

very different company cultures; high management turnover in the acquired company when the acquisition is a hostile one; and a tendency of managers to overestimate the potential benefits from a merger or acquisition and underestimate the problems involved in merging their operations.¹⁶

When a company uses horizontal integration to become a dominant industry competitor in the United States, it may come into conflict with the Federal Trade Commission (FTC) or the Department of Justice (DOJ), two government agencies that help to enforce antitrust laws. Antitrust authorities are concerned about the potential for abuse of market power; more competition is generally better for consumers than less competition. Antitrust authorities are likely to intervene when a few companies within one industry try to make acquisitions that will allow them to raise consumer prices above the level that would exist in a more competitive situation, and thus abuse their market power. The FTC and DOJ try to prevent dominant companies from using their market power to crush potential competitors; for example, by cutting prices when a new competitor enters the industry and forcing the competitor out of business, then raising prices after the threatening company has been eliminated.

Because of these concerns, any merger or acquisition the FTC perceives as creating too much consolidation, and the *potential* for future abuse of market power, may, for antitrust reasons, be blocked. The proposed merger between the two dominant satellite radio companies Sirius and XM was blocked for months until it became clear that customers had many other options to obtain high-quality radio programming—for example, through their computers and cell phones—so substantial competition would still exist in the industry. Similarly, as discussed in the Closing Case, in 2015 the DOJ signaled its intention to block the Comcast/Time Warner merger, leading the firms to abandon the deal.

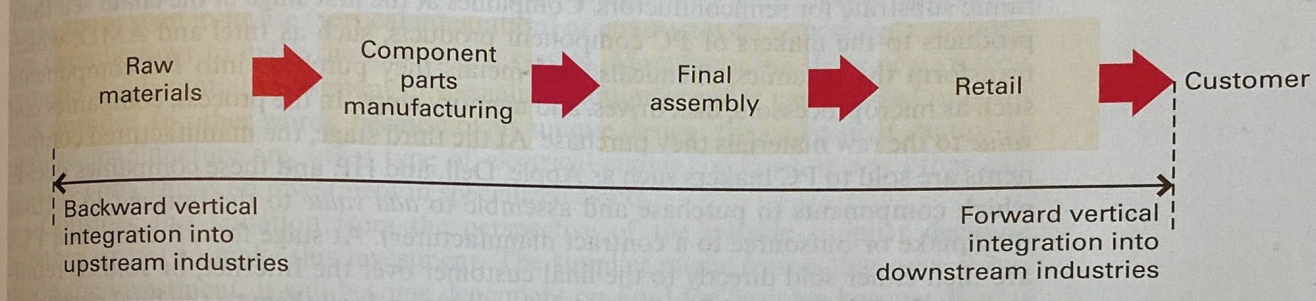
9-4 VERTICAL INTEGRATION: ENTERING NEW INDUSTRIES TO STRENGTHEN THE “CORE” BUSINESS MODEL

vertical integration

When a company expands its operations either backward into an industry that produces inputs for the company's products (backward vertical integration) or forward into an industry that uses, distributes, or sells the company's products (forward vertical integration).

Many companies that use horizontal integration to strengthen their business model and improve their competitive position also use the corporate-level strategy of vertical integration for the same purpose. When pursuing vertical integration, however, a company is entering new industries to support the business model of its “core” industry, that is, the industry which is the primary source of its competitive advantage and profitability. At this point, therefore, a company must formulate a multibusiness model that explains how entry into a new industry using vertical integration will enhance its long-term profitability. The model that justifies the pursuit of vertical integration is based on a company entering industries that *add value* to its core products because this increases product differentiation and/or lowers its cost structure, thus increasing its profitability.

