

# 3 Industry Analysis: The Fundamentals

When a management with a reputation for brilliance tackles a business with a reputation for poor fundamental economics, it is the reputation of the business that remains intact.

—WARREN BUFFETT, CHAIRMAN, BERKSHIRE HATHAWAY

The reinsurance business has the defect of being too attractive-looking to new entrants for its own good and will therefore always tend to be the opposite of, say, the old business of gathering and rendering dead horses that always tended to contain few and prosperous participants.

—CHARLES T. MUNGER, CHAIRMAN, WESCO FINANCIAL CORP

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## Introduction and Objectives

In this chapter and the next, we explore the external environment of the firm. In Chapter 1, we observed that profound understanding of the competitive environment is a critical ingredient of a successful strategy. We also noted that business strategy is essentially a quest for profit. The primary task for this chapter is to identify the sources of profit in the external environment. The firm's proximate environment is its industry; hence, industry analysis will be our focus.

Industry analysis is relevant both to corporate-level and business-level strategies.

- ◆ Corporate strategy is concerned with deciding which industries the firm should be engaged in and how it should allocate its resources among them. Such decisions require assessment of the attractiveness of different industries in terms of their profit potential. The main objective of this chapter is to understand how the competitive structure of an industry determines its profitability.
- ◆ Business strategy is concerned with establishing competitive advantage. By analyzing customer needs and preferences and the ways in which firms compete to serve customers, we identify the general sources of competitive advantage in an industry—what we call *key success factors*.

By the time you have completed this chapter, you will be able to:

- ◆ Appreciate that the firm's industry forms the core of its external environment and understand that its characteristics and dynamics are essential components of strategy analysis.
- ◆ Identify the main structural features of an industry and understand how they impact the intensity of competition and overall level of profitability in the industry.
- ◆ Apply industry analysis to explain the level of profitability in an industry and predict how profitability is likely to change in the future.
- ◆ Develop strategies that (a) position the firm most favorably in relation to competition and (b) influence industry structure in order to enhance industry attractiveness.
- ◆ Define the boundaries of the industry within which a firm is located.
- ◆ Identify opportunities for competitive advantage within an industry (key success factors).

## From Environmental Analysis to Industry Analysis

The business environment of the firm consists of all the external influences that impact its decisions and its performance. Given the vast number of external influences, how can managers hope to monitor, let alone analyze, environmental conditions? The starting point is some kind of system or framework for organizing information. Environmental influences can be classified by source, for example, PEST analysis considers the political, economic, social, and technological factors that impact a firm.

PEST analysis and similar approaches to macrolevel environmental scanning can be useful in keeping a firm alert to what is happening in the world but may result in information overload.

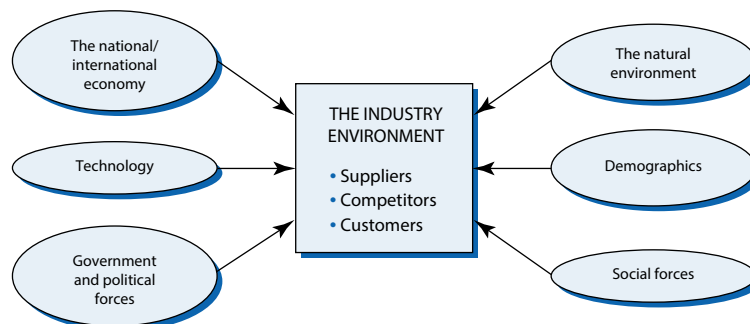
The prerequisite for effective environmental analysis is to distinguish the vital from the merely important. Hence, we need to establish what features of a firm's external environment are critical to its decisions. For the firm to make a profit, it must create value for customers. Hence, it must understand its customers. Second, in creating value, the firm acquires inputs from suppliers. Hence, it must understand its suppliers and manage relationships with them. Third, the ability to generate profitability depends on the intensity of competition among firms that vie for the same value-creating opportunities. Hence, the firm must understand competition. Thus, *the core of the firm's business environment is formed by its relationships with three sets of players: customers, suppliers, and competitors*. This is its industry environment.

This is not to say that macrolevel factors such as general economic trends, changes in demographic structure, political events, and new technologies are unimportant for strategy analysis. They may be critical determinants of the threats and opportunities a company will face in the future. The key issue, however, is how these factors affect the firm's industry environment (Figure 3.1). Consider the threat of global warming. For most companies, this is not a core strategic issue (at least, not within their normal planning horizons). However, for those businesses most directly affected by changing weather patterns—farmers and ski resorts—and those subject to carbon taxes and environmental regulations—electricity generators and automobile producers—global warming is a vital issue. For these businesses, the key is to analyze the implications of global warming for customers, suppliers, and competition within their particular industry. For the auto makers, will consumers switch to electric cars? Will governments mandate zero-emission vehicles or increase spending on public transportation? Will there be new entrants into the auto industry?

If strategy is about identifying and exploiting sources of profit, then the starting point for industry analysis is the simple question “What determines the level of profit in an industry?”

In the last chapter, we learned that, for a firm to make profit, it must create value for the customer. Value is created when the price the customer is willing to pay for a

**FIGURE 3.1** From environmental analysis to industry analysis



product exceeds the costs incurred by the firm. But creating customer value does not necessarily yield profit. The value created is distributed between customers and producers by the forces of competition. The stronger competition is among producers, the more value is received by customers as *consumer surplus* (the difference between the price they actually pay and the maximum price they would have been willing to pay) and the less is received by producers (as *producer surplus* or *economic rent*). A single supplier of umbrellas outside the Gare de Lyon on a wet Parisian morning can charge a price that fully exploits commuters' desire to keep dry. As more and more umbrella sellers arrive, so the price of umbrellas will be pushed closer to the wholesale cost.

However, the profit earned by Parisian umbrella sellers, or any other industry, does not just depend on the competition between them. It also depends upon their suppliers. If an industry has a powerful supplier—a single wholesaler of cheap, imported umbrellas—that supplier may be able to capture a major part of the value created in the local umbrella market.

Hence, the profits earned by the firms in an industry are determined by three factors:

- the value of the product to customers
- the intensity of competition
- the bargaining power of industry members relative to their suppliers and buyers.

Industry analysis brings all three factors into a single analytic framework.

## Analyzing Industry Attractiveness

Table 3.1 shows the profitability of different US industries. Some earn consistently high rates of profit; others fail to cover their cost of capital. The basic premise that underlies industry analysis is that the level of industry profitability is neither random nor the result of entirely industry-specific influences: it is determined by the systematic influences of the industry's structure.

The underlying theory of how industry structure drives competitive behavior and determines industry profitability is provided by industrial organization (IO) economics. The two reference points are the theory of monopoly and the theory of perfect competition. In a monopoly, a single firm is protected by high **barriers to entry**. In perfect competition, many firms supply a homogeneous product and there are no entry barriers. Monopoly and perfect competition form end points of a spectrum of industry structures. While a monopolist can appropriate as profit the full amount of the value it creates, under perfect competition, the rate of profit falls to a level that just covers firms' cost of capital. Some real-world industries are close to being monopolies. During 1996–2002, Microsoft's near monopoly of the market for PC operating systems allowed it to earn a return on equity of over 30%. Niche markets may be sufficiently small that they can be dominated by a single firm (see Strategy Capsule 3.1). Other industries are close to being perfectly competitive. The US farm sector earns a long-run return on equity of about 3%—well below its cost of capital. However, most industries are somewhere in between: most are *oligopolies*—industries dominated by a few major companies.

