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The Value Chain and Competitive Advantage

Competitive advantage cannot be understood by looking at a firm as a whole. It stems from the many discrete activities a firm performs in designing, producing, marketing, delivering, and supporting its product. Each of these activities can contribute to a firm's relative cost position and create a basis for differentiation. A cost advantage, for example, may stem from such disparate sources as a low-cost physical distribution system, a highly efficient assembly process, or superior sales force utilization. Differentiation can stem from similarly diverse factors, including the procurement of high quality raw materials, a responsive order entry system, or a superior product design.

A systematic way of examining all the activities a firm performs and how they interact is necessary for analyzing the sources of competitive advantage. In this chapter, I introduce the *value chain* as the basic tool for doing so. The value chain disaggregates a firm into its strategically relevant activities in order to understand the behavior of costs and the existing and potential sources of differentiation. A

firm gains competitive advantage by performing these strategically important activities more cheaply or better than its competitors.

A firm's value chain is embedded in a larger stream of activities that I term the *value system*, illustrated in Figure 2–1. Suppliers have value chains (*upstream value*) that create and deliver the purchased inputs used in a firm's chain. Suppliers not only deliver a product but also can influence a firm's performance in many other ways. In addition, many products pass through the value chains of channels (*channel value*) on their way to the buyer. Channels perform additional activities that affect the buyer, as well as influence the firm's own activities. A firm's product eventually becomes part of its *buyer's value chain*. The ultimate basis for differentiation is a firm and its product's role in the buyer's value chain, which determines buyer needs. Gaining and sustaining competitive advantage depends on understanding not only a firm's value chain but how the firm fits in the overall value system.

The value chains of firms in an industry differ, reflecting their histories, strategies, and success at implementation. One important difference is that a firm's value chain may differ in *competitive scope* from that of its competitors, representing a potential source of competitive advantage. Serving only a particular industry segment may allow a firm to tailor its value chain to that segment and result in lower costs or differentiation in serving that segment compared to competitors. Widening or narrowing the geographic markets served can also affect competitive advantage. The extent of integration into activities plays a key role in competitive advantage. Finally, competing in related industries with coordinated value chains can lead to competitive advantage through interrelationships. A firm may exploit the benefits of broader scope internally or it may form coalitions with other firms to do so. Coalitions are long-term alliances with other firms that fall short of outright merger, such as joint ventures, licenses, and supply agreements. Coalitions involve coordinating or sharing value chains with coalition partners that broadens the effective scope of the firm's chain.

This chapter describes the fundamental role of the value chain in identifying sources of competitive advantage. I begin by describing the value chain and its component parts. Every firm's value chain is composed of nine generic categories of activities which are linked together in characteristic ways. The generic chain is used to demonstrate how a value chain can be constructed for a particular firm, reflecting the specific activities it performs. I also show how the activities in a firm's value chain are linked to each other and to the activities

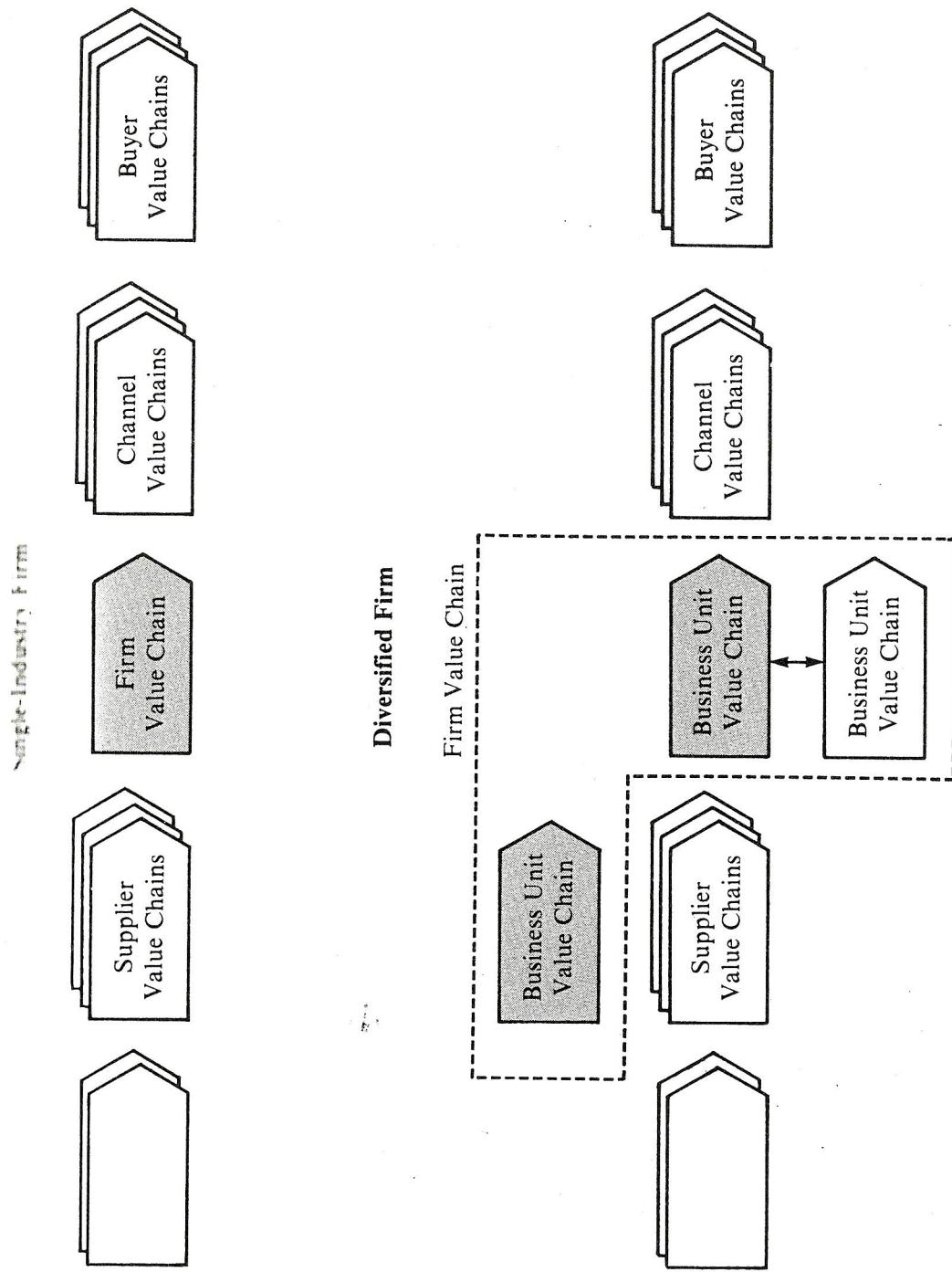


Figure 2-1. The Value System

of its suppliers, channels, and buyers, and how these linkages affect competitive advantage. I then describe how scope of a firm's activities affects competitive advantage through its impact on the value chain. Subsequent chapters will illustrate in detail how the value chain can be used as a strategic tool to analyze relative cost position, differentiation, and the role of competitive scope in achieving competitive advantage.

