

ECONOMICS OF STRATEGY

Chapter 1: Basic Microeconomic Principles (pp. 9-37)

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Chapter 2: The Horizontal Boundaries of the Firm

The production process for a specific good or service exhibits **economies of scale** over a range of output when average cost declines over that range. If average cost declines as output increases, then the marginal cost of the last unit produced must be less than the average cost (economies of scale). If average cost is increasing, then marginal cost must exceed the average cost (diseconomies of scale). The curve of average cost is typically a U-curve: first it declines over low levels of output, but then increase at higher levels of output. A firm's average cost may decline initially as it spreads fixed costs over increasing output, but an upturn can result if they bump up against capacity constraints or if they encounter coordination or other agency problems. When average cost curves are L-shaped, average costs decline up to the minimum efficient scale (MES) of production and all firms operating at or beyond MES have similar average costs.

Economies of scope exist if the firm achieves savings as it increases the variety of goods. To exploit these economies of scope, one must "leverage competencies" or "compete on capabilities".

Scale economies, Indivisibilities, and the Spreading of Fixed Costs

The most common source of economies of scale is the spreading of fixed costs over an ever-greater volume of output. Fixed costs arise when there are **indivisibilities** in the production process, which means that an input cannot be scaled down below a certain minimum size, even when the level of output is very small.

Indivisibilities can give rise to fixed costs, and hence scale and scope economies, at several different levels: the product level, the plant level, and the multiplant level. **Product-specific fixed costs** may include special equipment, R&D expenses, training expenses, and even setup costs.

It is important to understand that the fully **automated technology** may yield the greatest cost savings when used to capacity, but it may not be the best choice at lower production levels. Reductions in average costs due to increases in capacity utilization are **short-run economies of scale** in that they occur within a plant of a given size. Reductions due to adoption of a technology that has high fixed costs but lower variable costs are **long-run economies of scale**. Regardless of plant size, firms that plan on exploiting scale economies must achieve the necessary **throughput** (the movement of raw materials into the plant and the distribution and scale of finished goods).

When the costs of productive capital such as factories and assembly lines represent a significant percentage of total costs, we say that production is **capital intensive**. As long as there is spare capacity, output can be expanded at little additional expense (scale economies). When most production expenses go to raw materials or labor, we say that production is **materials or labor intensive**. Because materials and labor are divisible, they usually change in rough proportion to changes in output, with the result that average costs do not vary much with output.

Economies of scale are closely related to the concept of **specialization**. The division of labor refers to the specialization of productive activities and often requires investments that should be treated as fixed costs. The extent of the market refers to the magnitude of demand for these activities. Smith's theorem states that individuals or firms will not make specialized investments unless the market is big enough to support them. Larger markets will support narrower specializations.

Special Sources of Economies of Scale and Scope

Economies of density: these refer to cost savings that arise within a transportation network due to a greater geographic density of customers. The savings may result from increasing the number of customers or from reducing the size of the area, and therefore reducing the cost of the network.

Purchasing: purchasing power through bulk buying invariably leads to discounts. A supplier should care because: (1) it may be less costly to sell to a single buyer; (2) a bulk purchaser has more to gain from getting the best price, and therefore will be price sensitive; and (3) the supplier may fear a costly disruption to operations, or bankruptcy, if it fails to do business with big purchaser.

Advertising: larger firms may enjoy lower advertising costs per consumer either because they have lower costs of sending messages per potential consumer (spread over larger base of potential consumers), or because they have higher advertising reach (higher if firm offers broad product line under single brand name = umbrella branding). The advertising cost per consumer of a product may be expressed:

$$\frac{\text{Cost of sending message}}{\text{\#potential consumers receiving message}} = \frac{\text{\#actual consumers as result of message}}{\text{\#potential consumers receiving message}}$$

Research and development: all firms can lower average costs by amortizing R&D expenses over large sales volumes.

Physical properties of production: as capacity increases, the average cost of producing at capacity decreases because the ratio of surface area to volume decreases (cube-square rule).

Inventories: firms carry inventory to minimize the chances of running out of stock. Inventory costs can drive up the average cost of the goods that are actually sold. They are proportional to the ratio of inventory holdings to sales. The need to carry inventories creates economies of scale because firms doing a high volume of business can usually maintain a lower ratio of inventory to sales, while achieving a similar level of stock-outs.

Complementarities and Strategic Fit

Complementarities describe synergies among organizational practices. Practices display complementarities when the benefits of introducing one practice are enhanced by the presence of others. The concept of complementarities is better known in the strategy literature as **strategic fit**. It is essential that firms seek a long-term competitive advantage over their rivals. Through strategic fit, the “whole” of a firm’s strategy exceeds the “sum of the parts” of its organizational processes.

Sources of Diseconomies of Scale

Beyond a certain size, bigger is no longer better. **Larger firms generally pay higher wages and provide greater benefits.** There are several possible reasons why there is a wage gap and the larger firms pay more than the smaller firms: (1) larger firms are more likely to unionize; (2) the gap may also represent a compensation differential, which is the wage premium that firms must pay to lure workers to less attractive jobs. Two factors work in favor of larger firms: (1) worker turnover is lower, reducing costs of recruiting and training, and (2) they are more attractive to highly qualified workers.

Many talented firms believe that having achieved success in one department, they can duplicate it elsewhere. Sometimes they succeed. Sometimes they fail because they lack the skills necessary to translate their success to a new situation. Some individuals simply **spread the specialized resources too thin**. If a specialized input is a source of advantage for a firm and that firm attempt to expand its operations without duplicating the input, the expansion may overburden the specialized input.

Bureaucracy has a bad name because it can cause incentive within firms to be muted, information flows to be slow, and departments fighting for scarce corporate resources.

The Learning Curve

The **learning curve** (experience curve) refers to the advantages that flow from accumulating experience and know-how. The benefits of learning manifests themselves in lower costs, higher quality, and more effective pricing and marketing. When firms benefit from learning, they may want to ramp up production well past the point where the additional revenues offset the added costs. It allows the firm to move down the learning curve, thus realizing lower costs in the future. In general, when a firm enjoys benefits of a learning curve, the marginal cost of increasing current production is the expected marginal cost of the last unit of production the firm expects to sell. This implies that learning firms should be willing to price below the short-run costs to prosper in the long run. Managers who are rewarded on the basis of short-run profits may, however, be reluctant to do so. Firms can solve this problem by directly accounting for learning curve benefits when assessing profits and losses.

Firms can take steps to **improve learning and the retention of knowledge**. They can facilitate the adoption and use of newly learned ideas by encouraging the sharing of information, establishing work rules that include the new ideas, and reducing turnover. While codifying work rules and reducing job turnover facilitates retention of knowledge, it may stifle creativity. At times, it could be that worker-specific learning is too complex to transmit across the firm. Managers should also draw a distinction between firm-specific and task-specific learning. If learning is **task-specific**, then workers who acquire skill through learning may be able to shop around their talents and capture the value for themselves in the form of higher wages. When learning is **firm-specific**, worker knowledge is tied to their current employment, and the firm will not have to raise wages as the workers become more productive.

Diversification: Why do Firms Diversify?

Diversification is costly, and the result can be a variety of costs loosely associated with bureaucracy. However, firms may choose to diversify for two reasons: (1) diversification may benefit the firm's owners by increasing the efficiency of the firm, and (2) if the firm's owners are not directly involved in deciding whether to diversify, diversification decisions may reflect the preferences of the firm's managers

1. Efficiency-based Reasons: Scope economies can come from spreading a firm's underutilized organizational resources to new areas. Managers of diversified firms may spread their own managerial talent across business areas that do not seem to enjoy economies of scope. They call this "**dominant general management logic**" which comprises "the way in which managers conceptualize the business and make critical resource allocations". The dominant general management logic applies most directly when managers develop specific skills that can be applied to unrelated businesses without stretching management too thin. It may be used to justify any and all unjustifiable diversifications. Furthermore, the **internal capital market** described the allocation of available working capital within the firm. The diversified firm can create value in a way that smaller focused firms cannot, provided that diversification allows the cash-constrained business to make profitable investments that would not otherwise be made.

2. Problematic Justification for Diversification: shareholders benefit from investing in a **diversified portfolio**. They can reduce the chance of incurring a large loss due to the failure of any single firm and thus insulate themselves from risk. However, nowadays, investors can invest in diversified mutual funds and thus diversification to reduce shareholder risk is largely unnecessary. Moreover, many firms diversify by acquiring established firm in unrelated businesses, which can be profitable if the acquirer can identify other firms that are undervalued by the stock market. These firms may suffer from "**winner's curse**" in that they are optimistic and will win the bid by overpaying.

There are several reasons, of course, **not to diversify**: Within a diversified portfolio, a conglomerate will have some divisions that outperform others, which can reduce the share value of the conglomerate and reduce the incentives of the managers of the money-losing divisions. In addition, it is difficult to maintain the hard-edged incentives of the market within a diversified firm.

Managerial Reasons for Diversification

One reason managers may diversify is that they enjoy running larger firms. Their chances of being appointed to other firms' board of directors increase. Furthermore, managers may pursue unrelated acquisitions in order to increase their compensation. Diversification can reduce managerial risk because they limit the risk of extremely poor overall profitability.