**TABLE 3.1** The profitability of US industries, 2010–2016

Industry	ROCE (%)	Leading Companies
Tobacco	59.9	Altria, Reynolds American, Philip Morris Int.
Computer Software	29.8	Microsoft, Oracle, Salesforce
Household, Personal Care Products	25.2	Procter & Gamble, Kimberley-Clark, Colgate-Palmolive
Semiconductors	22.5	Intel, Qualcomm, Texas Instruments
Pharmaceuticals	21.3	Pfizer, Johnson & Johnson, Merck
Entertainment	20.7	Walt Disney, Time Warner, CBS
Aerospace, Defense	19.9	Boeing, Lockheed Martin, United Technologies
Beverages	19.2	Coca-Cola, Constellation Brands,
Chemicals, Specialty	18.2	PPG Industries, Monsanto, Praxair
Food Processing	18.0	Kraft Foods, General Mills, ConAgra
Medical Products	17.5	Becton Dickinson, Stryker, Boston Scientific
Engineering/Construction	16.8	Fluor, AECOM, Jacobs Engineering
Restaurants, Catering	16.6	McDonalds, Darden Restaurants, Starbucks
Office Equipment & Services	15.3	Xerox, NCR, NetApp
Apparel	14.8	VF, Hanesbrands, Ralph Lauren
Furniture, Home Furnishings	13.9	Mohawk Industries, Masco, Herman Miller
Chemicals, General	13.8	Dow Chemical, DuPont, Huntsman
Electronic products	13.7	Apple, Honeywell Intl., Dell Technologies
Packaging, Containers	13.5	WestRock, Ball, Crown Holdings
Metals & Mining	12.7	Alcoa, Freeport-McMoRan, Newmont Mining
Publishing, Newspapers	12.5	News Corp, R.R. Donnelley & Sons, Gannett
Railroads	12.4	Union Pacific, CSX, Norfolk Southern
Hospitals, Healthcare Services	12.1	UnitedHealth Group, HCA Holdings, Tenet Healthcare
Paper, Forest Products	11.2	Weyerhaeuser, International Paper, Boise Cascade
Steel	9.9	Nucor, US Steel, Steel Dynamics
Investment, Asset Management	9.5	BlackRock, Charles Schwab, Franklin Resources
Telecom Services	9.5	AT&T, Verizon Communications, Comcast
Agricultural Processing	9.5	Archer Daniel Midland, Tyson Foods, CHS
Petroleum	9.2	ExxonMobil, Chevron, Valero
Insurance	9.1	State Farm Insurance, MetLife, Prudential Financial
Food Retailing	9.1	Kroger, Albertsons, Publix Super Markets
Trucking	9.1	XPO Logistics, C.H. Robinson Worldwide, J.B. Hunt
Hotels, Casinos	9.0	Marriott International, Las Vegas Sands, MGM Resorts
Motor Vehicle Parts	9.0	General Motors, Ford, Lear
Electrical Power	6.9	Exelon, Duke Energy, PG&E Corp.
Motor Vehicles	5.7	General Motors, Ford Motor, Paccar
Airlines	5.1	American Airlines, Delta Air Lines, United Continental

**Notes:**

ROCE = Earnings before interest and tax / (Equity + Long-term debt)

## STRATEGY CAPSULE 3.1

## Chewing Tobacco, Sausage Skins, and Sports Cards: The Joys of Niche Markets

**US Smokeless Tobacco Company** earned an operating margin of 62% during 2014–2017, making a major contribution to the 122% return on equity earned by its parent, Altria Inc., over the same period. What's the secret of USSTC's profitability? It accounts for 57% of the US market for smokeless tobacco, and its long-established brands (including Skoal, Copenhagen, and Red Seal), its distribution through thousands of small retail outlets, and government restrictions on advertising tobacco products create formidable barriers to would-be competitors.

**Devro plc**, based in the Scottish village of Moodiesburn, is the world's leading supplier of collagen sausage skins ("casings"). "From the British Banger to the Chinese Lap Cheong, from the French Merguez to the

South American Chorizo, Devro has a casing to suit all product types." Its overall world market share is around 60%. During 2014–2017, Devro's return on equity exceeded 20%—about three times its cost of equity.

**Panini Group**, based in Modena, Italy, is the world leader in sports trading cards and collectable stickers. With an exclusive licence with FIFA, it dominates soccer cards and, with licences to supply NBA, NFL and NHL trading cards, it has become market leader in the US. It is believed to have earned an operating margin of over 20% on its 2016 revenues of \$631 million.

**Sources:** [www.altria.com](http://www.altria.com), [www.devro.com](http://www.devro.com), and [www.paninigroup.com/corporate/](http://www.paninigroup.com/corporate/)

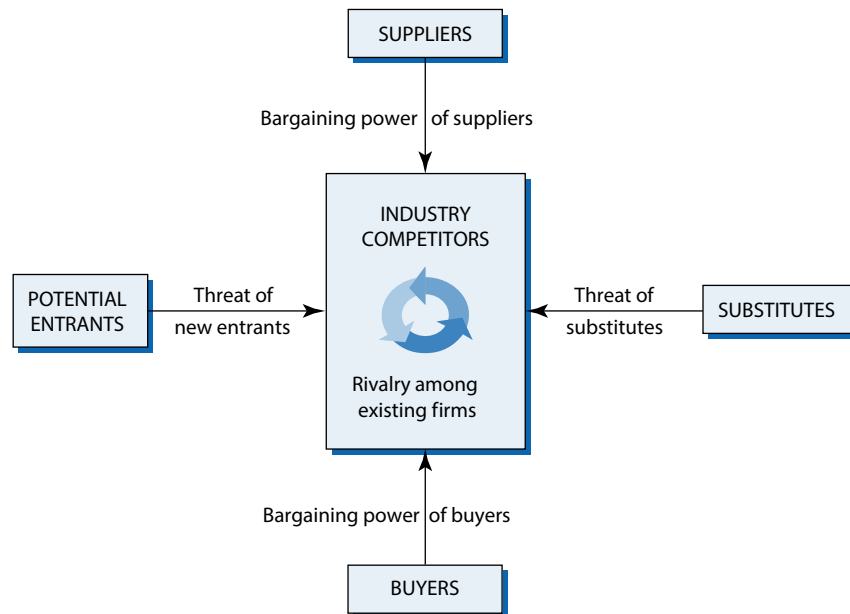
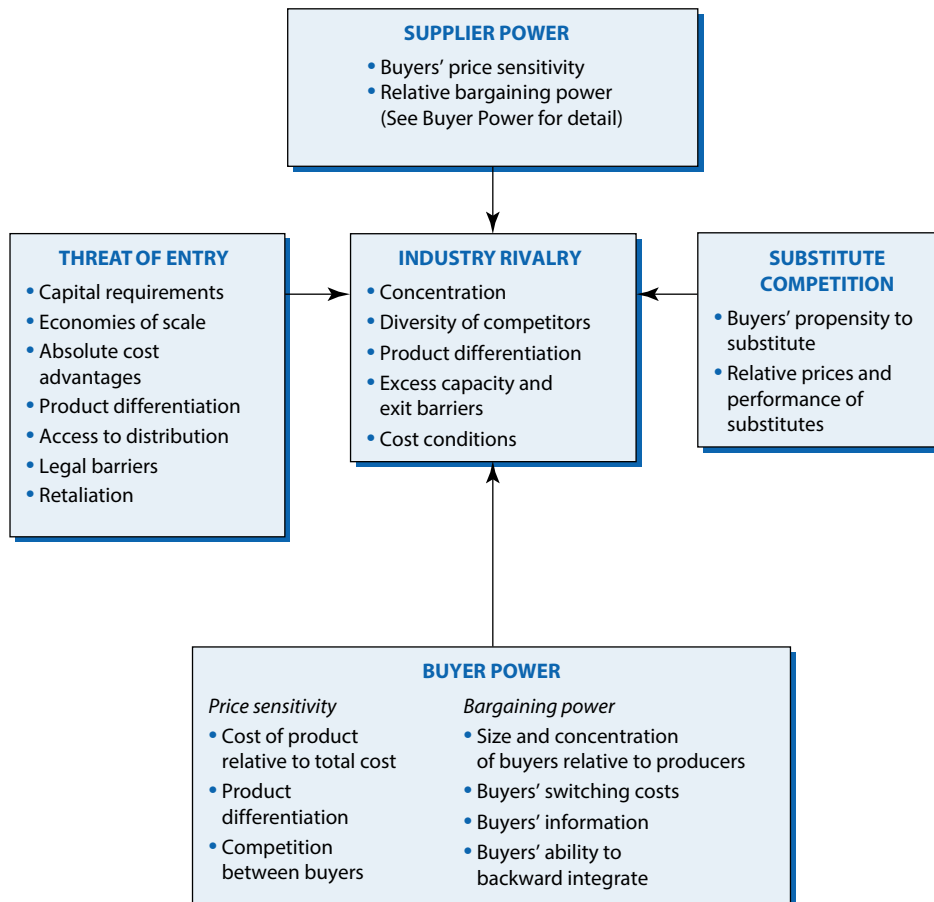
## Porter's Five Forces of Competition Framework

