

In early 2000, Internet service provider AOL stunned the business community by acquiring entertainment giant Time Warner. AOL's president, Stephen Case, boasted of the synergies that the two companies would realize under a single corporate umbrella. A year later, AOL Time Warner sought to exploit these synergies by promoting a new girl band called Eden's Crush.¹ Warner Music produced their debut album, "Popstars," the WB network aired a program documenting the band's tryouts and rehearsals, and the band was heavily promoted by AOL. The album was not a success, however, with sales falling short of gold-record status (under 500,000 copies sold). In contrast, another teen group called O-Town debuted at about the same time as Eden's Crush but worked with several independent companies. They released their eponymous debut record on BMG, Disney broadcast the obligatory documentary, and they received heavy publicity from MTV. This seemingly fragmented strategy paid off—their debut album went platinum, with sales exceeding 1.5 million copies.

The production of any good or service, from pop recordings to cancer treatment, usually requires many activities. The process that begins with the acquisition of raw materials and ends with the distribution and sale of finished goods and services is known as the *vertical chain*. A central issue in business strategy is how to organize the vertical chain. Is it better to organize all of the activities in a single firm, as AOL attempted, or is it better to rely on independent firms in the market? There are many examples of successful vertically integrated firms, such as Mexican conglomerate Cemex, which produces cement for its own concrete. Other successful firms, such as Nike, are vertically "disintegrated": they outsource most of the tasks in the vertical chain to independent contractors. Former Hewlett-Packard CEO John Young described outsourcing by his firm as follows: "We used to bend all the sheet metal, mold every plastic part that went into our products. We don't do those things anymore, but somebody else is doing it for us."² The *vertical boundaries* of a firm define the activities that the firm itself performs as opposed to purchases from independent firms in the market. Chapters 3 and 4 examine a firm's choice of its vertical boundaries and how they affect the efficiency of production.

MAKE VERSUS BUY

A firm's decision to perform an activity itself or to purchase it from an independent firm is called a *make-or-buy* decision. “Make” means that the firm performs the activity itself; “buy” means it relies on an independent firm to perform the activity, perhaps under contract. A firm that acquires an input supplier is now “making” the input, because it is performing the activity in-house. Typical make-or-buy decisions for a manufacturer include whether to develop its own source of raw materials, provide its own shipping services, or operate its own retail web site. Some firms are highly integrated. Kimberly Clark's Scott Paper division owns forest land, mills timber, and produces consumer paper products. Italian fashion icon Benetton dyes fabrics, designs and assembles clothing, and operates retail stores. Other firms perform a narrow set of activities. Leo Burnett, which created Tony the Tiger, focuses on creating brand icons for consumer products companies. DHL distributes products to customers of many manufacturers and retailers. Korn/Ferry is a successful corporate “headhunting” firm. When other firms buy the services of these specialists, they can obtain a superior marketing program, secure rapid, low-cost distribution, and identify candidates for senior executive positions without having to perform any of these tasks themselves.

Make and buy are two extremes along a continuum of possibilities for vertical integration. Figure 3.1 fills in some of the intermediate choices. Close to “make,” integrated firms can spin off partly or wholly owned subsidiaries. Close to “buy,” market firms can enter into a long-term contract, tying their interests for several years. In between are joint ventures and strategic alliances, in which two or more firms establish an independent entity that relies on resources from both parents. To illustrate the key economic trade-offs associated with integration decisions, we will focus on the extreme choices of “make” and “buy.” As we will discuss in Chapter 4, intermediate solutions share many of the benefits and costs of both the make-and-buy extremes.

Upstream, Downstream

In general, goods in a production process “flow” along a vertical chain from raw materials and component parts to manufacturing, through distribution and retailing. Economists say that early steps in the vertical chain are *upstream* and later steps are *downstream*, much as lumber used to make wooden furniture flows from upstream timber forests to downstream mills. Thinking about these terms more generally,

FIGURE 3.1
MAKE-OR-BUY CONTINUUM

Arm's-length market transactions	Long-term contracts	Strategic alliances and joint ventures	Parent/subsidiary relationships	Perform activity internally
Less integrated		→ → →	More integrated	

Different ways of organizing production lie on a make/buy continuum.

EXAMPLE 3.1 LICENSING BIOTECHNOLOGY PRODUCTS

The biotechnology sector remains one of the bright stars of the global economy, providing investors with big returns and consumers with life-saving products. It may come as a surprise, but few biotechnology companies actually commercialize and market their products. Over two-thirds of biotechnology products that make it to the early stages of the regulatory approval process are marketed by traditional “big pharma” companies under licensing arrangements. This reflects a broader pattern of industry “disintegration.”

