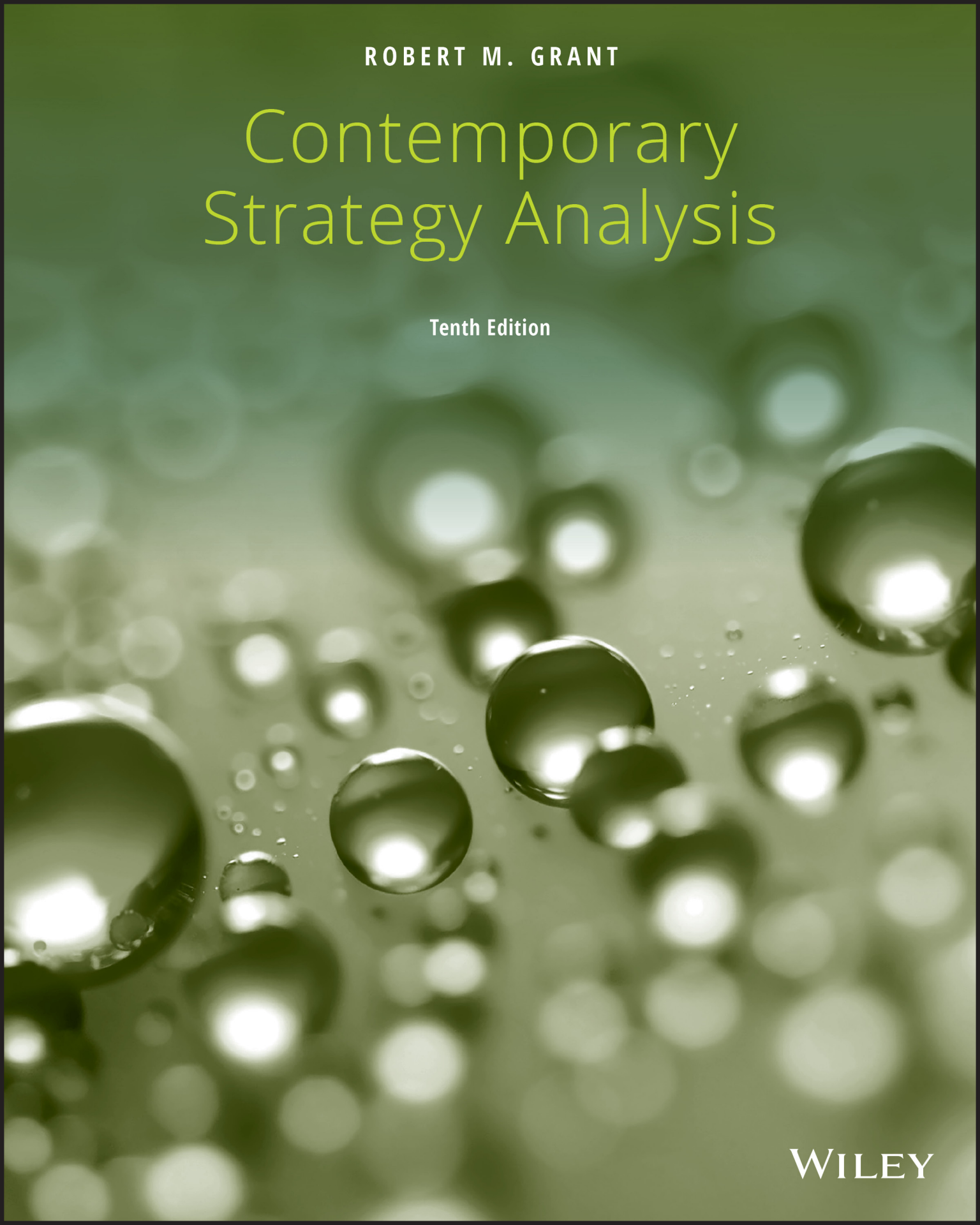
ROBERT M. GRANT

Contemporary Strategy Analysis

Tenth Edition



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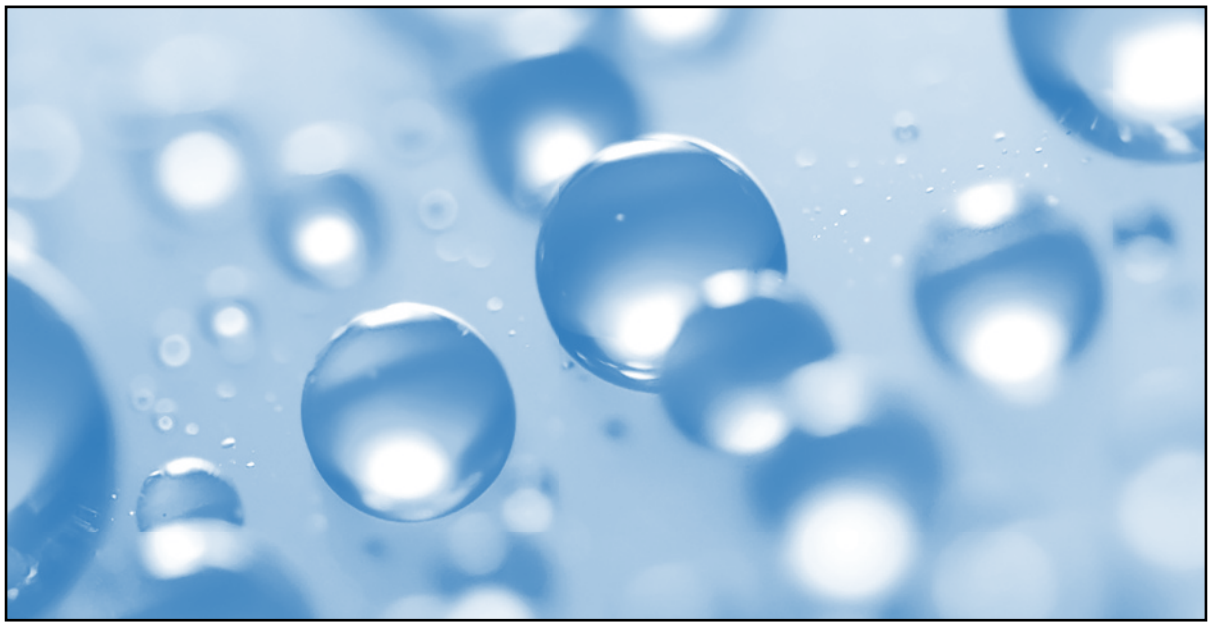