Michael Porter's five forces of competition framework is the most widely used tool for analyzing competition within industries.<sup>1</sup> It regards the profitability of an industry (as indicated by its rate of return on capital relative to its cost of capital) as determined by five sources of competitive pressure. These five forces of competition include three sources of "horizontal" competition: competition from substitutes, competition from entrants, and competition from established rivals; and two sources of "vertical" competition: the power of suppliers and the power of buyers (Figure 3.2).

The strength of each of these competitive forces is determined by a number of key structural variables, as shown in Figure 3.3.

### Competition from Substitutes

The price that customers are willing to pay for a product depends, in part, on the availability of substitute products. The absence of close substitutes for a product, as in the case of gasoline or cigarettes, means that consumers are comparatively insensitive to price (demand is inelastic with respect to price). The existence of close substitutes means that customers will switch to substitutes in response to price increases for the product (demand is elastic with respect to price). The Internet has provided a new source of substitute competition that has proved devastating for a number of established industries. Travel agencies, newspapers, and telecommunication providers have all suffered severe competition from Internet-based substitutes.

**FIGURE 3.2** Porter's five forces of competition framework**FIGURE 3.3** The structural determinants of the five forces of competition

The extent to which substitutes depress prices and profits depends on the propensity of buyers to substitute between alternatives. This, in turn, depends on their price-performance characteristics. If city-center to city-center travel between Washington and New York is 50 minutes quicker by air than by train and the average traveler values time at \$30 an hour, the implication is that the train will be competitive at fares of \$25 below those charged by the airlines. The more complex a product and the more differentiated are buyers' preferences, the lower the extent of substitution by customers on the basis of price differences.

### Threat of Entry

If an industry earns a return on capital in excess of its cost of capital, it will attract entry from new firms and established firms diversifying from other industries. If entry is unrestricted, profitability will fall toward its competitive level. In some industries, it is easy to establish a new company. Beer brewing has seen a flood of new entrants in recent years. Between 1990 and 2017, the number of breweries increased from 284 to 4269 in the US and from 241 to 892 in the UK, despite declining beer consumption in both countries.<sup>2</sup> Wage differences between occupations are also influenced by entry barriers. Why is it that my wife, a psychotherapist, earns much less than our niece, a recently qualified medical doctor? Psychotherapy, with its multiple accrediting bodies and less restrictive licensing, has much lower barriers to entry than medical practice.

Threat of entry rather than actual entry may be sufficient to ensure competitive price levels. An industry where no barriers to entry or exit exist is *contestable*: prices and profits tend toward the competitive level, regardless of the number of firms within the industry.<sup>3</sup> Contestability depends on the absence of sunk costs, hence making an industry is vulnerable to "hit and run" entry whenever established firms raise their prices above the competitive level.

In most industries, however, new entrants must surmount barriers to entry: disadvantages that new entrants face relative to established firms. The size of this disadvantage determines the height of a barrier to entry. The principal sources of barriers to entry are as follows:

**Capital Requirements** Set-up costs can be so large as to discourage all but the largest companies. The duopoly of Boeing and Airbus in large passenger jets is protected by the huge investments needed to develop, build, and service big jet planes. In other industries, entry costs can be modest. Intense competition in the market for smartphone apps reflects the low cost of developing most software applications. Across the service sector, start-up costs tend to be low: the cost of a franchised pizza outlet starts at \$119,950 for Domino's and \$130,120 for Papa John's.<sup>4</sup>

**Economies of Scale** Industries with high capital requirements for new entrants are also subject to **economies of scale**. If large, indivisible investments in production, product development, distribution or marketing are required, efficiency requires amortizing these costs over a large volume of output. According to Fiat Chrysler's late-CEO, Sergio Marchionne, financial viability in automobiles requires producing at least six million vehicles a year. New automobile producers must either enter with suboptimal capacity or with scale-efficient capacity that is massively underutilized while the entrant builds market share.



***Absolute Cost Advantages*** Established firms may have a cost advantage over entrants, irrespective of scale. Absolute cost advantages often result from the ownership of low-cost sources of raw materials. Established oil and gas producers, such as Saudi Aramco and Gazprom, which have access to the world's biggest and most accessible reserves, have an unassailable cost advantage over more recent entrants such as Cairn Energy and EOG Resources. Absolute cost advantages also result from learning. Intel's dominance of the market for advanced microprocessors arises in part from the benefits it derives from its wealth of experience.

***Product Differentiation*** In an industry where products are differentiated, established firms possess the advantages of brand recognition and customer loyalty.<sup>5</sup> New entrants to such markets must spend disproportionately heavily on advertising and promotion to establish brand awareness.

***Access to Channels of Distribution*** For many new suppliers of consumer goods, the principal barrier to entry is gaining distribution. Limited shelf space, risk aversion, and the costs of carrying an additional product cause retailers to be reluctant to carry a new manufacturer's product. "Slotting fees", payments by suppliers to supermarkets to reserve shelf space, further disadvantage new entrants. An important consequence of the Internet has been allowing new businesses to circumvent barriers to distribution.

***Governmental and Legal Barriers*** Some of the most effective barriers to entry are those created by government. In taxicabs, banking, telecommunications, and broadcasting, entry usually requires a license from a public authority. Legislation concerning intellectual properties allows the creators of inventions, art, and brands to be protected from imitators by patents, copyrights, and trademarks. Environmental and safety regulations may also put new entrants at a disadvantage to established firms because compliance costs tend to weigh more heavily on newcomers.

