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Organization Structure and Management Systems



Ultimately, there may be no long-term sustainable advantage other than the ability to organize and manage.

—JAY GALBRAITH AND ED LAWLER

I'd rather have first-rate execution and second-rate strategy anytime than brilliant ideas and mediocre management.

—JAMIE DIMON, CEO, JP MORGAN CHASE & CO.

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Introduction and Objectives

“Great strategy; lousy implementation,” is an epithet applied to organizational failures from Philip II of Spain’s disastrous attack on England with the Spanish Armada¹ to the unravelling of the global strategy of Vodafone, the world’s biggest mobile telecom company.² The idea that the formulation of strategy can be separated from its implementation has become institutionalized by the numerous strategic management texts that devote separate sections to strategy formulation and strategy implementation.

This supposed division between formulation and implementation is fiction. At the most obvious level, formulating a strategy without taking into account the conditions under which it will be implemented will result in a poorly designed strategy. A fundamental flaw in the corporate planning systems of 25 years ago was separating strategy formulation – the task of corporate executives and strategic planners – from its implementation by divisional heads and middle managers.

The design of organization structure and management form key components of strategy implementation. Hence, the view of strategy formulation and strategy implementation as a sequential process is summed up in the adage “structure follows strategy.” Yet, management guru Tom Peters argues the reverse: if capabilities are the primary basis of strategy, and if capabilities are a product of organizational structure, then *strategy follows structure*.³ The key point, however, is not whether strategy or structure takes precedence, but the recognition that the two are closely interdependent.⁴ For companies, such as Benetton, with its closely coordinated network of local suppliers and worldwide network of franchised retailers, or Amway, with its pyramid of commission-based, independent distributors, strategy is defined by these firm’s organizational structures.

Having established that how companies organize themselves is fundamental to their strategy and their performance, the goal of this chapter is to introduce the key concepts and ideas necessary to understand and design companies’ structures and systems. The approach is concise and selective. I do not intend to offer a potted overview of organizational theory. My aim is to introduce some basic principles of organizational design and to apply these to key aspects of firm structure. The principles outlined here will be further

developed in later chapters when we consider strategies within particular business contexts. For example, Chapter 11 considers the organizational conditions conducive to innovation; Chapter 12 considers organization and organizational change within mature industries; Chapter 13 discusses vertical structures and outsourcing; Chapter 14 examines the structure and systems of the multinational corporation; and Chapter 16 deals with organizing the multibusiness company.

By the time you have completed this chapter you will be able to:

- Recognize the key organizational innovations that have shaped the evolution of the modern corporation.
- Understand the basic principles that determine the structural characteristics of complex human organizations.
- Apply the principles of organizational design to recommend the types of organizational structure suited to particular tasks and particular business environments.
- Understand the role of information systems, strategic planning, financial control, and human resource management in the coordination and control of corporations.
- Appreciate the forces that are causing companies to seek new organizational structures and management systems.

The Evolution of the Corporation

Firms and Markets

Most of the world's production of goods and services is undertaken by corporations – enterprises with a legal identity that is distinct from the individuals that own the enterprise. The main exceptions include agriculture and crafts in the developing world, where family-based production predominates, and services such as defense, policing, and education that are usually provided by government organizations.

This has not always been so. Until the late 19th century, the world's only large-scale organizations were the Roman Catholic church and national armies (see Strategy Capsule 6.1). The only large firms were colonial trading companies such as the Dutch East India Company, Hudson's Bay Company, and the United Africa Company. As late as the 1850s, the largest enterprises in the US in terms of numbers of workers were agricultural plantations.⁵ Most manufacturing was organized through networks of self-employed, home-based workers. The English woolen industry consisted of home-based spinners who purchased raw wool (on credit) from a merchant to whom they

STRATEGY CAPSULE 6.1

Reorganizing the Prussian Army, 1857–1870

In 1857, Helmuth von Moltke was the appointed commander-in-chief of the Prussian army. During the next 12 years he completely reorganized it. His new structure was based on *divisions* that were controlled and coordinated by a *general staff*. Each division was a standardized unit with the same composition of infantry, cavalry, and artillery and the same size, structure, equipment, and training methods. The general staff comprised headquarters generals and specialist units: engineering, intelligence, training, and supply.

A key role of the general staff was officer training. Each year 120 young officers were selected from the whole officer corps for intensive training at a war academy that placed a strong emphasis on strategic and tactical planning. Each year, the top 12 graduates of the war academy were selected for several years' further training and development with Moltke at the general staff before being assigned to one of the divisions. The idea was that, through common training, each officer would react with similar responses to new

situations, even without direct instruction from the general staff. Moreover, individual officers were interchangeable.

The test of the new organization came with the Franco-Prussian War of 1870. The French army was one of the biggest and most experienced in Europe, yet within weeks it was routed. The French were defeated not by superior numbers, armaments, or valor, but by a superior organizational system.

Like the Prussian army, the French army had decentralized by creating formations that included units of infantry, cavalry and artillery. Yet no standardization had been achieved. The units had different sizes, structures, and methods. Most serious were the deficiencies of the French general staff, which comprised the commander-in-chief supported by messengers and clerks, but with no effective means of coordinating the different army units.

Sources: M. Howard, *The Franco-Prussian War: The German Invasion of France, 1870–1871* (London: Routledge, 1991); R. Stark, *Sociology*, 10th edn (Wadsworth Publishing, 2006).

sold the yarn; the merchant resold the yarn to home-based weavers from whom he purchased cloth. This “putting-out” system survived until the introduction of powered looms, when weavers relocated to factories and eventually became employees rather than independent contractors.

The business corporation is one of the greatest innovations of modern civilization. The rise of the corporation as the predominant institution for organizing production is one of the central features of modern economic development. This rise reflects the efficiency and effectiveness of corporations – relative to other institutions – in organizing economic activity. In the capitalist economy, production is organized in two ways: in *markets* – by the price mechanism – and in *firms* – by managerial direction. The relative roles of firms and markets are determined by efficiency: if the *administrative costs* of firms are less than the *transaction costs* of markets (as occurred in the English textile industry after the introduction of the factory system), transactions

will tend to be organized within firms rather than across markets. We shall revisit the *transaction cost theory* when we consider vertical integration in Chapter 13.

Emergence of the Modern Corporation

According to business historian Alfred Chandler, the modern corporation emerged as a result of two “critical transformations.”⁶

Line-and-Staff Structure Initially, most companies were small and operated from a single plant or office. Lack of transportation limited each firm’s market to its immediate vicinity, while lack of communication prevented firms from operating in multiple location. The railroad and the telegraph changed all that – but to operate over a wider geographical area, firms needed new organizational structures and management techniques. In the US, the railroad companies were the first to create geographically separate operating units managed by an administrative headquarters. This organizational form was termed a *line-and-staff* structure. Employees are either *line*, allocated to operational tasks within the operating units, or *staff*, administrators and functional specialists located at head office.

By the end of late 19th century, simple line-and-staff structures had developed into more complex *functional structures* – companies such as Du Pont, Sears Roebuck and Company, and Shell Transport and Trading managed a number of separate operating units with large functional departments that conducted sales, finance, R&D, legal affairs, and other specialist activities. Other large business enterprises were organized as *holding companies* – Standard Oil (of the US), Mitsui (of Japan), and the British South Africa Company were created by a series of acquisitions in which the parent company bought controlling equity stakes in a number of other companies.

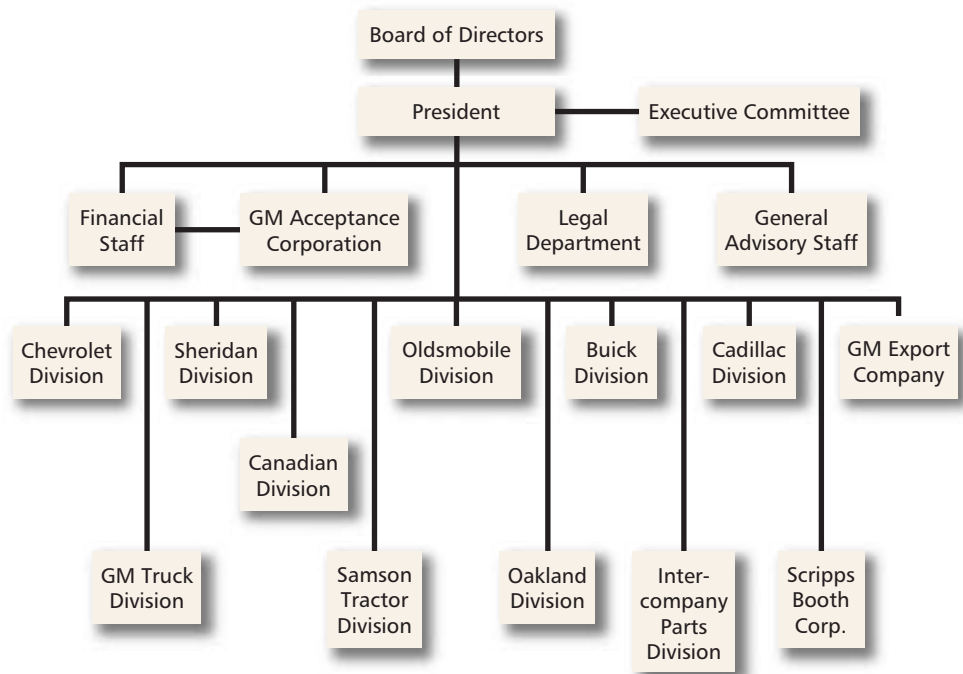
The Multidivisional Corporation The second critical transformation was the emergence during the 1920s of the divisionalized corporation, which, over time, replaced both the centralized, functional structures that characterized most industrial corporations and the loose-knit holding companies created in the merger wave of the early 20th century. The pioneers were DuPont and General Motors.