The Value Chain

Every firm is a collection of activities that are performed to design, produce, market, deliver, and support its product. All these activities can be represented using a value chain, shown in Figure 2-2. A firm's value chain and the way it performs individual activities are a reflection of its history, its strategy, its approach to implementing its strategy, and the underlying economics of the activities themselves.¹

The relevant level for constructing a value chain is a firm's activities in a particular industry (the business unit). An industry- or sector-wide value chain is too broad, because it may obscure important sources of competitive advantage. Though firms in the same industry may have similar chains the value chains of competitors often differ. People Express and United Airlines both compete in the airline industry, for example, but they have very different value chains embodying significant differences in boarding gate operations, crew policies, and aircraft operations. Differences among competitor value chains are a key source of competitive advantage. A firm's value chain in an industry may vary somewhat for different items in its product line, or different buyers, geographic areas, or distribution channels. The value chains for such subsets of a firm are closely related, however, and can only be understood in the context of the business unit chain.²

¹The business system concept, developed by McKinsey and Company, captures the idea that a firm is a series of functions (e.g., R&D, manufacturing, marketing, channels), and that analyzing how each is performed relative to competitors can provide useful insights. McKinsey also stresses the power of redefining the business system to gain competitive advantage, an important idea. The business system concept addresses broad functions rather than activities, however, and does not distinguish among types of activities or show how they are related. The concept is also not linked specifically to competitive advantage nor to competitive scope. The most complete descriptions of the business system concept are Gluck (1980) and Bauron (1981). See also Bower (1973).

²The notion of a strategic business unit as the relevant entity for strategy formulation is well accepted, and grows out of work by many scholars and consultants. Business units are often poorly defined, however, a problem exposed by value chain analysis to which I will return below.

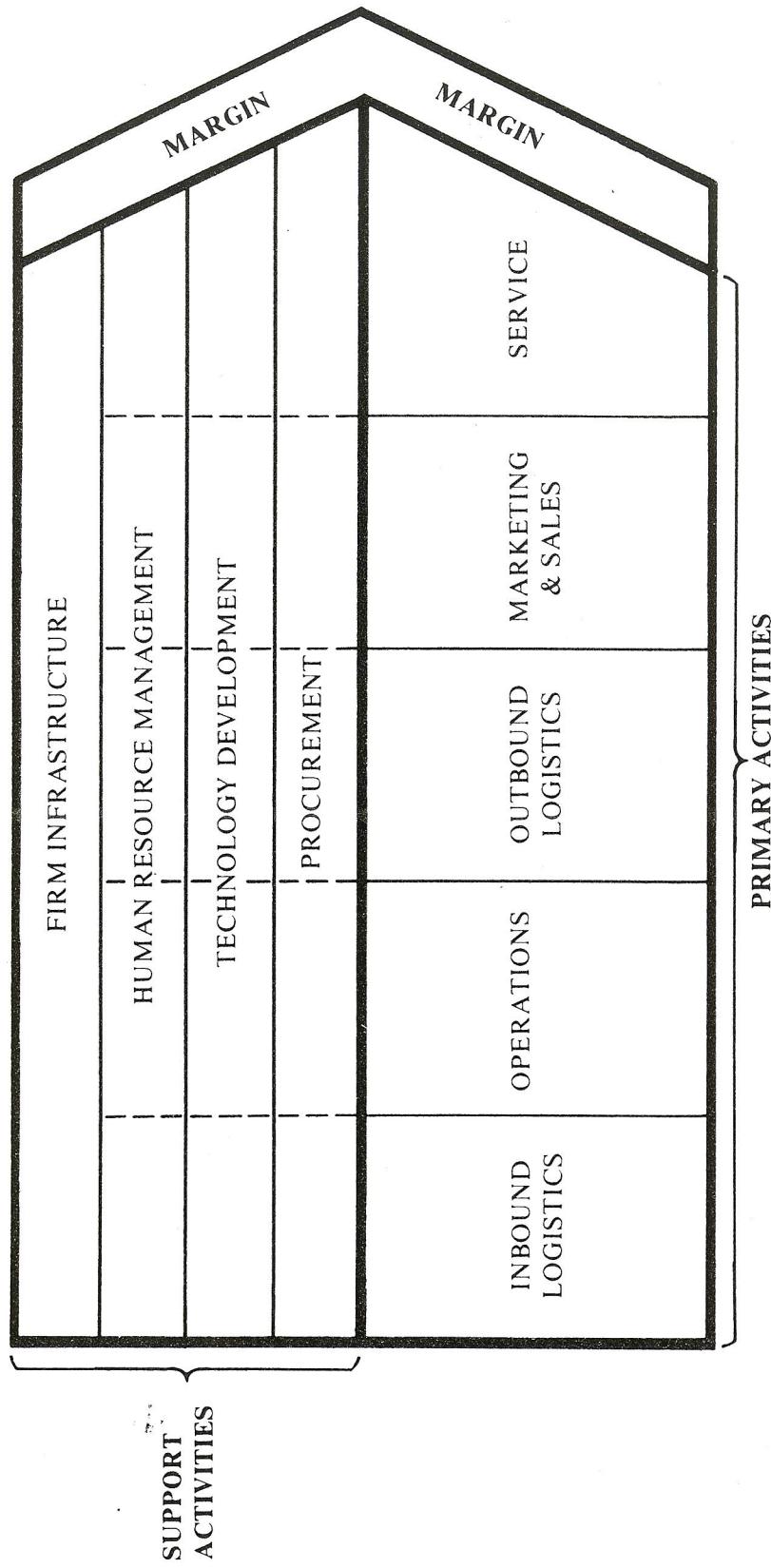


Figure 2–2. The Generic Value Chain

In competitive terms, value is the amount buyers are willing to pay for what a firm provides them. Value is measured by total revenue, a reflection of the price a firm's product commands and the units it can sell. A firm is profitable if the value it commands exceeds the costs involved in creating the product. Creating value for buyers that exceeds the cost of doing so is the goal of any generic strategy. Value, instead of cost, must be used in analyzing competitive position since firms often deliberately raise their cost in order to command a premium price via differentiation.

The value chain displays total value, and consists of *value activities* and *margin*. Value activities are the physically and technologically distinct activities a firm performs. These are the building blocks by which a firm creates a product valuable to its buyers. Margin is the difference between total value and the collective cost of performing the value activities. Margin can be measured in a variety of ways. Supplier and channel value chains also include a margin that is important to isolate in understanding the sources of a firm's cost position, since supplier and channel margin are part of the total cost borne by the buyer.

Every value activity employs *purchased inputs*, *human resources* (labor and management), and some form of *technology* to perform its function. Each value activity also uses and creates *information*, such as buyer data (order entry), performance parameters (testing), and product failure statistics. Value activities may also create financial assets such as inventory and accounts receivable, or liabilities such as accounts payable.

Value activities can be divided into two broad types, *primary* activities and *support* activities. Primary activities, listed along the bottom of Figure 2-2, are the activities involved in the physical creation of the product and its sale and transfer to the buyer as well as after-sale assistance. In any firm, primary activities can be divided into the five generic categories shown in Figure 2-2. Support activities support the primary activities and each other by providing purchased inputs, technology, human resources, and various firmwide functions. The dotted lines reflect the fact that procurement, technology development, and human resource management can be associated with specific primary activities as well as support the entire chain. Firm infrastructure is not associated with particular primary activities but supports the entire chain.

Value activities are therefore the discrete building blocks of competitive advantage. How each activity is performed combined with

its economics will determine whether a firm is high or low cost relative to competitors. How each value activity is performed will also determine its contribution to buyer needs and hence differentiation. Comparing the value chains of competitors exposes differences that determine competitive advantage.³

An analysis of the value chain rather than value added is the appropriate way to examine competitive advantage. Value added (selling price less the cost of purchased raw materials) has sometimes been used as the focal point for cost analysis because it was viewed as the area in which a firm can control costs. Value added is not a sound basis for cost analysis, however, because it incorrectly distinguishes raw materials from the many other purchased inputs used in a firm's activities. Also, the cost behavior of activities cannot be understood without simultaneously examining the costs of the inputs used to perform them. Moreover, value added fails to highlight the linkages between a firm and its suppliers that can reduce cost or enhance differentiation.