***Retaliation*** Potential entrants may also be deterred by expectations of retaliation by established firms. Such retaliation may take the form of aggressive price-cutting, increased advertising, sales promotion, or litigation. The budget airlines frequently allege predatory price cuts by the major airlines designed to deter them from new routes.<sup>6</sup> To avoid retaliation, new entrants may initiate small-scale entry into marginal market segments. Toyota, Nissan, and Honda's first entry into the US auto market targeted small cars, a segment that had been written off by the Detroit Big Three as inherently unprofitable.

***The Effectiveness of Barriers to Entry*** Industries protected by entry barriers—particularly those where capital retirements and advertising are high—tend to earn above-average rates of profit.<sup>7</sup> The effectiveness of barriers to entry depends on the resources and capabilities that potential entrants possess. Barriers that are effective against new companies may be ineffective against established firms that are diversifying from other industries.<sup>8</sup> Google's massive web presence allowed it to challenge the seemingly impregnable market positions of Microsoft in web browsers and Apple in smartphones.

## Rivalry between Established Competitors

In most industries, the major determinant of the overall state of competition and the general level of profitability is rivalry among the firms within the industry. In some industries, firms compete aggressively—sometimes to the extent that prices are pushed below the level of costs and industry-wide losses are incurred. In other industries, price competition is muted and rivalry focuses on advertising, innovation, and other nonprice dimensions. The intensity of price competition between established firms is the result of interactions between six factors. Let us look at each of them.

**Concentration** **Seller concentration** refers to the number and size distribution of firms competing within a market. It is most commonly measured by the *concentration ratio*: the combined market share of the leading producers. For example, the four-firm concentration ratio (CR4) is the market share of the four largest producers. In markets dominated by a single firm (e.g., Gillette in razor blades, or FICO in consumer credit scoring), or by a small group of companies (Coca-Cola and Pepsi in soft drinks; Bloomberg and Reuters in financial intelligence), price competition tends to be restrained, and competition focuses on advertising, promotion, and new product development. As the number of firms supplying a market increases, coordination of prices becomes more difficult and the likelihood that one firm will initiate price-cutting increases. In wireless telecommunications, regulators in the United States and Europe have favored four operators in each market and opposed mergers in the belief that three competitors is too few for effective price competition.<sup>9</sup> However, despite the frequent observation that the exit of a competitor reduces price competition, while new entry stimulates it, there is little systematic evidence that seller concentration increases profitability: “The relation, if any, between seller concentration and profitability is weak statistically and the estimated effect is usually small.”<sup>10</sup>

**Diversity of Competitors** The ability of rival firms to avoid price competition by coordinating their prices depends on how similar they are in their origins, objectives, costs, and strategies. The cozy atmosphere of the US auto industry prior to the advent of import competition was greatly assisted by the similarities of the companies in terms of cost structures, strategies, and top management mindsets. Conversely, the difficulties that OPEC experiences in agreeing and enforcing output quotas among its member countries are exacerbated by their differences in terms of objectives, production costs, politics, and religion.<sup>11</sup>

**Product Differentiation** The more similar the offerings among rival firms, the more willing are customers to switch between them and the greater is the inducement for firms to cut prices to boost sales. Where the products of rival firms are virtually indistinguishable, the product is a commodity and price is the sole basis for competition. By contrast, in industries where products are highly differentiated (perfumes, pharmaceuticals, restaurants, management consulting services), competition tends to focus on quality, brand promotion, and customer service rather than price.

**Excess Capacity and Exit Barriers** Why, especially in commodity industries, does industry profitability tend to fall so drastically during periods of recession? The key is the balance between demand and capacity. Unused capacity encourages firms to offer

price cuts to attract new business. Excess capacity may be cyclical (e.g., the boom–bust cycle in the semiconductor industry); it may also be part of a structural problem resulting from overinvestment and declining demand. In this latter situation, the key issue is whether excess capacity will leave the industry. **Barriers to exit** are impediments to capacity leaving an industry. Where assets are durable and specialized, and where employees are entitled to job protection, barriers to exit may be substantial.<sup>12</sup> In the European auto industry, excess capacity together with high exit barriers have devastated industry profitability. Conversely, demand growth creates capacity shortages that boost margins. Rising demand for lithium-ion batteries has caused shortages of production capacity for lithium and cobalt, increasing their prices and profitability. On average, companies in growing industries earn higher profits than companies in slow-growing or declining industries (Figure 3.4).

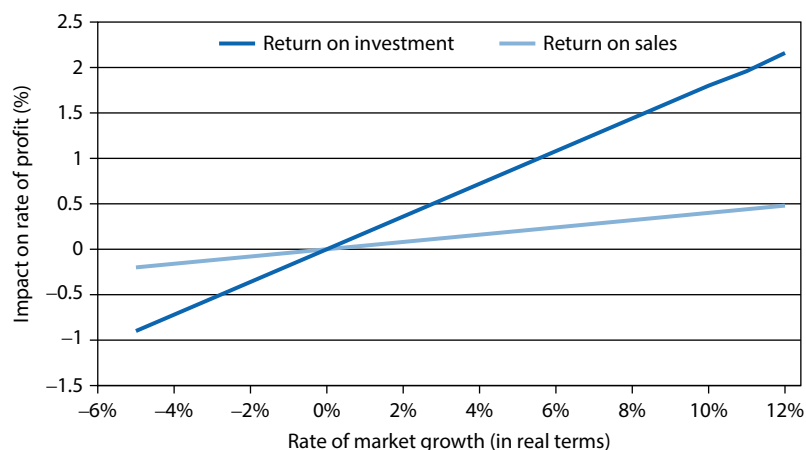
**Cost Conditions: Scale Economies and the Ratio of Fixed to Variable Costs** When excess capacity causes price competition, how low will prices go? The key factor is cost structure. Where fixed costs are high relative to variable costs, firms will take on marginal business at any price that covers variable costs. The incredible volatility of bulk shipping rates reflects the fact that almost all the costs of operating bulk carriers are fixed. The daily charter rates for “capesize” bulk carriers fell from \$233,998 on June 5, 2008 to \$2773 six months later as world trade contracted. Similarly, in airlines, the low additional costs of filling empty seats mean that the emergence of excess capacity often leads to price wars and industry-wide losses. “Cyclical” industries are characterized both by cyclical demand and high fixed costs causing fluctuations in revenues to be amplified into much bigger fluctuations in profits.

Scale economies may also induce aggressive price competition as companies seek the cost benefits of greater volume.

### Bargaining Power of Buyers

The profit margin earned by the firms in an industry depends on the prices they can charge their customers. These customers will do all they can to exert downward

**FIGURE 3.4** The impact of growth on profitability



**Source:** Based upon the PIMS multiple regression equation. See R. M. Grant *Contemporary Strategy Analysis*, 5th edition (Blackwell, 2005): 491.

pressure on these prices. The ability of buyers to drive down the prices they pay depends upon two factors: their price sensitivity and their bargaining power relative to the firms within the industry.

**Buyers' Price Sensitivity** The extent to which buyers are sensitive to the prices they are charged depends on the following.

- The greater the importance of the product as a proportion of buyers' total cost, the more sensitive buyers will be about the price they pay. Soft drink companies are highly sensitive to the costs of aluminum cans because this is one of their largest cost items. Conversely, most companies are not sensitive to the fees charged by their auditors, since auditing costs are a tiny fraction of total expenses.
- The less differentiated the products of the supplying industry, the more willing are buyers to switch suppliers on the basis of price. The manufacturers of T-shirts and light bulbs have much more to fear from Walmart's buying power than have the suppliers of cosmetics.
- The more intense the competition among buyers, the greater their eagerness to obtain preferential terms from their suppliers. Intense price competition among British supermarket chains has made them hypersensitive to the prices they pay their suppliers.
- The more critical an industry's product to the quality of the buyer's product or service, the less sensitive are buyers to the prices they are charged. Dentists tend not to negotiate over the prices they pay the manufacturers of titanium dental implants.