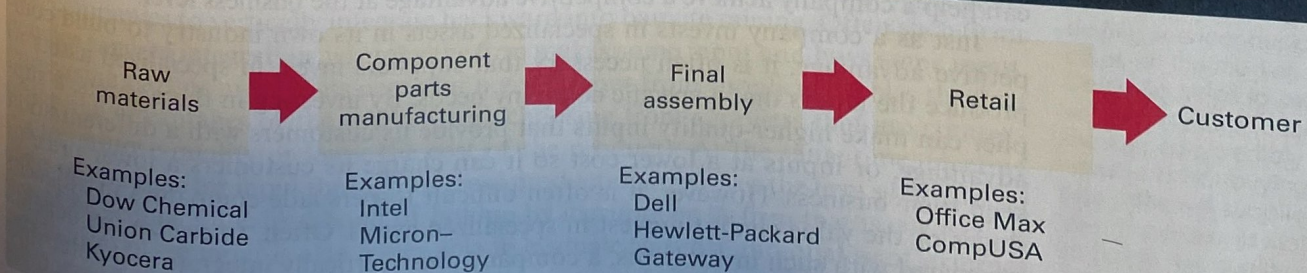
A company pursuing a strategy of **vertical integration** expands its operations either backward into an industry that produces inputs for the company's products (**backward vertical integration**), or forward into an industry that uses, distributes, or sells the company's products (**forward vertical integration**). To enter an industry, it may establish its

Figure 9.1 Stages in the Raw-Materials-to-Customer Value-Added Chain

own operations and build the value chain needed to compete effectively, or it may acquire a company that is already in the industry. A steel company that supplies its iron ore needs from company-owned iron ore mines illustrates backward integration. An auto manufacturer that operates its own dealerships illustrates forward integration. For example, Tesla sells its cars primarily through its own network of retail outlets, often located in high-traffic locations such as shopping malls. IBM is a highly vertically integrated company; it integrated backward into the chip and memory disk industry to produce the components that work inside its mainframes and servers, and integrated forward into the computer software and consulting services industries.

Figure 9.1 illustrates four *main* stages in a typical raw-materials-to-customer value-added chain. For a company based in the final assembly stage, backward integration means moving into component parts manufacturing and raw materials production. Forward integration means moving into distribution and sales (retail). At each stage in the chain *value is added* to the product, transforming it in such a way that it is worth more to the company at the next stage in the chain and, ultimately, to the customer. It is important to note that each stage of the value-added chain involves a separate industry, or industries, in which many different companies compete. Moreover, within each industry, each company has a value chain composed of the value creation activities we discussed in Chapter 3: R&D, production, marketing, customer service, and so on. In other words, we can think of a value chain that runs *across* industries, and embedded within that are the value chains of companies *within* each industry.

As an example of the value-added concept, consider how companies in each industry involved in the production of a PC contribute to the final product (Figure 9.2).

Figure 9.2 The Raw-Materials-to-Customer Value-Added Chain in the PC Industry

The first stage in the chain includes raw-materials companies that make specialty ceramics, chemicals, and metal, such as Kyocera of Japan, which manufactures the ceramic substrate for semiconductors. Companies at the first stage in the chain sell their products to the makers of PC component products, such as Intel and AMD, which transform the ceramics, chemicals, and metals they purchase into PC components such as microprocessors, disk drives, and memory chips. In the process, companies *add value* to the raw materials they purchase. At the third stage, the manufactured components are sold to PC makers such as Apple, Dell, and HP, and these companies decide which components to purchase and assemble to *add value* to the finished PCs (that they make or outsource to a contract manufacturer). At stage four, the finished PCs are then either sold directly to the final customer over the Internet, or sold to retailers such as Best Buy and Staples, which distribute and sell them to the final customer. Companies that distribute and sell PCs also *add value* to the product because they make the product accessible to customers and provide customer service and support.

Thus, companies in different industries add value at each stage in the raw-materials-to-customer chain. Viewed in this way, vertical integration presents companies with a choice about within which industries in the raw-materials-to-customer chain to operate and compete. This choice is determined by the degree to which establishing operations at a given stage in the value chain will increase product differentiation or lower costs—and therefore increase profitability—as we discuss in the following section.

9-4a Increasing Profitability Through Vertical Integration

As noted earlier, a company pursues vertical integration to strengthen the business model of its original or core business and improve its competitive position.¹⁷ Vertical integration increases product differentiation, lowers costs, or reduces industry competition when it (1) facilitates investments in efficiency-enhancing, specialized assets, (2) protects product quality, and (3) results in improved scheduling.