Identifying Value Activities

Identifying value activities requires the isolation of activities that are technologically and strategically distinct. Value activities and accounting classifications are rarely the same. Accounting classifications (e.g., burden, overhead, direct labor) group together activities with disparate technologies, and separate costs that are all part of the same activity.

PRIMARY ACTIVITIES

There are five generic categories of primary activities involved in competing in any industry, as shown in Figure 2–2. Each category is divisible into a number of distinct activities that depend on the particular industry and firm strategy:

- *Inbound Logistics.* Activities associated with receiving, storing, and disseminating inputs to the product, such as material han-

³Economists have characterized the firm as having a production function that defines how inputs are converted into outputs. The value chain is a theory of the firm that views the firm as being a collection of discrete but related production functions, if production functions are defined as activities. The value chain formulation focuses on how these activities create value and what determines their cost, giving the firm considerable latitude in determining how activities are configured and combined.

dling, warehousing, inventory control, vehicle scheduling, and returns to suppliers.

- *Operations.* Activities associated with transforming inputs into the final product form, such as machining, packaging, assembly, equipment maintenance, testing, printing, and facility operations.
- *Outbound Logistics.* Activities associated with collecting, storing, and physically distributing the product to buyers, such as finished goods warehousing, material handling, delivery vehicle operation, order processing, and scheduling.
- *Marketing and Sales.* Activities associated with providing a means by which buyers can purchase the product and inducing them to do so, such as advertising, promotion, sales force, quoting, channel selection, channel relations, and pricing.
- *Service.* Activities associated with providing service to enhance or maintain the value of the product, such as installation, repair, training, parts supply, and product adjustment.

Each of the categories may be vital to competitive advantage depending on the industry. For a distributor, inbound and outbound logistics are the most critical. For a service firm providing the service on its premises such as a restaurant or retailer, outbound logistics may be largely nonexistent and operations the vital category. For a bank engaged in corporate lending, marketing and sales are a key to competitive advantage through the effectiveness of the calling officers and the way in which loans are packaged and priced. For a high speed copier manufacturer, service represents a key source of competitive advantage. In any firm, however, all the categories of primary activities will be present to some degree and play some role in competitive advantage.

SUPPORT ACTIVITIES

Support value activities involved in competing in any industry can be divided into four generic categories, also shown in Figure 2-2. As with primary activities, each category of support activities is divisible into a number of distinct value activities that are specific to a given industry. In technology development, for example, discrete activities might include component design, feature design, field testing, process engineering, and technology selection. Similarly, procurement can be divided into activities such as qualifying new suppliers, procure-

ment of different groups of purchased inputs, and ongoing monitoring of supplier performance.

Procurement. Procurement refers to the *function* of purchasing inputs used in the firm's value chain, not to the purchased inputs themselves. Purchased inputs include raw materials, supplies, and other consumable items as well as assets such as machinery, laboratory equipment, office equipment, and buildings. Though purchased inputs are commonly associated with primary activities, purchased inputs are present in every value activity including support activities. For example, laboratory supplies and independent testing services are common purchased inputs in technology development, while an accounting firm is a common purchased input in firm infrastructure. Like all value activities, procurement employs a "technology," such as procedures for dealing with vendors, qualification rules, and information systems.

Procurement tends to be spread throughout a firm. Some items such as raw materials are purchased by the traditional purchasing department, while other items are purchased by plant managers (e.g., machines), office managers (e.g., temporary help), salespersons (e.g., meals and lodging), and even the chief executive officer (e.g., strategic consulting). I use the term procurement rather than purchasing because the usual connotation of purchasing is too narrow among managers. The dispersion of the procurement function often obscures the magnitude of total purchases, and means that many purchases receive little scrutiny.

A given procurement activity can normally be associated with a specific value activity or activities which it supports, though often a purchasing department serves many value activities and purchasing policies apply firmwide. The cost of procurement activities themselves usually represents a small if not insignificant portion of total costs, but often has a large impact on the firm's overall cost and differentiation. Improved purchasing practices can strongly affect the cost and quality of purchased inputs, as well as of other activities associated with receiving and using the inputs, and interacting with suppliers. In chocolate manufacturing and electric utilities, for example, procurement of cocoa beans and fuel respectively is by far the most important determinant of cost position.

Technology Development. Every value activity embodies technology, be it know-how, procedures, or technology embodied in process

equipment. The array of technologies employed in most firms is very broad, ranging from those technologies used in preparing documents and transporting goods to those technologies embodied in the product itself. Moreover, most value activities use a technology that combines a number of different subtechnologies involving different scientific disciplines. Machining, for example, involves metallurgy, electronics, and mechanics.

Technology development consists of a range of activities that can be broadly grouped into efforts to improve the product and the process. I term this category of activities technology development instead of research and development because R&D has too narrow a connotation to most managers. Technology development tends to be associated with the engineering department or the development group. Typically, however, it occurs in many parts of a firm, although this is not explicitly recognized. Technology development may support any of the numerous technologies embodied in value activities, including such areas as telecommunications technology for the order entry system, or office automation for the accounting department. It does not solely apply to technologies directly linked to the end product. Technology development also takes many forms, from basic research and product design to media research, process equipment design, and servicing procedures. Technology development that is related to the product and its features supports the entire chain, while other technology development is associated with particular primary or support activities.

Technology development is important to competitive advantage in all industries, holding the key in some. In steel, for example, a firm's process technology is the single greatest factor in competitive advantage. The competitive implications of the array of technologies in the value chain are treated in Chapter 5.

Human Resource Management. Human resource management consists of activities involved in the recruiting, hiring, training, development, and compensation of all types of personnel. Human resource management supports both individual primary and support activities (e.g., hiring of engineers) and the entire value chain (e.g., labor negotiations). Human resource management activities occur in different parts of a firm, as do other support activities, and the dispersion of these activities can lead to inconsistent policies. Moreover, the cumulative costs of human resource management are rarely well understood nor are the tradeoffs in different human resource management costs, such as salary compared to the cost of recruiting and training due to turnover.

Human resource management affects competitive advantage in any firm, through its role in determining the skills and motivation of employees and the cost of hiring and training. In some industries it holds the key to competitive advantage. The world's leading accounting firm Arthur Andersen, for example, draws a significant competitive advantage from its approach to recruiting and training its tens of thousands of professional staff. Arthur Andersen has bought a former college campus near Chicago, and has invested heavily in codifying its practice and regularly bringing staff from around the world to its college for training in the firmwide methodology. Having a deeply understood methodology throughout the firm not only makes all engagements more effective but also greatly facilitates the servicing of national and multinational clients.

Firm Infrastructure. Firm infrastructure consists of a number of activities including general management, planning, finance, accounting, legal, government affairs, and quality management. Infrastructure, unlike other support activities, usually supports the entire chain and not individual activities. Depending on whether a firm is diversified or not, firm infrastructure may be self-contained or divided between a business unit and the parent corporation.⁴ In diversified firms, infrastructure activities are typically split between the business unit and corporate levels (e.g., financing is often done at the corporate level while quality management is done at the business unit level). Many infrastructure activities occur at both the business unit and corporate levels, however.