**Relative Bargaining Power** Bargaining power rests, ultimately, on the refusal to deal with the other party. The balance of power between the two parties to a transaction depends on the credibility and effectiveness with which each makes this threat. The key issue is the relative cost that each party would incur in the event of a hold-out by the counterparty, together with the relative bargaining skills of each party. Several factors influence the bargaining power of buyers relative to that of sellers:

- Size and concentration of buyers relative to suppliers. If an industry faces few buyers, each with large purchases, firms will be very reluctant to lose a large buyer. Because of their size, health maintenance organizations can purchase health care from hospitals and doctors at much lower costs than can individual patients.
- Buyers' information. The better informed are buyers about suppliers and their prices and costs, the better they are able to bargain. Doctors and lawyers do not normally display the prices they charge, nor do traders in the bazaars of Marrakech or Chennai. Keeping customers ignorant of market prices is an effective constraint on their buying power. But knowing prices is of little value if the quality of the product is unknown. In the markets for dentistry, interior design, and management consulting, the ability of buyers to bargain over price is limited by uncertainty over the precise attributes of the product they are buying.
- Capacity for **vertical integration**. Backward integration is a means through which buyers reduce their dependence upon their suppliers. Large beer companies have reduced their dependence on the manufacturers of aluminum

cans by manufacturing their own. Large retail chains introduce their own label brands to compete with those of their suppliers. Backward integration need not necessarily occur—a credible threat may suffice.

### Bargaining Power of Suppliers

Analysis of supplier power is precisely analogous to analysis of buyer power. The only difference is that it is now the firms in the industry that are the buyers and the producers of inputs that are the suppliers. Again, the relevant factors are the ease with which the firms in the industry can switch between different input suppliers and the relative bargaining power of each party.

The suppliers of commodities tend to lack bargaining power relative to their customers; hence, they may use cartels to boost their influence over prices (e.g., OPEC, the International Coffee Organization, and farmers' marketing cooperatives). Conversely, the suppliers of complex, technically sophisticated components may be able to exert considerable bargaining power. The dismal profitability of the personal computer industry during the past 30 years may be attributed to the power exercised by the suppliers of key components (processors, disk drives, LCD screens) and the dominant supplier of operating systems (Microsoft). Wireless telecom carriers are pressured by monopoly suppliers of spectrum: auctions of 3G licenses raised \$127 billion of governments in the OECD countries, while US 4G auctions raised \$65 billion during 2014–2017.<sup>13</sup> Labor unions possess significant supplier power: in automobiles, steel, and airlines, powerful unions depress industry profitability.

## Applying Industry Analysis to Forecasting Industry Profitability

Once we understand how industry structure determines current levels of industry profitability, we can use this analysis to forecast industry profitability in the future.

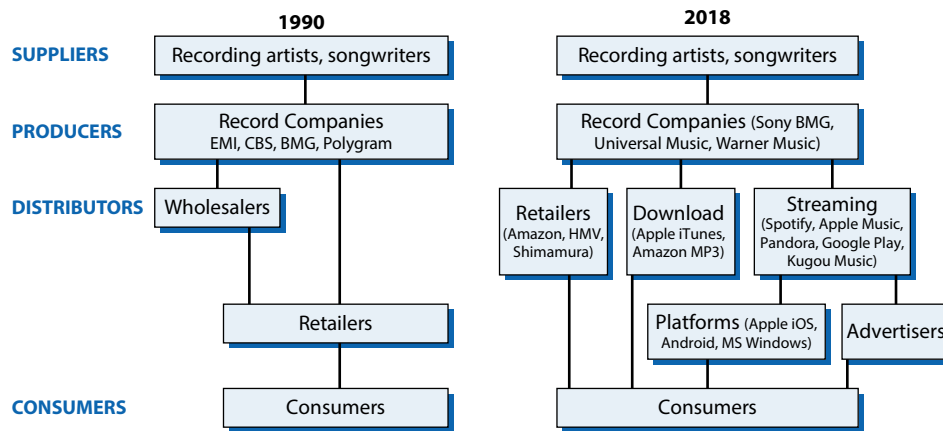
### Identifying Industry Structure

The first stage of any industry analysis is to identify the key elements of the industry's structure. In principle, this is a simple task. It requires identifying who are the main players—the producers, the buyers, the suppliers of inputs, and the producers of substitute goods—then distinguishing the key structural characteristics of each that will impact competition and bargaining power.

In most manufacturing industries, identifying the main groups of players is straightforward; in other industries, particularly in service industries, mapping the industry can be more difficult. Figure 3.5 depicts the increased complexity of the recorded music industry.

### Forecasting Industry Profitability

We can use industry analysis to understand why profitability has been low in some industries and high in others but, ultimately, our interest is not to explain the past

**FIGURE 3.5** Industries are becoming more complex: Recorded music

but to predict the future. Investment decisions made today will commit resources to an industry for years—often for a decade or more—hence, it is critical that we are able to predict what level of returns the industry is likely to offer in the future. Current profitability is a poor indicator of future profitability: industries such as newspapers, solar panels, and petroleum have suffered massive declines in profitability; in other industries, such as airlines and food processing, profitability has revived. However, if an industry's profitability is determined by the structure of that industry, then we can use observations of the structural trends in an industry to forecast likely changes in competition and profitability. Changes in industry structure typically result from fundamental shifts in customer buying behavior, technology, and firm strategies which can be anticipated well in advance of their impacts on competition and profitability.

To predict the future profitability of an industry, our analysis proceeds in three stages:

- 1 Examine how the industry's current and recent levels of competition and profitability are a consequence of its present structure.
- 2 Identify the trends that are changing the industry's structure. Is the industry consolidating? Are new players seeking to enter? Are the industry's products becoming more differentiated or more commoditized? Will additions to industry capacity outstrip growth of demand? Is technological innovation causing new substitutes to appear?
- 3 Identify how these structural changes will affect the five forces of competition and resulting profitability of the industry. Will the changes in industry structure cause competition to intensify or to weaken? Rarely, do all the structural changes move competition in a consistent direction; typically some will exacerbate competitive intensity, others will cause it to abate. Hence, determining the overall impact on profitability tends to be a matter of judgment.

Strategy Capsule 3.2 discusses the outlook for profitability in the world automobile industry.

## STRATEGY CAPSULE 3.2

## The Future of the World Automobile Industry

During the current decade, the world automobile industry has recovered from the financial crisis of 2008–2009, but competition has been fierce and profitability low. During 2013–17, the top eight producers (Toyota, VW, General Motors, Ford, Nissan, Hyundai, Honda and Fiat Chrysler) have earned an average operating margin of 4.7% and an average return on capital employed of 6.1% (almost certainly below their weighted average cost of capital). Applying the five forces of competition framework to the

industry allows us to understand why profitability has been low. We can then identify the current trends that are reshaping the industry—the switch to electric vehicles (EVs), autonomous driving, increased shared ownership and ride sharing, internationalization by Chinese auto producers—and show how these trends will impact the five forces of competition in the future. In the table below, the direction of the arrow shows the predicted impact of each competitive force on industry profitability.