Managerial motives for diversification rely on the existence of some failure of corporate governance (the mechanisms through which corporations and their managers are controlled by shareholders. If shareholders could (1) determine which acquisitions will lead to increased profits and which ones will not and (2) direct management to undertake only those that will increase shareholder value, then the possibility of managerially driven acquisitions would disappear.

The Market for Corporate Control and Recent Changes in Corporate Governance

Managers who undertake acquisitions that do not serve the interests of shareholders will find that their firms' share prices fall, for two reasons:

1. If a manager overpays for a diversifying acquisition, the value of his/her firm will fall by the amount of the overpayment
2. If the stock market expects the firm to overpay for additional acquisitions in the future, the market price of the firm's shares will fall today in expectations of these events.

This disparity between the firm's actual and potential share presents an opportunity for another firm to try a takeover. A potential acquirer can purchase control of the firm simply by buying its shares on the market. The acquirer profits by purchasing shares at their actual value and then imposing changes that return the shares to their potential value.

Chapter 3: The Vertical Boundaries of the Firm

Make vs 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, and **buy** means it relies on an independent firm to perform the activity, perhaps under contract. Make and buy are two extremes along a continuum of possibilities for vertical integration. Close to make, integrated firms can spin off partly or wholly own subsidiaries. Close to buy, market firms can enter into a LT contract, tying their interests for several years. In between are joint ventures and strategic alliances.

Economists say that early steps in the vertical chain are **upstream** and later steps are **downstream**. The make-or-buy decision is not about trying to eliminate steps from the vertical chain, but instead about deciding which firms should perform which steps. Firms will want to be part of the most successful vertical chain, and the success of the vertical chain thus requires the right make-or-buy decision.

Regardless of a firm's position along the vertical chain, it needs to define its **boundaries**. It must compare the benefits and costs of using the market as opposed to performing the activity in-house:

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 dept.

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

Some make-or-buy-fallacies:

Fallacy	Reason
Firms should make an asset, rather than buy it, if that asset is a source of competitive advantage for that firm.	This is false, because if that asset is cheaper to obtain by buying it than producing it, then the firm should do the former.
Firms should buy, rather than make, to avoid the costs of making the product	This is false, because if the firm can perform the activity at a lower cost than it takes to buy it from the market, then it should do so
Firms should make, rather than buy, to avoid paying a profit margin to independent firms	One should look at the difference between accounting profit (difference between revenues and expenses) and economic profit (difference between accounting profits from given activity and accounting profits from investing in alternative activity). Economic profit should be used to make decision about profitability.
Firms should make, rather than buy, because vertically integrated producer will be able to avoid paying high market prices for the input during periods of peak demand or scarce supply.	On the contrary, the firm needs to vertically integrate to eliminate its income risk and counteract price fluctuations by entering into long-term contracts.
Firms should make, rather than buy, to tie up a distribution channel. They will gain market share at the expense of rivals.	Integration to tie up channels is known as vertical foreclosure (four ways to do this p. 104). In each scenario, foreclosure extend monopolization across the vertical chain, and therefore seems to increase profit. However, vertical integration cannot increase profits above the monopoly profit, and therefore there is no reason to foreclose. But in some cases, foreclosure is still profitable by allowing monopolists to protect their profits.

Reasons to Buy

Exploiting scale and learning economies: Firms should focus their activities on what they do best and leave everything else to the market firms, for several reasons. First, market firms may possess proprietary information or patents that enable them to produce at lower cost. Second, market firms might be able to aggregate the needs of many customers, thereby enjoying economies of scale. Third, market firms might exploit their experience in producing for many customers to obtain learning economies. When economies of scale or learning economies are present, firms with low production levels or little experience in production may be at a severe cost disadvantage relative to their larger, more experienced rivals. Market firms can often aggregate the demands, whereas vertically integrated firm typically produce only for its own needs. Market firms can therefore often achieve greater scale, and thus lower unit costs, than can the downstream firms that use the input.

Bureaucracy effects – avoiding agency costs: Managers and workers who knowingly do not act in the best interests of their firm are *shirking*. Agency costs are the costs associated with shirking and the administrative controls to deter it. One problem is that most large firms have common overhead or joint costs allocated across divisions, making it difficult to measure and reward an individual division's contribution to overall corporate profitability. A second problem is that in-house divisions serve as cost centers that perform activities solely for their own firms and generate no outside revenue. The absence of market competition makes it hard for the top management to know just how well a cost center is doing relative to its best achievable performance, increasing incentives to shirk.

Bureaucracy effects – avoiding influence costs: internal capital markets allocate available working capital within the firm. The potential benefits of horizontal integration and diversification is the ability to use internal capital markets to fund investments when access to external funding is limited. So then the question comes: how should one allocate scarce capital across the different projects? This is when lower-level managers may

engage in an array of influence activities as they seek to move their own projects to the top of the “must fund” list. They do this by either exaggerating the likely success of their project, or badmouthing proposals from other departments. The result is that the central office is unable to obtain objective information, and an inefficient allocation of internal capital will happen. One way to limit influence activities is by loosening the connection between a business unit’s profitability on the one hand and managerial compensation on the other.

Reasons to Make

To understand the reasons to make, one must first understand the limitations of contracts. Contracts define the conditions of exchange. They are valuable because they list the set of tasks that each contracting party expect the other to perform, but also specify remedies in the event that one party does not fulfill its obligations. Their effectiveness of preventing shirking depends on (1) the “completeness” of the contract and (2) the available body of contract law.

A **complete contract** eliminates opportunities for shirking by stipulating each party’s responsibilities and rights for each and every contingency that could conceivably arise during the transaction. It specifies particular courses of action as the transaction unfolds and makes penalties for breach sufficiently large that neither party shirks. There are severe **requirements**, however: (1) parties must be able to contemplate all relevant contingencies and agree on a set of actions for every contingency; (2) they must be able to stipulate what constitutes satisfactory performance and must be able to measure performance; and (3) the contract must be enforceable. However, in the real-world, most contracts are incomplete, involving some kind of degree of open-endedness or ambiguity. There are three factors that **prevent complete contracting**:

1. **Bounded rationality**: this refers to limits on the capacity of individuals to process information, deal with complexity, and pursue rational aims. Parties cannot contemplate or enumerate every contingency that might arise, and as a result, cannot write complete contracts.
2. **Difficulties specifying or measuring performance**: language in contracts is often left so vague and open-ended that it may not be clear what constitutes fulfillment of the contract. Furthermore, performance may be ambiguous or hard to measure.
3. **Asymmetric information**: a contract remains incomplete because parties do not have equal access to all contract-relevant information. If one party knows something that the other does not, then information is asymmetric, and the knowledgeable party may distort or misrepresent that information.

A well-developed body of **contract law** makes it possible for transactions to occur smoothly when contracts are incomplete. The doctrines of contract law specify a set of “standard” provisions applicable to wide classes of transactions. They eliminate the need for parties to specify these provisions in every single transaction. However, contract law is not a perfect substitute for complete contracting for two reasons: (1) the language is too broad, and (2) litigation can be costly and can weaken or destroy business relationships.

Knowing that contracts can be an imperfect way for dissuading trading partners from behaving opportunistically at the expense of the entire vertical chain. If the resulting inefficiencies are large enough, it might make more sense to limit opportunism by vertically integrating – choosing make over buy. There are three situations in which the inefficiencies might prove to be especially large:

1. When it is important to coordinate activities in the vertical chain
2. When firms must share vital information
3. When firms must make crucial investments

Firms often rely on contracts to ensure **coordination**. They may also assure coordination in the vertical chain by relying on merchant coordinators – independent firms that specialize in linking suppliers, manufacturers, and retailers. Coordination is especially important in processes with design attributes, which are attributes that need to relate to each other in a precise fashion; otherwise they lose a significant portion of their economic value. Because contracts are incomplete, firms cannot rely on them to ensure adequate coordination of design attributes. That is why many firms bring design attributes in-house. Coordination may

also involve an assignment problem – ensuring that the right people do the right jobs with minimal duplication of effort. This, in turn, is then easier to solve by the central office of an integrated firm than by reliance on the market.

Private information may pertain to production know-how, product design, or consumer information. When firms use the market to obtain supplies or distribute products, they risk losing control of valuable private information. The use of well-defined and well-protected patents can offer the ability to outsource without compromising the intellectual property (IP) of a firm. However, patents are often incomplete and rival firms can often “invent around” them.

