CHAPTER 11

BUSINESS STRATEGY AND ANTITRUST POLICY

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11.1. INTRODUCTION

Business strategy is fundamentally about firm decision-making. Antitrust policy and enforcement, in turn, evaluate the decisions made by firms and the market outcomes that result. To the extent that firms' decisions will be scrutinized ex post, managers must understand how antitrust concerns might constrain their actions and, thus, suggest alternative optimal decisions. Owing to this importance, most business strategy courses broach the subject of antitrust, and managers frequently confer with antitrust attorneys when making important strategic decisions.

Correspondingly, it is also useful for the antitrust community to understand how firms use the concepts and frameworks of business strategy to make the decisions that they will be evaluating. Business strategy maintains a holistic orientation, drawing on traditional functional areas such as operations, finance, accounting, and marketing to inform the firm's overarching direction. Through the effort of academics and management consultants, business strategy has grown in prominence and is pervasive at the top levels of most firms.

Over the past several decades, economics has emerged as the guiding discipline for businesses making strategic decisions. This immediately suggests a potential conflict between the goals of practitioners in strategy and antitrust. Economics-based strategy will inevitably aim towards the maximization of producer surplus, while antitrust policy and enforcement puts more emphasis on protecting consumer welfare. In this chapter, we will discuss circumstances in which conflicts may arise between these goals; however, we will also highlight situations in which firms can increase their profits without shifting consumer surplus to producer surplus. These represent potential opportunities

where firms can be successful—even to the point of enjoying market power—without being sanctioned by antitrust authorities.

Using economics as a framework for understanding business strategy requires that a firm (or any organization) start with a clearly articulated objective. This objective typically centers on maximizing shareholder wealth for public firms, though for private companies and nonprofit organizations modified objectives are common. The objective provides a structured rubric managers can use to evaluate alternative strategies and make judgments about the optimal approach. We often use profit-maximization as a shorthand description for maximizing shareholder wealth, reflecting the fact that the value of a public companies' shares is based on its current assets plus the future stream of profits expected to result from its activities.

Definitions of strategy generally emphasize "big picture" issues for a business and "long run" rather than "short run" decision-making. Distinguishing between strategy and "tactics" is useful here, with the latter being more the purview of operations than strategy. As Besanko and coauthors (2009) state in their leading textbook, "strategy is revealed in terms of consistent behavior, which in turn implies that strategy, once set, is not easy to reverse." This may hold relevance for antitrust insofar as individual behaviors such as predatory pricing may be thought of as tactics rather than strategy. Nonetheless, the overarching approach to decision-making that reflects a consistent business strategy may contain elements that put a firm at risk of scrutiny from antitrust authorities.

The role of economics in providing structure for understanding business strategy is neither universal nor uncontroversial. However, this discipline has influenced both theory and practice because economics requires precision regarding the inputs to its models and the identifying assumptions needed to make conclusions based on empirical evidence. In her article "Why Economics Has Been Fruitful for Strategy," Scott Morton (2003) notes that "economists have powerful tools: formal modeling, the assumption of maximizing behavior by agents, and the notion of equilibrium. Using these techniques produces crisp, testable conclusions." Managers benefit from the structure of formal economic modeling because the resulting insights suggest prescriptions that depend on the specific economic environment that firms face. However, economics rarely provides the "answer" in strategy—instead, it demonstrates the trade-offs associated with alternative strategies and can identify the conditions under which they will be more or less successful.

Business strategy is often analyzed from the perspective of three related audiences: practitioners who actually make the decisions (and the consultants who advise them), researchers who study management and organizational decision-making, and business school instructors who teach the concepts and frameworks of business strategy to students ranging from undergraduates and MBA candidates to participants in executive education programs. This chapter is largely organized around the last perspective, as it tends to act as a nexus by incorporating both academic research and real-world applications. Indeed, many practitioners have received training in business schools, increasing the relevance of what gets taught in the classroom.

With that in mind, this chapter is organized around three fundamental concepts taught in business strategy classes. The first is "Value Creation and Capture," which

establishes the connection between firms' activities and the notion of economic surplus. In so doing, consumers are brought into consideration explicitly, as consumers' willingness-to-pay represents a bound on the amount of economic surplus that a firm can create through its activities. A firm's interaction with its external environment determines how the total surplus it generates is divided between consumer surplus and producer surplus. Profit-maximizing firms will focus inevitably on the latter—otherwise termed value capture—in their decision-making. However, this construct makes it clear that a firm can generate more producer surplus either by increasing the share of total surplus captured (relative to consumers) or by increasing the total value created.

Two influential business strategy frameworks help students and practitioners understand the role of a firm's external environment in capturing value. Michael Porter's "Five Forces" framework for industry analysis provides a comprehensive checklist of economic factors that complicate the conversion of created value into captured value. To the extent that a business strategy is designed to mitigate such factors, this may present antitrust concerns. A second important framework emphasizes "added value," which represents the unique contribution that an individual firm can provide to generate surplus. Successful firms capture value as a consequence of scarcity in the added value framework, and this scarcity could result potentially from anticompetitive actions.

The second fundamental concept of business strategy is "competitive advantage," which focuses on a firm's ability to create and capture value better than current or future competitors. In that sense, competitive advantage concerns intraindustry heterogeneity in performance and has less to do with generating profitability through the concentration of market power. Competitive advantage is a firm-centered concept and, as such, has been influenced by the academic literature in management, particularly the so-called resource-based view of the firm. This topic also considers the sustainability of competitive advantage—how firms can maintain a superior position over time in the face of potential imitation.