Facilitating Investments in Specialized Assets A specialized asset is one designed to perform a specific task, and the value of which is significantly reduced in its next-best use.¹⁸ The asset may be a piece of equipment that has a firm-specific use or the knowhow or skills that a company or employees have acquired through training and experience. Companies invest in specialized assets because these assets allow them to lower their cost structure or to better differentiate their products, which facilitates premium pricing. A company might invest in specialized equipment to lower manufacturing costs, as Toyota does, for example; or it might invest in an advanced technology that allows it to develop better-quality products than its rivals, as Apple does. Thus, specialized assets can help a company achieve a competitive advantage at the business level.

Just as a company invests in specialized assets in its own industry to build competitive advantage, it is often necessary that suppliers invest in specialized assets to produce the inputs that a specific company needs. By investing in these assets, a supplier can make higher-quality inputs that provide its customers with a differentiation advantage, or inputs at a lower cost so it can charge its customers a lower price to keep their business. However, it is often difficult to persuade companies in adjacent stages of the value chain to invest in specialized assets. Often, to realize the benefits associated with such investments, a company must vertically integrate and enter into adjacent industries and invest its own resources. Why does this happen?

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Imagine that Ford has developed a unique, energy-saving, electrical engine system that will dramatically increase fuel efficiency and differentiate Ford's cars from those of its rivals, giving it a major competitive advantage. Ford must decide whether to make the system in-house (vertical integration) or contract with a specialist outsourcing manufacturer to make the new engine system. Manufacturing these new systems requires a substantial investment in specialized equipment that can be used only for this purpose. In other words, because of its unique design, the equipment cannot be used to manufacture any other type of electrical engine for Ford or any other carmaker. Thus, this is an investment in specialized assets.

Consider this situation from the perspective of the outside supplier deciding whether or not to make this investment. The supplier might reason that once it has made the investment, it will become dependent on Ford for business because *Ford is the only possible customer for the electrical engine made by this specialized equipment*. The supplier realizes that this puts Ford in a strong bargaining position, and that Ford might use its buying power to demand lower prices for the engines. Given the risks involved, the supplier declines to make the investment in specialized equipment.

Now consider Ford's position. Ford might reason that if it outsources production of these systems to an outside supplier, it might become too dependent on that supplier for a vital input. Because specialized equipment is required to produce the engine systems, Ford cannot switch its order to other suppliers. Ford realizes that this increases the bargaining power of the supplier, which then might demand higher prices.

The situation of *mutual dependence* that would be created by the investment in specialized assets makes Ford hesitant to allow outside suppliers to make the product and makes suppliers hesitant to undertake such a risky investment. The problem is a lack of trust—neither Ford nor the supplier can trust the other to operate fairly in this situation. The lack of trust arises from the risk of **holdup**—that is, being taken advantage of by a trading partner *after* the investment in specialized assets has been made.¹⁹ Because of this risk, Ford reasons that the only cost-effective way to get the new engine systems is to invest in specialized assets and manufacture the engine in-house.

To generalize from this example, if achieving a competitive advantage requires one company to make investments in specialized assets so it can trade with another, *the risk of holdup* may serve as a deterrent, and the investment may not take place. Consequently, the potential for higher profitability from specialization will be lost. To prevent such loss, companies vertically integrate into adjacent stages in the value chain. Historically, the problems surrounding specific assets have driven automobile companies to vertically integrate backward into the production of component parts, steel companies to vertically integrate backward into the production of iron, computer companies to vertically integrate backward into chip production, and aluminum companies to vertically integrate backward into bauxite mining. Often such firms practice **tapered integration**, whereby the firm makes some input and buys some input. Purchasing part or most of its needs for a given input from suppliers enables the firm to tap the advantages of the market (e.g., choosing from suppliers that are competing to improve quality or lower the cost of the product). At the same time, meeting some of its needs for input through internal production improves the firm's bargaining power by reducing the likelihood of holdup by its supplier. A firm that is engaged in production of an input is also better able to evaluate the cost and quality of external suppliers of that input.²⁰

holdup

When a company is taken advantage of by another company it does business with after it has made an investment in expensive specialized assets to better meet the needs of the other company.

tapered integration

When a firm uses a mix of vertical integration and market transactions for a given input. For example, a firm might operate limited semiconductor manufacturing while also buying semiconductor chips on the market. Doing so helps to prevent supplier holdup (because the firm can credibly commit to not buying from external suppliers) and increases its ability to judge the quality and cost of purchased supplies.