Transaction costs are costs to using the market that can be eliminated by using the firm, such as coordination and protecting information, as well as the time and expense of negotiating, writing, and enforcing contracts. Far greater costs can arise when firms exploit incomplete contracts to act opportunistically. Contract law might ameliorate the opportunism, but incomplete contracting will always entail some kind of transaction cost. There are three theoretical concepts from transaction-costs economics:

1. **Relationship-specific assets:** this supports a given transaction and cannot be redeployed to another transaction without some sacrifice in productivity or some additional costs. This implies that investments in relationship-specific assets lock the parties into the relationship to some degree. There are at least four forms: site specificity, physical asset specificity, dedicated assets, and human asset specificity. (p. 119)
2. **Quasi-rents:** Rent is the profit you expect to get when you build the plant, assuming all goes as planned. It is the amount equal to the difference between the revenue a seller receives in a transaction and the minimum amount it must receive to make it worthwhile for it to enter into a relationship with the buyer. Quasi-rent is the extra profit that you get if the deal goes ahead as planned, versus the profit you would get if you had to turn to your next-best alternative. The firm must expect positive rents to induce it to invest in an asset. Quasi-rent tells us about the possible magnitude of the holdup problem.
3. **Holdup problem:** this is a problem that arises when there are relationship-specific assets, because then the quasi-rents are positive (the profit of the best alternative is always more than that of second-best alternative). Through holdup, there is a possibility that the trading partner would exploit the large quasi-rent. To avoiding being *held up*, it is better to “make”. It could also be so that over time, the cooperation between two firms could result in one firm being better off than the other. The firm that is worse off will then threaten to withhold cooperative unless the contract is renegotiated. This is then a form of holdup that “transforms a friendly relationship into a hostile one”. The holdup problem raises the cost of transactions in four ways (pp. 123-125):
 - a. More difficult contract negotiations and more frequent renegotiations
 - b. Investments to improve ex post bargaining positions
 - c. Distrust
 - d. Reduced ex ante investment in relationship-specific investments and/or reduced ex post cooperation

Chapter 4: Integration and Its Alternatives (pp. 138-148)

Making the Integration Decision

Assuming that firms get governance right, integration can prevent coordination problems and holdup. The costs and benefits of relying on the market can be classified as relating to either technical efficiency or agency efficiency. Technical efficiency represents the degree to which a firm produces as much as it can from a given combination of inputs. It indicates whether the firm is using the lest-cost production process. The firm could achieve technical efficiency by purchasing the good in question from a market firm or by investing to develop the skill itself. Agency efficiency refers the extent to which the exchange of goods and services in the vertical chain has been organized to minimize the coordination, agency, and transaction costs.

The appropriate vertical organization of production must balance technical and agency efficiencies = economizing. Also, optimal organization minimizes the sum of technical and agency inefficiencies by arranging the transactions to minimize the sum of production and transaction costs. There is a trade-off of minimizing production costs to minimizing transaction costs. See figures 4.1 and 4.2 pp. 139-141.

Three conclusions can be made about vertical integration:

1. Scale and scope economies: if the firm is considering whether to make or buy an input requiring significant upfront setup costs, and there is a large market outside the firm for the input, then the firm should buy the input from outside market specialists.
2. Product market share and scope: a firm with a larger share of the product market will benefit more from vertical integration than a firm with a smaller share of the product market. A firm with multiple product lines will benefit more from being vertically integrated in the production of shared components.
3. Asset specificity: a firm gains more from vertical integration when production of inputs involves investments in relationship-specific assets.

Real World Evidence

pp. 142-144

When a firm with market power contemplates vertical integration with another firm with market power, it needs to consider double marginalization. Double marginalization results when an upstream supplier exploits its power by marking up prices above MC, and the downstream buyer exploits its own power by applying yet another markup to these already marked-up prices. This “double markup” causes the price of the finished good to exceed the price that maximizes the joint profits of the supplier and buyer. Through integration, the downstream firm can base its markup on the actual MC of production, which then results in the integrated firm using just the right amount of market power to maximize its profits.

Alternatives to Vertical Integration: Tapered Integration

Tapered integration represents a mixture of vertical integration and market exchange, in which a manufacturer produces some quantity of an input itself and purchases the remaining portion from independent firms.

Benefits

- Expands the firm's input and/or output channels without requiring substantial capital outlays
- Firm can use information about the cost and profitability of internal channels to help negotiate contracts with independent channels
- Firm can motivate its internal channels by threatening to expand outsourcing, and at the same time motivate its external channels by threatening to produce more in-house
- Firm can protect itself against holdup by independent input suppliers

Drawbacks

- Both internal and external channels might not achieve sufficient scale to produce efficiently
- Shared production may lead to coordination problems
- Monitoring problems may be exacerbated
- Managers may maintain inefficient internal capacity rather than close facilities

Chapter 5: Competitors and Competition

Competitor Identification and Market Definition

Competitors the firms whose strategic choices directly affect one another. Antitrust agencies are responsible for preventing anticompetitive conduct. They examine whether merging firms will monopolize a market and whether existing monopolists are abusing their power. To identify the monopolist, **competitor identification**

must happen. A market is well defined and all of the competitors within it are identified, if a merger among them would lead to a small but significant nontransitory increase in price. This is known as the **SSNIP criterion**.

The SSNIP criterion suggests that two firms directly compete if a price increase by one firm causes many of its customers to do business with the other. It is based on the economic concept of substitutes. Products tend to be close substitutes when three conditions hold:

1. They have the same or similar **product performance characteristics**
2. They have the same or similar **occasions for use**
3. They are sold in the same **geographic market**

The degree to which products substitute for each other is measured by the cross-price elasticity of demand. When η_{yx} is positive, it indicates that consumers increase their purchase of good Y as the price of good X increases. Goods X and Y would thus be **substitutes**.

$$\eta_{yx} = \frac{\Delta Q_y / Q_y}{\Delta P_x / P_x}$$

Rather than rely on ad hoc market boundaries, it is preferable to identify competitors by directly examining the flow of goods and services across **geographic regions**. Sometimes a flow analysis can be used to examine data on consumer travel patterns to identify geographic competitors.

Measuring Market Structure

Market structure refers to the number and distribution of firms in a market. A common measure is the **N-firm concentration ratio**, which gives the combined market share of the N largest firms in the market. One problem with it is that it is invariant to changes in the sizes of the largest firms. To avoid this problem, another measure can be used, the **Herfindahl index**. This index equals the sum of the squared market shares of all the firms in the market. The Herfindahl index in a market with N equal-size firms is $1/N$, which is why the index is referred to the numbers-equivalent of firms.

$$\text{Herfindahl} = \sum_i S_i^2$$

Market Structure and Competition

Market structure can range from perfect competition at one extreme to monopoly at the other. In between these extremes are at least two other broad categories of market structure: monopolistic competition and oligopoly. See table of Herfindahl indexes that match each market structure.

Perfect Competition. In a perfectly competitive market, firms expand output until MC of the last unit produced equals market price. Market conditions will tend to drive down prices toward marginal costs when at least two of the following conditions are met:

1. There are many sellers: antitrust agencies vigorously enforce laws designed to promote competition. Prices tend to fall as the number of sellers increase. This is true for a number of reasons. First, when there are many sellers, a diversity of pricing preferences is likely. Second, when sellers maintain high prices, consumers make fewer purchases. In response, either the sellers have to cut production (which will be hard to convince) or reduce prices. Third, when sellers do manage to restrict production and increase prices, some may be tempted to “cheat” by lowering price and increasing production.
2. Consumers perceive the product to be homogenous: when a firm lowers its price, it expects an increase in sales. The sales increase may come from three different sources: (1) increased sales to the firm’s existing customers; (2) sales to customers of a competing firm who switch to take advantage of lower price; (3) sales to individuals who were not planning to purchase from any firm at any prevailing price. Customer switching often represents the largest source of sales gain. They are more willing to switch from one seller to another when the product is homogenous, because they tend to be less loyal then. This intensifies price competition.
3. There is excess capacity

Monopoly. Monopoly power is the “ability to act in an unconstrained way”. A firm is a monopolist if it faces little or no competition in its output market. It is also a monopolist if it faces little or no competition in one of its input markets. A monopolist faces down-ward sloping demand, implying that as it raises, it sells fewer units. Eventually, the price will increase to a point where it drives away some customers. A monopolist selects price so that the MR from the last unit sold = MC of producing it. A monopolist’s profits may come at the expense of consumers. Several firms acting in concert so as to mimic the behavior of a monopolist are known as cartel. This is illegal.

Monopolistic Competition. It characterizes markets with two main features: (1) there are many sellers and (2) each seller offers a differentiated product. *Horizontal differentiation* results when consumers have idiosyncratic preferences, that is, if tastes differ markedly from one person to the next (such as location). The degree of horizontal differentiation depends on the magnitude of consumer search costs, that is, how easy or hard it is for consumers to learn about alternatives. The theory of optimal pricing implies that firms in differentiated product markets set prices in excess of MC. This creates a powerful competitive dynamic. If prices are high enough to cover fixed costs, firms will earn positive economic profits, inviting entry. Entry reduces prices and erodes market shares until economic profits equal zero. If prices are insufficient to cover fixed costs, firms will earn negative economic profit, causing exit by firms.

Oligopoly

A market in which the actions of individual firms materially affect the overall market is called an oligopoly. Two important models are

- **Cournot quantity competition:** each firm “guesses” how much the other firm will produce and believes that its rival will stick to this level of output. Each firm’s optimal level of production is the best response to the level it expects its rival to choose. By independently maximizing their own profits, firms produce more output than they would if they collusively maximized industry profits, which reduces revenues and is known as the revenue destruction effect. It helps explain why small firms are often most willing to disrupt pricing stability: they suffer a smaller revenue destruction effect. It also explains why Cournot equilibrium price falls as the number of firms in the market increases. See pp. 180-185 for formulas.
- **Bertrand price competition:** each firm selects a price to maximize its own profits. This model can destabilize markets where firms must incur sunk costs to do business, because there is not enough variable profit to cover the sunk costs. Price competition may be limited if one or both firms runs up against a capacity constraint and cannot readily steal market share. See pp. 185-187.