Firm infrastructure is sometimes viewed only as "overhead," but can be a powerful source of competitive advantage. In a telephone operating company, for example, negotiating and maintaining ongoing relations with regulatory bodies can be among the most important activities for competitive advantage. Similarly, proper management information systems can contribute significantly to cost position, while in some industries top management plays a vital role in dealing with the buyer.

ACTIVITY TYPES

Within each category of primary and support activities, there are three activity types that play a different role in competitive advantage:

⁴There may also be infrastructure activities at the group or sector level.

- *Direct.* Activities directly involved in creating value for the buyer, such as assembly, parts machining, sales force operation, advertising, product design, recruiting, etc.
- *Indirect.* Activities that make it possible to perform direct activities on a continuing basis, such as maintenance, scheduling, operation of facilities, sales force administration, research administration, vendor record keeping, etc.
- *Quality Assurance.* Activities that ensure the quality of other activities, such as monitoring, inspecting, testing, reviewing, checking, adjusting, and reworking. Quality assurance is *not* synonymous with quality management, because many value activities contribute to quality, as will be discussed in Chapter 4.

Every firm has direct, indirect, and quality assurance value activities. All three types are present not only among primary activities but also among support activities. In technology development, for example, actual laboratory teams are direct activities, while research administration is an indirect activity.

The role of indirect and quality assurance activities is often not well understood, making the distinction among the three activity types an important one for diagnosing competitive advantage. In many industries, indirect activities represent a large and rapidly growing proportion of cost and can play a significant role in differentiation through their effect on direct activities. Despite this, indirect activities are frequently lumped together with direct activities when managers think about their firms, though the two often have very different economics. There are often tradeoffs between direct and indirect activities—more spending on maintenance lowers machine costs. Indirect activities are also frequently grouped together into “overhead” or “burden” accounts, obscuring their cost and contribution to differentiation.

Quality assurance activities are also prevalent in nearly every part of a firm, though they are seldom recognized as such. Testing and inspection are associated with many primary activities. Quality assurance activities outside of operations are often less apparent though equally prevalent. The cumulative cost of quality assurance activities can be very large, as recent attention to the cost of quality has demonstrated. Quality assurance activities often affect the cost or effectiveness of other activities, and the way other activities are performed in turn affects the need for and types of quality assurance activities. The possibility of simplifying or eliminating the need for quality assurance activi-

ties through performing other activities better is at the root of the notion that quality can be “free.”

Defining the Value Chain

To diagnose competitive advantage, it is necessary to define a firm’s value chain for competing in a particular industry. Starting with the generic chain, individual value activities are identified in the particular firm. Each generic category can be divided into discrete activities, as illustrated for one generic category in Figure 2–3. An example of a complete value chain is shown in Figure 2–4, the value chain of a copier manufacturer.

Defining relevant value activities requires that activities with discrete technologies and economics be isolated. Broad functions such as manufacturing or marketing must be subdivided into activities. The product flow, order flow or paper flow can be useful in doing so. Subdividing activities can proceed to the level of increasingly narrow activities that are to some degree discrete. Every machine in a factory, for example, could be treated as a separate activity. Thus the number of potential activities is often quite large.

The appropriate degree of disaggregation depends on the economics of the activities and the purposes for which the value chain is being analyzed. Though I will return to this question in later chapters, the basic principle is that activities should be isolated and separated that (1) have different economics, (2) have a high potential impact of differentiation, or (3) represent a significant or growing proportion of cost. In using the value chain, successively finer disaggregations of some activities are made as the analysis exposes differences important to competitive advantage; other activities are combined because they prove to be unimportant to competitive advantage or are governed by similar economics.

Selecting the appropriate category in which to put an activity may require judgment and can be illuminating in its own right. Order processing, for example, could be classified as part of outbound logistics or as part of marketing. In a distributor, the role of order processing is more a marketing function. Similarly, the sales force often performs service functions. Value activities should be assigned to categories that best represent their contribution to a firm’s competitive advantage. If order processing is an important way in which a firm interacts with its buyers, for example, it should be classified under marketing.