Enhancing Product Quality By entering industries at other stages of the value-added chain, a company can often enhance the quality of the products in its core business and strengthen its differentiation advantage. For example, the ability to control the reliability and performance of complex components such as engine and transmission systems may increase a company's competitive advantage in the luxury-sedan market and enable it to charge a premium price. Conditions in the banana industry also illustrate the importance of vertical integration in maintaining product quality. Historically, a problem facing food companies that import bananas has been the variable quality of delivered bananas, which often arrive on the shelves of U.S. supermarkets too ripe or not ripe enough. To correct this problem, major U.S. food companies such as Del Monte have integrated backward and now own banana plantations, putting them in control of the banana supply. As a result, they can distribute and sell bananas of a standard quality at the optimal time to better satisfy customers. Knowing they can rely on the quality of these brands, customers are willing to pay more for them. Thus, by vertically integrating backward into plantation ownership, banana companies have built customer confidence, which has in turn enabled them to charge a premium price for their product.

The same considerations can promote forward vertical integration. Ownership of retail outlets may be necessary if the required standards of after-sales service for complex products are to be maintained. For example, in the 1920s, Kodak owned the retail outlets that distributed its photographic equipment because the company felt that few existing retail outlets had the skills necessary to sell and service its complex equipment. By the 1930s, new retailers had emerged that could provide satisfactory distribution and service for Kodak products, so it left the retail industry.

McDonald's has also used vertical integration to protect product quality and increase efficiency. In the 1990s, McDonald's faced a problem: After decades of rapid growth, the fast-food market was beginning to show signs of saturation. McDonald's responded to the slowdown by rapidly expanding abroad. In 1980, 28% of the chain's new restaurant openings were abroad; in 1990, it was 60%, and by 2000, 70%. In 2014, McDonald's had 14,350 restaurants in the United States, and 21,908 restaurants in 110 countries outside the United States.²¹ Replication of its value creation skills was the key to successful global expansion and spurred the growth of McDonald's in the countries and regions in which it operates. McDonald's U.S. success was built on a formula of close relations with suppliers, nationwide marketing might, and tight control over store-level operating procedures.

The biggest problem McDonald's has faced is replicating its U.S. supply chain in other countries; its domestic suppliers are fiercely loyal to the company because their fortunes are closely linked to its success. McDonald's maintains very rigorous specifications for all the raw ingredients it uses—the key to its consistency and quality control. Outside of the United States, however, McDonald's has found suppliers far less willing to make the investments required to meet its specifications. In Great Britain, for example, McDonald's had problems getting local bakeries to produce the ham-burger bun. After experiencing quality problems with two local bakeries, McDonald's had to vertically integrate backward and build its own bakeries to supply its British stores. When McDonald's decided to operate in Russia, it found that local suppliers lacked the capability to produce ingredients of the quality it demanded. It was then forced to vertically integrate through the local food industry on an epic scale, importing potato seeds and bull semen and indirectly managing dairy farms, cattle ranches,

and vegetable plots. It also needed to construct the world's largest food-processing plant, at great cost. In South America, McDonald's purchased huge ranches in Argentina upon which it could raise its own cattle. In short, vertical integration has allowed McDonald's to protect product quality and reduce its global cost structure.²²

Improved Scheduling Sometimes important strategic advantages can be obtained when vertical integration makes it quicker, easier, and more cost-effective to plan, coordinate, and schedule the transfer of a product such as raw materials or component parts between adjacent stages of the value-added chain.²³ Such advantages can be crucial when a company wants to realize the benefits of just-in-time (JIT) inventory systems. For example, in the 1920s, Ford profited from the tight coordination and scheduling that backward vertical integration made possible. Ford integrated backward into steel foundries, iron ore shipping, and iron ore production—it owned mines in Upper Michigan. Deliveries at Ford were coordinated to such an extent that iron ore unloaded at Ford's steel foundries on the Great Lakes was turned into engine blocks within 24 hours, which lowered Ford's cost structure.