Competitive force	Relevant structural features of the industry	Impact on profitability 2013–2018	Changes in industry structure 2019–2028	Impact on profitability 2019–2028
Substitutes	Alternative modes of transportation (bicycles, public transport). Also telecommuting.	Weak ↓	Congestion and environmental concerns will increase substitute competition	Increasing ↓
New entry	<ul style="list-style-type: none"> <li>Internationalization by domestic producers</li> <li>New producers of EVs</li> </ul>	Moderate ↓	Increased competition from both sources.	Increasing ↓
Internal rivalry	<ul style="list-style-type: none"> <li>22 companies with annual output of &gt;1 million cars</li> <li>Massive excess capacity (global capacity utilization approx. 72%)</li> <li>High fixed costs and large-scale economies encourage quest for market share</li> </ul>	Strong ↓	<ul style="list-style-type: none"> <li>M&amp;A to reduce no. of producers</li> <li>Continuing excess capacity due to exit barriers (especially government support) and falling demand due to lower personal ownership of cars</li> </ul>	Positive impact of M&A offset by negative impact of new entry and of declining demand ↓
Buyer power	Distribution through franchised dealers	Weak ↑	No significant change	
Supplier power	<ul style="list-style-type: none"> <li>Consolidation among component suppliers</li> <li>Suppliers control key technologies</li> </ul>	Moderate ↓	Emergence of powerful new suppliers, especially software companies and suppliers of batteries	Increasing ↓

Even with potential new revenue sources (e.g., the supply of information, entertainment, and advertising to car occupants), it would appear that structural changes in the industry will depress the profitability of the car

manufacturers. This negative outlook is reflected in companies' stock market capitalization: the top eight auto makers had an average P/E ratio of 7.2 in June 2018—less than half the average P/E of the world's stock markets.

## Using Industry Analysis to Develop Strategy

Once we understand how industry structure influences competition, which in turn determines industry profitability, we can use this knowledge to develop firm strategies. First, we can develop strategies that influence industry structure in order to moderate competition; second, we can position the firm to shelter it from the ravages of competition.

### Strategies to Alter Industry Structure

Understanding how the structural characteristics of an industry determine the intensity of competition and the level of profitability provides a basis for identifying opportunities for changing industry structure to alleviate competitive pressures. The first issue is to identify the key structural features of an industry that are responsible for depressing profitability. The second is to consider which of these structural features are amenable to change through appropriate strategic initiatives. For example:

- Between 2000 and 2006, a wave of mergers and acquisitions among the world's iron ore miners resulted in three companies—Vale, Rio Tinto, and BHP Billiton—controlling 75% of global iron ore exports. The growing power of the iron ore producers relative to their customers, the steel makers, contributed to the 400% rise in iron ore prices between 2004 and 2010.<sup>14</sup>
- In chemicals, depressed profitability caused by new capacity from Asian and Middle East producers encouraged a wave of mergers among US and European producers during 2016–17 as they sought to gain market power and shift from commodity to specialty products. Major deals included Dow and DuPont, Bayer and Monsanto, Clariant and Huntsman, and Sherwin-Williams, and Valspar.<sup>15</sup>
- US airlines have deployed several strategies to change an unfavorable industry structure. In the absence of significant product differentiation, they have used frequent-flyer schemes to build customer loyalty. Through hub-and-spoke route systems, they have built dominant positions at major airports: American at Miami and Dallas/Fort Worth, Delta at Atlanta, and Southwest at Baltimore. Mergers and alliances have reduced the numbers of competitors on most routes. As a result, the industry's net margin which was –1.3% during 1990–2010, increased to 2.8% during 2010–17.<sup>16</sup>
- Building entry barriers is a vital strategy for preserving high profitability. A primary goal of the American Medical Association has been to maintain the incomes of its members by controlling the numbers of doctors trained in the United States and imposing barriers to the entry of doctors from overseas.

Once we look beyond the confines of industry to consider a firm's entire ecosystem, then additional opportunities arise for a firm to reconfigure the system of relationships within which it operates. Michael Jacobides argues that industries are in a state of continual evolution and that all firms, even small ones, have the potential to influence changes in industry structure to suit their own interests.<sup>17</sup> We shall consider the role of business ecosystems in the next chapter.



## Positioning the Company

Recognizing and understanding the competitive forces that a firm faces within its industry allows managers to position the firm where competitive forces are weakest.

- The recorded music industry, once reliant on sales of CDs, has been devastated by substitute competition in the form of digital downloads, piracy, file sharing, and streaming. Yet, not all segments of the recorded music business have been equally affected. The old are less inclined to new technology than younger listeners are; hence, classical music, country, and golden oldies have become comparatively more attractive for the sale of CDs than pop and hip-hop genres. Prominent in the resurgence of vinyl have been albums by David Bowie, the Beatles, and Pink Floyd.
- US truck-maker Paccar has achieved superior profitability by focusing on the preferences of independent owner-operators (e.g., by providing superior sleeping cabins, higher-specification seats, a roadside assistance program) thereby sheltering from the bargaining power of fleet buyers.<sup>18</sup>

Effective positioning requires the firm to anticipate changes in the competitive forces likely to affect the industry. Department stores are being decimated by online retailing. The survivors will be those able to transform the content and nature of their customers' experiences. The British department store chain, John Lewis, is shifting floor space from products to services—restaurants, spas, roof gardens, and shared-use office services—and adopting new approaches to integrating “clicks-and-bricks.”<sup>19</sup>

## Defining Industries: Where to Draw the Boundaries

A key challenge in industry analysis is defining the relevant industry. The Standard Industrial Classification (SIC) is of limited use in identifying groups of firms that compete with one another. Which industry is Ferrari a member of? Is it part of the “motor vehicles and equipment” industry (SIC 371), the automobile industry (SIC 3712), or the performance car industry? Should it see itself as part of the Italian, European, or global auto industry?

## Industries and Markets

We must clarify what we mean by the term *industry*. Economists define an industry as a group of firms that supplies a market. Hence, a close correspondence exists between markets and industries. So is there any difference between analyzing industry structure and analyzing market structure? One major difference is that industry analysis, notably five forces analysis, looks at industry profitability being determined by competition in *two* markets: product markets and input markets.

In everyday usage, the term *industry* tends to refer to a fairly broad sector, whereas a *market* refers to the buyers and sellers of a specific product. Thus, the packaging industry comprises several distinct product markets—glass containers, steel cans, aluminum cans, paper cartons, plastic containers, and so on.

To define an industry, it makes sense to start by identifying the firms that compete to supply a particular market. At the outset, this approach may lead us to question conventional concepts of industry boundaries. For example, what is the industry commonly referred to as *banking*? Institutions called *banks* supply a number of different products and services, each comprising different sets of competitors. A basic distinction

is between retail banking, corporate/wholesale banking, and investment banking. Each of these can be disaggregated into several different product markets. Retail banking comprises deposit taking, transaction services, credit cards, and mortgage lending. Investment banking includes corporate finance and underwriting, trading, and advisory services (such as mergers and acquisitions).

## Defining Industries and Markets: Substitution in Demand and Supply

The central issue in defining a firm's industry is to establish who is competing with whom. To do this, we need to draw upon the principle of *substitutability*. There are two dimensions to this: substitutability on the demand side and substitutability on the supply side.

Let us consider once more the industry within which Ferrari competes. Starting with the demand side, if customers are willing to substitute only between Ferraris and other sports car brands on the basis of price differentials, then Ferrari is part of the performance car industry. If, on the other hand, customers are willing to substitute Ferraris for other mass-market brands, then Ferrari is part of the broader automobile industry.