CONTEMPORARY STRATEGY ANALYSIS

TENTH EDITION

ROBERT M. GRANT

WILEY

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To Liam, Ava, Finn, Evie, Max, Lucy, and Bobby

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AUTHOR BIOGRAPHY

Robert M. Grant is Professor of Strategic Management at Bocconi University, Milan, Italy and a Visiting Professor at Cass Business School, London. He was born in Bristol, England and has taught at Georgetown University, London Business School, University of British Columbia, California Polytechnic, UCLA, Insead, and University of South Africa. His business experience includes making tires (Firestone) and meat pies (Kraft Foods) and strategy consulting at American Express, Eni, BP, and other companies.

PREFACE TO TENTH EDITION

Contemporary Strategy Analysis equips managers and students of management with the concepts and frameworks needed to make better strategic decisions. My goal is a strategy text that reflects the dynamism and intellectual rigor of this fast-developing field of management and takes account of the strategy issues that companies face today.

Contemporary Strategy Analysis endeavors to be both rigorous and relevant. While embodying the latest thinking in the strategy field, it aims to be accessible to students from different backgrounds and with varying levels of experience. I achieve this accessibility by combining clarity of exposition, concentration on the fundamentals of value creation, and an emphasis on practicality.

This tenth edition maintains the book's focus on the essential tasks of strategy: identifying the sources of superior business performance and formulating and implementing a strategy that exploits these sources of superior performance. At the same time, the content of the book has been revised to reflect recent developments in the business environment and in strategy research.

Distinctive features of the tenth edition include:

- More explicit guidance on how to apply the tools of strategy to analyze strategic situations and develop strategy recommendations. See, in particular: "Applying Strategy Analysis" in Chapter 1, "Putting Performance Analysis into Practice" in Chapter 2, "Using Industry Analysis to Develop Strategy" in Chapter 3, and "Developing Strategy Implications" [from the analysis of resources and capabilities] in Chapter 5.
- Increased emphasis on strategy making under conditions of technological change—especially in digital markets where strategy analysis must take account of complements, network externalities, platform-based competition, and the application of innovative business models to complex business ecosystems (see Chapters 4, 8, and 9).
- Integration of stakeholder interests and corporate social responsibility within a view of the firm as an institution for creating value (Chapter 2).
- An updated approach to strategy implementation. While maintaining an integrated approach to strategy formulation and strategy implementation, Chapters 6, 8, and 13 offers a systematic approach to strategy execution that the role of organizational capabilities and capability development in guiding resource allocation, and the design of organizational structures and management systems.

My thanks to my editorial and production team at Wiley, especially to Lise Johnson, Judy Howarth, and S. Indirakumari; and to Mary Fogarty and Nitish Mohan for their

assistance. This tenth edition of *Contemporary Strategy Analysis* has benefitted hugely from feedback and suggestions from users—both instructors and students. I thank you and look forward to continuing my engagement with you. Please feel free to contact me at grant@unibocconi.com.

Robert M. Grant

I

INTRODUCTION

1 **The Concept of Strategy**

1 The Concept of Strategy

Strategy is the great work of the organization. In situations of life or death, it is the Tao of survival or extinction. Its study cannot be neglected.

—SUN TZU, *THE ART OF WAR*

To shoot a great score you need a clever strategy.

—RORY MCILROY, *GOLF MONTHLY*, MAY 19, 2011

Everybody has a plan until they get punched in the mouth.

—MIKE TYSON, FORMER WORLD HEAVYWEIGHT BOXING CHAMPION

OUTLINE

- **Introduction and Objectives**
- **The Role of Strategy in Success**
- **The Basic Framework for Strategy Analysis**
  - Strategic Fit
- **A Brief History of Business Strategy**
  - Origins and Military Antecedents
  - From Corporate Planning to Strategic Management
- **Strategy Today**
  - What Is Strategy?
  - Why Do Firms Need Strategy?
  - Where Do We Find Strategy?
  - Corporate and Business Strategy
  - Describing Strategy
- **How Is Strategy Made? The Strategy Process**
  - Design versus Emergence
  - Applying Strategy Analysis
- **Strategic Management of Not-For-Profit Organizations**
- **Summary**
- **Self-Study Questions**
- **Notes**

Introduction and Objectives

Strategy is about achieving success. This chapter explains what strategy is and why it is important to success, for both organizations and individuals. We will distinguish strategy from planning. Strategy is not a detailed plan or program of instructions; it is a unifying theme that gives coherence and direction to the actions and decisions of an individual or an organization.

The principal task of this chapter will be to introduce the basic framework for strategy analysis that underlies this book. This framework comprises two components of strategy analysis: analysis of the external environment of the firm (mainly industry analysis) and analysis of the internal environment (primarily analysis of the firm's resources and capabilities). We shall then examine what strategy is, how it has developed over time, how to describe the strategy of a business enterprise, and how organizations go about making strategy.