Finally, business strategy covers the foundational issue of the "scope" of the firm. A firm's decisions regarding exactly what activities it will perform (and which ones it will not) are critical components of its overall strategy. Since firms can undertake mergers and acquisitions to alter the set of activities that they perform, a natural connection exists between this topic and antitrust. In the last section of this chapter, we will discuss motivations for firms' scope strategies using the Value Creation and Capture framework. This approach can help managers and policymakers identify which mergers will likely pose problems from an antitrust perspective.

11.2. Value Creation and Capture

By emphasizing an economics-based approach for business strategy, we evaluate the decisions that firms make in the context of optimizing behavior. Based on the goal of

enhancing shareholder wealth, that means profit maximization. Immediately, this provides a simple, straightforward metric for evaluating firm strategy—policies that improve profitability, Π, must either generate higher prices, P, reduce average costs, C, or increase quantity sold, Q.

A fundamental organizing structure for undertaking strategy is the Value Creation and Capture framework. This framework explicitly incorporates an economic treatment of consumers, whose behavior is of course critical to a firm's decision-making process. To insert consumers into the framework, we denote the maximum amount that a consumer is willing to pay for a product or service as B. From this, we define the following:

- "Value Created" is equal to $B-C$, and represents the total societal benefit that the firm generates with its product or service.
- "Consumer Surplus" is equal to $B-P$, and represents the share of value created that flows to consumers. Importantly, consumers will choose among alternatives by selecting the product with the highest consumer surplus.
- The remainder of the Value Created, $P-C$, flows to the firms as profits. We call this portion "Value Captured" or "Producer Surplus." It is the most relevant concept for formulating strategy, as producer surplus falls directly into the profit function:

$$\Pi = (P-C)*Q.$$

Necessarily, where P falls will be a crucial determinant of firm profitability, conceptualized in the Value Creation and Capture graph in figure 11.1.

The Value Creation and Capture framework suggests two generic approaches for enhancing profits. Profitability is equal to Value Created times the share of Value Created that a firm can capture. So, a firm can increase profits by creating more value—either through cost reductions or by making its product more attractive to consumers. As long as the share captured does not decrease, profits will be higher. In addition, firms can also focus on capturing a greater share of the value they create.

11.2.1. Enhancing Value Creation

The process and approach by which a firm achieves a particular combination of B and C represent a starting point for understanding its strategy. In his influential article "What Is Strategy?" Porter (1996) uses the term "operational effectiveness" to describe how efficiently firms translate C into B. Firms should strive to generate the largest B for a given level of C, or conversely, to achieve a particular level of B at the lowest cost possible. In effect, operational effectiveness is a necessary condition for profit maximization—if a

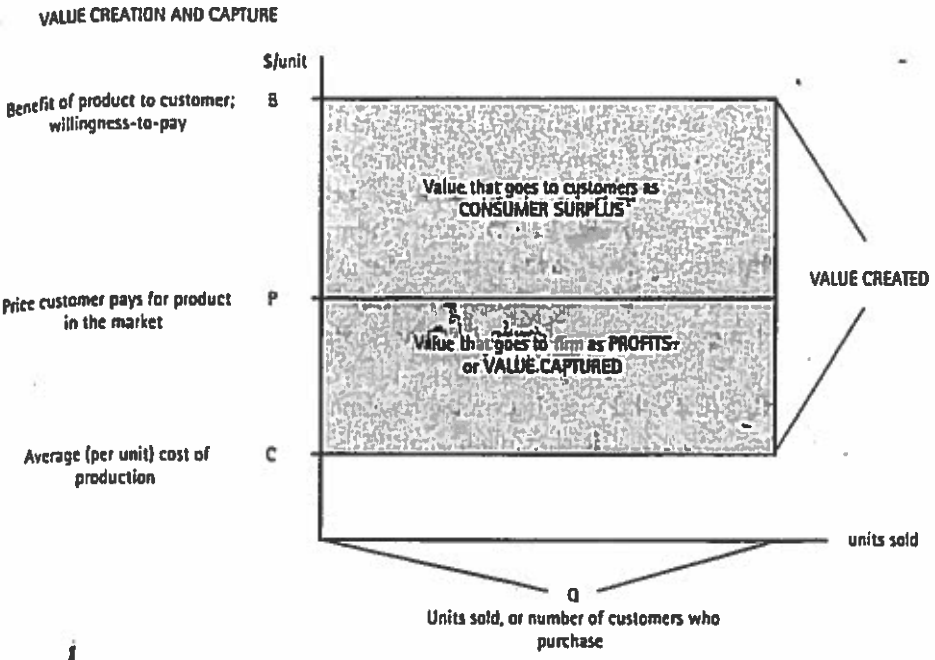

FIGURE 11.1 Graphical Illustration of the Value Creation and Capture Framework

firm could be more efficient, all else equal, it could provide the same B at a lower C, or a higher B at the same C. In either case, profits could be higher.

Generating profits through operational effectiveness, however, depends critically on what other firms in the market can achieve through their own efficiency. If multiple firms are equally efficient, they may engage in destructive price competition that drives down profits by shifting value created from producer surplus to consumer surplus. As a result, a firm must achieve operational effectiveness through a unique value creation proposition in order to generate robust profitability. If the firm's strategy is somehow unique, destructive price competition is much less likely.

Uniqueness can come through either doing a different set of activities than competitors, or doing the same set of activities in a different way (or both). Porter further argues that selecting a strategy that is both unique and operationally effective should be the goal of all firms. At the same time, firms must be wary that imitators will copy unique and operationally effective business strategies. In this context, a strategy will have a greater chance of resulting in continued profitability in the face of potential imitation if it includes the following:

- *Trade-offs.* A strategy that gains part of its operational effectiveness and/or uniqueness by explicitly *excluding* specific elements as a part of the strategy is said to exhibit trade-offs. Trade-offs are particularly effective to the extent that potential

imitators are already established in performing the activities that have been explicitly excluded by the profitable firm.