- At DuPont, increasing size and a widening product range strained the functional structure and top management became overloaded:

*... the operations of the enterprise became too complex and the problems of coordination, appraisal and policy formulation too intricate for a small number of top officers to handle both long-run, entrepreneurial and short-run, operational administrative activities.*⁷

The solution devised by Pierre Du Pont was to decentralize: ten product divisions were created, each with their own sales, R&D, and support activities. The corporate head office headed by an Executive Committee took responsibility for coordination, strategy, and resource allocation.⁸

- General Motors, which had grown by acquisition into a loose holding company, adopted a similar structure as a solution to the problems of weak financial control and a confused product line. The new structure (shown in Figure 6.1) was based on two principles: the chief executive of each division was fully responsible for the operation and performance of that division,

FIGURE 6.1 General Motors Corporation: organizational structure, 1921

SOURCE: A. P. SLOAN, MY YEARS WITH GENERAL MOTORS (DRETT PUBLISHING, 1972), 57.

while the general office, headed by the president, was responsible for the development and control of the corporation as a whole, including:

- monitoring return on invested capital within the divisions;
- coordinating the divisions (including establishing terms for interdivisional transactions);
- establishing a product policy.⁹

The primary feature of the divisionalized corporation was the separation of operating responsibilities, which were vested in general managers at the divisional level, from strategic responsibilities, which were located at the head office. The divisionalized corporation reconciled central coordination with the efficiencies and responsiveness of operational decentralization.

Organizational Change Since the Mid-Twentieth Century

Since the end of the Second World War, business enterprises have continued to evolve their structures and systems at a rapid rate. Increased scope and complexity has resulted in the multidivisional form developing into the *matrix organization* – where separate hierarchies coordinate around products, functions, and geographical areas.

The quest for flexibility and responsiveness has resulted in the *delaying* of hierarchies, the shift from functionally organized headquarters staff to *shared services organizations*, and the creation of flexibility and responsiveness through alliances, networks, and outsourcing partnerships.

Most striking has been the rapid evolution of management systems – operational and capital expenditure budgeting, corporate planning, and management-by-objectives – during the 1950s and 1960s, through to knowledge management and corporate social responsibility during recent years.

However, our purpose is not to review history not to identify best practice. Our challenge is to appreciate the basic principles of organizational design so that we can design organizations that are appropriate to specific purposes and circumstances and recognize the fit between strategy, structure, and the business environment.

The Organizational Problem: Reconciling Specialization With Coordination and Cooperation

According to Henry Mintzberg:

Every organized human activity – from making pots to placing a man on the moon – gives rise to two fundamental and opposing requirements: the division of labor into various tasks, and the coordination of these tasks to accomplish the activity. The structure of the organization can be defined simply as the ways in which labor is divided into distinct tasks and coordination is achieved among these tasks.¹⁰

We begin with these two fundamental organizational requirements: *specialization* and *coordination*.

Specialization and Division of Labor

Firms exist because they are efficient institutions for the organization of economic activities, particularly the production of goods and services. The fundamental source of efficiency in production is *specialization*, especially the *division of labor* into separate tasks. The classic statement on the gains due to specialization is Adam Smith's description of pin manufacture:

One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the papers.¹¹

Smith's pin makers produced about 4,800 pins per person each day. "But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each have made 20, perhaps not one pin, in a day." Similarly, Henry Ford experienced huge productivity gains by installing moving assembly lines and assigning individuals to highly specific production tasks. Between the end of 1912 and early 1914, the time taken to assemble a Model T fell from 106 hours to just over six hours. More generally, the difference in human productivity between modern industrial society and primitive subsistence society is the result of the efficiency gains from individuals specializing.

But specialization comes at a cost. The more a production process is divided between different specialists, the greater are the costs of coordination. The more volatile and unstable the external environment, the greater the number of decisions that need to be made and the higher are coordination costs. Hence, the more stable is the

environment, the greater is the optimal division of labor. This is true both for firms and for entire societies. Civilizations are built on increased division of labor, which is only possible through stability. As Somalia, Afghanistan, and the Congo have demonstrated so tragically, once chaos reigns, societies regress toward subsistence mode where each family unit must be self-sufficient.

The Coordination Problem

No matter how great the specialist skills possessed by individuals, unless these individuals can coordinate their efforts, production doesn't happen. The current challenge for every coach of a national soccer team is how to coordinate the efforts of a group of talented individuals within a limited time before the 2010 World Cup finals. Conversely, the exceptional performance of organizations such as Wal-Mart, the Cirque du Soleil, and the Berlin Philharmonic Orchestra are primarily the result of superb coordination between organizational members. How do individuals within organizations coordinate their efforts? Let us look at the operation of four different coordination mechanisms:

- *Price.* In the market, coordination is achieved through the *price mechanism*. Price mechanisms also exist within firms. Different departments and divisions may trade on an arm's-length basis, where internal prices (*transfer prices*) are either negotiated or set by corporate headquarters.
- *Rules and directives.* A key feature of firms is the existence of employment contracts. Unlike self-employed workers, who negotiate market contracts for individual tasks, employees enter general employment contracts where they agree to perform a range of duties as required by their employer. Authority is exercised by means of general rules ("Employees will report for work not later than 8.30 a.m.") and specific directives ("Miss Money Penny, show Mr. Bond his new cigarette case with 3G communication and a concealed death ray").
- *Mutual adjustment.* The simplest form of coordination involves the mutual adjustment of individuals engaged in related tasks. In soccer or doubles tennis, each player coordinates with fellow team members without any authority relationship among them. Such mutual adjustment occurs in all teams and work groups where there is no formal leader.
- *Routines.* Where activities are performed recurrently, coordination based on mutual adjustment and rules becomes institutionalized within organizational routines. As we noted in the previous chapter, these "regular and predictable sequences of coordinated actions by individuals" are the foundation of organizational capability. If organizations are to perform complex activities at extreme levels of efficiency and reliability, coordination by rules, directives, or mutual adjustment is not enough – coordination must become embedded in routines.

The relative roles of these different coordination devices depend on the types of activity being performed and the intensity of collaboration required. Price mechanisms work well in situations of "arm's-length" coordination. For example, in coordinating production and sales, it may be sufficient to offer sales personnel simple price incentives such as higher commission rates on those products where inventories are high. Rules tend to work well for activities where standardized outcomes are required

and the decision-making abilities of the operatives involved may be limited – most quality control procedures involve the application of simple rules. Routines form the basis for coordination in most activities where close interdependence exists between individuals, whether a basic production task (supplying customers at Starbucks) or a more complex activity (performing a heart by-pass operation or implementing a systems integration project for a multinational corporation).

The Cooperation Problem: Incentives and Control

The discussion of coordination has dealt only with the technical problem of integrating the actions of different individuals. However, coordination problems are not entirely solved by implementing coordination mechanisms, there is also the problem of different organizational members having conflicting goals. This is referred to as the *cooperation problem*. Overcoming goal conflict requires creating incentives and controls.

The economics literature analyzes goal misalignment in terms of *agency problems*.¹² An *agency relationship* exists when one party (the principal) contracts with another party (the agent) to act on behalf of the principal. The problem is ensuring that the agent acts in the principal's interest. Within the firm, the major agency problem is between owners (shareholders) and managers. The problem of ensuring that managers operate companies to maximize shareholder wealth is at the center of the corporate governance debate. During the 1990s, changes in top management remuneration – in particular the increasing emphasis given to stock options – were intended to align the interests of managers with those of shareholders.¹³ However, at Enron, WorldCom, and other companies, these incentives encouraged managers to manipulate reported earnings rather than to work for long-term profitability.

Agency problems exist throughout the hierarchy. For individual employees, systems of incentives, monitoring, and appraisal are designed to encourage pursuit of organizational objectives and overcome employees' tendency to do their own thing or simply shirk. The organization structure may create its own problems. Organizational departments create their own subgoals that do not align with one another. The classic conflicts are between different functions: sales wishes to please customers, production wishes to maximize output, R&D wants to introduce mind-blowing new products, while finance worries about profit and loss.