Why are Cournot and Bertrand different? Cournot competitors can be thought of as choosing capacities and then competing as capacity-constrained price setters. The Bertrand competition results if the competitors are no longer constrained by their capacity choices, either because demand declines or a competitor miscalculates and adds too much capacity. Also, both models make different assumptions of how their rivals react to the competitive moves set by the firm. The Cournot model applies most naturally to markets in which firms must make production decisions in advance, are committed to selling all of their output, and are therefore unlikely to react to fluctuations in rivals’ output. Because “business stealing” is not an option, **Cournot competitors must share in the revenue destruction effect** if they expand output. As a result, they set prices less aggressively than Bertrand competitors. The Bertrand model pertains to markets in which capacity is sufficiently flexible that firms can meet all of the demand that arises at the prices they announce. So, through a small cut in price, the competitor can steal massive amount of business, **bearing none of the revenue destruction effect**.

Chapter 6: Entry and Exit

The distinction between new and diversifying firms is often important, as it may affect the costs of entry and the appropriate strategy. There are three important implications for strategy:

1. When planning the future, the managers must account for entry
2. Managers should expect most new ventures to fail quickly
3. Managers should know the entry and exit conditions of their industry

Entry and exit decisions: Basic concepts

It helps to think of an entry as an investment. The entrant must sink some capital that cannot be fully recovered upon exit. The entrant hopes that **postentry profits exceed the sunk entry costs**. Postentry profits will vary according to demand and cost conditions, as well as the nature of postentry competition. It represents the conduct and performance of firms in the market after entry has occurred.

Barriers to entry allow incumbent firms to earn positive economic profits while making it unprofitable for newcomers to enter the industry. **Structural entry barriers** exist when the incumbent has natural cost or marketing advantages, or when the incumbent benefits from favorable regulations. **Strategic entry barriers** result when the incumbent takes aggressive actions to deter entry.

Bain described three entry conditions:

1. **Blockaded entry:** entry is blockaded if structural barriers are so high that the incumbent need do nothing to deter entry
2. **Accommodated entry:** entry is accommodated if structural entry barriers are low, and either (a) entry-detering strategies will be ineffective or (b) the cost to the incumbent of trying to deter entry exceeds the benefits it could gain from keeping the entrant out.
3. **Deterred entry:** entry is deterred (a) if the incumbent can keep the entrant out by employing an entry-detering strategy or (b) if employing the entry-detering strategy boosts the incumbent's profits

There must be other asymmetries that usually work in favor of the incumbent. Incumbents usually have incurred sunk entry costs while entrants do not, they rather have incremental costs. Asymmetries arise from relationships with customers and suppliers that can take years to build.

There are three types of structural entry barriers:

1. **Control of essential resources:** an incumbent is protected from entry if it controls a resource or channel in the vertical chain and can use that resource more effectively than newcomers. There are several risks however: (1) substitutes can emerge, (2) new channels can open, and (3) the price to acquire other firms in the chain can be excessive. Incumbents can also legally erect entry barriers by obtaining patents to novel and nonobvious products or production processes. Once the patent is approved, anyone who wishes to use the process or make the product must obtain permission from the patent holder, at a price determined by the patent holder. Entrants, of course try to "invent around" the existing patents, however, incumbents may file patent-infringement lawsuits. Furthermore, incumbents may not require patents to protect specialized know-how.
2. **Economies of scale and scope:** when economies of scale are significant, the incumbents that operate at or beyond the MES will have a substantial cost advantage over smaller entrants. An entrant might try to overcome the incumbent's cost advantage by spending to boost its market share. This requires two main costs: (1) the direct cost of advertising and creating the sales force, and (2) the costs associated with procuring inputs and paying for labor. But the entrant also faces a dilemma: to overcome its cost disadvantage, it must increase market share, which will cause prices to fall. Fierce price competition frequently results from large-scale entry into capital-intensive industries where capital costs are largely sunk. Incumbents may also derive a cost advantage from economies of scope, or even diversified incumbents may also enjoy economies of scope. These economies make it relatively inexpensive for an incumbent to devote part of an existing production line to a new formulation. An

entrant might have to build an entire new production line, putting much more capital at risk. Furthermore, incumbents have established brand names that give them market economies, while entrants would have to build brand awareness from scratch.

3. **Marketing advantages of incumbency:** an incumbent can exploit the umbrella effect to offset uncertainty about the quality of a new product that it is introducing. The umbrella effect makes the incumbent's sunk cost of introducing a new product less than that of a new entrant. It may also help the incumbent negotiate the vertical chain, because its other products sold well in the past. However, the brand umbrella may come with a risk: if the product fails, consumers may become disenchanted with the entire brand and competitors may view the incumbent as less formidable.

There are **exit barriers** when the firm chooses to remain in the market but, given the opportunity to revisit its entry decision, would not have entered in the first place. They often stem from sunk costs. Exiting firms can often avoid debt obligations by declaring bankruptcy. Governments can also pose barriers to exit.

Entry-deterring strategies

Entry-deterring strategies are worth considering if two conditions are met:

1. The incumbent earns higher profits as a monopolist than it does as a duopolist
2. The strategy changes entrants' expectations about the nature of postentry competition

There are three ways:

1. **Limiting pricing:** this refers to the practice whereby an incumbent firm changes a low price to discourage new firms from entering. If the incumbent sets the limit price low enough, the entrant will conclude that there is no way that postentry profits will cover the sunk costs of entry. At the same time, the incumbent believes that it is better to be a monopolist at the limit price than to share the market at a duopoly price. Limiting prices can fail when the incumbent's pre-entry pricing does not influence the entrant's expectations about postentry competition. The ingredient to make it work is asymmetric knowledge about industry conditions. By setting the price low, the incumbent may persuade the entrant that demand is low, that its costs are low, or even that it does not care about profits.
2. **Predatory pricing:** this occurs when a large incumbent sets a low price to drive smaller rivals from the market. The purpose is twofold: (1) to drive out current rivals and (2) to make future rivals think twice about entry. Chain-store paradox: many firms appear to engage in predatory pricing, despite the theoretical conclusion that the strategy is irrational. Predatory actions may be profitable if entrants are uncertain about market conditions. Incumbents can exploit this uncertainty by slashing prices, and thereby establishing a reputation for toughness. Note that predatory pricing will not deter entry if the predator lacks the capacity to meet the increase in customer demand. There are thus conditions under which an incumbent can successfully deter entry by holding excess capacity:
 - The incumbent should have a sustainable cost advantage
 - Market demand growth is slow
 - The investment in excess capacity must be sunk prior to entry
 - The potential entrant should not itself be attempting to establish a reputation for toughness
3. **Strategic bundling:** this is when an incumbent firm that dominates one market can use its power to block entry into related markets. Bundling occurs when a combination of goods/services are sold at a price that is less than what it would cost to buy the same items separately. Strategic bundling works by giving consumers little choice but to buy the entire bundle from the incumbent rather than buy the monopolized good from the incumbent and the second good from competing firms.

Price wars harm all firms in the market regardless of who starts them, and are quintessential examples of wars of attrition. In a **war of attrition**, two or more parties expend resources battling with each other. The winner wins and the loser gets nothing. If the war lasts long enough, even the winner may be worse off than when it began because the resources it expended to win the war may exceed its ultimate reward. Firms that engage in

a price war should do all they can to convince their rivals that they have no intention of dropping out, so as to hasten their rivals' exit. In this case, asymmetries can profoundly influence the outcome of a price war.

Sometimes, smaller firms and potential entrants can use the incumbent's size to their own advantage. This is known as '**judo economics**'. For example, the revenue destruction effect: when an incumbent slashes prices to drive an entrant from the market, it stands to lose more revenue than its smaller rivals.

Contestable markets

The **theory of contestable markets** states that the mere threat of entry can force the incumbent to lower prices. The key requirement for contestability is "**hit-and-run entry**". When a monopolist raises price in a contestable market, a hit-and-run entrant rapidly enters the market, undercuts the price, reaps short-term profits, and exits the market just as rapidly if the incumbent retaliates.

Entering a new market

In entering a new market, the potential entrant must weigh postentry profits against sunk entry costs. There are two extreme scenarios to consider:

1. Perfect competition: in this scenario, any firm can access the production technology and market demand is large enough, so that many firms can profitably coexist.
2. Monopoly: in this scenario, a single firm has access to the production technology, perhaps because it has a patent and chooses not to license to competitors.

Furthermore, by engaging in **rent-seeking behavior** (costly activities intended to increase the chances of landing available profits), firms that would appear to be in an enviable competitive position, even firms with established monopolies, may have dissipated some or all of the available profits. This may take the form of preemptive entry, lobbying the government, or spending money to develop supplier or customer relationships. And if several firms are competing for the monopoly rents, the 'winner' must have some unique assets or abilities – asymmetries – if it hopes to end up earning positive profits.