- *Complementarities.* A complementary exists between two elements of a firm's strategy (X and Y) if the return to doing activity X is higher if the firm also does activity Y (as compared to if it only did X), and vice versa. To the extent that a strategy has complementary elements, a potential competitor must imitate all of these elements to become an effective imitator. Importantly, achieving this becomes exponentially more difficult as the number of complementary elements in a firm's strategy increases. Porter refers to this concept as "strategic fit" and describes the set of complementary elements as an "activity system."

It is worth noting that value-creating strategies are much less likely to generate scrutiny from antitrust authorities. Rather, regulators are likely to be more concerned about the split of value created into consumer surplus and producer surplus. Industrial organization economics has a lot to say about the conditions under which consumer surplus will be squeezed to the benefit of firms. Earlier work by Michael Porter helped to bring these issues to the forefront of strategic thinking.

11.2.2. Shifts to Produce Surplus: Porter's Five Forces

The competitive conditions that influence the split between consumer and producer surplus are the focus of Michael Porter's influential "Five Forces" framework of industry analysis (Porter 1979). Using microeconomic insights, the framework provides a template that a firm can use to perform a comprehensive audit of all the factors that potentially could reduce the share of value created that firms in its industry can capture as profits. By tying industry profits to economic principles, the Five Forces moves beyond simple rubrics such as industry concentration to assess issues of direct concern to antitrust regulators, such as the competitive effects of mergers.

In order to ensure a comprehensive treatment, Porter divides the possible threats to value capture into five categories: industry rivals, potential entrants, substitute industries, buyers, and suppliers. For each of these categories, Porter provides a checklist of economic conditions that tend to strengthen the threat from that group. An analyst can then use this checklist to determine the sources of competitive threats and potentially design strategies around limiting their strength (and thereby increase profitability).

The Five Forces framework uses the industry as the unit of analysis; therefore, using the framework to understand a firm's strategic position requires a clear definition of the relevant industry and market. The tools of industry definition for strategy will be similar to those in antitrust, with particular focus on products and geography. However, while the precise details of market definitions are often critical for antitrust cases, the structure of the Five Forces framework renders the stakes relatively low for strategy. To the extent that analysts define the market narrowly, there will be less industry rivalry. But,

the analyst will still account for all the parties that affect the industry's profits in their consideration of substitute products.

Rivalry stands at the center of the Five Forces framework, and all the other forces point towards it. Most forms of rivalry result in price competition that reduces industry profits. The presence of several industry characteristics often coincides with intense industry rivalry or indicates that one of the market's participants might have a strong incentive to cut its prices, potentially initiating a price war. For instance, in a market characterized by high inventory costs, firms may cut prices to unload products nearing obsolescence. In a market with high fixed costs, firms may lower prices to increase quantity sold and reduce average costs. For undifferentiated products, firms often compete on price to distinguish themselves.

To counteract each of these industry characteristics, firms may pursue policies that run afoul of antitrust regulations. To avoid the destructive nature of obsolescence, firms may join trade organizations that set standards, however implicit, for product redesigns and innovation cycles. To combat the incentive to move down the average cost curve, firms may collude to set quotas. To instill a measure of differentiation, firms may divide up exclusive territories.

In Porter's framework, rivalry refers only to the firms operating in the same industry or market. The other forces describe the competitive strength of less-direct competitors, such as those that sell substitute products. When one of these other forces is strong, downward pressure on prices may also result. For example, in an industry that does not have intense rivalry, we might expect more firms to join the market and subsequently increase industry rivalry (Bresnahan and Reiss 1991). Firms may not suffer from this competitive threat if other firms cannot easily enter the market—that is, when barriers to entry exist. Using the Value Creation and Capture framework, a strategist would think of a barrier to entry as any factor that increases the costs of new firms in the market relative to established firms, or that increases a consumer's willingness-to-pay for an incumbent's products relative to new entrants'. Features such as economies of scale, product differentiation, switching costs, and access to distribution channels all affect a potential entrant's value creation upon joining a market and, consequently, its ability to compete with incumbents. Again, antitrust concerns may readily apply in situations where firms take actions to forestall entrants. For instance, Microsoft's decision to bundle Internet Explorer with Windows effectively reduced the relative value created by Netscape in the market for browsers.

In the event that an industry (1) does not have intense rivalry, (2) has meaningful barriers to entry, and (3) lacks compelling substitute products, two remaining forces still may dampen profits. First, if consumers (here, "buyers") are more powerful, they may be able to negotiate lower prices and capture a larger share of the value created. Some of the factors related to buyer power directly reflect the competitive conditions outlined under rivalry. For example, with more or undifferentiated rivals, it is easier for buyers to pit one industry rival against another for price negotiations. Other factors relate to the ability or motivation buyers have to negotiate more intensely with firms in the industry. A buyer, or group of buyers, is typically better able to negotiate lower prices if it purchases a large

volume of the seller's output, if it has full information about the deal's specifications and past transactions, or if it earns lower profits.[1] A company can improve its strategic position by serving customers that do not possess much negotiating power, a tactic known as buyer selection. Cartels represent a classic example of attempts to reduce buyer power that violate antitrust acts.

Analogous conditions will permit powerful suppliers to extract profitability from a given industry. If suppliers have power, they can force price increases (or quality reductions) onto firms in the industry, which increases their production costs. Supplier power is unique among the Five Forces insofar as the effect is on value created and not the share of value that is captured. Nonetheless, there may be regulatory concerns regarding strategies that aim to limit supplier power, as they transfer value created into one industry from another. Note that labor must be recognized as a supplier as well, and it may exert substantial power in many industries. Recently, Apple, Google, Intel, and others faced antitrust scrutiny for conspiring not to recruit each other's employees (Helft 2010).