Several mechanisms are available to management for achieving goal alignment within organizations:

- *Control mechanisms* typically operate on the basis of managers supervising groups of subordinates. Managerial supervision involves monitoring behavior and performance, while subordinates are obliged to seek approval for actions that lie outside their area of authority. Such hierarchical supervision and control rests on both positive and negative incentives. Positive incentives are typically the reward of promotion up the hierarchy in return for compliance; negative incentives are dismissal and demotion for failing to acquiesce to rules and directives.
- *Financial incentives* are designed to reward performance. Such incentives extend from piece-rates for production workers to stock options and profit bonuses for executives. Such performance-related incentives have two main benefits: first, they are *high powered* – they relate rewards directly to output – and second, they economize on the need for costly monitoring and

supervision of employees. The problems of pay-for-performance arise where employees work in teams or on activities where output is difficult to measure. Linking pay to individual performance may discourage collaboration.

- *Shared values.* Some organizations are able to achieve high levels of cooperation and low levels of goal conflict without extensive control mechanisms or performance-related incentives. Churches, charities, clubs, and most voluntary organizations fall into this category. The reason is the commonality of goals between organizational members. Since Peters and Waterman's *In Search of Excellence*, the role of shared core values in sustained organizational success is well documented.¹⁴ The role of culture as a control mechanism that is an alternative to bureaucratic control or the price mechanism is central to Bill Ouchi's concept of *clan control*.¹⁵ The role of corporate culture in encouraging conformity to organizational goals has long been recognized among Japanese corporations. However, in western companies too – in Wal-Mart, Four Seasons Hotels, Amway, and the Shell Group – the presence of shared values and principles encourages the alignment of individual and corporate goals without necessarily undermining the individuality of organizational members. Such control saves on monitoring costs: self-control and informal monitoring by co-workers substitute for managerial supervision and financial incentives. Similar observations can be made about companies driven by a common technological vision. At Apple Computer in the 1980s, the belief that Apple was leading a computer revolution that would transform and democratize society permitted intense cooperation with very little formal control. As one cynic noted: "What's the difference between Apple and the Boy Scouts? In the Boy Scouts, the kids have adult supervision!"

We shall return to these issues of incentives and control when we consider the management systems of companies.

Hierarchy in Organizational Design

How have companies addressed these basic needs for specialization, coordination, and cooperation? The traditional approach to large-scale organization has been to create *hierarchy*. Despite the negative associations that currently attach to hierarchy, I shall argue that hierarchical structures are essential for creating efficient and flexible coordination in complex organizations. The critical issue is not whether or not to organize by hierarchy – there is little alternative – but how the hierarchy should be structured and how the different parts of it should relate to one another. Hierarchies come in many forms. Traditionally, hierarchy is associated with bureaucratic approaches to management control. However, hierarchical structures may also be organized along *organic* lines. The past decade has seen important changes in how companies structure and manage hierarchical structures.

Hierarchy as Coordination: Modularity

Hierarchy is fundamental to the structure of all organizations; indeed, according to Herbert Simon, hierarchy is present in virtually all complex systems.¹⁶ If a hierarchy

is defined as a system composed of interrelated subsystems, examples of hierarchy include:

- The human body, which is composed of a hierarchy of cells, organs, and subsystems such as the respiratory system, nervous system, digestive system, and so on.
- Physical systems are composed at the macro level of planets, stars, and galaxies, and at the micro level of subatomic particles, atoms, and molecules.
- Social systems consist of individuals, families, communities, tribes or socio-economic groups, and nations.
- A book consists of letters, words, sentences, paragraphs, and chapters.

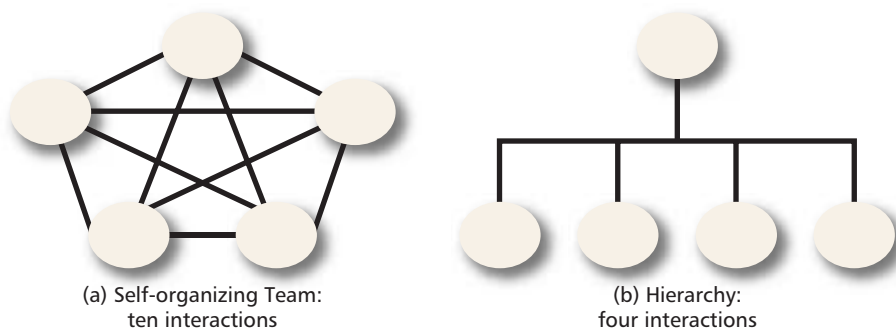
Note that this is a broader concept of hierarchy than that encountered in most discussions of organization design, where hierarchy is identified with *administrative hierarchy*, in which organizational members are arranged in superior–subordinate relationships and authority flows downward from the top.

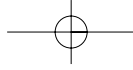
Viewed in this broad context of subsystems and component units, there are two key advantages to hierarchical structures:

- 1 *Economizing on coordination.* As we have noted, the gains from specialization come at the cost of coordination. Suppose there are five programmers designing a piece of customized computer software. If they are structured as a “self-organized team,” where coordination is by mutual adjustment (see Figure 6.2a), ten bilateral interactions must be managed. Alternatively, suppose the programmer with the biggest feet is selected to be supervisor. In this simple hierarchy (Figure 6.2b), there are only four relationships to be managed. Of course, this says nothing about the quality of the coordination: if the programmers’ work is highly interdependent, hierarchical relationships may not allow for the richness of communication and collaboration that a team structure would permit. As an organization increases in size and complexity, so the communication-economizing benefits of hierarchically arranged modules increase:

By breaking up a complex system into discrete pieces – which can then communicate with one another through standard interfaces within a standardized architecture – one can eliminate what would otherwise be an unmanageable spaghetti tangle of interconnections.¹⁷

FIGURE 6.2 How hierarchy economizes on coordination





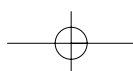
2 *Adaptability.* Hierarchical, modular systems are able to evolve more rapidly than unitary systems that are not organized into subsystems. Such adaptability requires some degree of *decomposability*: the ability of each component subsystem to operate with some measure of independence from the other subsystems. Modular systems that allow significant independence for each module are referred to as *loosely coupled*.¹⁸ In developing a new model of automobile, a modular structure permits different subassemblies (engine, brakes, steering, electricals, etc.) to be developed by separate teams that do not need constant communication and coordination with the designers of every other unit.¹⁹ Once developed, defects can be corrected by replacing a single subunit – the engine, the gearbox, or the exhaust system – without having to scrap the entire car. Similar advantages exist for modular organizations. In a divisionalized firm, such as GE, decisions can be made in GE’s jet engines business that do not require coordination with GE’s other business areas. Similarly, GE can acquire a new business or dispose of an existing subsidiary without requiring organizational changes throughout the company.²⁰

The efficiency and flexibility advantages of modularity and hierarchical communication are evident in Nelson Mandela’s restructuring of the ANC (see Strategy Capsule 6.2). Let’s look more closely at administrative hierarchies associated with *bureaucratic* or *mechanistic* organizational forms.

Hierarchy as a Control: Bureaucracy

I have shown that hierarchy is an efficient solution to the problem of *coordination* in organizing complex tasks. To the extent that hierarchy is also a device for exercising control, it is also one solution to the problem of *cooperation* in organizations. The *administrative hierarchy*, in which power is located at the apex of the hierarchy and delegated downward, has been the basic design for large organizations since the Ch’in dynasty of China in 220 BC. Administrative hierarchies operate as *bureaucracies*. According to Max Weber, writing at the end of the 19th century, bureaucracy is based on the following principles:

- 1** *Specialization* through a “systematic division of labor” with clear job definitions and individual authority limited to the sphere of work responsibilities.
- 2** *Hierarchical structure* with “each lower office under the control and supervision of a higher one.”
- 3** *Coordination and control* through rules and standard operating procedures.
- 4** *Standardized employment rules and norms.*
- 5** *Separation of management and ownership.*
- 6** *Separation of jobs and people*, where the organization is defined by positions and their associated responsibilities and authority, not by individuals; there is no ownership of the position by the individual.
- 7** *Rational-legal authority* based on “belief in the legality of enacted rules and the right of those elevated to authority under such rules to issue commands.”
- 8** *Formalization* in writing of “administrative acts, decisions, and rules.”²¹



STRATEGY CAPSULE 6.2

Hierarchical Structures: The 1952 Mandela Plan for the ANC

Along with many others, I had become convinced that the government intended to declare the ANC (African National Congress) and the SAIC (South African Indian Congress) illegal organizations, just as it had done with the Communist Party. It seemed inevitable that the state would attempt to put us out of business as a legal organization. With this in mind, I approached the National Executive with the idea that we must come up with a contingency plan . . . They instructed me to draw up a plan that would enable the organization to operate from underground. This strategy came to be known as the Mandela-Plan, or simply, M-Plan.

The idea was to set up organizational machinery that would allow the ANC to take decisions at the highest level, which could then be swiftly transmitted to the organization as a whole without calling a meeting. In other words, it would allow the organization to continue to function and enable leaders who were banned to continue to lead. The M-Plan was designed to allow the organization to recruit new members, respond to local and national problems and maintain regular contact between the membership and the underground leadership.