9-4b Problems with Vertical Integration

Vertical integration can often be used to strengthen a company's business model and increase profitability. However, the opposite can occur when vertical integration results in (1) an increasing cost structure, (2) disadvantages that arise when technology is changing fast, (3) disadvantages that arise when demand is unpredictable, and (4) mismatches in optimal scale. Sometimes these disadvantages are so great that vertical integration, rather than increasing profitability, may actually reduce it—in which case a company engages in **vertical disintegration** and exits industries adjacent to its core industry in the industry value chain. For example, Ford, which was highly vertically integrated, sold all its companies involved in mining iron ore and making steel when more efficient and specialized steel producers emerged that were able to supply lower-priced steel.

Increasing Cost Structure Although vertical integration is often undertaken to lower a company's cost structure, it can raise costs if, over time, a company makes mistakes such as continuing to purchase inputs from company-owned suppliers when low-cost independent suppliers that can supply the same inputs exist. For decades, for example, GM's company-owned suppliers made more than 60% of the component parts for its vehicles; this figure was far higher than that for any other major carmaker, which is why GM became such a high-cost carmaker. In the 2000s, it vertically disintegrated by selling off many of its largest component operations, such as Delphi, its electrical components supplier. Thus, vertical integration can be a major disadvantage when company-owned suppliers develop a higher cost structure than those of independent suppliers. Why would a company-owned supplier develop such a high cost structure?

In this example, company-owned or in-house suppliers of their company—they have ways sell their components to the car-making divisions of their company—they have a "captive customer." Because company-owned suppliers do not have to compete with independent, outside suppliers for orders, they have much less *incentive* to look for new ways to reduce operating costs or increase component quality. Indeed, in-house suppliers simply pass on cost increases to the car-making divisions in the

vertical disintegration

When a company decides to exit industries, either forward or backward in the industry value chain, to its core industry to increase profitability.

transfer pricing

The price that one division of a company charges another division for its products, which are the inputs the other division requires to manufacture its own products.

form of higher **transfer prices**, the prices one division of a company charges other divisions for its products. Unlike independent suppliers, which constantly need to increase their efficiency to protect their competitive advantage, in-house suppliers face no such competition and the resulting rising cost structure reduces a company's profitability.

The term *bureaucratic costs* refers to the costs of solving the transaction difficulties that arise from managerial inefficiencies and the need to manage the handoffs or exchanges between business units to promote increased differentiation, or to lower a company's cost structure. Bureaucratic costs become a significant component of a company's cost structure because considerable managerial time and effort must be spent to reduce or eliminate managerial inefficiencies such as those that result when company-owned suppliers lose their incentive to increase efficiency or innovation.

Technological Change When technology is changing fast, vertical integration may lock a company into an old, inefficient technology and prevent it from changing to a new one that would strengthen its business model.²⁴ Consider Sony, which had integrated backward to become the leading manufacturer of now-outdated cathode ray tubes (CRTs) used in TVs and computer monitors. Because Sony was locked into the outdated CRT technology, it was slow to recognize that the future was in liquid crystal display (LCD) flat screens and it did not exit the CRT business. Sony's resistance to change in technology forced it to enter into a strategic alliance with Samsung to supply the LCD screens that are used in its BRAVIA TVs. As a result, Sony lost its competitive advantage and experienced a major loss in TV market share. Thus, vertical integration can pose a serious disadvantage when it prevents a company from adopting new technology, or changing its suppliers or distribution systems to match the requirements of changing technology.

Demand Unpredictability Suppose the demand for a company's core product, such as cars or washing machines, is predictable, and the company knows how many units it needs to make each month or year. Under these conditions, vertical integration allows a company to schedule and coordinate efficiently the flow of products along the industry value-added chain, which may result in major cost savings. However, suppose the demand for cars or washing machines wildly fluctuates and is unpredictable. If demand for cars suddenly plummets, the carmaker may find itself burdened with warehouses full of component parts it no longer needs, which is a major drain on profitability—something that has hurt major carmakers during the recent recession. Thus, vertical integration can be risky when demand is unpredictable because it is hard to manage the volume or flow of products along the value-added chain.