11.2.3. Added Value

In a number of productive ways, strategists have incorporated the principles of game theory to bolster the Value Creation and Capture framework. A particularly prominent concept from this evolution is added value, which is defined as the total economic value created less the counterfactual value that would be created absent a given participant (Brandenburger and Nalebuff 1998). Added value is greater in circumstances where more value is created and in situations where an agent's contribution is scarce—that is, when no other participant can generate the same value. A participant's added value then bounds the amount of value that he can capture; intuitively, a player cannot take away more than he brings to the table.

This reasoning maps directly to the Five Forces, particularly buyer and supplier power, and the negotiating ability of firms to transfer surplus. Firm tactics aimed at increasing added value may straddle the line of antitrust regulations. For instance, restricting the number of licenses available for a given technology protects its scarcity value, but may draw the attention of regulators who may view it as anticompetitive.

Strategy frameworks that analyze competition using economic principles provide analysts with a more comprehensive picture of its industry's prospects for profitability. Furthermore, an effective competitive strategy does not just accept the industry assessment, but creates a defendable position against the Five Forces. This is the heart of competitive advantage outlined in the following section. Distinguishing between value creation and value capture provides a useful construct for thinking about the types of

[1] For example, Dafny (2010) finds evidence that firms with positive profit shocks subsequently pay higher health insurance premiums. The interpretation is that the firm's relative profitability will motivate them to fight harder or less hard to get a good deal on health insurance for their employees.

strategies on which antitrust authorities will focus. We will continue with this theme in the next section as well.

Before leaving the topic of value creation and capture, it is worth noting that, from a business strategy perspective, decisions are typically based on maximizing long-term profitability. As a result, a firm may not appear to be maximizing short-run profits in certain contexts related to pricing, R & D, network effects, and so on (Oster 1999). In contrast, many antitrust analyses are more explicitly short-run in nature.[2] We can see this most readily in empirical merger evaluations, such as Nevo (2000), where price effects are simulated assuming a change in ownership for previously competing differentiated products but no change in the merged firm's product portfolio. Efforts to incorporate longer-term product decisions in merger analyses (Draganska, Mazzeo, and Seim 2009, Fan 2013) represent a way to bridge the antitrust and strategy literatures, and is an important avenue for future research.

11.3. Competitive Advantage and Sustainability

The Value Creation and Capture framework provides an analytical link between economics and firm strategy. An analysis of competitive advantage takes the next logical step in developing a structure for evaluating the success of individual firms. This framework helps us understand—and predict—why firms in the same industry that face the same underlying economic forces may nevertheless have very different profits. Perhaps more importantly, this framework allows us to diagnose the sources of a firm's superior (or inferior) profitability to guide strategic decisions. As such, the competitive advantage framework focuses on the individual firm, not its industry. We will consider how the firm's "resources" contribute to its capabilities, and how these capabilities explain its performance.[3]

To start, we need a precise definition for competitive advantage: the resources or capabilities that allow a firm to capture value better than existing or potential competitors. We think of these "resources" in fairly general terms. They are anything that directly affects the quality, costs, and other attributes of a firm's product or service. Examples of resources could include tangible elements like location, physical plant/equipment, or product offerings, as well as intangibles such as brand identity, people/culture, relationships, and so on. "Capabilities" represent the activities that a firm's resources enable it to do. Some analysts will collectively refer to a firm's resources and capabilities as its "assets."

[2] Ghosal (2011) discusses this phenomenon and provides relevant citations.

[3] This contrasts with Porter's Five Forces framework, which considers the conditions that make an entire industry more or less profitable, on average.

A key assumption here involves heterogeneity among firms' resources and capabilities. All firms are different—even firms producing goods that are very close substitutes may produce them in very different ways. We need to build on the notion of heterogeneity to consider competitive advantage: a firm must possess some resource that leads to a unique capability that, in turn, results in superior performance compared to its rivals. It is important to emphasize that a useful analysis of competitive advantage must at all times be framed in terms of comparisons between a firm and its rivals. With this perspective, firms may confront challenging, and potentially uncomfortable, realities—even activities that a firm does well may not be superior, as compared to its rivals.[4]

Firms pursue three broad types of advantages, with the first being a cost-based advantage. Consider an industry with many firms. Even if they produce the same product, the firms may be heterogeneous in terms of the resources they use to produce their output. A firm with superior resources may produce the good at a lower cost than its rivals. If there is not enough low-cost capacity to satisfy market demand, the low-cost firm will be able to earn the difference between its own costs and its rivals' (which will determine market prices) as economic profits. A firm with a worse set of resources may just break even.

A cost-based advantage may arise from a number of sources. A firm may increase its size or scope: economies of scale, economies of scope, volume purchases, increased capacity utilization, and specialization all potentially reduce a firm's costs. Relatedly, a firm may increase its cumulative experience, which can bring down marginal costs in a setting characterized by a learning curve. Firms may increase their organizational efficiency through vertical integration, long-term contracts, or management and control. Finally, a firm may increase its technological efficiency through automation, production processes, coordination, transportation, or communication. To the extent that cost-based advantages derive from efficiencies, antitrust authorities typically remain passive. When the advantages come from wielding buyer power or from taking actions that raise rivals' costs, however, scrutiny may result.

Firms may also pursue a benefit-based advantage, a natural companion to cost-based differentiation. Typically, firms have to make trade-offs related to the price-quality preferences of consumers because increasing quality involves increasing costs. Suppose, however, that a firm possessed the resources and capabilities to produce a higher-quality product at a lower or similar cost than rivals. Charging the same price would not maximize the firm's profits in such a case. The firm could increase its price and not lose customers—consumer surplus, $B-P$, for the firm's superior product would still exceed competitors'.