I worked on it for a number of months and came up with a system that was broad enough to adapt itself to local conditions and not fetter individual initiative, but detailed enough to facilitate order. The smallest unit was the

cell, which in urban townships consisted of roughly ten houses on a street. A cell steward would be in charge of each of these units. If a street had more than ten houses, a street steward would take charge and the cell stewards would report to him. A group of streets formed a zone directed by a chief steward, who was in turn responsible to the secretariat of the local branch of the ANC. The secretariat was a subcommittee of the branch executive, which reported to the provincial secretary. My notion was that every cell and street steward would know every person and family in his area, so that he would be trusted by his people and know whom to trust. The cell steward arranged meetings, organized political classes, and collected dues. He was the linchpin of the plan.

The plan was accepted and was implemented immediately. Word went out to the branches to begin to prepare for this covert restructuring . . . As part of the M-Plan, the ANC introduced an elementary course of political lectures for its members throughout the country. These lectures were meant not only to educate but to hold the organization together. They were given in secret by branch leaders. Those members in attendance would in turn give the same lectures to others in their homes and communities.

Source: Nelson Mandela, *Long Walk to Freedom* (London: Little, Brown, 1994): 134–5.

Bureaucracies attempt to minimize most of the traits that characterize human beings and their interaction: creativity, personality, variation, and emotion. For this reason, Burns and Stalker describe bureaucratic organizations as *mechanistic*,²² while Mintzberg calls them *machine bureaucracies*.²³

Mechanistic and Organic Forms

During the first half of the 20th century, the bureaucratic model dominated thinking about organizational structure. This reflected Weber's clear articulation of the principles of bureaucracy and the fact that most large-scale organizations – the military and civil service in particular – embodied these principles. However, as management theory developed, interest grew in alternatives to bureaucracy.

During the 1950s and 1960s, the *human relations school* recognized that cooperation and coordination within organizations was about social relationships as well as bureaucratic principles. A study of Scottish engineering companies by Burns and Stalker identified two organizational forms: *mechanistic* forms, characterized by bureaucracy, and *organic* forms that were less formal, where coordination relied on mutual adjustment and interaction was more flexible. The mechanistic form was found mainly in stable markets; the organic form predominated in unstable markets with rapid technological change.

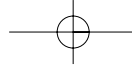
Table 6.1 contrasts key characteristics of the two forms.

The relative merits of the two organizational forms depend on the activities undertaken and the surrounding environment. Where an organization is supplying standardized goods or services (beverage cans, blood tests, or haircuts for army inductees) using well-understood processes, in an environment where change is slow and predictable, the bureaucratic model with its standard operating procedures and high levels of specialization offers substantial efficiency advantages. The problems occur when the bureaucratic model has to produce heterogeneous outputs from heterogeneous inputs, using poorly understood technologies, in an environment where change requires constant adjustment. Here, the bureaucracy fails because greater organizational flexibility is required.

But even when faced with variability in the outside environment, firms may attempt to retain the advantages of bureaucracy by trying to control variation. McDonald's business system is highly mechanistic, relying heavily upon standardized, formalized working practices that are carefully documented in the company's operating procedures. Making this system work requires that McDonald's carefully controls its inputs to reduce variation: potatoes are carefully selected for size and

TABLE 6.1 Mechanistic vs. Organic Organizational Forms

Feature	Mechanistic	Organic
Task definition	Rigid and highly specialized	Flexible and less narrowly defined
Coordination and control	Rules and directives vertically imposed	Mutual adjustment, common culture
Communication	Vertical	Vertical and horizontal
Knowledge	Centralized	Dispersed
Commitment and loyalty	To immediate superior	To the organization and its goals
Environmental context	Stable with low technological uncertainty	Unstable with significant technological uncertainty and ambiguity



shape, managers are carefully selected and trained, consumer tastes and expectations are carefully managed through advertising and promotion.

Within companies, the organization of different functions and departments depends on these same variables. Stable, standardized activities such as payroll, treasury, taxation, customer support, and purchasing activities tend to operate well when organized along bureaucratic principles; research, new product development, marketing, and strategic planning require more organic modes of organization.

Rethinking Hierarchy

Hierarchical organizations add layers as they get bigger. Thus, with a fixed span of control of three, a firm with four employees (including the CEO) is organized into two layers, five to 13 employees requires three layers, from 14 to 41 employees requires four layers, and 42 to 122 employees requires five layers. (Sketch this for yourself.) If the hierarchy is run as a bureaucracy with centralized power, growth implies an increasing ratio of managers to operatives, slower decision making, and increased loss of control.²⁴

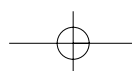
In a stable environment with limited decision-making pressure on top management, such ponderousness is of little consequence. However, in a fast-paced business environment, the slow movement of information up the hierarchy and decisions down the hierarchy can be fatal. As the business environment has become increasingly turbulent, so administrative hierarchy organized along bureaucratic principles has become increasingly unpopular.

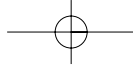
At the same time, efforts to reform and restructure corporate hierarchies do not amount to a rejection of hierarchy as an organizing principle. So long as there are benefits from the division of labor, hierarchy is inevitable.²⁵ The critical issue is to reorganize hierarchies in order to increase responsiveness to external change. The organizational changes that have occurred in giant corporations such as BP and General Electric have retained the basic multidivisional structures of the companies, but reduced the number of hierarchical layers, decentralized decision making, shrunk headquarters staffs, emphasized horizontal rather than vertical communication, and shifted the emphasis of control from *supervision* to *accountability*.²⁶

The trend towards decentralization has not been one way. Some companies engage in decentralization followed by a phase of centralization. Thus, BP pursued radical decentralization during 1994–8, but by 2000–4 was re-centralizing decision making and control. Nickerson and Zenger argue that this type of “structural modulation” in a company’s formal structure is effective in achieving an optimal balance between centralization and decentralization.²⁷

Applying the Principles of Organizational Design

We have established that the fundamental problem of organization is reconciling specialization with coordination and cooperation. The basic design for complex organizations – whether they are business enterprises, religious orders, political associations, or criminal organizations – is hierarchy. The essence of hierarchy is creating specialized units coordinated and controlled by a superior unit. But this does not take us very far. On what basis should specialized units be defined? How should decision-making authority be allocated? And what kind of relationships should there be between different organizational units?





In this section, we will tackle the first two of these questions: the basis of grouping and the allocation of decision-making power. In the next section, we identify some typical organizational structures found in business enterprises. Then, in the following section we shall look at structuring relations between units – the operation and design of management systems.

Defining Organizational Units

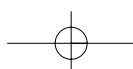
In creating a hierarchical structure, on what basis are individuals assigned to organizational units within the firm? This issue is fundamental and complex. Multinational, multiproduct companies are continually grappling with the issue of whether they should be structured around product divisions, country subsidiaries, or functional departments, and periodically they undergo the disruption of changing from one to another. Some of the principal bases for grouping employees are common tasks, products, geography, and process:

- *Tasks.* Organizational units can be created around common tasks. This usually means grouping together employees who do the same job – thus, a firm might create a machine shop, a maintenance department, a secretarial pool, and a sales office.
- *Products.* Where a company offers multiple products, these can provide a basis for structure. In a department store, departments are defined by products: kitchen goods, bedding, lingerie, and so on. PepsiCo comprises three main product groups: PepsiCo Beverages, Frito-Lay (snack foods), and Quaker Foods (cereals and processed foods).
- *Geography.* Where a company serves multiple local markets, organizational units can be defined around these localities. Wal-Mart is organized by individual stores, groups of stores within an area, and groups of areas within a region. The Roman Catholic church is organized into parishes, dioceses, and archdioceses.
- *Process.* A process is a sequence of interlinked activities. An organization may be viewed as a set of processes: the product development process, the manufacturing process, the sales and distribution process, and so on. A process may correspond closely with an individual product, or a process may be dominated by a single task. Functional organizations tend to combine task-based and process-based grouping.

Organizing on the Basis of Coordination Intensity

How do we decide whether to use task, product, geography, or process to define organizational units? The fundamental issue is achieving the coordination necessary to integrate the efforts of different individuals. This implies grouping individuals according to the intensity of their coordination needs. Those individuals whose tasks require the most intensive coordination should work within the same organizational unit.

- In a geographically dispersed organization where communication across distance is difficult, the organization must be built on local units. The ANC is an example (see Strategy Capsule 6.2).



- Where an organization is not particularly diversified in relation to products and does not need to be differentiated by location, but possesses strong functional specializations, then a grouping around functional tasks is appropriate. For example, British Airways is organized primarily around functions: flight operations, engineering, marketing, sales, customer service, human resources, information, and finance.
- Where a company is diversified over many products and these products are substantially different in terms of technology and markets, it is vital that individuals who work on the same product should interact closely – a product-based organization is the appropriate structure. Virtually all diversified companies – General Electric, 3M, Sony, Siemens, and Unilever – are organized by product divisions.