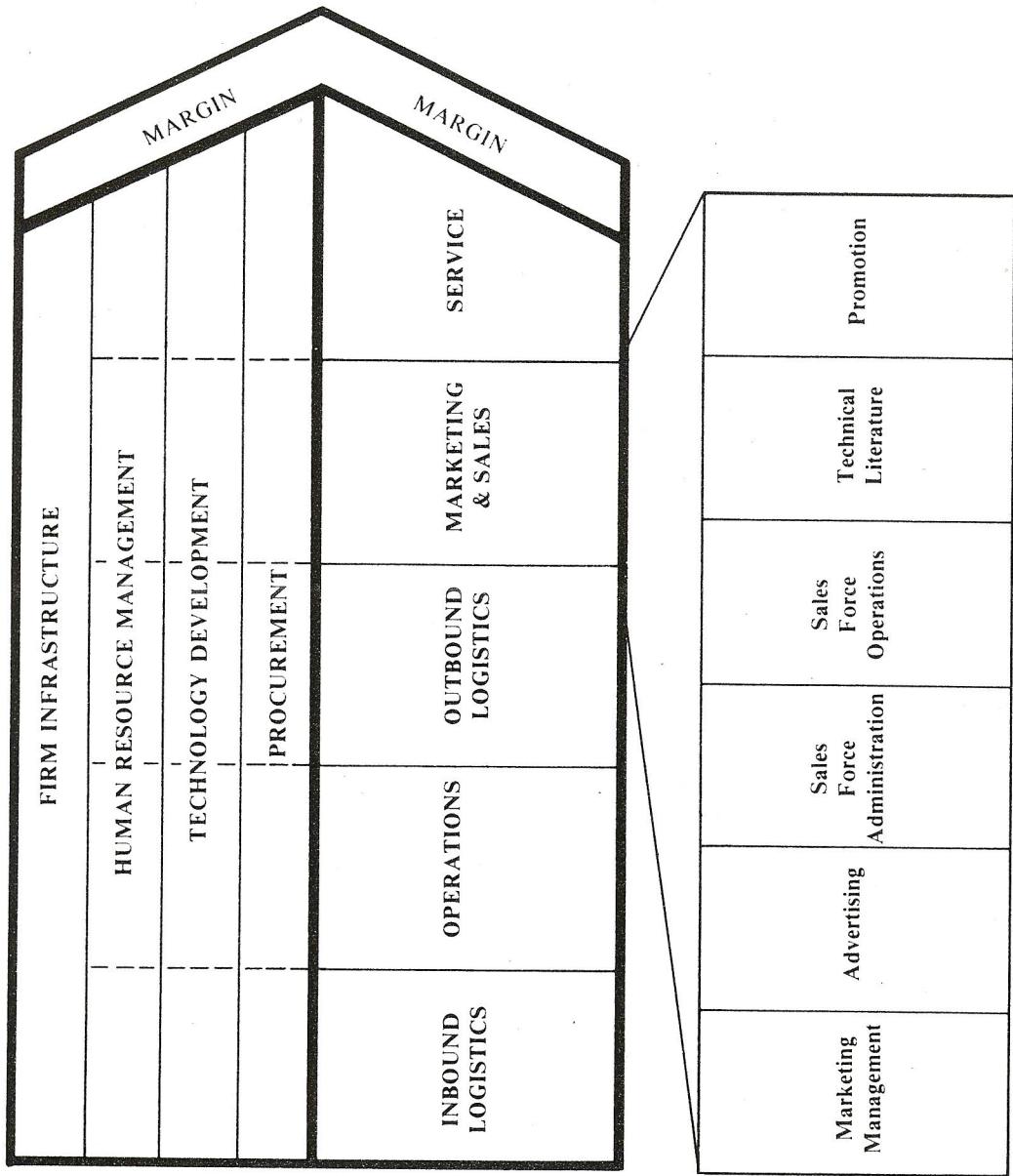


Figure 2-3. Subdividing a Generic Value Chain

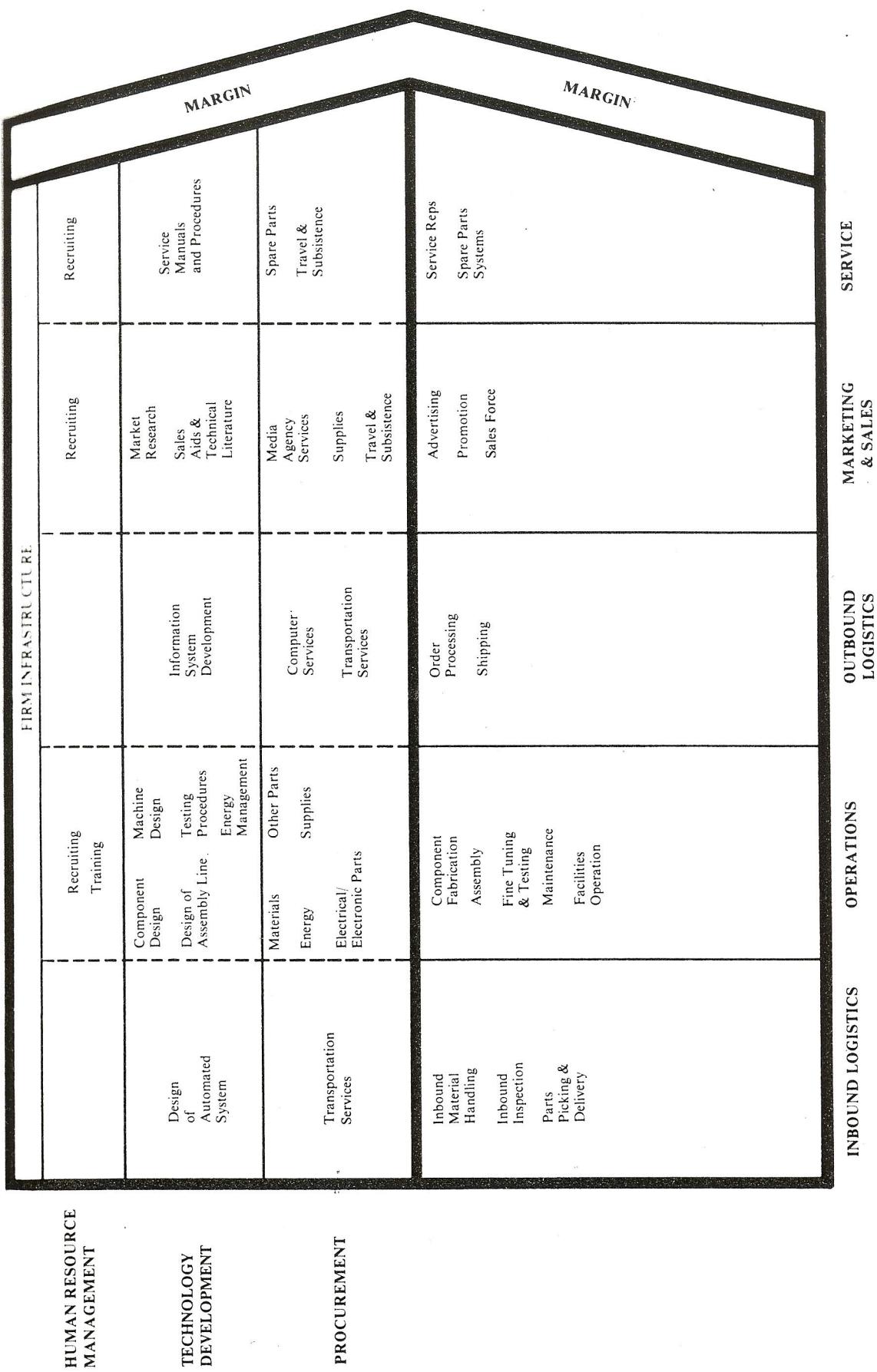


Figure 2–4. Value Chain for a Copier Manufacturer

Similarly, if inbound material handling and outbound material handling use the same facilities and personnel, then both should probably be combined into one value activity and classified wherever the function has the greatest competitive impact. Firms have often gained competitive advantage by redefining the roles of traditional activities—Vetco, an oil field equipment supplier, uses customer training as a marketing tool and a way to build switching costs, for example.

Everything a firm does should be captured in a primary or support activity. Value activity labels are arbitrary and should be chosen to provide the best insight into the business. Labeling activities in service industries often causes confusion because operations, marketing, and after-sale support are often closely tied. Ordering of activities should broadly follow the process flow, but ordering is judgmental as well. Often firms perform parallel activities, whose order should be chosen to enhance the intuitive clarity of the value chain to managers.

Linkages within the Value Chain

Although value activities are the building blocks of competitive advantage, the value chain is not a collection of independent activities but a system of interdependent activities. Value activities are related by linkages within the value chain. Linkages are relationships between the way one value activity is performed and the cost or performance of another. For example, purchasing high-quality, precut steel sheets can simplify manufacturing and reduce scrap. In a fast food chain, the timing of promotional campaigns can influence capacity utilization. Competitive advantage frequently derives from linkages among activities just as it does from the individual activities themselves.

Linkages can lead to competitive advantage in two ways: optimization and coordination. Linkages often reflect tradeoffs among activities to achieve the same overall result. For example, a more costly product design, more stringent materials specifications, or greater in-process inspection may reduce service costs. A firm must optimize such linkages reflecting its strategy in order to achieve competitive advantage.

Linkages may also reflect the need to coordinate activities. On-time delivery, for example, may require coordination of activities in operations, outbound logistics, and service (e.g., installation). The ability to coordinate linkages often reduces cost or enhances differentiation. Better coordination, for example, can reduce the need for inven-

inventory throughout the firm. Linkages imply that a firm's cost or differentiation is not merely the result of efforts to reduce cost or improve performance in each value activity individually. Much of the recent change in philosophy towards manufacturing and towards quality—strongly influenced by Japanese practice—is a recognition of the importance of linkages.

Linkages are numerous, and some are common to many firms. The most obvious linkages are those between support activities and primary activities represented by the dotted lines on the generic value chain. Product design usually affects the manufacturing cost of a product, for example, while procurement practices often affect the quality of purchased inputs and hence production costs, inspection costs, and product quality. More subtle linkages are those between primary activities. For example, enhanced inspection of incoming parts may reduce quality assurance costs later in the production process, while better maintenance often reduces the downtime of a machine. An interactive order entry system may reduce salesperson time required per buyer because salespersons can place orders faster and are freed from the need to follow up on inquiries and problems. More thorough inspection of finished goods often improves the reliability of products in the field, reducing servicing costs. Finally, frequent deliveries to buyers may reduce inventory and accounts receivable. Linkages that involve activities in different categories or of different types are often the most difficult to recognize.

Linkages among value activities arise from a number of generic causes, among them the following:

- *The same function can be performed in different ways.* For example, conformance to specifications can be achieved through high quality purchased inputs, specifying close tolerances in the manufacturing process, or 100 percent inspection of finished goods.
- *The cost or performance of direct activities is improved by greater efforts in indirect activities.* For example, better scheduling (an indirect activity) reduces sales force travel time or delivery vehicle time (direct activities); or better maintenance improves the tolerances achieved by machines.
- *Activities performed inside a firm reduce the need to demonstrate, explain, or service a product in the field.* For example, 100 percent inspection can substantially reduce service costs in the field.