Chapter 7: Dynamics: Competing Across Time (pp. 235-253)

Competitive Discipline

The starting point for our analysis is the premise that, all else being equal, firms would prefer prices to be as close as possible to monopoly levels. If managers are to maintain high prices, they must do so unilaterally, because the antitrust laws prohibit open coordination of market prices and quantities. From the Bertrand model, if prices exceed marginal costs then there is a strong temptation for each firm to "cheat" by lowering price and grabbing market share. But the Bertrand model is static, meaning that firms do not believe that their rivals will respond to price reduction. This is an unrealistic assumption. In reality, if a firm tries to lower its price, others must match it in order to deter such disruptive business stealing. This is known as **tit-for-tat pricing**. Another strategy, like tit-for-tat, results in the monopoly price for sufficiently low discount rates, and is known as the "**grim trigger**" strategy. It relies on the threat of an infinite price war to keep firms from undercutting their competitor's prices. So, why adopt a tit-for-tat strategy? Because it is a simple, easy to describe, and easy to understand strategy. Another reason is that the firms would do well over the long run against the variety of different strategies. This is so, because the tit-for-tat strategy combines the properties of "**niceness**" (never the first to defect from the cooperative outcome), "**provocability**" (it immediately punishes a rival that defects from the cooperative outcome), and "**forgiveness**" (if the rival returns to cooperative outcome, tit-for-tat will too).

A well-known property of dynamic games is called the **folk theorem**: if firms expect to interact indefinitely and have sufficiently low discount rates, then any price between the monopoly price and marginal cost can be sustained as an equilibrium. It implies that cooperative pricing behavior is a possible outcome in an oligopolistic industry, even if all firms act unilaterally. To succeed, this cooperation-inducing strategy must be a **focal point** – a strategy so compelling that a firm would expect all other firms to adopt it.

Impediments to Coordination

Tit-for-tat strategy assumes that firms can perfectly observe each other's actions. But rivals will sometimes **misread** their rivals, meaning that either (1) a firm mistakenly believes a competitor is charging one price when it is really charging another or (2) a firm misunderstands the reasons for a competitor's pricing decision or their own change in market share. To avoid overreacting to apparent price cuts by competitors, companies should carefully ascertain the details of the competitive initiative and figure out what is driving it before responding. When misreads are possible, pricing strategies that are less provocative and more forgiving than tit-for-tat are desirable.

Orders are lumpy when sales occur relatively infrequently in large batches. **Lumpy orders** reduce the frequency of competitive interactions between firms, lengthen the time required for competitors to react to price reductions, and thereby make price cutting more attractive.

When sales transactions are 'public', deviations from cooperative pricing are easier to detect than when prices are secret. Deviations from cooperative pricing are also difficult to detect when product attributes are customized to individual buyers. **Secret or complex transaction terms** can intensify price competition not only because price matching becomes less effective deterrent to price-cutting behavior, but also because misreads become more likely.

Price cutting is harder to verify when **market demand conditions are volatile** and a firm can observe only its own volume and not that of its rivals.

Asymmetries among Firms and the Sustainability of Cooperative Pricing

When firms are identical, a single monopoly price can be a focal point. However, when firms differ, there is no single focal price and it thus become more difficult for firms to coordinate their pricing strategies toward common objectives. Even when firms can agree on the cooperative price, differences in costs, capacities, or product qualities may affect their incentives to abide by the agreement. For example, small firms have more incentive to defect because they gain more in new business relative to the loss due to the revenue destruction effect. Another reason, is that large firms often have weak incentives to push smaller price cutter and will instead offer a price umbrella (the practice of offering a broad product line under a single brand name), under which the smaller firm can sustain its lower price.

When buyers are price sensitive, a firm that undercuts its rivals' prices by even a small amount may be able to achieve a significant boost in its volume, because a temporary price cut may result in a significant and profitable boost in market share.

Facilitating Practices

Firms can facilitate cooperative pricing through a number of practices:

- **Price leadership.** Each firm gives up its pricing autonomy and cedes control over industry pricing to a single firm.
- **Advance announcement of price changes.** Firms will publicly announce the prices they intend to charge in the future. These can benefit consumers, but can also facilitate price increases much to the harm of consumers.
- **Most favored customer clauses.** This is a provision in a sales contract that promises a buyer that it will pay the lowest price the seller charges. There are two types: contemporaneous and retroactive. Under "contemporaneous" MFC clauses, firms cannot price discriminate among consumers. In contrast to retroactive MFC clauses, contemporaneous MFC clauses are often found to facilitate competition. With a retroactive MFC clause, a firm promises to refund consumers the difference should the price of the good in question fall after the purchase.
- **Uniform delivered prices.** A single delivered price that a seller quotes for all buyers and in which the seller absorbs any freight charges itself.

Where does Market Structure Come From?

Simple microeconomic theory recalls that there is a specific level of output for each firm that minimizes costs. This level of output is called the minimum efficient scales (MES). MES is larger when the sunk upfront costs of establishing the production facility are large relative to ongoing variable costs of production. Furthermore, the number of firms depends on the total size of the market relative to the MES of production. By examining different geographic markets within the same industry, it can be concluded that concentration is linked to market size. For many given number of firms, prices will be lower in these more competitive industries, with result that it is more difficult for firms to recover sunk production costs, fewer firms survive, and the market is more concentrated.

Sutton's Endogenous Sunk Costs

Sutton challenges the notion that the number of competitors in a market is solely a function of market size and production technology. He does not reject the importance of sunk costs and scale economies, but rather explains that customers often gravitate to brand-name products, and that the creation and maintenance of brands requires substantial investments. In other words, MES is large for branded products. Moreover, the size of the branding investment is not determined by some technology, but is instead chosen by the firms themselves. Sutton describes these investments as **endogenous sunk costs**.

A market filled with small, seemingly similar, firms evolves into a split between a handful of leading brands and a larger number of niche competitors. Some firms invest in strengthening their brand-name capital, gaining market share, which can be costly. But as the market grows, the brand leaders keep investing. The only option left for the smaller firms is to differentiate and fill niches not exploited by the leaders.

Consumer markets tend to be more concentrated today than a century ago, despite dramatic increases in demand. Before, firms relied on their sales to promote their products, but this displayed few economies of scale. Today, firms can invest in developing a **brand image**, which requires substantial sunk costs and has big-scale economies. Thus only a few firms in an industry need apply. However, thanks to the Internet and such, firms today have unprecedented opportunities to identify niches and target niche customers.

Sutton considers **research and development spending** to be another potential endogenous sunk cost. Market leaders may spend aggressively on R&D to force other firms to do likewise if they are to effectively compete. Because R&D is a sunk cost, this raises the MES of entry. **Disruptive technologies** are unexpected innovations that dramatically transform a product's benefit and/or its costs of production. However, incumbents are then confronted with the **innovator's dilemma**: disruptive technologies may destroy the business of the technology they replace, however, not innovating will open the door to newcomers.

Firms can use the **learning curve** to secure and maintain market leadership, however learning is not enough for a firm to maintain its dominant position. The reason is that trailing firms also move down the learning curve, and as all firms learn, the gap in knowledge and the associated gap in production costs shrink. But how do firms stay ahead? The answer lies in a combination of learning and forgetting. Firms may pursue aggressive growth strategies not so much to move down their own cost curves through learning, but rather to drive up rivals' costs through forgetting.

Chapter 8: Industry Analysis

Performing a Five-Forces Analysis

Internal Rivalry. Internal rivalry refers to the jockeying for share by firms within a market. Recall that firms may compete on both price and nonprice dimensions. Nonprice competition erodes profits by driving up fixed costs, but is less likely to erode profits than price competition. Price competition is for more likely because it is difficult to reduce costs by enough to maintain price-cost margins. The gain in share depends on the elasticity of demand facing the firm and on whether rivals reduce their prices in response. Each of the following conditions tends to heat up price competition:

- There are many sellers in the market
- The industry is stagnant or declining
- Firms have different costs
- Some firms have excess capacity
- Products are undifferentiated/buyers have low switching costs
- Prices and terms of sales are unobservable/prices cannot be adjusted quickly
- There are large/infrequent sales orders
- Industry does not use facilitating practices or have a history of cooperative pricing
- There are strong exit barriers
- There is high industry price elasticity of demand

Entry. Entry erodes incumbents' profits in two ways: (1) entrants divide market demand among more sellers, and (2) they decrease market concentration and heat up internal rivalry. Each of the following tend to affect the threat of entry.

- Production entails significant economies of scale – minimum efficient scale is large relative to the size of the market
- Government protection of incumbents
- Consumers highly value reputation/consumers are brand loyal
- Access of entrants to key inputs, including technological know-how, raw materials, distribution, and locations
- Experience curve
- Network externalities
- Expectations about post-entry competition

Substitutes and Complements. Substitution erodes profits in the same way as entrants by stealing business and intensifying internal rivalry. Complements boost the demand for the product in question, thereby enhancing profit opportunities for the industry. Factors to consider when assessing substitutes and complements:

- Availability of close substitutes and/or complements
- Price-value characteristics of substitutes/complements
- Price elasticity of industry demand

Supplier Power and Buyer Power. An assessment of supplier power takes the point of view of a downstream industry and examines whether that industry's upstream input suppliers can negotiate prices that extract industry profits. Suppliers in a competitive upstream market have 'indirect power' because they can sell their services to the highest bidder. Upstream suppliers can erode industry profits if (a) they are concentrated or (b) their customers are locked into relationships with them because of relationship-specific investments. In these situations, the suppliers have 'direct power' and can raise prices when its target market is thriving, thereby extracting a share of its customers' profits. They can also lower the prices when its target market is struggling. Buyer power is analogous to supplier power. It refers to the ability of individual customers to negotiate purchase prices that extract profits from sellers. The following factors should be considered when assessing supplier power (analogous factors for buyer power):

- Competitiveness of the input market
- The relative concentration of the industry in question, its upstream, and its downstream industries
- Purchase volume of downstream firms
- Availability of substitute inputs
- Relationship-specific investments by the industry and its suppliers
- Threat of forward integration by suppliers
- Ability of suppliers to price discriminate

Competition and the Value Net

From the viewpoint of one firm, Porter tends to view all other firms as if business is a zero or even negative sum game. Brandenberger and Nalebuff observe that interactions among firms can sometimes enhance profits and emphasize the many positive interactions that Porter generally ignores. For example:

- Efforts by competitors to set technology standards that facilitates industry growth
- Efforts by competitors to promote favorable regulations or legislations
- Cooperation among firms and their suppliers to improve product quality to boost demand
- Cooperation among firms and their suppliers to improve productive efficiency

The concept of Value Net is the counterpart of Porter's five forces to prevent blind spots. But whereas the five forces analysis mainly assesses threats to profits, a Value Net analysis assesses opportunities.