Having created organizational units that bring together individuals whose coordination needs are most intense, the next challenge is to create hierarchical control that permits effective coordination while giving as much operational autonomy as possible to the subordinate units. Oliver Williamson refers to this as the *principle of hierarchical decomposition*. At the operating level (where decision making is high frequency), organization units are created where the interactions are strong. At the strategic level (where decision making is low frequency), a separate organization unit is created to exercise coordination and direction. Hence:

The hierarchical decomposition principle can be stated as follows: Internal organization should be designated in such a way as to effect quasi-independence between the parts, the high frequency dynamics (operating activities) and low frequency dynamics (strategic planning) should be clearly distinguished, and incentives should be aligned within and between components so as to promote both local and global effectiveness.²⁸

To organize according to coordination needs requires understanding the nature of interdependence within an organization. James Thompson distinguished three levels of interdependence: *pooled interdependence* (the loosest), where individuals operate independently but depend on one another's performance; *sequential interdependence*, where the output of one individual is the input of the other; and *reciprocal interdependence* (the most intense), where individuals are mutually dependent. Thompson argued that organizational design needed to begin with creating organizational units where interdependence was the most intense.²⁹

Over time, the relative importance of these different dependencies change. Hence, companies need to change the basis on which they define their structure. For example, as trade and communication between countries has become easier and consumer preferences between countries have become more homogeneous, multinational corporations have shifted from geographically based structures to worldwide product divisions.

Other Factors Influencing the Definition of Organizational Units

Coordination requirements are not the only consideration in deciding how to group together employees and activities within the firm. Additional factors that influence the efficiency of different organizational arrangements include:

- *Economies of scale.* There may be advantages in grouping together activities where scale economies are present. Thus, it may be desirable to group together research activities even if there is little coordination among different research projects, simply to exploit scale economies in specialized facilities and technical personnel.
- *Economies of utilization.* It may also be possible to exploit efficiencies from grouping together similar activities that result from fuller utilization of employees. Even though there may be little need for individual maintenance engineers to coordinate with one another, establishing a single maintenance department permits maintenance personnel to be utilized more fully than assigning a maintenance engineer to each manufacturing cell.
- *Learning.* If establishing competitive advantage requires building distinctive capabilities, firms must be structured to maximize learning. Typically, it was assumed that learning was best achieved by grouping together individuals doing similar jobs – creating a manufacturing engineering department, a quality control department, and a finance function. More recently, it has been observed that the specialized functional and discipline-based knowledge may be less important than *architectural knowledge* – knowing how to link together specialized knowledge from different fields. This implies the creation of multifunctional work groups comprising experts from different knowledge bases.
- *Standardization of control systems.* Tasks may be grouped together to achieve economies in standardized control mechanisms. An advantage of the typing pool and the sales department was that employees doing near-identical jobs could be subject to the same system of monitoring, performance measurement, training, and behavioral norms. Creative activities such as research and new product development need to be managed in a different way from routine activities such as manufacturing and accounting – hence they should be located in different organizational units.³⁰

Alternative Structural Forms

On the basis of these alternative approaches to grouping tasks and activities, we can identify three basic organizational forms: the functional structure, the multidivisional structure, and the matrix structure.

The Functional Structure

Single-business firms tend to be organized along functional lines. Grouping together functionally similar tasks is conducive to exploiting scale economies, promoting learning and capability building, and deploying standardized control systems. Since cross-functional integration occurs at the top of the organization, functional structures are conducive to a high degree of centralized control by the CEO and top management team.

However, even for single-product firms, functional structures are subject to the problems of cooperation and coordination. Different functional departments develop their own goals, values, vocabularies, and behavioral norms which make

cross-functional integration difficult. As the size of the firm increases, the pressure on top management to achieve effective integration increases. Because the different functions of the firm tend to be *tightly coupled* rather than *loosely coupled*, there is limited scope for decentralization. In particular, it is very difficult to operate individual functions as semiautonomous profit centers.

The real problems arise when the firm grows its range of products and businesses. As we noted with DuPont during the early 20th century, once a functionally organized company expands its product range, coordination within each product area becomes difficult.

Although the long-term trend among very large companies has been for product-based, divisionalized companies to replace functionally organized companies, the trend is not entirely one way. As companies mature, the need for strong centralized control and well-developed functional capabilities has caused some companies to revert to functional structures. For example:

- When John Scully became CEO of Apple in 1984, the company was organized by product: Apple II, Apple III, Lisa, and Macintosh. Despite strong cross-functional coordination within each product group, there was little integration across products. Each product was completely incompatible with the others, and the structure failed to exploit scale economies within functions. Scully's response was to reorganize Apple along functional lines to gain control, reduce costs, and achieve a more coherent product strategy.
- General Motors, pioneer of the multidivisional structure, has adopted a more functional structure. As its strategic priorities have shifted from differentiation and segmentation toward cost efficiency, it has maintained its brand names (Cadillac, Oldsmobile, Chevrolet, Buick), but merged the separate divisions into a more functionally based structure to exploit scale economies and faster technical transfer (see Figure 6.3 and compare it with Figure 6.1).

The Multidivisional Structure

We have seen how the product-based, multidivisional structure emerged during the 20th century in response to the coordination problems caused by diversification. The key advantage of divisionalized structures (whether product based or geographically based) is the potential for decentralized decision making. The multidivisional structure is the classic example of a loose-coupled, modular organization where business-level strategies and operating decisions can be made at the divisional level, while the corporate headquarters concentrates on corporate planning, budgeting, and providing common services.

Central to the efficiency advantages of the multidivisional corporation is the ability to apply a common set of corporate management tools to a range of different businesses. At ITT, Harold Geneen's system of "managing by the numbers" allowed him to cope with over 50 divisional heads reporting directly to him. At British Petroleum, John Browne's system of "performance contracts" allows direct reporting by over 20 "strategic performance units." Divisional autonomy also fosters the development of top management leadership capability among divisional heads – an important factor in CEO succession.

The large, divisionalized corporation is typically organized into three levels: the corporate center, the divisions, and individual business units, each representing a

FIGURE 6.3 General Motors Corporation: organizational structure, 1997

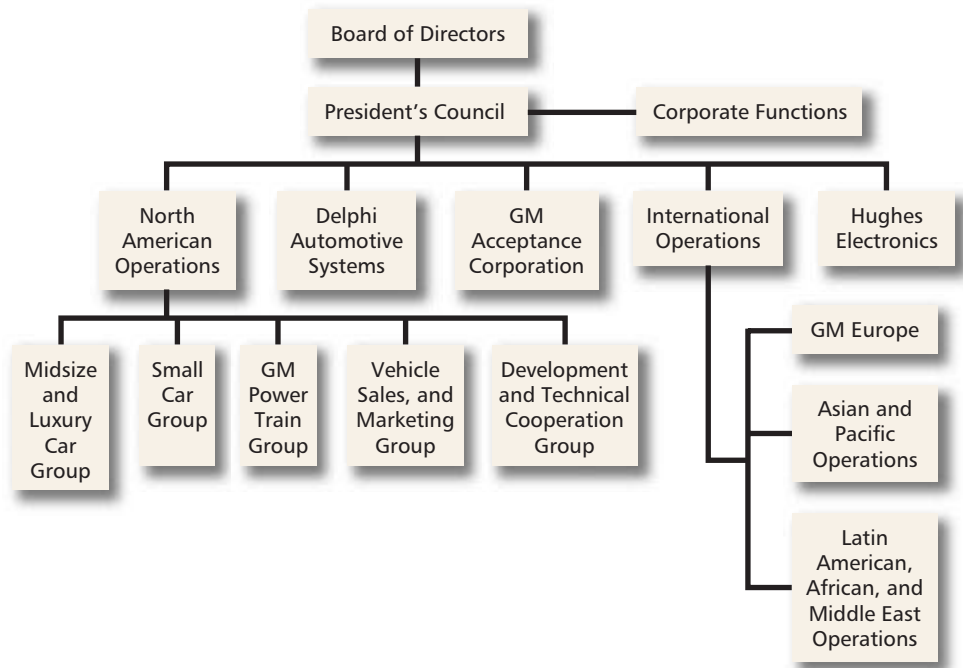
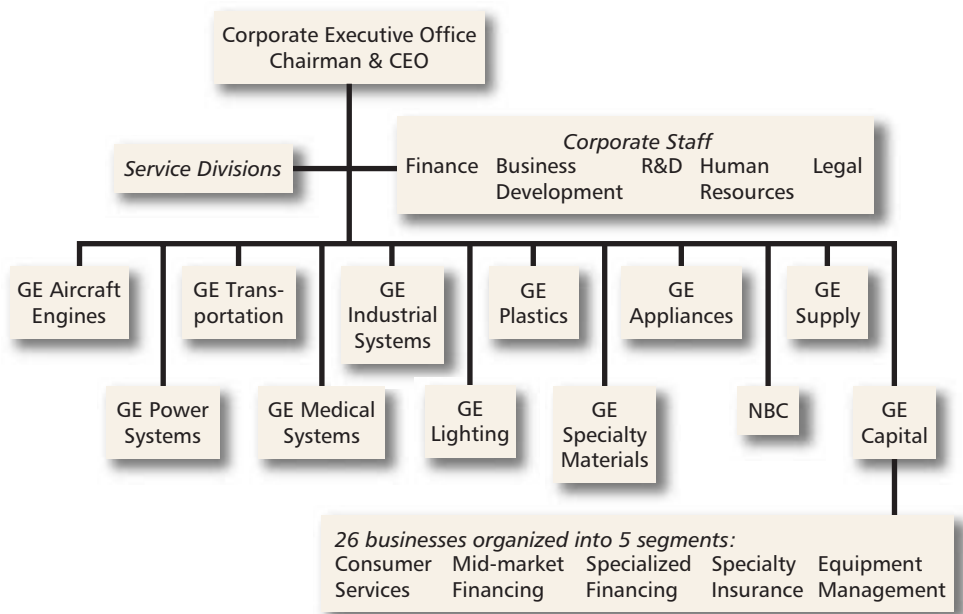


FIGURE 6.4 General Electric: organizational structure, 2002



SOURCE: BASED ON INFORMATION IN GENERAL ELECTRIC ANNUAL REPORT, 2001

distinct business for which financial accounts can be drawn up and strategies formulated. Figure 6.4 shows General Electric’s organizational structure at the corporate and divisional levels.