Benefit-based advantages stem from various origins. For instance, a firm may improve the physical characteristics of its product by improving performance, durability, quality, features, aesthetics, or ease of use. A firm might also be able to increase

[4] The related concept of core competencies puts somewhat less emphasis on comparison across organizations, but nonetheless has contributed to the development of competitive advantage (Prahalad and Hamel 1990).

the quality of complementary goods such as postsale service, spare parts, warranties, maintenance and repair, or characteristics associated with sale or delivery in regards to timeliness, convenience, and the quality of sales staff. Benefit-based advantages could also result from factors that influence customers' perceptions or expectations in terms of reputation, an installed base of users, and network externalities. Finally, a firm may improve its subjective image through prestige, status, or association.

A firm's key challenge when pursuing a benefit-based advantage is to choose which product characteristics to improve. Consumers must be made better off despite the price increase, which is necessary to offset the firm's higher costs. When such price increases are associated with firms having a large market share following a merger, antitrust authorities may become concerned. For example, practices such as bundling and tying may result in higher prices but nonetheless improve consumer welfare. Uncertainty regarding the treatment of such outcomes may yet exist, as the proper role for consumer welfare in competition policy remains the source of considerable debate (see, e.g., Crandall and Winston 2003).

Finally, firms can pursue a niche-based competitive advantage in which the firm produces a good that some consumers prefer over alternatives at the same price—that is, customers have heterogeneous preferences in the sense that not everyone would purchase the same product at the same price. In a way, this firm is somewhat like a monopolist: it occupies a unique location in "product space." Once the firm has chosen its product-space location, the resources and capabilities that allow the firm to occupy it efficiently generate the niche-based advantage. As in Hotelling (1929), a strategist would conceptualize product heterogeneity as the distance between the firm's location in product space and its nearest rival's location.

Because of their heterogenous preferences for different varieties, consumers do not consider competing products perfect substitutes. As a result, a firm that is differentiated in product space can maintain a price above costs without losing all of its market share to competitors. Since price exceeds cost, the firm with a niche-based competitive advantage earns an economic profit, $P - C > 0$. The size of the subsequent profit margin depends on the intensity of consumer preferences relative to other available substitutes in the market.

Note that "positioning" in a market cannot deliver, by itself, a niche-based competitive advantage. The firm's offering must (1) be unique relative to the competition and (2) have sufficiently high demand to cover its fixed costs of production. These conditions require the firm to possess distinct resources and capabilities. There may, in this case, be an inherent conflict between the goals of strategy and antitrust policy. As demand grows, what was once a profitable "niche" can potentially be construed as a "market," resulting in scrutiny by regulators. The questions of market definition presented in the previous section become especially relevant in such circumstances.

While the competitive advantage framework is not nearly as formal as Porter's Five Forces, the underlying microeconomic foundations remain critical. The key conceptual touchstone for competitive advantage is consonance. Successful firms have consistency among the activities they pursue, the resources they possess, and the capabilities that

these resources confer. Firms can achieve greater consonance by undertaking strategic initiatives that are consistent with the resources and capabilities they possess and by developing and acquiring resources that fit well (i.e., are co-specialized) with their existing resources. While consonance may be difficult to measure or quantify, some strategists believe that systems of activities that reflect this internal consistency are crucial for the success of firm strategies.[5]

11.4. Sustainability of Competitive Advantage

To this point, our discussion of competitive advantage has taken mostly a static view. We have looked at how a firm might generate a competitive advantage, but have not dwelled on whether or not the firm would achieve only a short-term gain. Clearly, market conditions change, and a robust competitive advantage framework must incorporate a dynamic perspective into firm strategy.

As mentioned previously, successful strategies will attract imitators. From an evolutionary perspective, this increases social welfare: good strategies replicate, bad ones die out. From the perspective of a firm that currently enjoys a profitable competitive advantage, however, the threat of imitation looms large. The types of strategies that a firm employs to protect its competitive advantage over time ultimately will determine its success. These strategies can also be troubling and problematic from an antitrust perspective.

The competitive advantage framework outlined above suggests that a firm can sustain its competitive advantage by protecting the resources and capabilities responsible for generating it. In that spirit, the following set of conditions represents minimum and necessary conditions for a firm to maintain its competitive advantage in the long run: limits to resource competition, limits to resource acquisition competition, and resource immobility (See, for example, Peteraf (1993) and Wernerfelt 1984).

Limits to resource competition are key to preserving a competitive advantage. Subsequent to a firm gaining a superior position and earning profits, a protection must be in place to limit the competition for those profits. Possessing uniquely valuable resources drives competitive advantage; therefore, if another firm can obtain the same resources, the competitive advantage will not persist. Two important aspects further distinguish the limits to resource competition.

First, isolating mechanisms prevent other firms from copying the resources responsible for a firm's superior profits. An isolating mechanism prevents firms from imitating either the production efficiencies or the characteristics of the end product (of the

[5] One recent example can be found in Leinwand and Mainardi (2010).

superior firm) that make it uniquely desirable to users. Some examples of isolating mechanisms are formal, such as property rights, patents, or copyrights. These legal protections prevent others from using the resource. Indeed, resources such as patents and copyrights explicitly confer monopoly power—society is willing to grant pricing power as an incentive for innovation (presumably with a net benefit for consumer welfare). However, some argue that, especially in industries susceptible to monopolies, firms can abuse the legal protections of patents to protect themselves from competition.[6]

Other isolating mechanisms may be less formal but can be equally effective in protecting resources and competitive advantages. For example, if scale is crucial for achieving lower costs, an entrant may not be able to achieve the same size as incumbents. Intangibles such as culture and reputation are particularly difficult to replicate. By definition, culture and reputation need time to grow and can become stronger over time. In the strategy field, we often point to Southwest Airlines as the prototypical example, though many others exist as well (O'Reilly and Pfeffer 1995).

