywhere. There is no doubt that the application of lean and mean work processes at thousands of companies, often through programs with obscure-sounding names such as ISO 9000 and Total Quality Management, has been one of the most important business trends of past decades. But as once-bloated U.S. manufacturers have shaped up and become profitable global competitors, the burden shifts to growth and innovation, especially in today's idea-based, design-obsessed economy. While process excellence demands precision, consistency, and repetition, innovation calls for variation, failure, and an element of luck. The very factors that make Six Sigma effective in one situation can make it ineffective in another. Traditionally, it uses exact statistical analysis to produce clear data that help produce better quality, lower costs, and more efficiency. That all sounds great when you know what outcomes you'd like to control. But what about when there are few facts to go on—or you don't even know the nature of the problem you're trying to define?

The pressures of Wall Street are another matter. Investors liked McNerney's approach to boosting earnings, which may have sacrificed creativity but made up for it in consistency. Profits grew, on average, 22 percent a year. In Buckley's first year, sales approached $23 billion and profits totaled $1.4 billion, but two quarterly earnings misses and a fading stock price made it a rocky ride. In 2007, Buckley seems to have satisfied many skeptics on the Street, convincing them he can fire up growth without killing the McNerney-led productivity improvements. Shares are up 12 percent since January.

It was one of the pillars of the "3M Way" that workers could seek out funding from a number of company sources to get their pet projects off the ground. Official company policy allowed employees to use 15 percent of their time to pursue independent projects. The company deliberately encouraged risk and tolerated failure. 3M's creative culture led the way for the one that is currently celebrated at Google. Perhaps all of that made it particularly painful for 3M's proud workforce to deal with the hard reality the company faced by the late '90s. Profit and sales growth were wildly erratic. It bungled operations in Asia amid the 1998 financial crisis there. The stock sat out the entire late '90s boom, budging less than 1 percent from September 1997 to September 2000. The flexibility and lack of structure, which had enabled the company's success, had also by then produced a bloated staff and inefficient workflow. So McNerney had plenty of cause to whip things into shape.

Under McNerney, the research & development (R&D) function at 3M was organized in ways that were unheard of in St. Paul, even though the guidelines would have looked familiar at many other organizations. Some employees found the constant analysis overwhelming. Steven Boyd, a PhD who had worked as a researcher at 3M for 32 years before his job was eliminated in 2004, was one of them. After a couple of months on a research project, he would have to fill in a "red book" with scores of pages worth of charts and tables, analyzing everything from the potential commercial application, to the size of the market, to possible manufacturing problems. Traditionally, 3M had been a place where researchers had been given plenty of room to pursue research down whatever alleys they wished. After the arrival of the new boss, the goal was to speed up and organize the progress of inventions into the new-product pipeline.

For a long time, 3M had allowed researchers to spend years testing products. Consider, for example, the Post-it note. Its inventor, Art Fry, a 3M scientist who's now retired, and others fiddled with the idea for several years before the product went into full production in 1980. Defenders of Six Sigma at 3M claim that a more systematic new-product introduction process allows innovations to get to market faster. But Fry, the Post-it note inventor, disagrees. In fact, he places the blame for 3M's recent lack of innovative sizzle squarely on Six Sigma's application in 3M's research labs. Innovation, he says, is "a numbers game. You have to go through 5,000 to 6,000 raw ideas to find one successful business." Six Sigma would ask, why not eliminate all that waste and just come up with the right idea the first time? That way of thinking, says Fry, can have serious side effects.

REINVIGORATED WORKFORCE

Buckley, a PhD chemical engineer by training, seems to recognize the cultural consequences of a process-focused program on an organization whose fate and history is so bound up in inventing new stuff. "You cannot create in that atmosphere of imprisonment or sameness," Buckley says. "Perhaps one of the mistakes that we made as a company—it's one of the dangers of Six Sigma—is that when you value sameness more than you value creativity, I think you potentially undermine the heart and soul of a company like 3M." In recent years, the company's reputation as an innovator has been sliding. In 2004, 3M was ranked No. 1 on Boston Consulting Group's Most Innovative Companies list (now the *BusinessWeek*/BCG list). It dropped to No. 2 in 2005, to No. 3 in 2006, and down to No. 7 this year.

To help get the creative juices flowing, Buckley is opening the money spout—raising spending on R&D, acquisitions, and capital expenditures. The overall R&D budget will grow 20 percent this year, to $1.5 billion. Even more significant than the increase in money is Buckley's reallocation of those funds. He's funneling cash into what he calls "core" areas of 3M technology, 45 in all, from abrasives to nanotechnology to flexible electronics. Quietly, the McNerney heritage is being revised at 3M. While there is no doubt the former CEO brought some positive change to the company, many workers say they are reinvigorated now that the corporate emphasis has shifted from profitability and process discipline to growth and innovation.

Questions

1. Explain how the management styles of James McInerney and George Buckley compare to scientific management and human relations management.
2. Why would the use of "exact statistical analysis" reduce creativity?
3. Why would an organization "deliberately encourage risk"?
4. Do you think Buckley's plan will work? Why or why not?

Source: Adapted from Brian Hindo, "Inside Innovation," *BusinessWeek Online,* June 11, 2007.