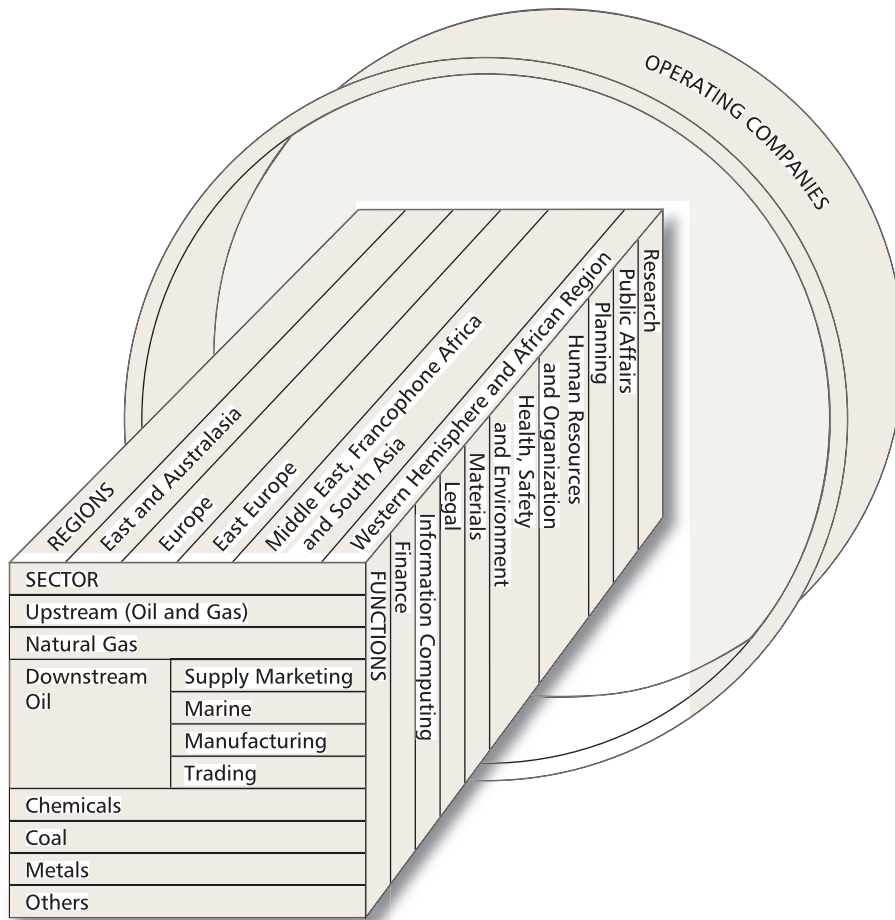
In Chapter 16, we shall look in greater detail at the organization of the multi-business corporation.

Matrix Structures

Whatever the primary basis for grouping, all companies that embrace multiple products, multiple functions, and multiple locations must coordinate across all three dimensions. Organizational structures that formalize coordination and control across multiple dimensions are called *matrix structures*.

Figure 6.5 shows the Shell management matrix (prior to reorganization in 1996). Within this structure, the general manager of Shell’s Berre refinery in France reported to his country manager, the managing director of Shell France, but also to his business

FIGURE 6.5 Royal Dutch Shell Group: pre-1996 matrix structure



sector head, the coordinator of Shell's refining sector, as well as having a functional relationship with Shell's head of manufacturing.

Many diversified, multinational companies, including Philips, Nestlé, and Unilever, adopted matrix structures during the 1960s and 1970s, although in all cases one dimension of the matrix tended to be dominant in terms of authority. Thus, in the old Shell matrix the geographical dimension, as represented by country heads and regional coordinators, had primary responsibility for budgetary control, personnel appraisal, and strategy formulation.

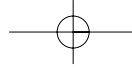
During the past two decades, most large corporations have dismantled or reorganized their matrix structures. Shell abandoned its matrix during 1995–6 in favor of a structure based on four business sectors: upstream, downstream, chemicals, and gas and power. During 2001–2, the Swiss-Swedish engineering giant ABB, abandoned its much-lauded matrix structure in the face of plunging profitability and mounting debt. In fast-moving business environments companies have found that the benefits from formally coordinating across multiple dimensions have been outweighed by excessive complexity, larger head office staffs, slower decision making, and diffused authority. Bartlett and Ghoshal observed that matrix structures “led to conflict and confusion; the proliferation of channels created informational logjams as a proliferation of committees and reports bogged down the organization; and overlapping responsibilities produced turf battles and a loss of accountability.”³¹

Yet, all complex organizations that comprise multiple products, multiple functions, and multiple geographical markets need to coordinate within each of these dimensions. The problem of the matrix organization is not that it attempts to coordinate across multiple dimensions – in complex organizations such coordination is essential – but that this multiple coordination is over-formalized, resulting in excessive corporate staffs and over complex systems that slow decision making and dull entrepreneurial initiative. The trend has been for companies to focus formal systems of coordination and control on one dimension, then allowing the other dimensions of coordination to be mainly informal.³² Thus, while Shell is organized primarily around four business sectors and these sectors exercise financial and strategic control over the individual operating companies, Shell still has country heads, responsible for coordinating all Shell activities in relation to legal, taxation, and government relations within each country, and functional heads, responsible for technical matters and best-practice transfer within their particular function, whether it is manufacturing, marketing, or HR.

Beyond Hierarchy?

For several decades consultants and management scholars have proclaimed the death of hierarchical structures in business firms. In 1993, two of America's most prominent scholars of organization announced: “. . . the new organizational revolution is sweeping one industry after another . . . quantum changes in manufacturing and computer-mediated communication technologies have given managers radical new options for designing organizations.” The new organizations featured “. . . flatter hierarchies, decentralized decision making, greater tolerance for ambiguity, permeable internal and external boundaries, empowerment of employees, capacity for renewal, self-organizing units, self-integrating coordination mechanisms.”³³

As I noted in the earlier section on “Rethinking Hierarchy,” there have been substantial changes in the way in which corporate hierarchies have been organized.



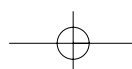
Layers have been removed; mechanistic formality has been replaced by organic informality. Yet, hierarchy remains as the basic structural form of almost all companies. Are there alternative modes of organization?

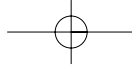
Several organizational forms have been identified which, although they comprise some hierarchical elements, are sufficiently distinctive to be regarded as alternative organizational forms:

- *Adhocracies.* In some organizations, the presence of shared values, motivation and willingness to participate, mutual respect, and communication effectiveness may allow a high level of coordination with little need for hierarchy, authority, or tools of control. These organizations, which Henry Mintzberg calls *adhocracies*,³⁴ feature flexible, spontaneous coordination and collaboration around problem solving and other nonroutine activities. Adhocracies tend to exist among organizations where expertise is prized. In research organizations, new product development groups, jazz bands, and consulting firms, each specialist is valued for his or her expertise and there is little exercise of authority.
- *Team-based and project-based organizations.* Adhocracies are one example of an organizational form based on informal structure with flexible patterns of coordination. Flexibility and adaptability can also be achieved in project-based organizations – common in sectors such as construction, consulting, oil exploration, and engineering services – where business takes the form of projects of limited duration. Because every project is different, and every project goes through a changing sequence of activities, each project needs to be undertaken by a closely interacting team that relies on problem solving and mutual adjustment as well as rules and routines. Increasingly, companies are introducing elements of team- and project-based organizations into their conventional divisional and functional structures. For example, in most divisionalized corporations, new product development, change management, knowledge management, and research is organized in projects and undertaken by teams.
- *Networks.* Localized networks of small, closely interdependent firms have been a feature of manufacturing for many hundreds of years. In Italy such networks are prominent in the clothing industry of Prato, near Florence, and in packaging equipment.³⁵ Hollywood movie making³⁶ and microelectronics in Silicon Valley have similar structures – highly specialized firms that coordinate to design and produce complex products. Often these networks feature a central firm that acts as a “systems integrator,”³⁷ as in the case of Benetton and Toyota.³⁸ In fast-moving industries, the ability of highly specialized, know-how intensive firms to reconfigure their relationships can be conducive to innovation, product differentiation, and rapid new product development. In the developing world, such networks can be a viable alternative to industrial development where large enterprises are lacking.³⁹

These different organizational forms share several common characteristics:

- 1 *A focus on coordination rather than control.* In contrast to the “command-and-control” hierarchy, these structures focus almost wholly upon achieving coordination. Financial incentives, culture, and social controls take the place of hierarchical control.