Firm X's profit from the value net= (overall value of the net when firm X participates)
– (overall value of net when it does not participate)

Chapter 9: Strategic Positioning for Competitive Advantage

This chapter develops a conceptual framework for characterizing and analyzing a firm's strategic position within an industry.

Competitive Advantage and Value Creation: Conceptual Foundations

Competitive advantage: when a firm earns a higher rate of economic profit than the average rate of economic profit of other firms competing within the same market. Firms achieve a competitive advantage by creating and delivering more economic value than their rivals and capture a portion of this value in the form of profits. A firm's economic profitability within a particular market depends on the economic attractiveness or unattractiveness of the market in which it competes and in its competitive position in that market. Businesses that create more value than competitors will hold an advantaged position in the marketplace.

Maximum willingness to pay: A firm's WTP for an input is easier to quantify because it is related to the impact of the input on the profitability of the firm, and profits are easier to measure. One way to measure a firm's WTP is with value-added analysis. It is a process in which the essential benefits and attributes of a product or service are realized. Those attributes or benefits which are more customer-appealing are retained and improved, while the others are eliminated or reduced. The main goal of value added analysis is to obtain a value for end product which is higher than its production cost.

Consumer surplus: a simple model of consumer behavior states that a consumer will purchase a product only if the product's consumer surplus is positive. Following this statement, competition among firms in a market can be thought of as a process whereby firms, through their prices and product attributes, submit consumer surplus "bids" to consumers. Consumers then choose the firm that offers the greatest amount of consumer surplus. Firms have achieved consumer surplus parity when their quality-price positions line up along the same indifference curve. If this is achieved in a market where consumers have identical preferences, then no consumer within that market has an incentive to switch from one seller to another, and market shares will be stable.

Value-created: The economic value created is the difference between the perceived benefit (B) and cost (C).

$$\begin{aligned}\text{Value-created} &= \text{consumer surplus} + \text{producer surplus} \\ &= (B-P) + (P-C) \\ &= B-C\end{aligned}$$

No product can be viable without creating positive economic value. If B-C was negative, there would be no price that consumers would be willing to pay for the product that would cover the cost of the resources that are sacrificed to make the product. By contrast, when B-C is positive, a firm can profitably purchase inputs from suppliers, convert them into a finished product, and sell it to the consumers. When $B > C$, clever entrepreneurs can exploit potential gains from trade.

It is important to note that just because a firm sells a product whose B-C is positive, it is no guarantee that it will make a positive profit, because competition between firms will dissipate profitability. In order for a firm to earn positive profit in a competitive industry, the firm must create more economic value than its rivals. If the firm has the highest B-C, then it will have an advantage because that firm will be able to win the consumer because it offers a slightly more favorable consumer surplus bid than the rivals are prepared to offer, while retaining the extra value it creates in the form of profit.

Value is created as goods move along the vertical chain, the value chain. It depicts the firm as a collection of value-creating activities. Each activity in the chain can either potentially add to the benefit that consumers can get, or add onto the cost that firms incur. Estimating the incremental benefit or the incremental cost allows us to analyze the impact an activity has on the value that the firm creates.

There are two ways in which a firm can create more economic value than the other firms in its industry:

1. It can configure its value chain differently from competitors
2. It can configure its value chain in essentially the same way as its rivals, but within that value chain, performs activities more effectively than rivals do

Resources are firm-specific assets that can directly affect the ability of a firm to create more value than other firms. They can also indirectly impact value creation because they are the basis of the firm's capabilities. Capabilities are activities that a firm does especially well compared with other firms. They might reside within certain business functions, may be linked to particular technologies or product designs, or can even reside in the firm's ability to manage linkages between elements of the value chain. Whatever their basis, capabilities have several characteristics:

1. They are typically valuable across multiple products or markets
2. They are embedded in organizational routines – well-honored patterns of performing activities inside an organization
3. They are tacit – difficult to reduce to simple algorithms or procedure guides

Strategic Positioning: Cost Advantage and Benefit Advantage

Although there is no single formula for success, we can discern broad commonalities across industries in the different ways that firms position themselves to compete. Generic strategies describe how a firm positions itself to compete in the market it serves.

Cost Leadership: A firm that follows a strategy of cost leadership creates more value than its competitors by offering products that have a lower C than its rivals. This can happen in three qualitatively different ways:

1. The cost leader can achieve benefit parity by making products with the same B but at a lower C
2. The cost leader can achieve benefit proximity, which involves offering a B that is not much less than competitors
3. The cost leader may offer a product that is qualitatively different from that of its rivals

In essence, the leader's cost advantage gives it the ability to charge a price that is lower than that of its higher-cost, higher-quality rivals, despite its quality disadvantage, and thus the cost leader achieves a higher profit margin.

Benefit Leadership: A firm that follows a strategy of benefit leadership creates more value than its competitors by offering products that have a higher B than its rivals. This can happen in three qualitatively different ways:

1. The benefit leader can achieve benefit parity by making products with the same C but higher B
2. The benefit leader can achieve cost proximity, which entails that C is not that much higher than that of its competitors
3. A firm could offer substantially higher B and C

In essence, the leader's benefit advantage gives it the 'wiggle room' to charge a price premium relative to its lower-benefit, lower-cost rivals without sacrificing market share.

Retaining profits: Assuming the *customers have identical preferences*, there are two clear recipes for retaining profits for a firm that creates more value than its competitors:

1. A cost leader that has benefit parity with its rivals can lower its price just below the unit cost of the firm with the next lowest unit cost. This makes it unprofitable for higher-cost competitors to respond with price cuts of their own and thus allows the firm to capture the entire market.
2. A benefit leader that has cost parity with its rivals can raise its price just below the sum of (i) its unit cost, plus (ii) the additional benefit created relative to the competitor with the next highest B. To top this consumer surplus bid, a competitor would have to cut price below its unit cost, which is unprofitable. At this price, the firm with the benefit advantage captures the entire market.

If one firm is a cost leader and the other is a benefit leader, then the firm that offers the higher B-C can capture the entire market.

Now, assuming *consumers do not have identical preferences*, there is a market of horizontal differentiation, and thus the price elasticity of demand becomes the key determinant:

	Cost Advantage	Benefit Advantage
High price elasticity of demand (weak horizontal differentiation)	<ul style="list-style-type: none"> • Modest price cuts gain lots of market share • Exploit advantage through higher market share than competitors • Share strategy: underprice competitors to gain share 	<ul style="list-style-type: none"> • Modest price hikes lose lots of market share • Exploit advantage through higher market share than competitors • Share strategy: maintain price parity with competitors (let B drive share increases)
Low price elasticity of demand (strong horizontal differentiation)	<ul style="list-style-type: none"> • Big price cuts gain little share • Exploit advantage through higher profit margins • Margin strategy: maintain price parity with competitors (let lower C drive higher margins) 	<ul style="list-style-type: none"> • Big price hikes lose little share • Exploit advantage through higher profit margins • Margin strategy: charge price premium relative to competitors

An advantage based on lower cost is likely to be more profitable than an advantage built on superior benefits when:

- The nature of the product limits opportunities for enhancing its perceived benefit B
- Consumers are relatively price sensitive and will not pay much of a premium for enhanced product quality, performance, or image
- The product is a search good (one whose objective quality attributes the typical buyer can assess prior to the point of purchase)

An advantage based on superior benefits is likely to be relatively more profitable than an advantage based on cost efficiency when:

- The typical consumer will pay significant price premium for attributes that enhance B
- Economies of scale or learning are significant, and firms are already exploiting them
- The product is an experienced good (one whose quality can be assessed only after the consumer has purchased it and used it for a while)

“Stuck in the Middle”: This is a term coined by Michael Porter used to describe a firm that pursues elements of cost leadership and benefit leadership at the same time and, in the process, achieves neither. Firms end up stuck in the middle because they fail to make choices and, as a result, their strategies lack clarity and coherence. It is therefore important to make clear choices on how to compete because economically powerful strategic positions usually require trade-offs.

Despite Porter’s advice to avoid being stuck in the middle, research suggests that firms can outperform their competitors even when pursuing both benefit and cost leadership at the same time. Several factors might help firms to avoid the trade-off between benefit and cost positions:

- A firm that offers high-quality products increases its market share, which then reduces average cost because of EOS or the experience curve
- The rate at which accumulated experience reduces costs is often greater for higher-quality products than for lower-quality products
- Inefficiencies muddy the relationship between cost position and benefit position

Diagnosing Cost and Benefit Drivers

Cost drivers: they explain why average costs vary across firms.