Firms must also guard against resource substitutability: situations where competitors may possess a different resource that delivers the same advantage. The rival firm is not copying a resource per se, but it nevertheless achieves the same result. For example, if another farmer developed a very low-cost fertilizer, a firm that owned more-fertile land than its rivals would no longer have a competitive advantage (even though his property right to the fertile land remains intact).

An additional condition necessary for sustaining profits is that other firms do not foresee the value that the resource will create—that is, the firm has strategic foresight. Consider the alternative: if all firms recognize a resource's value, competition for the resource will drive up its acquisition price to a point that offsets any profits generated by it. This is why, in general, strategists are skeptical that "exclusive" arrangements from suppliers will be profitable. Obtaining exclusivity should be costly, assuming competition. As such, this is the place to look to ensure that markets are sufficiently competitive; indeed exclusive dealing is a very rich area for antitrust theory and practice (Marvel 1982).

The third necessary condition for a firm to achieve a sustainable competitive advantage is resource immobility. Immobility generally requires that the superior resource cannot be profitably traded. If the resource would be more productive in the hands of another firm, then the firm that does control it is not maximizing economic profits. For instance, co-specialization occurs when a resource must be used in conjunction with other firm-specific resources in order to create the most economic value. In cases where resources are not co-specialized, a firm can benefit its shareholders by trading the asset (even if it is a profitable asset). Presumably, a more co-specialized firm would be willing to pay a premium to acquire the asset, and the net profit from the trade would contribute positively to the value of the firm.

[6] This argument is laid out nicely in Feldman (2003). It is being tested in the contemporary strategic and legal battles playing out in the handheld device industry (Catan 2011).

In addition to resource protection, established firms can extend their sustainable competitive advantage through accumulated market experience. Here, we can again turn to the Value Creation and Capture framework for conditions under which operations in the past can either lower C or increase B. Such factors would enhance the firm's prospects for maintaining profitability by creating additional value.

A firm's learning curve describes any situation in which cumulative production experience reduces a firm's average variable costs. Note the distinction between the learning curve and economies of scale—an experienced firm (with learning curve economies) would have lower costs at any particular scale of production. Firms with a steep learning curve may attempt to underbid rivals for business or subsidize consumption initially in order to build up their cumulative experience. Note, however, that just as with scale economies, a firm might reach a point of diminishing incremental cost savings at very high levels of cumulative experience. When learning curve economies are particularly compelling, it may be sensible for firms to engage in predatory pricing behavior. Analysts have noted that these cases are often very difficult to prove (Cabral and Riordan 1997).

For some products, a consumer's willingness to pay is partially determined by the total number of consumers who use the product. Here, there are "network externalities": a "network"of users creates an "external" benefit to additional consumers.In this environment, firms can gain an advantage by building up sales in early periods and developing a large "installed base" of users who have purchased the product in previous periods and still use it. Studies have shown that if network externalities are strong, there may be a welfare benefit associated with a monopolist, complicating antitrust analysis (Katz and Shapiro 1985).

Finally, switching costs can increase the effective price of a new product relative to an established one, conferring an advantage to a firm that has achieved more sales in earlier periods. Clearly, a strategy of building switching costs into a product or encouraging early adoption can permit firms to extend their competitive advantage over time. As Farrell and Klemperer (2007) point out, this can lead to competition "for the market," and competition policy behaves somewhat differently. Note, in addition, that forward-looking consumers will take the effects of switching costs into account when they make their initial purchase. Knowing that a firm will have them "locked in" and vulnerable to price increases in future periods renders consumers more wary at the initial point of purchase. This may limit the potential efficacy of such strategies.

11.5. Scope of the Firm

Among the specific topics that we address using the principles of economics in strategy, none is more fundamental and relevant than issues surrounding the scope of the firm. The first substantial section of the Besanko and coauthors (2009) strategy textbook, for

example, covers firm boundaries—both the vertical boundaries of the firm, as well as questions related to diversification. This partly reflects the historical context—among the earliest influential strategy frameworks from consulting was the BCG "growth/share matrix" that classified a firm's business units based on their market share and growth prospects, identifying some for investment and others for divestiture. In addition, evaluating potential mergers and acquisitions is a principal responsibility of the strategy group within many organizations.

In using economics as the underlying framework for making strategic decisions, we recall Coase's definition of a firm's role as "organizing transactions" for the economy. Coase (1937) suggests that a firm's decision about its scope should address the question, "Why does the entrepreneur not organize one less transaction, or one more?" Of course, the answer to this question depends on the context considered—a particular firm's resources, products, and relevant markets will determine how it should set its boundaries in order to maximize profits. In strategy, we focus on the economic issues that affect a firm's decision to conduct certain tasks internally or to "use the market" instead. In so doing, we embellish the Value Creation and Capture and Competitive Advantage frameworks to address how a firm should organize its activities to maximize profits and shareholder wealth.

On the surface, strategic decisions regarding economies of scope can be evaluated using another simple, straightforward rule: a single firm should perform two activities, X and Y, if and only if the profits from doing both activities within a single firm exceed the profits from doing each activity across two distinct firms:

$$\Pi(X+Y) > \Pi(X) + \Pi(Y).$$

Otherwise, one firm should perform activity X, and a separate firm should perform activity Y. We can think of activities X and Y in fairly general terms—they could refer to the same activity in different geographic markets, differentiated products, rival firms in the same industry, or completely unrelated activities.