But this fails to take account of substitutability on the supply side. If volume car producers such as Ford and Hyundai are able to apply their production facilities and distribution networks to supply sports cars, then, on the basis of supply-side substitutability, we could regard Ferrari as part of the broader automobile industry. The same logic can be used to define the major domestic appliances as an industry. Although consumers are unwilling to substitute between refrigerators and dishwashers, manufacturers can use the same plants and distribution channels for different appliances—hence we view Electrolux, Whirlpool, and Haier as competing in the domestic appliance industry.

Similar considerations apply to geographical boundaries. Should Ferrari view itself as competing in a single global market or in a series of separate national or regional markets? The criterion here again is substitutability. If customers are willing and able to substitute cars available on different national markets, or if manufacturers are willing and able to divert their output among different countries to take account of differences in margins, then a market is global. The key test of the geographical boundaries of a market is price: if price differences (net of taxes) for the same product between different locations tend to be eroded by demand-side and supply-side substitution, then these locations lie within a single market.

In practice, drawing the boundaries of markets and industries is a matter of judgment that depends on the purposes and context of the analysis. Decisions regarding pricing and market positioning require a microlevel approach. Decisions over investments in technology, new plants, and new products require a wider view of the relevant market and industry.

The boundaries of a market or industry are seldom clear-cut. A firm's competitive environment is a continuum rather than a bounded space. Thus, we may view the competitive market of Disneyland, Hong Kong as a set of concentric circles. The closest competitors are nearby theme parks Ocean Park and Ma Wan Park. Slightly more distant are Shenzhen Happy Valley, Shenzhen Window of the World, and Splendid China. Further still are Disneyland parks in Tokyo and Shanghai and alternative forms of entertainment, for example, a trip to Macau or to a Lantau Island beach resort.

For the purposes of applying the five forces framework, industry definition is seldom critical. Whether we define the “box” within which industry rivals compete broadly or narrowly, a key merit of the five forces framework is that it takes account of competitors outside the industry box—either as the suppliers of substitutes or as potential entrants.<sup>20</sup>

## From Industry Attractiveness to Competitive Advantage: Identifying Key Success Factors

The five forces framework allows us to determine an industry's potential for profit. But how is industry profit shared between the different firms competing in that industry? Let us look explicitly at the sources of competitive advantage within an industry. In subsequent chapters I shall develop a more comprehensive analysis of competitive advantage. My goal in this chapter is simply to identify an industry's key success factors: those factors within an industry that influence a firm's ability to outperform rivals.<sup>21</sup> In Strategy Capsule 3.3, Kenichi Ohmae, former head of McKinsey's Tokyo office, discusses key success factors in forestry.

### STRATEGY CAPSULE 3.3

#### Probing for Key Success Factors

As a consultant faced with an unfamiliar business or industry, I make a point of first asking the specialists in the business, "What is the secret of success in this industry?" Needless to say, I seldom get an immediate answer and so I pursue the inquiry by asking other questions from a variety of angles in order to establish as quickly as possible some reasonable hypotheses as to key factors for success. In the course of these interviews, it usually becomes quite obvious what analyses will be required in order to prove or disprove these hypotheses. By first identifying the probable key factors for success and then screening them by proof or disproof, it is often possible for the strategist to penetrate very quickly to the core of a problem.

Traveling in the United States last year, I found myself on one occasion sitting in a plane next to a director of one of the biggest lumber companies in the country. Thinking I might learn something useful in the course of the five-hour flight, I asked him, "What are the key factors for success in the lumber industry?" To my surprise, his reply was immediate: "Owning large forests and maximizing the yield from them." The first of these key factors is a relatively simple matter: purchase of forestland. But his second point required further explanation. Accordingly, my next question was: "What variable or variables do you control in order to maximize the yield from a given tract?"

He replied: "The rate of tree growth is the key variable. As a rule, two factors promote growth: the amount of sunshine and the amount of water. Our company doesn't have many forests with enough of both. In Arizona and Utah, for example, we get more than enough sunshine but too little water and so tree growth is very low. Now, if we could give the trees in those states enough water, they'd be ready in less than 15 years instead of the 30 it takes now. The most important project we have in hand at the moment is aimed at finding out how to do this."

Impressed that this director knew how to work out a key factor strategy for his business, I offered my own contribution: "Then under the opposite conditions, where there is plenty of water but too little sunshine—for example, around the lower reaches of the Columbia River—the key factors should be fertilizers to speed up the growth and the choice of tree varieties that don't need so much sunshine."

Having established in a few minutes the general framework of what we were going to talk about, I spent the rest of the long flight very profitably hearing from him in detail how each of these factors was being applied.

**Source:** Kenichi Ohmae, *The Mind of the Strategist* (New York: McGraw-Hill, 1982): 85 © The McGraw-Hill Companies Inc., reproduced with permission.

Like Ohmae, our approach to identifying key success factors is straightforward and commonsense. To survive and prosper in an industry, a firm must meet two criteria: first, it must attract customers; second, it must survive competition. Hence, we may start by asking two questions:

- What do our customers want?
- What does the firm need to do to survive competition?

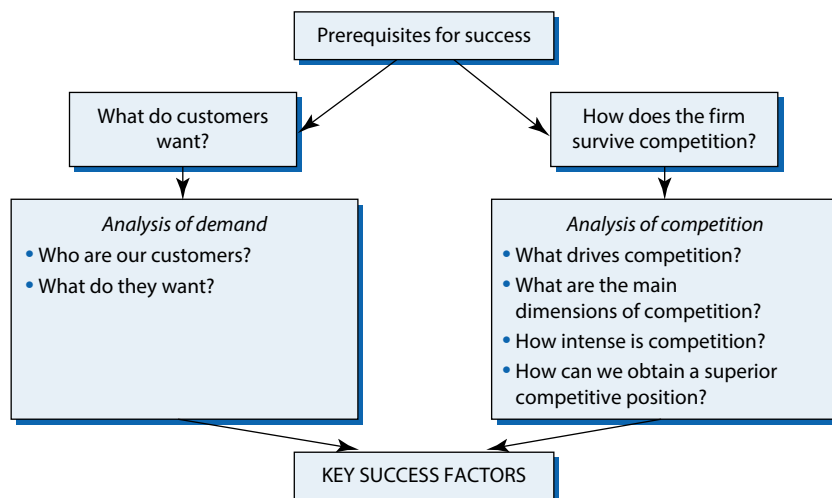
To answer the first question, we need to look more closely at the customers of the industry and to view them, not as a source of buying power and a threat to profitability, but as the *raison d'être* of the industry and its underlying source of profit. This requires that we inquire the following: Who are our customers? What are their needs? How do they choose between competing offerings? Once we recognize the basis upon which customers choose between rival offerings, we can identify the factors that confer success upon the individual firm. For example, if travelers choose airlines primarily on price, then cost efficiency is the primary basis for competitive advantage in the airline industry and the key success factors are the determinants of relative cost.

The second question requires that we examine the nature of competition in the industry. How intense is competition and what are its key dimensions? Thus, in airlines, it is not enough to offer low fares. To survive intense competition during recessionary periods an airline requires financial strength; it may also require good relations with regulators and suppliers.

A basic framework for identifying key success factors is presented in Figure 3.6. Application of the framework to identify key success factors in three industries is outlined in Table 3.2.