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

- Appreciate the contribution that strategy can make to successful performance and recognize the essential components of an effective strategy.
- Comprehend the basic framework of strategy analysis that underlies this book.
- Recognize how strategic management has evolved over the past 60 years.
- Identify and describe the strategy of a business enterprise.
- Understand how strategy is made within organizations.
- Recognize the distinctive features of strategic management among not-for-profit organizations.

Since the purpose of strategy is to help us to win, we start by looking at the role of strategy in success.

The Role of Strategy in Success

Strategy Capsules 1.1 and 1.2 describe the careers of two individuals, Queen Elizabeth II and Lady Gaga, who have been outstandingly successful in leading their organizations. Although these two remarkable women operate within vastly different arenas, can their success be attributed to any common factors?

For neither of them can success be attributed to overwhelmingly superior resources. For all of Queen Elizabeth's formal status as head of state, she has very little real power and, in most respects, is a servant of the democratically elected British government. Lady Gaga is clearly a creative and capable entertainer, but few would claim that she entered the music business with outstanding talents as a vocalist, musician, or songwriter.

Nor can their success be attributed either exclusively or primarily to luck. Both have experienced difficulties and setbacks at different stages of their careers. Central to their success, however, has been their ability to respond to events—whether positive or negative—with flexibility and clarity of direction.

My contention is that, common to both the 60-year successful reign of Queen Elizabeth II and the short but stellar career of Lady Gaga, is the presence of a soundly formulated and effectively implemented strategy. While these strategies did not exist as explicit plans, for both Queen Elizabeth and Lady Gaga we can discern a consistency of direction based upon clear goals and an ability to bend circumstances toward their desired outcomes.

Elizabeth Windsor's strategy as queen of the UK and the Commonwealth countries is apparent in the relationship she has created between herself and her people. As queen she is figurehead for the nation, an embodiment of its stability and continuity, a symbol of British family and cultural life, and an exemplar of service and professional dedication.

Lady Gaga's remarkable success during 2008–18 reflects a career strategy that uses music as a gateway to celebrity status, which she has built by combining the generic tools of star creation—shock value, fashion leadership, and media presence—with a uniquely differentiated image that has captured the attention and loyalty of teenagers and young adults throughout the world.

What do these two examples tell us about the characteristics of a strategy that are conducive to success? In both stories, four common factors stand out (Figure 1.1):

- *Goals that are consistent and long term:* Both Queen Elizabeth and Lady Gaga display a focused commitment to career goals that they have pursued steadfastly.
- *Profound understanding of the competitive environment:* The ways in which both Elizabeth II and Lady Gaga define their roles and pursue their careers reveal a deep and insightful appreciation of the external environments in which they operate. Queen Elizabeth has been alert both to the changing political environment in which the monarchy is situated and to the mood and needs of the British people. Lady Gaga's business model and strategic positioning show a keen awareness of the changing economics of the music business, the marketing potential of social networking, and the needs of Generation Y.
- *Objective appraisal of resources:* Both Queen Elizabeth and Lady Gaga have been adept at recognizing and deploying the resources at their disposal, and also building those resources—for the Queen, this has included her family, the royal household, and the recipients of royal patronage; for Lady Gaga, it comprises the creative talents of her Haus of Gaga.
- *Effective implementation:* Without effective implementation, the best-laid strategies are of little use. Critical to the success of Queen Elizabeth and Lady Gaga has been their effectiveness coordinating and leading "ecosystems" of supportive individuals and organizations.

These observations about the role of strategy in success can be made in relation to most fields of human endeavor. Whether we look at warfare, chess, politics, sport, or business, the success of individuals and organizations is seldom the outcome of a

STRATEGY CAPSULE 1.1
Queen Elizabeth II and the House of Windsor

By late 2018, Elizabeth Windsor had been queen for 66 years—longer than any of her predecessors.

At her birth on April 21, 1926, 45 other countries were hereditary monarchies. By 2018, the forces of democracy, modernity, and reform had reduced these to 26—mostly small autocracies such as Bahrain, Qatar, Oman, Kuwait, Bhutan, and Lesotho. Monarchies had also survived in Denmark, Sweden, Norway, the Netherlands, and Belgium, but these royal families had lost most of their wealth and privileges.

By contrast, the British royal family retains considerable wealth—the Queen's personal net worth is about $500 million—not including the $10 billion worth of palaces and other real estate owned by the nation but used by her and her family. Queen Elizabeth's formal status is head of state of the UK and 15 other Commonwealth countries (including Canada and Australia), head of the Church of England, and head of the British armed forces. Yet none of these positions confers any decision-making power—her influence comes from the informal role she has established for herself. According to her website, she "has a less formal role as Head of Nation" where she "acts as a focus for national identity, unity and pride; gives a sense of stability and continuity; officially recognises success and excellence; and supports the ideal of voluntary service" (www.royal.gov.uk).

How has Queen Elizabeth been able to retain not just the formal position of the monarchy but also its status, influence, and wealth despite so many challenges? These include wrenching social and political changes and the trials of leading such a famously dysfunctional family—including the failed marriages of most of her children and the controversy that surrounded the life and death of her daughter-in-law, Diana, Princess of Wales.

At the heart of Elizabeth's sustaining of the British monarchy has been her single-minded devotion to what she regards as her duties to the monarchy and to the nation. In cultivating her role as leader of her nation, she has preserved her political neutrality—even when she has disagreed with her prime ministers (notably with

purely random process. Nor is superiority in initial endowments of skills and resources typically the determining factor. Strategies that build on these four elements almost always play an influential role.