When practitioners use the term "synergy," they are essentially referring to the idea behind this comparison of profit functions—there would be a synergy between activities X and Y if profits increased when those activities were done within the same firm. In other words, the "synergy" is the explanation for why profits are greater when activities are combined.[7]

[7] In this spirit, a firm derives no synergy if it vertically integrates simply to "obtain the activity at cost" (i.e., to avoid paying a supplier's high markup) or if it horizontally integrates to obtain the buyer's or supplier's profit. The buying and selling of firms occurs in a market—to the extent that "excess profits" exist, the potential integrator would have to pay for these profits in the acquisition price. While "bargains" may be found, an acquisition premium typically drives final bids to the second-highest value among the potential acquirers. Even if it seems like the combined firm is obtaining the activity for itself "at cost," this masks opportunity costs, in terms of what the firm would earn by selling the output at the market price.

By linking synergies directly to the profit function, we can immediately categorize potential ways in which firms could increase profits by combining activities. The combined activities must result in at least one of the following for the firm—higher prices, lower costs, or greater demand (quantity)—and must do so without counteracting the gains with offsetting losses on other dimensions. From the firm's perspective, identifying what these potential synergies are (and attempting to quantify them) is crucial for making effective strategic decisions. However, as long as synergies exist and are substantial, it would not matter from the firm's perspective where the important synergies associated with a merger derive.

Of course, from an antitrust perspective, the source of the synergy is crucial for the regulatory evaluation of a merger. Of particular concern are circumstances in which a firm may achieve price-based synergies from a potential acquisition that reduces competition in a market. In the United States, the Hart-Scott-Rodino Act stipulates that the parties involved in substantial mergers and acquisitions must notify the Federal Trade Commission and the Department of Justice before commencing the proposed transaction. In their notification filing, the parties provide information about the industry and their respective firms that may be used (along with additional data and detailed analysis) to determine whether the merger will reduce competition and cause harm to consumers.

These agencies may bring legal action to block potential mergers in such circumstances, though these cases often settle prior to litigation following mutually agreed-upon conditions aimed at limiting the potential ex post harm to consumers. For example, a settlement was reached in 2007 between the Federal Trade Commission and two merging northeastern US supermarkets, A&P and Pathmark. Of the roughly 450 stores in the combined company, it was agreed that six in specific towns in New York State would be sold in order to ensure that consumers would not face substantial price increases after the merger.[8]

In a similar vein, firms may be able to raise revenues (or reduce costs) by expanding their portfolio of activities to increase their negotiating power over a common buyer (or supplier). This strategy may be achievable even if the firms are producing noncompeting products—the idea is that in a negotiation, a firm's threat point is more damaging if the firm constitutes more of the buyer or supplier's overall business. The merger between Gillette and Procter & Gamble is an illustrative example; by merging, the firm could potentially increase its negotiating power with powerful retailers such as Walmart based on the size of its overall portfolio of products sold there. The regulatory authorities considered a "portfolio effect" along with concentration in particular product categories where the firm offered competing products premerger. Revenue increases that come from shifting surplus to the merged firm from another firm rather than from

[8] The FTC commented that "Absent the relief provided by the Commission's consent order, consumers in these areas likely would face higher prices and lower levels of service when shopping for their weekly groceries." Cf. http://www.ftc.gov/opa/2007/11/pathwork.shtm.

consumers may well generate less regulatory scrutiny, particularly (as cited in this case) where the countervailing power of buyers is also quite high.[9]

This detailed level of regulatory concern and analysis suggests that firms may not be able to rely solely on price synergies as justifications for mergers. As a consequence, cost-based synergies and demand-related benefits become more important for managers that are evaluating opportunities to add further activities to their firm's scope.

For demand synergies, we attempt to take account of situations in which the products or services offered by a firm would generate a greater willingness-to-pay for consumers as a consequence of the firm increasing its scope and adding an activity. The 2004 merger between health insurers Anthem and WellPoint illustrates this concept. Providing health insurance requires making contractual arrangements with local providers and receiving regulatory approval from individual states. Prior to their merger, each firm offered such services in a network of states that did not overlap. Thus, the merger would not eliminate a competitor in any geographic market. However, the merger did increase the network of states in which the combined firm offered coverage. An insurer with a broader geographic coverage network is likely more attractive to an employer with a presence (and employees that need to be covered) in multiple states. There is a potential for higher prices as a consequence of such a merger, but the price increases would likely come from having created more value rather than from a change in the share of the value created that is captured by firms.

In practice, firms rarely rely on these sorts of demand-side synergies to justify merger decisions. Situations like the Anthem-WellPoint merger are rare, and even if a demand expansion seems compelling, it may be difficult to quantify. Furthermore, alternatives to integration such as joint marketing agreements can often be employed when independent firms want to take advantage of demand-side complementarities between products or services that they own. Unless there are incentive or informational issues that would decrease the efficacy of a contractual arrangement, it is often a better strategy to avoid merging activities to exploit demand-side synergies.

This leaves cost-side synergies, which are typically the most straightforward for firms to quantify premerger and the least objectionable from the perspective of the regulatory agencies. Synergies on the cost side require some kind of reduction in costs that comes from the integration of multiple activities within the same firm. In the case of within-industry horizontal mergers, cost savings would be associated with traditional economies of scale; the extent of the synergy would depend on premerger capacity utilization and the scalability of the underlying activities. If a firm would have to incur additional fixed costs as a result of the combination, any potential synergy would be offset to some degree.

[9] In its decision on this merger, the European Commission noted that "The risk of portfolio effects resulting from the merger is mitigated considerably by the ability and incentive of retailers to exercise countervailing buyer power. Large retailers can exert pressure on the parties as they can more credibly threaten to integrate private labels on their shelves of by sponsoring new entry through active in-store promotion." Cf. http://ec.europa.eu/competition/mergers/cases/decisions/m3732_20050715_20212_en.pdf.