- *Quality assurance functions can be performed in different ways.* For example, incoming inspection is a substitute for finished goods inspection.

Though linkages within the value chain are crucial to competitive advantage, they are often subtle and go unrecognized. The importance of procurement in affecting manufacturing cost and quality may not be obvious, for example. Nor is the link between order processing, manufacturing scheduling practices, and sales force utilization. Identifying linkages is a process of searching for ways in which each value activity affects or is affected by others. The generic causes of linkages discussed above provide a starting point. The disaggregation of procurement and technology development to relate them to specific primary activities also helps to highlight linkages between support and primary activities.

Exploiting linkages usually requires information or information flows that allow optimization or coordination to take place. Thus, information systems are often vital to gaining competitive advantages from linkages. Recent developments in information systems technology are creating new linkages and increasing the ability to achieve old ones. Exploiting linkages also frequently requires optimization or coordination that cuts across conventional organizational lines. Higher costs in the manufacturing organization, for example, may result in lower costs in the sales or service organization. Such tradeoffs may not be measured in a firm's information and control systems. Managing linkages thus is a more complex organizational task than managing value activities themselves. Given the difficulty of recognizing and managing linkages, the ability to do so often yields a *sustainable* source of competitive advantage. The specific role of linkages in cost and differentiation will be discussed in more detail in Chapters 3 and 4.

Vertical Linkages

Linkages exist not only within a firm's value chain but between a firm's chain and the value chains of suppliers and channels. These linkages, which I term vertical linkages, are similar to the linkages within the value chain—the way supplier or channel activities are performed affects the cost or performance of a firm's activities (and vice versa). Suppliers produce a product or service that a firm employs in its value chain, and suppliers' value chains also influence the firm at other contact points. A firm's procurement and inbound logistics

activities interact with a supplier's order entry system, for example, while a supplier's applications engineering staff works with a firm's technology development and manufacturing activities. A supplier's product characteristics as well as its other contact points with a firm's value chain can significantly affect a firm's cost and differentiation. For example, frequent supplier shipments can reduce a firm's inventory needs, appropriate packaging of supplier products can lower handling cost, and supplier inspection can remove the need for incoming inspection by a firm.

The linkages between suppliers' value chains and a firm's value chain provide opportunities for the firm to enhance its competitive advantage. It is often possible to benefit both the firm and suppliers by influencing the configuration of suppliers' value chains to jointly optimize the performance of activities, or by improving coordination between a firm's and suppliers' chains. Supplier linkages mean that the relationship with suppliers is *not a zero sum game* in which one gains only at the expense of the other, but a relationship in which both can gain. By agreeing to deliver bulk chocolate to a confectionery producer in tank cars instead of solid bars, for example, an industrial chocolate firm saves the cost of molding and packaging while the confectionery manufacturer lowers the cost of in-bound handling and melting. The division of the benefits of coordinating or optimizing linkages between a firm and its suppliers is a function of suppliers' bargaining power and is reflected in suppliers' margins. Supplier bargaining power is partly structural and partly a function of a firm's purchasing practices.⁵ Thus *both* coordination with suppliers and hard bargaining to capture the spoils are important to competitive advantage. One without the other results in missed opportunities.

Channel linkages are similar to supplier linkages. Channels have value chains through which a firm's product passes. The channel markup over a firm's selling price (which I term channel value) often represents a large proportion of the selling price to the end user—it represents as much as 50 percent or more of selling price to the end user in many consumer goods, such as wine. Channels perform such activities as sales, advertising, and display that may substitute for or complement the firm's activities. There are also multiple points of contact between a firm's and channels' value chains in activities such as the sales force, order entry, and outbound logistics. As with supplier linkages, coordinating and jointly optimizing with channels can lower cost or enhance differentiation. The same issues that existed with sup-

⁵For a discussion of some of the structural issues see *Competitive Strategy*, Chapters 1 and 6.

pliers in dividing the gains of coordination and joint optimization also exist with channels.

Vertical linkages, like linkages within a firm's value chain, are frequently overlooked. Even if they are recognized, independent ownership of suppliers or channels or a history of an adversary relationship can impede the coordination and joint optimization required to exploit vertical linkages. Sometimes vertical linkages are easier to achieve with coalition partners or sister business units than with independent firms, though even this is not assured. As with linkages within the value chain, exploiting vertical linkages requires information and modern information systems are creating many new possibilities. I will discuss the role of supplier and channel linkages in competitive advantage more fully in Chapters 3 and 4.

The Buyer's Value Chain

Buyers also have value chains, and a firm's product represents a purchased input to the buyer's chain. Understanding the value chains of industrial, commercial, and institutional buyers is intuitively easy because of their similarities to that of a firm. Understanding households' value chains is less intuitive, but nevertheless important. Households (and the individual consumers within them) engage in a wide range of activities, and products purchased by households are used in conjunction with this stream of activities. A car is used for the trip to work and for shopping and leisure, while a food product is consumed as part of the process of preparing and eating meals. Though it is quite difficult to construct a value chain that encompasses everything a household and its occupants do, it is quite possible to construct a chain for those activities that are relevant to how a particular product is used. Chains need not be constructed for every household, but chains for representative households can provide an important tool for use in differentiation analysis, to be discussed in more detail in Chapter 4.

A firm's differentiation stems from how its value chain relates to its buyer's chain. This is a function of the way a firm's physical product is used in the particular buyer activity in which it is consumed (e.g., a machine used in the assembly process) as well as *all* the other points of contact between a firm's value chain and the buyer's chain. Many of a firm's activities interact with some buyer activities. In optoelectronic parts, for example, a firm's product is assembled into the buyer's equipment—an obvious point of contact—but the firm also

works closely with the buyer in designing the part, providing ongoing technical assistance, troubleshooting, order processing, and delivery. Each of these contact points is a potential source of differentiation. “Quality” is too narrow a view of what makes a firm unique, because it focuses attention on the product rather than the broader array of value activities that impact the buyer.

Differentiation, then, derives fundamentally from creating value for the buyer through a firm’s impact on the buyer’s value chain. Value is created when a firm creates competitive advantage for its buyer—lowers its buyer’s cost or raises its buyer’s performance.⁶ The value created for the buyer must be perceived by the buyer if it is to be rewarded with a premium price, however, which means that firms must communicate their value to buyers through such means as advertising and the sales force. How this value is divided between the firm (a premium price) and the buyer (higher profits or more satisfaction for the money) is reflected in a firm’s margin, and is a function of industry structure. The relationship between the buyer’s value chain and the firm’s value chain in creating and sustaining differentiation will be described in detail in Chapter 4.⁷

Competitive Scope and the Value Chain

Competitive scope can have a powerful effect on competitive advantage, because it shapes the configuration and economics of the value chain. There are four dimensions of scope that affect the value chain:⁸

- *Segment Scope.* The product varieties produced and buyers served.
- *Vertical Scope.* The extent to which activities are performed in-house instead of by independent firms.

⁶Unlike a firm, which can measure value in terms of price or profit, a consumer’s measure of value is complex and relates to the satisfaction of needs. See Chapter 4.

⁷The same principles that determine a firm’s differentiation also can be used to analyze the threat of substitution, as I discuss in Chapter 8.