Look at the "high achievers" in any competitive area. Whether we review the world's political leaders, the CEOs of the Fortune 500, or our own circles of friends and acquaintances, those who have achieved outstanding success in their careers are seldom those who possessed the greatest innate abilities. Success has gone to those who managed their careers most effectively, typically by combining these four strategic factors. They are goal focused; their career goals have taken primacy over the multitude of life's other goals—friendship, love, leisure, knowledge, spiritual fulfillment—which the majority of us spend most of our lives juggling and reconciling. They know the environments within which they play and tend to be fast learners in terms of recognizing the paths to advancement. They know themselves well in terms of both strengths and weaknesses. Finally, they implement

Margaret Thatcher's "socially divisive" policies and Tony Blair's sending troops to Iraq and Afghanistan).

Through her outreach activities she promotes British influence, British culture, and British values within the wider world. She has made multiple visits to each of the 54 Commonwealth nations, including 27 to Canada and 16 to Australia.

The growing unacceptability of hereditary privilege and the traditional British class system has required her to reposition the royal family from being the leader of the ruling class to embodying the nation as a whole. To make her and her family more inclusive and less socially stereotyped she has cultivated involvement with popular culture, with ordinary people engaged in social service and charitable work, and she has endorsed the marriage of her grandsons William and Harry—the first members of the royal family to marry outside the ranks of the aristocracy.

Elizabeth has been adept at exploiting new media for communicating both with her subjects and with a wider global audience: initially through television, more recently using the web, Twitter, and Facebook. Her press and public relations staff comprises top professionals who report to her private secretary.

While respecting tradition and protocol, she adapts in the face of pressing circumstances. The death of her daughter-in-law, Diana, created difficult tensions between her responsibilities as mother and grandmother and her need to show leadership to a grieving nation. In responding to this crisis she recognized the need to depart from established traditions.

Elizabeth has made effective use of the resources available to her—especially the underlying desire of the British people for continuity and their inherent distrust of their political leaders. By positioning herself above the political fray and emphasizing her lineage—including the prominent public roles of her mother and her children and grandchildren—she reinforces the legitimacy of herself, her family, and the institution they represent. She has also exploited her powers of patronage, using her formal position to cultivate informal relationships with both political and cultural leaders.

The success of Elizabeth's 66-year reign is indicated by the popular support for her personally and for the institution of the monarchy. Outside of Northern Ireland and Quebec, republicanism is weak throughout the British Commonwealth.

their career strategies with commitment, consistency, and determination. As the management guru Peter Drucker observed: "we must learn how to be the CEO of our own career."[1]

There is a downside, however. Focusing on a single goal may lead to outstanding success but may be matched by dismal failure in other areas of life. Many people who have reached the pinnacles of their careers have led lives scarred by poor relationships with friends and families and stunted personal development. These include Howard Hughes and Jean Paul Getty in business, Richard Nixon and Joseph Stalin in politics, Elvis Presley and Marilyn Monroe in entertainment, Tiger Woods and Boris Becker in sport, and Bobby Fischer in chess. For most of us, personal fulfillment is likely to require broad-based rather than narrowly focused goals.[2]

These same ingredients of successful strategies—clear goals, understanding the competitive environment, resource appraisal, and effective implementation—form the key components of our analysis of business strategy.

STRATEGY CAPSULE 1.2
Lady Gaga and the Haus of Gaga

Stefani Joanne Angelina Germanotta, better known as Lady Gaga, is one of the most successful popular entertainers of the 21st century. Since her first album, *The Fame*, in 2008, all four of her albums have topped the Billboard charts; she has also topped *Forbes Celebrity 100* list, and generated $560 million in ticket sales from her five concert tours between 2009 and 2017.

Since dropping out of NYU's Tisch School of the Arts in 2005, Germanotta has shown total commitment to advancing her musical career, first as a songwriter, and then developing her Lady Gaga persona.

Gaga's music is a catchy mix of pop and dance, well suited to dance clubs and radio airplay. It features good melodies, Gaga's capable vocals, and her reflections on society and life, but it is hardly exceptional or innovative: music critic Simon Reynolds described it as: "ruthlessly catchy, naughties pop glazed with Auto-Tune and undergirded with R&B-ish beats."

However, music is only one element in the Lady Gaga phenomenon—her achievement is not so much as a singer or songwriter as in establishing a persona which transcends pop music. Like David Bowie and Madonna before her, Lady Gaga is famous for being Lady Gaga. To do this she has created a multimedia, multifaceted offering that comprises multiple components including music, visual appearance, newsworthy events, a distinctive attitude and personality, and a set of values with which fans can identify.

Key among these is visual impact and theatricality. Her hit records are promoted by visually stunning music videos that have won Grammy awards and broken records for numbers of YouTube downloads. Most striking of all has been Lady Gaga's dress and overall appearance, which have set new standards in eccentricity, innovation, and impact. Individual outfits—her plastic bubble dress, meat dress, and "decapitated-corpse dress"—together with weird hair-dos, extravagant hats, and extreme footwear—are as well-known as her hit songs. The range of visual images she projects means that her every appearance creates a buzz of anticipation.

Lady Gaga has developed a business model adapted to the post-digital world of entertainment. Like Web 2.0 pioneers such as Facebook and Twitter, Gaga has followed the model: first build market presence, and then think about monetizing that presence. By 2012, her YouTube views, Facebook likes, and Twitter followers had made her the "most popular living musician online." Her networking with fans includes Gagaville, an interactive game developed by Zynga, and The Backplane, a music-based social network.