- 2 *Reliance on coordination by mutual adjustment.* Central to all nonhierarchical structures is their dependence on voluntaristic coordination through bilateral and multilateral adjustment. The capacity for coordination through mutual adjustment has been greatly enhanced by information technology.
- 3 *Individuals in multiple organizational roles.* Reconciling complex patterns of coordination with high levels of flexibility and responsiveness is difficult if job designs and organizational structures are rigidly defined. Adhocracies and team-based organizations feature individuals switching their organizational roles and occupying multiple roles simultaneously. For example, for most of the 1990s, AES had no finance function, no HR function, no safety or environmental affairs functions, and no public relations department. These functions were performed by teams of operatives and line managers.

Management Systems for Coordination and Control

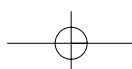
The relationship between management systems and organizational structure is similar to that between the skeleton and bodily systems in the human body. The skeleton provides the framework; the respiratory system, digestive system, and nervous system are the means by which the body operates. Computer networks offer another analogy: the hardware provides the structure and the software provides the systems that make the network operational.

Management systems provide the mechanisms of communication, decision making, and control that allow companies to solve the problems of achieving both coordination and cooperation. Four management systems are of primary importance: the information systems, the strategic planning systems, the financial systems, and the human resource management systems.

Information Systems

Information is fundamental to the operation of all management systems. Communication technology – the telephone and telegraphy – were essential for the emergence of the modern corporation. The computer has had an equally dramatic impact during the past half century. Accounting systems are key components of firms' information systems. They collect, organize, and communicate financial information to top management and other parts of the organization.

Administrative hierarchies are founded on vertical information flows: the upward flow of information to the manager and the downward flow of instructions. The trend towards decentralization and informality in organizations rests on two key aspects of increased information availability: *information feedback* to the individual on job performance, which has made self-monitoring possible, and *information networking*, which has allowed individuals to coordinate their activities voluntarily without hierarchical supervision. For example, a central element of total quality management has been recognition that regular, real-time, performance feedback to employees permits them to take responsibility for quality control, reducing or eliminating the need for supervisors and quality controllers. During the past decade, corporate intranets, web-based information systems, and groupware have transformed organizations' capacity for decentralized coordination.



Strategic Planning Systems

Small enterprises can operate successfully without an explicit strategy. The firm's strategy may exist only in the head of the founder and, unless the founder needs to write a business plan in order to attract outside financing, the strategy may never be articulated. Most large companies have a regular (normally annual) strategic planning process. Multibusiness companies typically have systematic strategic planning processes, the outcome of which is a documented corporate plan that integrates the business plans of the individual divisions.

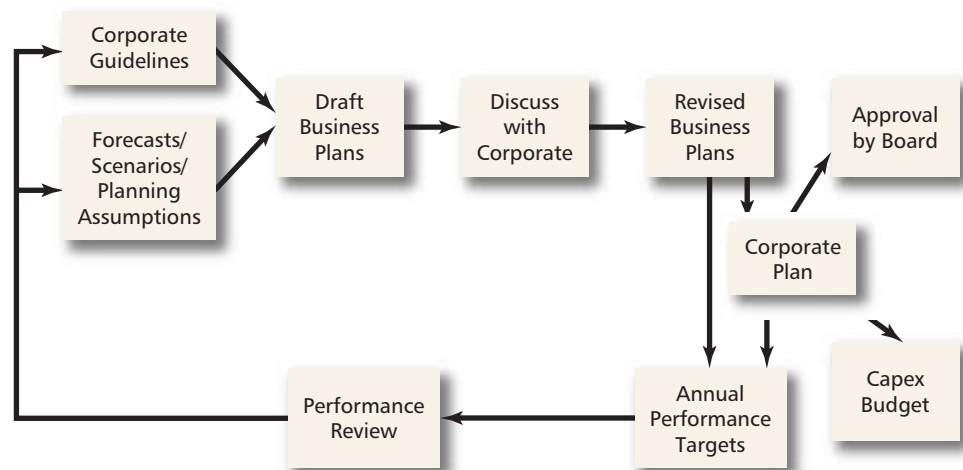
Whether formal or informal, systematic or ad hoc, documented or not, the strategy formulation process is an important vehicle for achieving coordination within a company. As discussed in Chapter 1, the strategy process brings together knowledge from different parts of the company, ensures consistency between the decisions being made at different levels and in different parts of the company, and commits managers to ambitious performance targets.

The system through which strategy is formulated varies considerably from company to company. Even after the entrepreneurial startup has grown into a large company, strategy making may remain the preserve of the chief executive. Functional managers may provide key inputs such as financial projections and market analysis, but the key elements of strategy – goals, new business developments, capital investment, and key competitive initiatives – are often decided by the chief executive.⁴⁰ At MCI Communications former CEO Orville Wright observed: “We do it strictly top–down at MCI.”⁴¹ The first director of strategic planning was warned: “If you ever write a strategic plan, you will be fired!”

As companies mature, their strategic planning processes become more systematized and typically follow an annual cycle. Strategic plans tend to be for three to five years and combine top–down initiatives (indications of performance expectations and identification of key strategic initiatives) and bottom–up business plans (proposed strategies and financial forecasts for individual divisions and business units). After discussion between the corporate level and the individual businesses, the business plans are amended and agreed and integrated into an overall corporate plan that is presented to and agreed by the board of directors. Figure 6.6 shows a typical strategic planning cycle.

The resulting strategic plan typically comprises the following elements:

- *A statement of the goals* the company seeks to achieve over the planning period with regard to both financial targets (e.g., targets for revenue growth, cost reduction, operating profit, return on capital employed, return to shareholders) and strategic goals (e.g., market share, new products, overseas market penetration, and new business development). For example, in BP's February 2006 strategy statement, the company established its “primary objective is to deliver sustainable growth in free cash flow,” which it would achieve through “growing production by about 4% a year to 2010” and “delivering further improvements in return on average capital employed relative to our peer group.”⁴²
- *A set of assumptions or forecasts* about key developments in the external environment to which the company must respond. For example, BP's 2006–10 strategic plan assumed an oil price of \$40 a barrel.

FIGURE 6.6 The generic strategic planning cycle

- A *qualitative statement* of how the shape of the business will be changing in relation to geographical and segment emphasis, and the basis on which the company will be establishing and extending its competitive advantage. For example, BP's 2006–10 strategy emphasized capital discipline (capex to increase by \$0.5 billion per year) and upgrading BP's asset portfolio by selective divestments of about \$3 billion per year.
- *Specific action steps* with regard to decisions and projects, supported by a set of mileposts stating what is to be achieved by specific dates. For example, BP's strategic commitments included 24 start-ups of upstream projects during 2006–8, \$6 billion capital expenditure on its Russian joint venture, and growth in wind power to 450 MW.
- A *set of financial projections*, including a capital expenditure budget and outline operating budgets. For example, BP's 2006 strategy statement set a capital expenditure budget of \$15–16 billion per year, shareholder distribution of \$50 billion during 2006–8, and operating costs to increase at less than the rate of inflation.

Although strategic planning tends to emphasize the specific commitments and decisions that are documented in written strategic plans, the most important aspect of strategic planning is the *strategy process*: the dialog through which knowledge is shared and ideas communicated, the consensus that is established, and the commitment to action and results that is built.

Increasing turbulence in the business environment has caused strategic planning processes to become less formalized and more flexible. For example, among the world's largest petroleum majors, the key changes have been as follows:

- Strategic plans have become less concerned with specific actions and became more heavily focused on performance targets, especially on financial goals such as profitability and shareholder return. Planning horizons have also shortened (two to five years is the typical planning period).

- Companies recognized the impossibility of forecasting the future and based their strategies less on medium- and long-term economic and market forecasts of the future and more on more general issues of strategic direction (in the form of vision, mission, and strategic intent) and alternative views of the future (e.g., using scenario analysis).
- Strategic planning shifted from a *control perspective*, in which senior management used the strategic planning mechanisms as a means of controlling decisions and resource deployments by divisions and business units and departments, toward more of a *coordination perspective*, in which the strategy process emphasized dialog involving knowledge sharing and consensus building. As a result, the process became increasingly informal and put less emphasis on written documents.
- A diminishing role for strategic planning staff as responsibility for strategic decisions and the strategy-making process become located among senior managers.⁴³

Financial Planning and Control Systems

Financial flows form the life blood of the enterprise. Revenues from customers provide the funds to pay suppliers and employees and any surplus remunerates owners. If inflows are insufficient to cover outflows, the firm becomes insolvent. Hence, financial systems are inevitably the primary mechanism through which top management seeks to control the enterprise. At the center of financial planning is the *budgetary process*. This involves setting and monitoring financial estimates with regard to income and expenditure over a specified time period, both for the firm as a whole and for divisions and departments. Budgets are in part an estimate of incomes and expenditures for the future, in part a target of required financial performance in terms of revenues and profits, and in part a set of authorizations for expenditure up to specified budgetary limits. Two types of budget are set: the capital expenditure budget and the operating budget.