Key success factors can also be identified through the direct modeling of profitability, thereby identifying the drivers of a firm's relative profitability within an industry. Using the same approach as in Chapter 2 (Figure 2.2), we can disaggregate return on capital employed into component ratios, which then point to the main drivers of superior profitability. In some industries, there are well-known formulae that link operating ratios to overall profitability. Strategy Capsule 3.4 disaggregates profit margin in the airline industry to identify key success factors.

**FIGURE 3.6** Identifying key success factors



**TABLE 3.2** Identifying key success factors: Steel, fashion clothing, and supermarkets

	What do customers want? (Analysis of demand)	How do firms survive competition? (Analysis of competition)	Key success factors
Steel	Low price Product consistency Reliability of supply Technical specifications	Intense price competition results from undifferentiated products, excess capacity, and high fixed costs. Survival requires cost efficiency and financial strength	Cost efficiency requires: large-scale plants, low-cost raw materials, rapid capacity adjustment Hi-tech small-scale plants viable with flexibility and high productivity Quality, and service can yield a price premium
Fashion clothing	Diversity of customer preferences Customers will pay premium for brand, style, exclusivity, and quality Mass market is highly price sensitive	Low barriers to entry and many competitors imply intense competition Differentiation offers price premium, but imitation is rapid	Combining differentiation with low costs Differentiation involves style, brand appeal, quality, and market responsiveness Cost efficiency requires manufacture where wages are low
Supermarkets	Low prices Convenient location Wide product range Quality produce, good service, ease of parking, pleasant ambience	Intensely price competitive Buying power essential for low costs	Low costs require operational efficiency, large-scale purchases, low wages Differentiation requires large stores, convenient location, meticulous in-store management

**STRATEGY CAPSULE 3.4****Identifying Key Success Factors by Profitability Modeling: Airlines**

Profitability, as measured by operating income per available seat-mile (ASM), is determined by three factors: yield, which is total operating revenues divided by the number of revenue passenger miles (RPMs); load factor, which is the ratio of RPMs to ASMs; and unit cost, which is total operating expenses divided by ASMs. Thus:

$$\frac{\text{Profit}}{\text{ASMs}} = \frac{\text{Revenue}}{\text{RPMs}} \times \frac{\text{RPMs}}{\text{ASMs}} - \frac{\text{Expenses}}{\text{ASMs}}$$

Some of the main determinants of each of these component ratios are the following:

- ◆ Revenue/RPMs
  - intensity of competition on routes flown
  - effective yield management to permit quick price adjustment to changing market conditions
  - ability to attract business customers
  - superior customer service.
- ◆ Load factor (RPMs/ASMs)
  - competitiveness and flexibility of prices
  - efficiency of route planning (e.g., through hub-and-spoke systems)
  - building customer loyalty through quality of service, frequent-flier programs
  - matching airplane size to demand for individual flights.
- ◆ Expenses/ASMs
  - wage rates and benefit levels
  - fuel efficiency of aircraft
  - productivity of employees (determined partly by their job flexibility)
  - load factors
  - level of administrative cost.

The usefulness of industry-level success factors in formulating strategy has been scorned by some strategy scholars. Pankaj Ghemawat observes that the “whole idea of identifying a success factor and then chasing it seems to have something in common with the ill-considered medieval hunt for the philosopher’s stone, a substance that would transmute everything it touched into gold.”<sup>22</sup> However, the existence of common success factors in an industry does not imply that firms should adopt similar strategies. In the fashion clothing business, we identified a number of key success factors (Table 3.2), yet all the leading companies—Inditex (Zara), H&M, Diesel, and Mango—have adopted unique strategies to exploit these key success factors.

## Summary

In Chapter 1, we established that a profound understanding of the competitive environment is a critical ingredient of a successful strategy. Despite the vast number of external influences that affect every business enterprise, our focus is the firm’s industry environment that we analyze in order to evaluate the industry’s profit potential and to identify the sources of competitive advantage.

The centerpiece of our approach is Porter’s five forces of competition framework, which links the structure of an industry to the competitive intensity within it and to the profitability that it realizes. The Porter framework offers a simple yet powerful organizing framework for identifying the relevant features of an industry’s structure and predicting their implications for competitive behavior.

The primary application for the Porter five forces framework is in predicting how changes in an industry’s structure are likely to affect its profitability. Once we understand the drivers of industry profitability, we can identify strategies through which a firm can improve industry attractiveness and position itself in relation to these different competitive forces.

As with most of the tools for strategy analysis that we shall consider in this book, the Porter five forces framework is easy to comprehend. However, real learning about industry analysis and about the Porter framework in particular derives from its application. It is only when we apply the Porter framework to analyzing competition and diagnosing the causes of high or low profitability in an industry that we are forced to confront the complexities and subtleties of the model. A key issue is identifying the industry within which a firm competes and recognizing its boundaries. By employing the principles of substitutability and relevance, we can delineate meaningful industry boundaries.

Finally, our industry analysis allows us to make a first approach at identifying the sources of competitive advantage through recognizing key success factors in an industry.

I urge you to put the tools of industry analysis to work—not just in your strategic management coursework but also in interpreting everyday business events. The value of the Porter framework is as a practical tool—it helps us to understand the disparities in profitability between industries, to predict an industry will sustain its profitability into the future, and to recognize which strategies have the best potential for making money. Through practical applications, you will also become aware of the limitations of the Porter framework. In the next chapter, we will see how we can extend our analysis of industry and competition.

## Self-Study Questions

1. From Table 3.1, select a high-profit industry and a low-profit industry. From what you know of the structure of your selected industries, use the five forces framework to explain why profitability has been high in one industry and low in the other.
2. With reference to Strategy Capsule 3.1, use the five forces framework to explain why profitability has been so high in the US market for smokeless tobacco.
3. The major forces shaping the business environment of the fixed-line telecom industry are technology and government policy. The industry has been influenced by fiber optics (greatly increasing transmission capacity), new modes of telecommunication (wireless and internet telephony), the convergence of telecom and cable TV, and regulatory change (including the opening of fixed-line infrastructures to “virtual operators”). Using the five forces of competition framework, predict how each of these developments has influenced competition and profitability in the fixed-line telecom industry.
4. By 2018, the online travel agency industry had consolidated around two leaders: Expedia (which had acquired Travelocity, Lastminute.com, Hotels.com, Trivago, and Orbitz) and Priceline (which owned booking.com, Kayak, Rentalcars.com, and OpenTable). These two market leaders competed with numerous smaller online travel agents (e.g., TripAdvisor, Travelzoo, Skyscanner, Ctrip), with traditional travel agencies (e.g., Carlson Wagonlit, TUI, American Express—all of which had adopted a “bricks ‘n’ clicks” business model), and with direct online sales by airlines, hotel chains, and car rental companies. Amazon and Google were both potential entrants to the market. The online travel agents are dependent upon computerized airline reservation systems such as Sabre, Amadeus, and Travelport. Use Porter’s five forces framework to predict the likely profitability of the online travel agency industry over the next ten years.
5. Walmart (like Carrefour, Ahold, and Tesco) competes in several countries of the world, yet most shoppers choose between retailers within a radius of a few miles. For the purposes of analyzing profitability and competitive strategy, should Walmart consider the discount retailing industry to be global, national, or local?
6. What do you think are key success factors in:
  - a. the pizza delivery industry?
  - b. the credit card industry (where the world’s biggest issuers are: Bank of America, JPMorgan Chase, Citibank, American Express, Capital One, HSBC, and ICBC)?

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