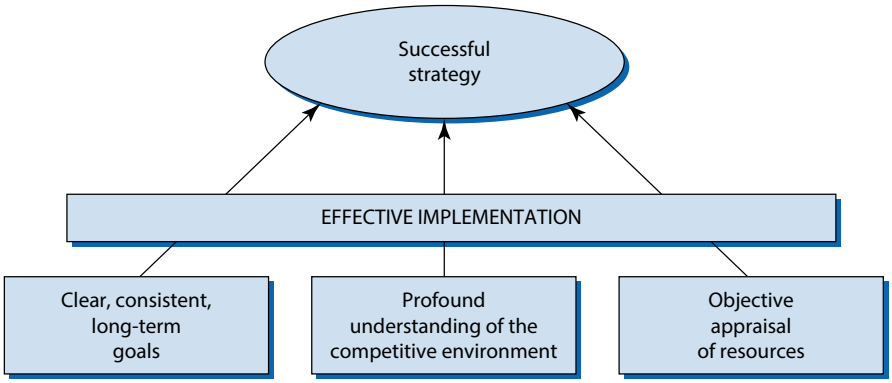
Her emphasis on visual imagery takes account of the means through which media popularity is converted into revenues. While music royalties are important, concerts are her primary revenue source. Other revenue sources—endorsements, product placement in videos and concerts, merchandizing deals, and media appearances—also link closely with her visual presence.

A distinctive feature of Gaga's market positioning is her relationship with her fans. The devotion of her fans—her "Little Monsters"—is based less on their desire to emulate her look as upon empathy with her values and attitudes: Gaga's images are social statements of non-conformity rather than fashion statements. In communicating her experiences of alienation and bullying at school and her values of individuality, sexual freedom, and acceptance of differences, she has built a global fan base of unusual loyalty and commitment. The sense of belonging is reinforced by gestures and symbols such as the "Monster Claw" greeting and the "Manifesto of Little Monsters." As "Mother Monster," Gaga is spokesperson and guru for this community.

Lady Gaga's showmanship and theatricality are supported by The Haus of Gaga, a creative workshop modeled on Andy Warhol's "Factory." It comprises a creative director who coordinates a team of choreographers, fashion designers, hair stylists, photographers, set designers, songwriters, musicians, and marketing professionals.

Sources: M. Sala, "The Strategy of Lady Gaga," BSc thesis Bocconi University, Milan, June 2011; http://www.biography.com/people/lady-gaga-481598, accessed August 24, 2017.

FIGURE 1.1 Common elements in successful strategies



The Basic Framework for Strategy Analysis

Figure 1.2 shows the basic framework for strategy analysis that we shall use throughout the book. The four elements of a successful strategy shown in Figure 1.1 are recast into two groups—the firm and the industry environment—with strategy forming a link between the two. The firm embodies three of these elements: goals and values ("simple, consistent, long-term goals"), resources and capabilities ("objective appraisal of resources"), and structure and systems ("effective implementation"). The industry environment embodies the fourth ("profound understanding of the competitive environment") and is defined by the firm's relationships with competitors, customers, and suppliers.

This view of strategy as a link between the firm and its industry environment has close similarities with the widely used **SWOT framework**. However, as I explain in Strategy Capsule 1.3, a two-way classification of internal and external forces is superior to the four-way SWOT framework.

The task of business strategy, then, is to determine how the firm will deploy its resources within its environment and so satisfy its long-term goals and how it will organize itself to implement that strategy.

FIGURE 1.2 The basic framework: Strategy as a link between the firm and its environment

STRATEGY CAPSULE 1.3
What's Wrong with SWOT?

Distinguishing between the external and the internal environment of the firm is common to most approaches to strategy analysis. The best-known and most widely used of these is the "SWOT" framework, which classifies the various influences on a firm's strategy into four categories: Strengths, Weaknesses, Opportunities, and Threats. The first two—strengths and weaknesses—relate to the internal environment of the firm, primarily its resources and capabilities; the last two—opportunities and threats—relate to the external environment.

Which is better, a two-way distinction between internal and external influences or the four-way SWOT taxonomy? The key issue is whether it is sensible and worthwhile to classify internal factors into strengths and weaknesses and external factors into opportunities and threats. In practice, these distinctions are problematic.

Was Zlatan Ibrahimovic a strength or a weakness for Manchester United? As the team's top scorer during the 2016–17 season and ranking among the world's top-10 players, he was a strength. But as a player whose best days were behind him and whose dominant presence intimidated his younger team-mates, he was a weakness.

Is global warming a threat or an opportunity for the world's automobile producers? By encouraging higher taxes on motor fuels and restrictions on car use, it is a threat. By encouraging consumers to switch to fuel-efficient and electric cars, it offers an opportunity for new sales.

The lesson here is that classifying external factors into opportunities and threats, and internal factors into strengths and weaknesses, is arbitrary. What is important is to carefully identify the external and internal forces that impact the firm, and then analyze their implications.

In this book, I will follow a simple two-way classification of internal and external factors and avoid any premature categorization into strengths or weaknesses, and opportunities or threats.

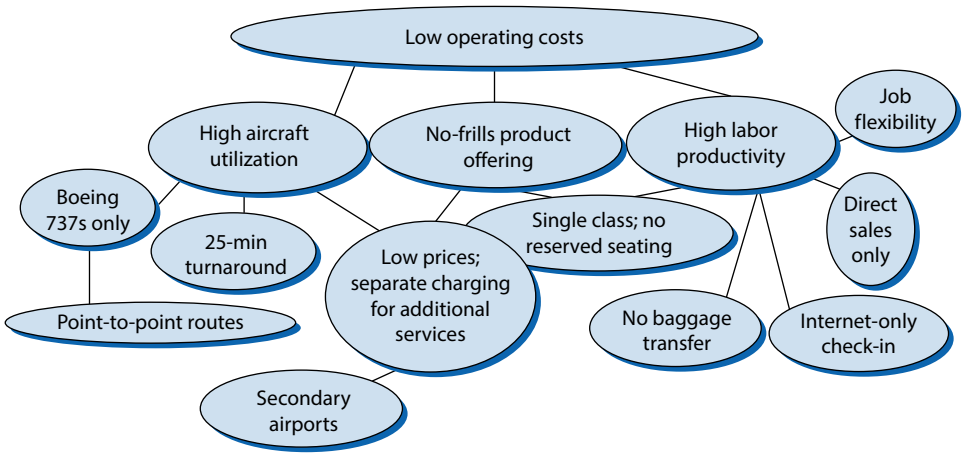
Note: For more on SWOT see: T. Hill and R. Westbrook, "SWOT Analysis: It's Time for a Product Recall," *Long Range Planning*, 30 (February 1997): 46–52; and M. Venzin, "SWOT Analysis: Such a Waste of Time?" (February 2015) http://ideas.sdabocconi.it/strategy/archives/3405.