The Capital Expenditure Budget *Capital expenditure budgets* are established through both top-down and bottom-up processes. From the top down, strategic plans establish annual capital expenditure budgets for the planning period both for the company as a whole and for individual divisions. From the bottom up, capital expenditures are determined by the approval of individual capital expenditure projects. Companies have standardized processes for evaluating and approving projects. Requests for funding are prepared according to a standardized methodology, typically based on a forecast of cash flows discounted at the relevant cost of capital (adjusted for project risk). The extent to which the project's returns are sensitive to key environmental uncertainties is also estimated. Capital expenditure approvals take place at different levels of a company according to their size. Projects up to \$5 million might be approved by a business unit head, projects up to \$25 million might be approved by divisional top management, larger projects might need to be approved by the top management committee, while the biggest projects require approval by the board of directors.

The Operating Budget The *operating budget* is a pro forma profit and loss statement for the company as a whole and for individual divisions and business units for

the upcoming year. It is usually divided into quarters and months to permit continual monitoring and the early identification of variances. The operating budget is part forecast and part target. It is set within the context of the performance targets established by the strategic plan. Each business typically prepares an operating budget for the following year that is then discussed with the top management committee and, if acceptable, approved. At the end of the financial year, business-level divisional managers are called upon to account for the performance over the past year.

Human Resource Management Systems

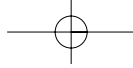
Strategies may arise from principles, formulae, or divine inspiration, but their implementation depends on people. Ultimately, strategic and financial plans come to nothing unless they influence the ways in which people within the organization behave. To support strategic and financial plans, companies need systems for setting goals, creating incentives and monitoring performance at the level of the individual employee. Human resource management has the task of establishing an incentive system that supports the implementation of strategic plans and performance targets through aligning employee and company goals, and ensuring that each employee has the skills necessary to perform his or her job. The general problem, we have noted, is one of agency: how can a company induce employees to do what it wants?

The problem is exacerbated by the imprecision of employment contracts. Unlike most contracts, employment contracts are vague about employee performance expectations. The employer has the right to assign the employee to a particular category of tasks for a certain number of hours per week, but the amount of work to be performed and the quality of that work are unspecified. Employment contracts give the right to the employer to terminate the contract for unsatisfactory performance by the employee, but the threat of termination is an inadequate incentive: it imposes costs on the employer and only requires the employee to perform better than a new hire would. Moreover, the employer has imperfect information as to employees' work performance – in team production, individual output is not separately observable.⁴⁴

The firm can ensure the employee's compliance with organizational goals using direct supervision of the type that administrative hierarchies are designed to do. The weaknesses of such administrative supervision are, first, there is little incentive for performance in excess of minimum requirements, second, supervision imposes costs, and third, the system presupposes that the supervisor has the knowledge required to direct the employee effectively.

The key to promoting more effective cooperation is for more sophisticated incentives than the threat of dismissal. The principal incentives available to the firm for promoting cooperation are compensation and promotion. The key to designing compensation systems is to link pay either to the inputs required for effective job performance (hours of work, punctuality, effort, numbers of customers visited) or to outputs. The simplest form of output-linked pay is piecework (paying for each unit of output produced) or commission (paying a percentage of the revenue generated).

Relating pay to individual performance is suitable for tasks performed individually. However, firms exist primarily to permit complex coordination among individuals; encouraging such collaboration requires linking pay to team or departmental performance. Where broad-based, enterprise-wide collaboration is required, there may be little alternative to linking pay to company performance through some form of profit sharing.



Corporate Culture as a Control Mechanism

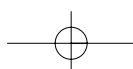
We have already noted how shared values can align the goals of different stakeholders within the organization. More generally, we can view the culture of the organization as a mechanism for achieving coordination and control. *Corporate culture* comprises the beliefs, values, and behavioral norms of the company, which influence how employees think and behave.⁴⁵ It is manifest in symbols, ceremonies, social practices, rites, vocabulary, and dress. It is embedded within national cultures, and incorporates elements of social and professional cultures. As a result, a corporate culture may be far from homogeneous: very different cultures may be evident in the research lab, on the factory floor, and within the accounting department. To this extent, culture is not necessarily an integrating device – it can contribute to divisiveness.

Culture can play an important role in facilitating both cooperation and coordination. In companies such as Starbucks, Shell, Nintendo, and Google, strong corporate cultures create a sense of identity among employees that facilitates communication and the building of organizational routines, even across national boundaries. The unifying influence of corporate culture is likely to be especially helpful in assisting coordination through mutual adjustment in large cross-functional teams of the type required for new product development. One of the advantages of culture as a coordinating device is that it permits substantial flexibility in the types of interactions it can support.

The extent to which corporate culture assists coordination depends on the characteristics of the culture. Salomon Brothers (now part of Citigroup) was renowned for its individualistic, internally competitive culture; this was effective in motivating drive and individual effort, but did little to facilitate cooperation. The British Broadcasting Corporation has a strong culture that reflects internal politicization, professional values, internal suspicion, and a dedication to the public good, but without a strong sense of customer focus.⁴⁶ The culture of a leading British bank was described as one of complaint, negativity, and pessimism.⁴⁷ However, culture is far from being a flexible management tool. Cultures take a long time to develop and cannot easily be changed. As the external environment changes, a highly effective culture may become dysfunctional. The Los Angeles Police Department's culture of professionalism and militarism, which made it one of the most admired and effective police forces in America, later contributed to problems of isolation and unresponsiveness to community needs.⁴⁸

Integrating Different Control Mechanisms

The past ten years have seen substantial progress in integrating different control systems. As strategy has become more and more focused on creating shareholder value, so financial planning has become more closely integrated with strategic planning. Performance management systems have also done much to link strategic and financial planning with human resource management – especially in terms of goal setting and performance appraisal. The central aspect of the “metrics” movement within management is the ability not just to establish quantitative goals for individual employees and groups, but to create mechanisms for measuring and reporting the attainment of these targets. The balanced scorecard system outlined in Chapter 2 is but one approach to this linking of employee goals to company-wide goals.



Summary

The internal structure and systems of the firm are not simply a matter of “strategy implementation,” which can be separated from the hard analytics of strategy formulation. Not only is strategy implementation inseparable from strategy formulation, but issues of structure and systems are central to the fundamental issues of competitive advantage and strategy choice – the existence of organizational capability in particular.

Despite the importance of these issues, this chapter provides only a brief introduction to some of the key issues in organization design. Subsequent chapters develop many of the themes more fully in relation to particular areas of strategy and particular business contexts. Nevertheless, our progress is limited by the weakness of theory in

this area. Organization theory is an exceptionally rich field that still lacks adequate integration of its component disciplines: sociology, psychology, organizational economics, systems theory, population ecology, and organizational evolution. While business enterprises continue to experiment with new organizational forms, we business school academics are still struggling to articulate general principles of organizational design.

The chapters that follow will have more to say on the organizational structures and management systems appropriate to different strategies and different business contexts. In the final chapter (Chapter 17) we shall explore some of the new trends and new ideas that are reshaping our thinking about organizational design.

Self-Study Questions

- 1 As DuPont expanded its product range (from explosives into paints, dyes, plastics, and synthetic fibers) why do you think that the functional structure (organized around manufacturing plants and other functions such as sales, finance, and R&D) became unwieldy? Why did the multidivisional structure based on product groups facilitate administration?
- 2 Explain (with reference to a diversified, divisionalized company such as General Electric) the extent to which the multidivisional company may be regarded as a modular organization? To what degree is each division an independent entity? What are the “standardized interfaces” that allow the divisions to fit together into a coherent whole?
- 3 Within your own organization (whether a university, company, or not-for-profit organization), which departments or activities are organized mechanistically and which organically? To what extent does the mode of organization fit the different environmental contexts and technologies of the different departments or activities?
- 4 The examples of Apple Computer and General Motors (see section on “Functional Structure”) point to a more general feature of organizational structure over the product life cycle. During the growth phase many companies adopt multidivisional structures, during maturity and decline many companies revert to functional structures. Why might this be?

(Note: you may wish to refer to Chapter 10, which outlines the main features of the life cycle model.)

- 5 Draw an organizational chart for a business school that you are familiar with. Does the school operate with a matrix structure (e.g. are there functional/discipline-based departments together with units managing individual programs)? Which dimension of the matrix is more powerful, and how effectively do the two dimensions coordinate? How would you reorganize the structure to make the school more efficient and effective?

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