⁸The term scope of the firm is used in economic theory to reflect the boundary between the activities a firm performs internally and those it obtains in market transactions—e.g., vertical integration (see, for example, Coase [1937, 1972]). Some recent work has begun to examine the extent of a firm’s diversification as an issue in scope (see Teece [1980]). Competitive scope is used here to refer to a broader conception of the scope of a firm’s activities, encompassing industry segment coverage, integration, geographic markets served, and coordinated competition in related industries.

- *Geographic Scope.* The range of regions, countries, or groups of countries in which a firm competes with a coordinated strategy.
- *Industry Scope.* The range of related industries in which the firm competes with a coordinated strategy.

Broad scope can allow a firm to exploit the benefits of performing more activities internally. It may also allow the firm to exploit interrelationships between the value chains that serve different segments, geographic areas or related industries.⁹ For example, a shared sales force may sell the products of two business units, or a common brand name may be employed worldwide. Sharing and integration have costs, however, that may nullify their benefits.

Narrow scope can allow the tailoring of the chain to serve a particular target segment, geographic area or industry to achieve lower cost or to serve the target in a unique way. Narrow scope in integration may also improve competitive advantage through the firm's purchasing activities that independent firms perform better or cheaper. The competitive advantage of a narrow scope rests on *differences* among product varieties, buyers, or geographic regions within an industry in terms of the value chain best suited to serve them, or on differences in resources and skills of independent firms that allow them to perform activities better.

The breadth or narrowness of scope is clearly relative to competitors. In some industries, a broad scope involves only serving the full range of product and buyer segments within the industry. In others, it may require both vertical integration and competing in related industries. Since there are many ways to segment an industry and multiple forms of interrelationships and integration, broad and narrow scope can be combined. A firm may create competitive advantage by tuning its value chain to one product segment and exploiting geographic interrelationships by serving that segment worldwide. It may also exploit interrelationships with business units in related industries. I will discuss these possibilities in more detail in Chapter 15.

Segment Scope

Differences in the needs or value chains required to serve different product or buyer segments can lead to a competitive advantage of

⁹Interrelationships among value chains serving different segments, geographic areas and related industries are analytically the same. See Chapters 7 and 9.

focusing. For example, the value chain required to serve sophisticated minicomputer buyers with in-house servicing capabilities is different from that required to serve small business users. They need extensive sales assistance, less demanding hardware performance, user-friendly software, and service capability.

Just as differences among segments favor narrow scope, however, interrelationships between the value chains serving different segments favor broad scope. General Motors' value chain for large cars is different from that for small cars, for example, but many value activities are shared. This creates a tension between tailoring the value chain to a segment and sharing it among segments. This tension is fundamental to industry segmentation and to the choice of focus strategies, the subject of Chapter 7.

Vertical Scope

Vertical integration defines the division of activities between a firm and its suppliers, channels, and buyers. A firm may purchase components rather than fabricate them itself, for example, or contract for service rather than maintain a service organization. Similarly, channels may perform many distribution, service, and marketing functions instead of a firm. A firm and its buyers can also divide activities in differing ways. One way a firm may be able to differentiate itself is by assuming a greater number of buyer activities. In the extreme case, a firm completely enters the buyer's industry.

When one views the issue of integration from the perspective of the value chain, it becomes apparent that opportunities for integration are richer than is often recognized. Vertical integration tends to be viewed in terms of physical products and replacing whole supplier relationships rather than in terms of activities, but it can encompass both. For example, a firm may rely on a supplier's applications engineering and service capability, or it may perform these activities internally. Thus there are many options regarding what value activities a firm performs internally and what value activities it purchases. The same principles apply to channel and buyer integration.

Whether or not integration (or de-integration) lowers cost or enhances differentiation depends on the firm and the activity involved. I have discussed the factors that bear on this question in *Competitive Strategy*. The value chain allows a firm to identify more clearly the potential benefits of integration by highlighting the role of vertical

linkages. The exploitation of vertical linkages does not require vertical integration, but integration may sometimes allow the benefits of vertical linkages to be achieved more easily.

Geographic Scope

Geographic scope may allow a firm to share or coordinate value activities used to serve different geographic areas. Canon develops and manufactures copiers primarily in Japan, for example, but sells and services them separately in many countries. Canon gains a cost advantage from sharing technology development and manufacturing instead of performing these activities in each country. Interrelationships are also common among partially distinct value chains serving geographic regions in a single country. For example, food service distributors such as Monarch and SISCO have many largely distinct operating units in major metropolitan areas that share firm infrastructure, procurement, and other support value activities.

Geographic interrelationships can enhance competitive advantage if sharing or coordinating value activities lowers cost or enhances differentiation. There may be costs of coordination as well as differences among regions or countries that reduce the advantage of sharing, however. The sources of competitive advantage from a global strategy and the impediments to employing one are discussed in *Competitive Strategy* and elsewhere.¹⁰ The same principles apply to national or regional coordination of value chains.

Industry Scope

Potential interrelationships among the value chains required to compete in related industries are widespread. They can involve any value activity, including both primary (e.g., a shared service organization) and support activities (e.g., joint technology development or shared procurement of common inputs). Interrelationships among business units are similar in concept to geographic interrelationships among value chains.

Interrelationships among business units can have a powerful influence on competitive advantage, either by lowering cost or enhancing

¹⁰See Porter (1985).

differentiation. A shared logistical system may allow a firm to reap economies of scale, for example, while a shared sales force offering related products can improve the salesperson's effectiveness with the buyer and thereby enhance differentiation. All interrelationships do not lead to competitive advantage. Not all activities benefit from sharing. There are also always costs of sharing activities that must be offset against the benefits, because the needs of different business units may not be the same with respect to a value activity. I will describe interrelationships among business units and their implications for both corporate and business unit strategy in Chapters 9–11.

Coalitions and Scope

A firm can pursue the benefits of a broader scope internally, or enter into *coalitions* with independent firms to achieve some or all of the same benefits. Coalitions are long-term agreements among firms that go beyond normal market transactions but fall short of outright mergers. Examples of coalitions include technology licenses, supply agreements, marketing agreements, and joint ventures. Coalitions are ways of broadening scope without broadening the firm, by contracting with an independent firm to perform value activities (e.g., a supply agreement) or teaming up with an independent firm to share activities (e.g., a marketing joint venture). Thus there are two basic types of coalition—vertical coalitions and horizontal coalitions.

Coalitions can allow sharing of activities without the need to enter new industry segments, geographic areas, or related industries. Coalitions are also a means of gaining the cost or differentiation advantages of vertical linkages without actual integration, but overcoming the difficulties of coordination among purely independent firms. Because coalitions involve long-term relationships, it should be possible to coordinate more closely with a coalition partner than with an independent firm, though not without some cost. Difficulties in reaching coalition agreements and in ongoing coordination among partners may block coalitions or nullify their benefits.