Strategic Fit

Fundamental to this view of strategy as a link between the firm and its external environment is the notion of **strategic fit**. This refers to the consistency of a firm's strategy, first, with the firm's external environment and, second, with its internal environment, especially with its goals and values and resources and capabilities. A major reason for companies' decline and failure is a strategy that lacks consistency with either the internal or the external environment. The woes of the Italian airline, Alitalia, may be attributed to a strategy that failed to respond to competition from budget airlines such as Ryanair and EasyJet. Other companies struggle to align their strategies to their internal resources and capabilities. A critical issue for Nintendo will be whether it possesses the financial and technological resources to continue to compete head-to-head with Sony and Microsoft in the market for video game consoles.

The concept of strategic fit also relates to the internal consistency among the different elements of a firm's strategy. An effective strategy is one in which all the decisions and actions that make up the strategy are aligned with one another to create a consistent strategic position and direction of development. This notion of internal fit is central to Michael Porter's conceptualization of the firm as an **activity system**. Porter

FIGURE 1.3 Ryanair's activity system



states that "Strategy is the creation of a unique and differentiated position involving a different set of activities."[3] The key is how these activities fit together to form a consistent, mutually reinforcing system. Ryanair's strategic position is as Europe's lowest-cost airline providing no-frills flights to budget-conscious travelers. This is achieved by a set of activities that fit together to support that positioning (Figure 1.3).

The concept of strategic fit is one component of a set of ideas known as **contingency theory**. Contingency theory postulates that there is no single best way of organizing or managing. The best way to design, manage, and lead an organization depends upon circumstances—in particular, the characteristics of that organization's environment.[4]

A Brief History of Business Strategy

Origins and Military Antecedents

Enterprises need business strategies for much the same reason that armies need military strategies—to give direction and purpose, to deploy resources in the most effective manner, and to coordinate the decisions made by different individuals. Many of the concepts and theories of business strategy have their antecedents in military strategy. The term *strategy* derives from the Greek word *strategia*, meaning "generalship." However, the concept of strategy predates the Greeks: Sun Tzu's classic, *The Art of War*, from about 500 BC is regarded as the first treatise on strategy.[5]

Military strategy and business strategy share a number of common concepts and principles, the most basic being the distinction between strategy and tactics. Strategy is the overall plan for deploying resources to establish a favorable position; a tactic is a scheme for a specific action. Whereas tactics are concerned with the maneuvers necessary to win battles, strategy is concerned with winning the war. Strategic decisions, whether in military or business spheres, share three common characteristics:

- They are important.
- They involve a significant commitment of resources.
- They are not easily reversible.

Many of the principles of military strategy have been applied to business situations. These include the relative strengths of offensive and defensive strategies; the merits of outflanking over frontal assault; the roles of graduated responses to aggressive initiatives; the benefits of surprise; and the benefits of deception, envelopment, escalation, and attrition.[6] At the same time, there are major differences between business competition and military conflict. The objective of war is (usually) to defeat the enemy. The purpose of business rivalry is seldom so aggressive: most business enterprises seek to coexist with their rivals rather than to destroy them.

Despite parallels between military and business strategy, we lack a general theory of strategy. The publication of Von Neumann and Morgenstern's *Theory of Games* in 1944 gave rise to the hope that a general theory of competitive behavior would emerge. Since then, **game theory** has revolutionized the study of competitive interaction, not just in business but in politics, military studies, and international relations as well. Yet, as we shall see in Chapter 4, game theory has achieved only limited success as a broadly applicable general theory of strategy.[7]

From Corporate Planning to Strategic Management

The evolution of business strategy has been driven more by the practical needs of business than by the development of theory. During the 1950s and 1960s, senior executives experienced increasing difficulty in coordinating decisions and maintaining control in companies that were growing in size and complexity. While new techniques of discounted cash flow analysis allowed more rational choices over individual investment projects, firms lacked systematic approaches to their long-term development. **Corporate planning** (also known as *long-term planning*) was developed during the late-1950s to serve this purpose. Macroeconomic forecasts provided the foundation for the new corporate planning. The typical format was a five-year corporate planning document that set goals and objectives, forecasted key economic trends (including market demand, the company's market share, revenue, costs, and margins), established priorities for different products and business areas of the firm, and allocated capital expenditures. The new techniques of corporate planning proved particularly useful for guiding the diversification strategies that many large companies pursued during the 1960s.[8] By the mid-1960s, most large US and European companies had set up corporate planning departments. Strategy Capsule 1.4 provides an example of this formalized corporate planning.

By the early 1980s, confidence in corporate planning had been severely shaken. Not only did diversification fail to deliver the anticipated synergies, but the oil shocks of 1974 and 1979 ushered in a new era of macroeconomic instability, while Western companies came under increasing pressure from Japanese, Korean, and Southeast Asian competitors. Companies could no longer plan their investments and actions five years ahead—they couldn't forecast that far.