In other horizontal combinations, the source of cost-side synergies may be more subtle. Conceptually, however, the notion of shared production infrastructure remains. For example, firms in different industries that sell to similar consumers may be able to share customer lists or generate other marketing efficiencies. Managerial infrastructure can also potentially be shared, especially in cases where the merged activities have a similar overall strategy. These factors are illustrated in the long-standing mutually beneficial combination within PepsiCo of a soft-drink division and snack foods division (Frito Lay). The company historically has not attempted to recognize synergies through negotiations or joint promotions; in fact, the divisions have operated completely independently from each other. Instead, the company cites managerial efficiencies at the highest levels of the organization that come from overseeing businesses with a common approach (particularly relying on national and international marketing). Indeed, PepsiCo executives typically rotate through both divisions at various points in their careers, gaining experience in their shared endeavors.

While most of the discussion above has focused on horizontal combinations, the same analysis of value creation and capture applies to vertical combinations. In this sense, the distinction between horizontal and vertical integration is somewhat arbitrary; however, subtle issues that affect firms as they extend their vertical scope warrant special consideration in strategy formulation. In particular, considering vertical integration provides us the opportunity to introduce incentive and organizational issues that are critical to effective strategy. These issues are relevant even for firms that do not typically consider mergers and acquisitions an important part of their overall strategy.

Indeed, for most firms, vertical combinations reflect a fundamental strategy consideration, insofar as they must decide whether to perform activities along the vertical chain themselves or "purchase" services from independent firms in the market, if they even want to be in the business at all. As such, we pose the vertical integration question in the context of a "make versus buy" problem. A key consideration, then, is the opportunity cost of not integrating. For example, if the downstream firm does not produce one of its inputs, it must purchase that input from an upstream supplier. For the firm to pursue a vertical integration strategy, the overall profits associated with producing that input must exceed the overall profits associated with purchasing it from the market instead.

Again, much of the focus in analyzing the make-versus-buy problem is about value creation. Often, straightforward cost-based reasoning applies. For example, a firm should outsource activities for which it does not have enough scale when (competitive) market specialists are larger, whereas vertically integrating may allow firms to avoid the (often expensive) transaction costs associated with exchange across firms. For example, the coordination of production flows may be compromised when a firm purchases an input from the market. There may be additional inventory costs if the inputs arrive too early, or costly idle time if they arrive too late. Dealing with such problems using technology or contracting may be more difficult if transactions take place outside the firm.

In addition, monitoring in a vertically integrated organization may prove challenging. We introduce the concept of agency costs in terms of the potentially misaligned incentives along the vertical chain. The "cost" to the firm represents the forgone profits

when incentives are not appropriately aligned. For example, franchising relationships are common in industries like lodging and food service because success (at least in part) requires intense managerial effort that is difficult to monitor and reward. If technological improvements allow greater monitoring (as in the trucking industry), it may be optimal to bring once-outsourced activities in-house (Baker and Hubbard 2003).

Beyond these efficiencies, however, there is scope for vertical integration to increase a firm's profits without creating additional value. As an example, such a situation can occur when an upstream monopolist sells to a competitive industry. By vertically integrating with one of the downstream competitors, the firm could, in effect, extend its monopoly to another industry by limiting access of its unique input to only its integrated division. Providing downstream rivals with the input, but at less attractive terms, would accomplish a similar goal by raising the rivals' (relative) costs. In some markets, limited access to a key input could generate barriers to entry that help maintain the profitability of the downstream firm, though attempts at market foreclosure often incite regulators.

As with horizontal integrations, we see that applying the business strategy objective of profit maximization can lead to vertical integrations because of efficiencies and because of greater opportunities to capture value that could generate antitrust scrutiny. To the extent that either could increase profits, there would be no need to distinguish between them conceptually. A manager must, however, confront the reality that the firm's activities may be constrained by regulators enforcing competition laws. We believe that the Value Creation and Capture framework provides a useful first step in distinguishing benign value-creating explanations for acquisitions from ones that may prove problematic based on reliance on value capture synergies.

11.6. Conclusion

At the core of business strategy lies the Value Creation and Capture framework. Owing to its central importance, we focused our discussion of strategy's relevance to antitrust policy on its principal tenets. From the firm's perspective, a firm may seek to maximize profits by creating more value or by capturing the largest possible share of this value. It is this latter objective that most concerns antitrust authorities. Distinguishing between the economics of value creation and value capture can help practitioners understand how antitrust policy might constrain their activities.

The remaining topics of industry analysis, competitive advantage, and firm scope build on the basic strategic foundation of creating and capturing value. An additional aim of our chapter was to provide a link between antitrust policy and business strategy, reframing intuition within the particular lexicon of strategy. While these frameworks influence strategy academics and practitioners, their terminology may be unfamiliar to those outside of this community. Understanding the foundations of strategy frameworks

and how they are used by practitioners can potentially help regulators apply and interpret antitrust policies in applied business situations.

Given the limitation of this review chapter, we could not possibly address every relevant topic. Chief among the omitted areas is understanding how firms tactically engage with antitrust, which remains an open area of research in strategy and economics. Private firms may file antitrust suits against competitors, and doing so often represents a strategic choice to gain an advantage. For instance, many have speculated that Microsoft played an important role in recent antitrust investigations against Google (Gans 2010). Given the nature of competition between Microsoft and Google across several interrelated markets, the decision by Microsoft to act as a complainant represents a deliberate tactical choice. Thinking through the optimal strategy in this regard will be an active area of research for the near future.

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