John Hagel III and Marc Singer argue that traditional pharmaceutical firms actually comprise three core businesses.³ These three core businesses consist of a product innovation business, an infrastructure business, and a customer relationship business. The infrastructure business builds and manages facilities for high-volume, repetitive operational tasks such as manufacturing and communications. The customer relationship business is responsible for finding customers and building relationships with them. These businesses remain the province of pharmaceutical firms, which have production and sales experience that start-up biotech research companies cannot hope to match. Hagel and Singer might have added a fourth core business—obtaining regulatory approval. This requires a working relationship with regulatory agencies such as the U.S. Food and Drug Administration and is also largely the province of big pharma, although a substantial percentage of the actual clinical trials have been outsourced to independent “contract research organizations.”

Big pharma no longer dominates the business of innovation. A few decades ago, large pharmaceutical firms used an uneconomical

trial-and-error process to screen new drug leads. However, the landmark sequencing of the human genome allows the genes themselves to become the new targets of disease research, resulting in more focused and economical approaches to drug discovery. Although technological breakthroughs like genomics may expedite the drug discovery process, they have also, paradoxically, increased its complexity. Smaller biotech companies are more adept in understanding and adapting to changes in technology than are larger pharmaceutical companies. Companies like Millennium Pharmaceuticals, Celera, Incyte Genomics, and Human Genome Sciences are examples of biotechnology companies that have thrived in the New World.

With biotech companies taking the lead in developing new drugs and big pharma shepherding these discoveries through regulatory approval, production, sales, and marketing, an interesting question is how biotech companies are matched to their big pharma partners. A recent study by economist Anna Levine provides some answers.⁴ Levine analyzed a sample of 149 biotech drugs approved for marketing in the United States since 1982. She finds that pharma firms are more likely to enter into a licensing arrangement for a biotech product if they already sell products in the same therapeutic category. This allows the pharma firm to exploit its expertise in the core business of sale, by taking advantage of relationships with physicians and scale economies in selling expense. Levine also finds that the terms of the licensing arrangement benefit the pharma company to the extent that the therapeutic category is fairly narrow, so that other potential licensees are unable to develop similar relationships and scale economies.

Cemex cement production is upstream to its concrete production, and cable sports channel ESPN, which assembles a package of sports entertainment programming, is downstream from the National Football League (a content “producer”) but upstream to Comcast and other cable companies (content “retailers”).

The specific steps required in a vertical chain do not usually depend on the extent of vertical integration. Making and selling wooden chairs begins with chopping down

trees and ends with a customer taking delivery of an order, regardless of the extent of vertical integration. In between, someone has to mill the timber, design the chair, assemble it, distribute it, and sell it. And someone will probably be involved in raising capital to support fixed investments while others handle accounting and marketing. Two identical chairs may well go through the same production steps, but the organization of the firms involved in production might be very different. One chair might be made by a fully integrated firm that performs every step in the vertical chain, while another seemingly identical chair might have passed through a series of independent firms, each of which was responsible for one or two specific steps. The make-or-buy decision is not about trying to eliminate steps from the vertical chain. Instead, it is about deciding which firms should perform which steps.

In order to understand the importance of the make-or-buy decision, it is helpful to think about competition between vertical chains. Consider that when consumers choose one of the two chairs discussed above, they are effectively giving their business to all of the firms involved in the vertical chain that made that chair—the timber mill, the designer, and so forth. Consumers will usually choose the finished good produced by the most efficient vertical chain. Thus, if vertical integration improves the efficiency of production of wooden chairs, then the fully integrated chair producer will prosper while the firms in the “independent” vertical chain will struggle. Conversely, if vertical integration is counterproductive, then the independent firms will prosper and the integrated firm will lose out. It follows that firms will want to be part of most successful vertical chains, and the success of the vertical chain requires the right make-or-buy decisions.

Defining Boundaries

Regardless of a firm’s position along the vertical chain, it needs to define its boundaries. To resolve the associated make-or-buy decisions, the firm must compare the benefits and costs of using the market as opposed to performing the activity in-house. Table 3.1 summarizes the key benefits and costs of using market firms. These are discussed in detail in the remainder of this chapter.

TABLE 3.1
BENEFITS AND COSTS OF USING THE MARKET

Benefits

- Market firms can achieve economies of scale that in-house departments producing only for their own needs cannot.
- Market firms are subject to the discipline of the market and must be efficient and innovative to survive. Overall corporate success may hide the inefficiencies and lack of innovativeness of in-house departments.

Costs

- Coordination of production flows through the vertical chain may be compromised when an activity is purchased from an independent market firm rather than performed in-house.
- Private information may be leaked when an activity is performed by an independent market firm.
- There may be costs of transacting with independent market firms that can be avoided by performing the activity in-house.