The result was a shift in emphasis from planning a company's growth path to positioning the company so that it could best exploit available opportunities for profit. This transition from corporate planning to what became called *strategic management* involved a focus on competition as the central characteristic of the business environment and on performance maximization as the primary goal of strategy.

This emphasis on strategy as a quest for performance directed attention to the sources of profitability. At the end of the 1970s, Michael Porter pioneered the application of industrial organization economics to analyzing the profit potential of different

STRATEGY CAPSULE 1.4

Corporate Planning in a Large US Steel Company, 1965

The first step in developing long-range plans was to forecast the product demand for future years. After calculating the tonnage needed in each sales district to provide the "target" fraction of the total forecast demand, the optimal production level for each area was determined. A computer program that incorporated the projected demand, existing production capacity, freight costs, etc. was used for this purpose.

When the optimum production rate in each area was found, the additional facilities needed to produce the desired tonnage were specified. Then, the capital costs for the necessary equipment, buildings, and layout were estimated by the chief engineer of the corporation and various district engineers. Alternative plans for achieving company goals were also developed for some areas, and investment proposals were formulated after considering the amount of available capital and the company debt policy. The vice president who was responsible for long-range planning recommended certain plans to the president, and, after the top executives and the board of directors reviewed alternative plans, they made the necessary decisions about future activities.

Source: H. W. Henry, *Long Range Planning Processes in 45 Industrial Companies* (Englewood Cliffs, NJ: Prentice-Hall, 1967): 65.

industries and markets.[9] Other studies examined how strategic variables—notably market share—determined how profits were distributed between the firms within an industry.[10]

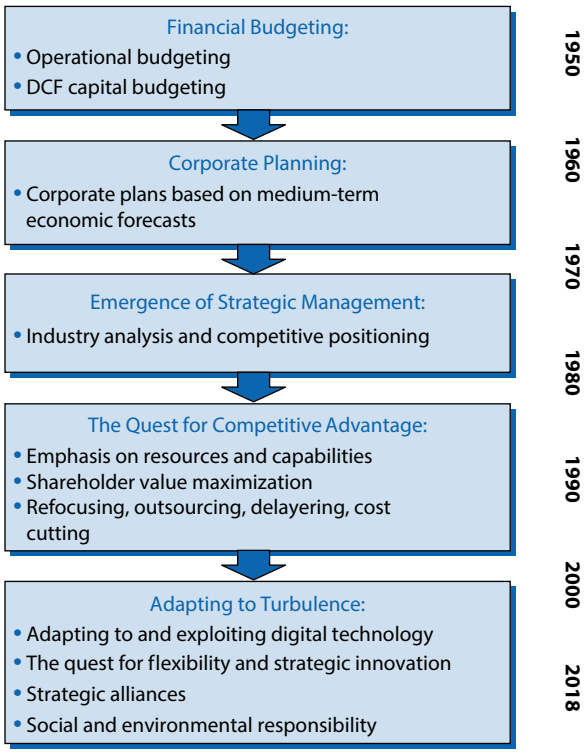
During the 1990s, the focus of strategy analysis shifted from the sources of profit in the external environment to the sources of profit within the firm. The **resource-based view of the firm** identified the resources and capabilities of the firm as its main source of competitive advantage and the primary basis for formulating strategy.[11] This emphasis on internal resources and capabilities has encouraged firms to identify how they are *different* from their competitors and to design strategies that exploit these differences.

During the 21st century, new challenges have continued to shape the principles and practice of strategy. Digital technologies have had a massive impact on the competitive dynamics of many industries, creating winner-take-all markets and standards wars.[12] Disruptive technologies[13] and accelerating rates of change have meant that strategy has become less and less about plans and more about creating options of the future,[14] fostering strategic innovation,[15] and seeking the "blue oceans" of uncontested market space.[16] The complexity of these challenges has meant that being self-sufficient is no longer viable for most firms—alliances and other forms of collaboration are an increasingly common feature of firms' strategies.

The 2008–2009 financial crisis triggered closer scrutiny of purpose of business. Disillusion with the excesses and unfairness of market capitalism has renewed interest in corporate social responsibility, ethics, sustainability, and the legitimacy of profit as the dominant goal of business.[17]

Figure 1.4 summarizes the main developments in strategic management since the mid-20th century.

FIGURE 1.4 Evolution of strategic management



Strategy Today

What Is Strategy?

In its broadest sense, strategy is the means by which individuals or organizations achieve their objectives. Table 1.1 presents a number of definitions of the term strategy. Common to most definitions is the notion that strategy involves setting goals, allocating resources, and establishing consistency and coherence among decisions and actions.

Yet, as we have seen, the conception of firm strategy has changed greatly over the past half-century. As the business environment has become more unstable and unpredictable, so strategy has become less concerned with detailed plans and more about guidelines for success. This is consistent with the introductory examples to this chapter. Neither Queen Elizabeth nor Lady Gaga appears to have articulated any explicit strategic plan, but the consistency we discern in their actions suggests both possessed clear ideas of what they wanted to achieve and how they would achieve it. This shift in emphasis from strategy as plan to strategy as direction does not imply any downgrading of the role of strategy. The more turbulent the environment, the more strategy must embrace flexibility and responsiveness. But it is precisely under these conditions that strategy becomes more, rather than less, important. When the firm is buffeted by unforeseen threats and where new opportunities are constantly appearing, then strategy becomes the compass that can navigate the firm through stormy seas.