For example, a PC maker might vertically integrate backward to acquire a supplier of memory chips so that it can make exactly the number of chips it needs each month. However, if demand for PCs falls because of the popularity of mobile computing devices, the PC maker finds itself locked into a business that is now inefficient because it is not producing at full capacity, and therefore its cost structure starts to rise. In general, high-speed environmental change (e.g., technological change, changing customer demands, and major shifts in institutional norms or competitive dynamics) provides a disincentive for integration, as the firm's asset investments are at greater risk of rapid obsolescence.²⁵ It is clear that strategic managers must carefully assess the advantages and disadvantages of expanding the boundaries of their company by entering adjacent industries, either backward (upstream) or forward (downstream), in the industry

value-added chain. In a crucial component in economic sense today, that compete for vertical integration and vertically disintegrated.

Mismatches in Vertical Integration Vertical integration might in some cases be reasonably useful. Lime, which operates scooters in local markets, use an application. The battery on many hours to independent contractors in locations depending the day, often quickly than the transition of the day. a fast-charging service while a backward vertical integration because (i.e., the size of A minimum, more scooters longer-range. Instead, Lime

9-5

Is it possible vertical integration strategy? In use to obtain perform upstream can realize long-term cost chain, also including the experience supply or purchase

value-added chain. Moreover, although the decision to enter a new industry to make crucial component parts may have been profitable in the past, it may make no economic sense today because so many low-cost, global, component parts suppliers exist that compete for the company's business. The risks and returns on investing in vertical integration must be continually evaluated, and companies should be as willing to vertically disintegrate as to vertically integrate to strengthen their core business model.

Mismatches in Optimal Scale Even in situations where it appears that vertical integration might improve product quality or provide other benefits, it can be inefficient to vertically integrate if the new business has a higher minimum efficient scale than could be reasonably utilized by the current business. Consider, for example, a company like Lime, which operates a dockless electric scooter sharing service. Lime leaves electric scooters in locations where it believes customers want to use them, and customers use an application on their smartphone to unlock the scooter and pay for the rental. The battery on a typical Lime electric scooter has about a 25-mile range, and requires many hours to fully charge. Lime pays "juicers"—people who sign up to be independent contractors—to pick up the scooters, charge them overnight, and drop them off in locations designated by Lime. Because many people are riding Lime's scooters during the day, often for commuting purposes, their batteries are discharged much more quickly than the average consumer's scooter. Thus, many scooters spend a large portion of the day sitting idle because their batteries are dead. For Lime, a scooter with a fast-charging battery with a longer range would significantly enhance the value of service while also streamlining its operations. However, it is not feasible for Lime to backward vertically integrate into manufacturing scooters or batteries because production because both have very large fixed costs, and their minimum efficient scale (i.e., the size at which they could compete efficiently against competitors) is very large. A minimum, efficient, scale scooter manufacturing plant, for example, would produce more scooters than Lime needs, meaning that it would have to find other buyers of its longer-range scooters, which would likely include competing electric scooter services. Instead, Lime opts to buy scooters that are not optimized for its purposes.

9-5 ALTERNATIVES TO VERTICAL INTEGRATION: COOPERATIVE RELATIONSHIPS

Is it possible to obtain the differentiation and cost-savings advantages associated with vertical integration without having to bear the problems and costs associated with this strategy? In other words, is there another corporate-level strategy that managers can use to obtain the advantages of vertical integration while allowing other companies to perform upstream and downstream activities? Today, companies have found that they can realize many of the benefits associated with vertical integration by entering into *long-term cooperative relationships* with companies in industries along the value-added chain, also known as **quasi integration**. Such moves could include, for example, sharing the expenses of investment in production assets or inventory, or making long-term supply or purchase guarantees.

quasi integration

The use of long-term relationships, or investment in some activities normally performed by suppliers or buyers, in place of full ownership of operations that are backward or forward in the supply chain.