- Cost drivers related to firm size, scope, and cumulative experience:
 - An important source of economies of scale and scope is *indivisible inputs*, which give rise to fixed costs. As volume or variety of output increases, the fixed costs get spread out, leading to lower per-unit costs per production. In the short run, fixed costs are often spread because of greater capacity utilization, while in the long run, they are spread when it becomes economical for a firm to substitute a technology with high fixed costs and low variable costs, with one with low fixed costs and high variable costs.
 - Cumulative experience can reduce average costs as firms move down the learning curve.
- Cost drivers independent of firm size, scope, or cumulative experience:
 - *Input prices* (such as wage rates, energy prices...).
 - *Economies of density*, referring to cost savings that arise with greater geographic density of customers.
 - Production environment is less complex or more focused
 - Able to realize production process inefficiencies that the rivals have not achieved. This is often difficult to disentangle from the learning curve because the achievement of process efficiencies through learning-by-doing is at the heart of the learning curve
 - Avoid expenses that rivals are incurring (eg. Advertising and sales expenses)
 - Effects of government policies
- Cost drivers related to organization of the transactions
 - A market firm may have higher administrative and production expenses than a vertically integrated firm
 - Agency costs often increase as the firm expands and gains more activities to coordinate internally or grows more diverse and thus creates greater conflicts in achieving coordination

Benefit drivers:

- *Physical characteristic of the product:* product performance, quality, features, durability...
- *The quantity and characteristics of the services of complementary goods the firm or its dealers offer for sale:* postal services, complementary products, product warranties, quality of repair...
- *Characteristics associated with the sale or delivery of the good:* speed and timeliness of delivery, availability, location of seller...
- *Characteristics that shape consumers' perceptions or expectations of the product's performance or its cost to use:* product reputation, seller's financial stability, product's installed base
- *The subjective image of the product:* rewards that the consumer receives from purchasing, owning, and consuming a product. It is driven by advertising messages, packaging, labeling...

Estimating Costs: Modern accounting tools such as activity-based costing (ABC) can be used. In absence of accounting data, firms can use activity cost analysis, which applies precise cost accounting data to each step in the vertical chain of production for all competing firms. The economic approach to cost comparisons begins by identifying the key cost drivers in production. Next, weigh how each competitor stacks up on each cost driver. When it is not possible to make precise estimates of cost differences, the one can follow these steps:

1. List the industry's cost drivers
2. Rate the cost drivers on a 5-point scale according to relative importance to total costs
3. Rate each firm's relative position on each cost driver, using a 5-point scale
4. Multiply the importance rating by the relative position rating
5. The firm's overall position is the sum of its cost driver scores

Estimating Benefits: These are a bit more difficult to estimate. Any approach to estimating and characterizing benefits has four components:

1. The firm must measure the benefits provided to the customer
2. It must identify the relevant benefit drivers
3. It must estimate the magnitude of the benefit
4. It must identify the willingness of consumers to trade off one driver for another

Strategic Positioning: Broad Coverage VS Focus Strategies

Industry segmentation matrix: It shows that any industry can be characterized by two dimensions: the varieties of products offered by firms that compete in the industry and the different types of customers that purchase those products. Each point of intersection between the particular buyer group and a particular product variety represents a potential segment. As a result of differences in customer economics, supply conditions, and size within a given industry, the structural attractiveness of segments can differ greatly across segments.

Broad coverage strategy: They seek to serve all customer groups in the market by offering a full line of related products. The economic logic behind a broad coverage strategy is the existence of economies of scope across product classes.

Focus strategy: This strategy either offers a narrow set of product varieties or serves a narrow set of customers, or does both. There are three common focus strategies:

- **Customer specialization:** the firm offers an array of related products to a limited class of customers.
- **Product specialization:** the firm produces a limited set of product varieties for a potentially wide class of customers.
- **Geographic specialization:** the firm offers a variety of related products within a narrowly defined geographic market.

In addition to exploiting economies of scale or better serving underserved or overserved customers, focus strategies have another significant potential advantage: they can insulate the focusing firm from competition.

Chapter 10: Information and Value Creation (pp. 334-335)

The “Shopping Problem”

The consumer’s shopping problem is to find the seller offering the highest B-P; the process is known as search.

- Sequential search: in cases where cost of search is relative to B-P, usually because it involves considerable time and travel. Often, the consumer will have the “threshold” B-P in mind and will buy from the first seller who exceeds this threshold. These consumers do not always find the product offering the highest possible B-P because they may stop searching before then. They may revise their threshold during their search if they feel it is too unrealistic.
- Simultaneous search: in cases where the cost of search is relatively low compared to B-P, consumers gather information about many products before deciding which one to purchase. Simultaneous search assures consumers that they will find a product offering a high level of B-P and thus assures firms that those offering a high B-P will enjoy a high market share. In other words, a reduction in search costs increases the elasticity of demand facing sellers.

Search goods: products for which consumers can easily obtain the information required to compare alternatives.

Experience goods: products for which the consumers may not learn the full value of until after purchase.

Credence goods: products for which the consumers may never learn the full value even after purchase.

Chapter 11: Sustaining Competitive Advantage (pp. 363-394)

Market Structure and Threats to Sustainability

Market structure affects the ability of firms to sustain long-run profitability. The theory of **perfect competition** has a fundamentally important implication: opportunities for earning profit based on favorable market conditions will quickly evaporate as new entrants flow into the market, increase the supply of output, and drive price down to the point where economic profits are zero. If entry is free, then any firm lacking some advantage conferring superior B-C will earn zero profits.

Unlike perfect competition, a **monopolistically competitive** seller can raise its price without losing all its customers (faces a downward-sloping demand). The seller will maximize its profits by setting its price above its marginal cost. Even so, there is no guarantee that he will earn profits. The seller may be covering incremental costs, but it must also have sufficient sales volume to cover fixed costs. If incumbent sellers are making profit and there is free entry into the market, then new firms will enter. They will find their own niches in the market by differentiating themselves from the incumbents, and thus take some business from the incumbents.

Successful incumbents in competitive and monopolistically competitive markets can usually do little to preserve profits unless they can deter entry. However, note that the conditions that tend to facilitate entry deterrence (high fixed costs, limiting pricing) tend to be absent in these markets. The firms can prosper by finding uniquely efficient production processes or product enhancements.

In **oligopolistic or monopolistic markets**, where entry may be blockade or deterred, a successful incumbent may not stay successful for long, because there are certain factors that it cannot control. Whenever a firm does exceedingly well, one must consider whether it benefited from good luck. Or conversely, when the firm underperforms, it might have had bad luck. One should not always expect firms to repeat extreme performances. However, firms may develop genuine advantages that are difficult for other to duplicate, though this does not guarantee a sustainable flow of profits.

If the forces threatening sustainability were pervasive, economic profits in most industries would quickly converge to zero. By contrast, if there are impediments to the competitive dynamic, then profits would persist. In the study on **profit persistence** by Dennis Mueller found that firms with abnormally high levels of profitability tend, on average, to decrease in profitability over time, while firms with abnormally low levels of profitability tend, on average, to experience increases in profitability over time. Mueller implies that market

forces are a threat to profits, but only up to a point. Other forces appear to protect profitable firms, such as Porter's five forces.

The Resource-Based Theory of the Firm

To achieve a competitive advantage, a firm must create more value than its competitors. A firm's ability to create superior value depends on its stock of resources and its distinctive capabilities that arise from using those resources. A competitive advantage is sustainable when it persists despite efforts by competitors or potential entrants to duplicate or neutralize it. For this to occur, there must be persistent asymmetries among firms, meaning they possess different resources and capabilities (resource heterogeneity). The **resource-based theory** implies that if all firms in a market have the same stocks of resources and capabilities, no strategy for value creation is available to one firm that would not also be available to all other firms in the market. To be sustainable; a competitive advantage must be underpinned by resources and capabilities that are scarce and imperfectly mobile.

A firm that possess a scarce resource can sustain its advantage if that resource is **imperfectly mobile**, meaning that the resource cannot 'sell itself' to the highest bidder. Some resources are inherently nontradable, such as know-how or a firm's reputation. Some resources may be cospecialized, meaning they are more valuable when used together than when separated.

Isolating mechanisms refer to the economic forces that limit the extent to which a competitive advantage can be duplicated or neutralized through the resource-creation activities of other firms. They thus protect the competitive advantages of the firms. There are two distinct groups:

1. Impediments to imitation: they impede existing firms and potential entrants from duplicating the resources and capabilities that form the basis of the firm's advantage. In other words, they prevent competitors from copying the strengths of the successful firms.
2. Early-mover advantage: this increases the economic power of the advantage over time.

Impediments to Imitation

Legal restrictions, such as patents, copyrights, and trademarks, as well as governmental control over entry into markets through licensing, certification, or quotas on operating rights, can be powerful impediments to imitation. Patents and trademarks can be sold. Once a patent or operating right is secured, its exclusivity gives it sustainable value, and whoever hold that asset holds its value.