Coalition partners remain independent firms and there is the question of how the benefits of a coalition are to be divided. The relative bargaining power of each coalition partner is thus central to how the gains are shared, and determines impact of the coalition on a firm's competitive advantage. A strong coalition partner may appropriate all the gains of a shared marketing organization through the terms

of the agreement, for example. The role of coalitions in competitive advantage is discussed in my book on global strategy, because they are particularly prevalent in international competition.¹¹

Competitive Scope and Business Definition

The relationship between competitive scope and the value chain provides the basis for defining relevant business unit boundaries. Strategically distinct business units are isolated by weighing the benefits of integration and de-integration and by comparing the strength of interrelationships in serving related segments, geographic areas, or industries to the differences in the value chains best suited for serving them separately. If differences in geographic areas or product and buyer segments require very distinct value chains, then segments define business units. Conversely, strong and widespread benefits of integration or geographic or industry interrelationships widen the relevant boundaries of business units. Strong advantages to vertical integration widen the boundaries of a business unit to encompass upstream or downstream activities, while weak advantages to integration imply that each stage is a distinct business unit. Similarly, strong advantages to worldwide coordination of the value chains imply that the relevant business unit is global, while strong country or regional differences necessitating largely distinct chains imply narrower geographic business unit boundaries. Finally, strong interrelationships between one business unit and another may imply that they should merge into one. Appropriate business units can be defined, then, by understanding the optimal value chain for competing in different arenas and how the chains are related. I will return to this issue after the principles of industry segmentation have been discussed in Chapter 7.

The Value Chain and Industry Structure

Industry structure both shapes the value chain of a firm and is a reflection of the collective value chains of competitors. Structure determines the bargaining relationships with buyers and suppliers that is reflected in both the configuration of a firm's value chain and how margins are divided with buyers, suppliers, and coalition partners. The threat of substitution to an industry influences the value activities

¹¹Porter, op. cit. See also Porter, Fuller, and Rawlinson (1984).

desired by buyers. Entry barriers bear on the sustainability of various value chain configurations.¹²

The array of competitor value chains is, in turn, the basis for many elements of industry structure. Scale economies and proprietary learning, for example, stem from the technology employed in competitors' value chains. Capital requirements for competing in an industry are the result of the collective capital required in the chain. Similarly, industry product differentiation stems from the way firms' products are used in buyers' value chains. Thus many elements of industry structure can be diagnosed by analyzing the value chains of competitors in an industry.

The Value Chain and Organizational Structure

The value chain is a basic tool for diagnosing competitive advantage and finding ways to create and sustain it, the subject that will dominate the chapters that follow. However, the value chain can also play a valuable role in designing organizational structure. Organizational structure groups certain activities together under organizational units such as marketing or production. The logic of those groupings is that activities have similarities that should be exploited by putting them together in a department; at the same time, departments are separated from other groups of activities because of their differences. This separation of like activities is what organizational theorists call "differentiation." With separation of organizational units comes the need to coordinate them, usually termed "integration." Thus integrating mechanisms must be established in a firm to ensure that the required coordination takes place. Organizational structure balances the benefits of separation and integration.¹²

The value chain provides a systematic way to divide a firm into its discrete activities, and thus can be used to examine how the activities in a firm are and could be grouped. Figure 2-5 shows a value chain with a typical organizational structure superimposed. Organizational boundaries are often not drawn around the groups of activities that are most similar in economic terms. Moreover, organizational units such as the purchasing and R&D departments frequently contain only a fraction of the similar activities being performed in a firm.

The need for integration among organizational units is a manifes-

¹²For the seminal work see Lawrence and Lorsch (1967).

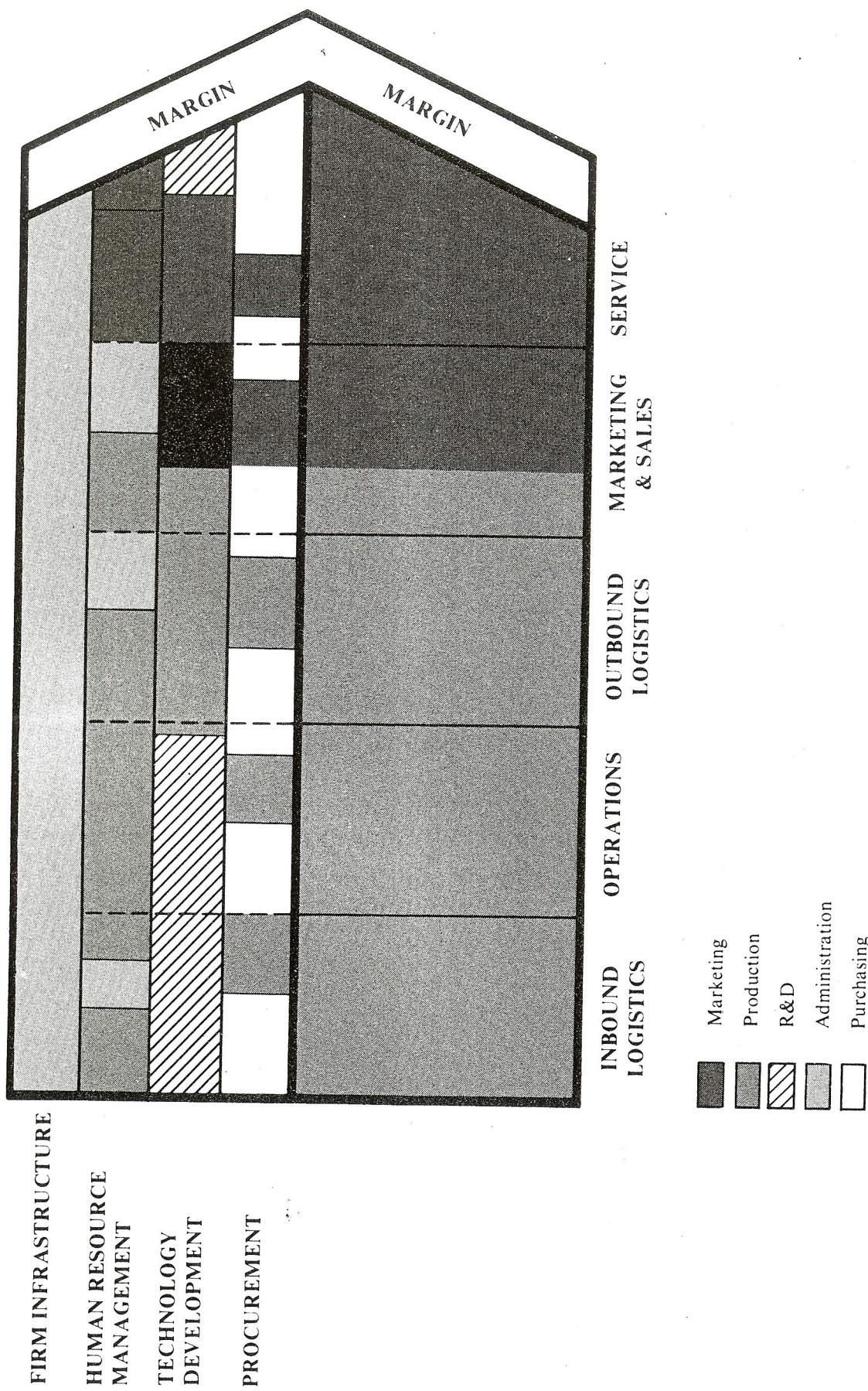


Figure 2-5. Organizational Structure and the Value Chain

tation of linkages. There are often many linkages within the value chain, and organizational structure often fails to provide mechanisms to coordinate or optimize them. The information necessary for coordinating or optimizing linkages is also rarely collected throughout the chain. Managers of support activities such as human resource management and technology development often do not have a clear view of how they relate to the firm's overall competitive position, something the value chain highlights. Finally, vertical linkages are often not well provided for in organizational structure.

A firm may be able to draw unit boundaries more in tune with its sources of competitive advantage and provide for the appropriate types of coordination by relating its organizational structure to the value chain, and the linkages within it and with suppliers or channels. An organizational structure that corresponds to the value chain will improve a firm's ability to create and sustain competitive advantage. While this subject cannot be treated in detail here, it remains an important issue in the implementation of strategy.