Superior access to inputs or customers. A firm that can obtain high-quality or high-productivity inputs on more favorable terms than its competitors will be able to sustain cost and quality advantages that competitors cannot imitate. Firms achieve favorable access to inputs by controlling the sources of supply through ownership of long-term exclusive contracts. On the other hand, a firm that secures access to the best distribution channels or the most productive retail locations will outcompete its rivals for its customers. A manufacturer could prevent access to retail distribution channels, by implementing *exclusive dealing clauses*, whereby the retailer agrees to sell only the products that the manufacturer makes. Locations or contracts that give the firm control of scarce inputs or distribution channels can be sold. If the firm can secure access at "below-market" prices or if the firm has unique resources or capabilities, then it can sustain competitive advantage, because it creates more value from the inputs and customers it acquires. Control of scarce inputs or distribution channels allows a firm to earn economic profits in excess of its competitors only if it acquired control of the input supply when other firms or individuals failed to recognize its value or could not exploit it. However, beware of the **winner's curse**, in which the winning bidder ends up worse off than the losers, because it tends to be overoptimistic and will most likely bid much higher than the actual value. By bidding below their estimates, firms can be sure that when they do win an auction, their winning bid is realistic. The winning bidder usually thinks too highly of its own uniqueness.

Market size and scale economies. When minimum efficient scale is large relative to market demand and one firm has secured a large share of the market, imitation may be deterred. Economies of scale can limit the number of firms that can 'fit' in a market, and discourage a smaller firm already in the market from seeking to grow larger. Scale-based barriers to imitation and entry are especially powerful in markets for specialized

products or services where demand is just large enough to support one large firm. But this can only be sustainable if demand does not grow too large.

Intangible barriers to imitation. There are four different barriers:

- **Causal ambiguity:** this is when the causes of a firm's ability to create more value than its competitors are obscure and only imperfectly understood. It is a consequence when a firm's distinctive capabilities involve tacit knowledge, which are capabilities that are difficult to articulate, such as know-how and collective wisdom. They are typically developed through trial and error and refined through practice and experience. For this reason, causal ambiguity can also be a source of diseconomies of scale, as it might prevent a firm from translating operational success it achieves in one of its plants to another.
- **Dependence on historical circumstances:** competitors might not be able to replicate the distinctive capabilities of a successful firm, because they are bound up with the history of the firm. The firm's history of strategic action comprises its unique experiences in adaption to the business environment. Historical dependence implies that a firm's strategy may be viable for only a limited time.
- **Social complexity:** this includes the interpersonal relations of managers in a firm and the relationship between the firm's managers and those of its suppliers and customers. It is the creation of trust.

Early-Mover Advantage

Learning curve. Firms with great cumulative experience can thus profitably "underbid" rivals for business, further increasing their cumulative volume and enhancing their cost advantage.

Reputation and buyer uncertainty. Consumers who have had a positive experience with a firm's brand will be reluctant to switch to competing brands if there is a change that the competing products will not work. Buyer uncertainty coupled with reputational effects can make a firm's brand name a powerful isolating mechanism.

Buyer switching costs. Switching costs can arise when buyers develop brand-specific know-how that is not fully transferable to substitute brands. They can also arise when the seller develops specific know-how about the buyer that other sellers cannot quickly replicate or provides customized after-sale services to buyers. They can increase switching costs by offering coupons or "frequent-customer" points, by offering warranties, or by offering a bundle of complementary products.

Network effects. Customers often place higher value on a product if other consumers also use it. The network effect arises because consumers can communicate with other users in the network (actual networks). In virtual networks, consumers are not physically linked, but the network effect arises from the use of complementary goods. As long as their collective purchasing power encourages the supply of complementary products, each individual consumer benefits from the network. In markets with network effects, the first firm that establishes a larger installed base of customers has a decided advantage. The persistence of standards makes standard-setting a potentially powerful source of sustainable competitive advantage. A firm must also consider several factors when deciding whether to compete 'for the market' or 'in the market' (see pp. 381-382). Furthermore, there are two keys to having a rival standard succeed: (1) the rival must offer superior quality, and (2) must be able to tap into complementary goods markets.

There is a possibility that the early-mover will create disadvantages. (1) Early movers may fail to achieve a competitive advantage because they lack the complementary assets needed to commercialize the products, or, (2) because they bet on the wrong technologies or products.

Imperfect Imitability and Industry Equilibrium

See example pp. 383-385

Creating Advantage and Creative Destruction

Firms create advantage by exploiting opportunities that other firms either ignore or cannot exploit. Markets have periods of "comparative quiet", when firms that have developed superior products, technologies, or organizational capabilities earn positive economic profits. These periods are then punctuated by shocks or discontinuities that destroy old sources of advantage and replace them with new ones. The entrepreneurs

want to exploit these shocks to achieve positive profits during the next comparative quiet period. This evolutionary process is known as **creative destruction**.

New technologies that “creatively destroy” established markets and their dominant firms succeeded because they had higher B-C than their predecessors did, but not through incremental improvements, but rather with entirely new technologies that drastically lower C. These are **disruptive technologies**. However, not all low C technologies are disruptive.

Are firms doomed to be less innovative than smaller rivals? Four factors weigh on this question:

1. **The productivity effect:** this effect concerns whether the firm will be more productive at research. The large firm may have the advantage of scope economics, but it can be defeated by the sheer statistical power of the innovative process. For example, innovation is a winner-take-all activity rewarded by a patent (patent racing). If there are no scope economies, then the winner of the patent race is most likely the smaller firm, because the large firm may not explore all possible research directions, which handicaps its effort to be the first innovator. The large firm could counter this by dividing its efforts into smaller independent research labs. The incentive and bureaucratic effects of vertically integrated firms also weigh on large firms seeking to motivate internal research labs.
2. **The sunk cost effect:** this effect has to do with the asymmetry between a firm that has already made a commitment to a particular technology or product concept and one that is planning such a commitment. A firm that has not yet committed to a technology can compare the costs of all of the alternative technologies and is thus not biased in favor of one. Whereas, a firm that has already invested in a technology and ignored the sunk costs of it, creates an inertia that favors sticking with the current technology.
3. **The replacement effect:** innovation is drastic: once it is adopted, producers using the older technology will not be viable competitors. Assuming equal innovative capabilities, an entrant would be willing to spend more than the monopolist to develop the cost-reducing innovation, because a successful innovation for a new entrant leads to it becoming a low-cost monopolist, whereas a successful innovation by the established firm maintains its monopoly, albeit at lower costs.
4. **The efficiency effect:** if an incumbent monopolist anticipates that potential entrants may also have an opportunity to develop the innovation, then the efficiency effect comes into play. A monopolist usually has more to lose from another firm’s entry than that firm has to gain from entering the market. Therefore, the monopolist has more incentive to innovate than the potential entrant does.

Innovation and the Market for Ideas

A new firm’s ability to prosper from its inventions depends on the presence of a “market for ideas” – a place in which the firm can sell its ideas for full value. There are two elements of the commercialization environment that affect the market for ideas:

1. The technology is not easily expropriated by others: if a technology is not well protected by patents, the innovator can hardly expect to enjoy significant returns.
2. Specialized assets must be used in conjunctions with the innovative product: if the required expertise in marketing and producing innovative products is scarce, the innovator can no longer sell to the highest bidder

Evolutionary Economics and Dynamic Capabilities

According to evolutionary economics, firms do not directly choose innovative activities to maximize profits. Instead, key decisions concerning innovations result from organizational routines: well-practiced patterns of activity inside the firm. A firm’s routines include methods of production, hiring procedures, and policies for determining advertising expenditure. A firm needs to search continuously to improve its routines. The ability of a firm to maintain and adapt the capabilities that are the basis of its competitive advantage is the **dynamic capabilities**. For several reasons, a firm’s dynamic capabilities are limited. First, learning is typically incremental rather than pathbreaking, meaning that in moving forward, the firm will always look at what it had done in the past. Thus, the search for the new sources of competitive advantage is path dependent.

The presence of complementary assets (firm-specific assets that are valuable only in connection with a particular product, technology, or way of doing business) can enhance or impede a firm's dynamic capabilities. A proposed change in an organizational routine that undermines the value of a complementary asset can give rise to the sunk cost effect, reducing the likelihood that a firm will adopt the change.

"Windows of opportunity" can also impede the development of dynamic capabilities. Early in a product's development, the firm can still experiment with competing product designs or ways of organizing production. However, as time passes, a narrow set of designs or product specifications often emerge as dominant. At this point, network effects and the learning curve take over, and it no longer becomes attractive for firms to compete with established market leaders. This variant of the sunk cost effect implies that firms that do not adapt their existing capabilities or commit themselves to new markets when these uncertain windows of opportunity exist may find themselves eventually locked out of the market.

The Environment

Competitive advantage originates in the local environment in which the firm is based. Firms initially gain competitive advantage by altering the basis of competition. They win not just by reorganizing new markets or technologies, but by moving aggressively to exploit them. There are four attributes in a firm's home market:

1. **Factor conditions:** these describe the position with regard to factors of production that are necessary to compete in a particular industry, and these factors are highly specialized to the needs of particular industries.
2. **Demand conditions:** these include the size, growth, and character of home demand for the firm's product. Sophisticated home customers or unique local conditions stimulate firms to enhance the quality of their products and to innovate.
3. **Related suppliers or support industries:** companies with skillful home-based suppliers can be early beneficiaries of newly generated production know-how and may be able to shape innovation in supplying firms.
4. **Strategy, structure, and rivalry:** this includes local management practices, organizational structure, corporate governance, and the nature of local capital markets.