TABLE 1.1 Some definitions of strategy

- Strategy: a plan, method, or series of actions designed to achieve a specific goal or effect.
  —*Wordsmyth Dictionary* (www.wordsmyth.net)
- The determination of the long-run goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals.
  —Alfred Chandler, *Strategy and Structure* (Cambridge, MA: MIT Press, 1962)
- Strategy: "a cohesive response to an important challenge."
  —Richard Rumelt, *Good Strategy/Bad Strategy* (New York: Crown Business, 2011): 6.
- Lost Boy: "Injuns! Let's go get 'em!"
  John Darling: "Hold on a minute. First we must have a strategy."
  Lost Boy: "Uhh? What's a strategy?"
  John Darling: "It's, er ... it's a plan of attack."
  —Walt Disney's *Peter Pan*

Why Do Firms Need Strategy?

This transition from strategy as plan to strategy as direction raises the question of why firms (or other types of organization) need strategy. Strategy assists the effective management of organizations, first, by enhancing the quality of decision-making, second, by facilitating coordination, and, third, by focusing organizations on the pursuit of long-term goals.

Strategy as Decision Support Strategy is a pattern or theme that gives coherence to the decisions of an individual or organization. But why can't individuals or organizations make optimal decisions in the absence of such a unifying theme? Consider the 1997 "man versus machine" chess epic in which Garry Kasparov was defeated by IBM's "Deep Blue" computer. Deep Blue did not need strategy. Its phenomenal memory and computing power allowed it to identify its optimal moves based on a huge decision tree.[18] Kasparov—although the world's greatest chess player—was subject to *bounded rationality*: his decision analysis was subject to the cognitive limitations that constrain all human beings.[19] For him, a strategy offered guidance that assisted positioning and helped create opportunities. Strategy improves decision-making in several ways:

- It simplifies decision-making by constraining the range of decision alternatives considered and acting as a *heuristic*—a rule of thumb that reduces the search required to find an acceptable solution to a decision problem.
- The strategy-making process permits the knowledge of different individuals to be pooled and integrated.
- It facilitates the use of analytic tools—the frameworks and techniques that we will encounter in the ensuing chapters of this book.

Strategy as a Coordinating Device The central challenge of management is coordinating the actions of multiple organizational members. Strategy acts as a communication device to promote coordination. Statements of strategy are a means by

which the CEO can communicate the identity, goals, and positioning of the company to all organizational members. The strategic planning process provides a forum in which views are exchanged and consensus developed; once formulated, strategy can be translated into goals, commitments, and performance targets that ensure that the organization moves forward in a consistent direction.

Strategy as Target Strategy is forward looking. It is concerned not only with how the firm will compete now, but also with what the firm will become in the future. A forward-looking strategy establishes direction for the firm's development and sets aspirations that can motivate and inspire members of the organization. Gary Hamel and C. K. Prahalad use the term **strategic intent** to describe this desired strategic position: "strategic intent creates an extreme misfit between resources and ambitions. Top management then challenges the organization to close the gap by building new competitive advantages."[20] The implication is that strategy should embrace stretch and resource leverage and not be overly constrained by considerations of strategic fit.[21] Jim Collins and Jerry Porras make a similar point: US companies that have been sector leaders for 50 years or more have all generated commitment and drive through setting "Big, Hairy, Ambitious Goals."[22] Striving, inspirational goals are found in most organizations' statements of vision and mission. One of the best known is that set by President Kennedy for NASA's space program: "before this decade is out, to land a man on the moon and return him safely to earth." However, goals on their own do not constitute a strategy. Unless an organization's goals are backed by guidelines for their attainment, they are likely to be either meaningless or delusional.[23]

Where Do We Find Strategy?

Strategy has its origins in the thought processes of organizational leaders. For the entrepreneur, the starting point of strategy is the idea for a new business. Until the new business needs to raise finance, there is little need for any explicit statement of strategy. At that point, the entrepreneur articulates the strategy in a business plan. In large companies, strategy formulation is an explicit management process and statements of strategy are found in board minutes and strategic planning documents, which are invariably confidential. However, most companies—public companies in particular—see value in communicating their strategy to employees, customers, investors, and business partners. Collis and Rukstad identify four types of statement through which companies communicate their strategies:

- The mission statement describes organizational purpose; it addresses "Why we exist."
- A statement of principles or values outlines "What we believe in and how we will behave."
- The vision statement projects "What we want to be."
- The strategy statement articulates the company's competitive game plan, which typically describes objectives, business scope, and advantage.[24]

These statements can be found on the corporate pages of companies' websites. More detailed statements of strategy—including qualitative and quantitative medium-term targets—are often found in top management presentations to analysts, which are typically included in the "for investors" pages of company websites. Strategy Capsule 1.5 shows statements of strategy by McDonalds and Twitter.

STRATEGY CAPSULE 1.5

Statements of Company Strategy: McDonald's and Twitter

McDONALD'S CORPORATION

Our goal is to become customers' favorite place and way to eat and drink by serving core favorites such as our World Famous Fries, Big Mac, Quarter Pounder and Chicken McNuggets.

The strength of the alignment among the Company, its franchisees and suppliers (collectively referred to as the "System") has been key to McDonald's success. By leveraging our System, we are able to identify, implement and scale ideas that meet customers' changing needs and preferences.

McDonald's customer-focused Plan to Win ("Plan") provides a common framework that aligns our global business and allows for local adaptation. We continue to focus on our three global growth priorities of optimizing our menu, modernizing the customer experience, and broadening accessibility to Brand McDonald's within the framework of our Plan. Our initiatives support these priorities, and are executed with a focus on the Plan's five pillars—People, Products, Place, Price and Promotion—to enhance our customers' experience and build shareholder value over the long term. We believe these priorities align with our customers' evolving needs, and—combined with our competitive advantages of convenience, menu variety, geographic diversification and System alignment—will drive long-term sustainable growth.

Source: www.mcdonalds.com.

TWITTER, INC.

We have aligned our growth strategy around the three primary constituents of our platform:

Users. We believe that there is a significant opportunity to expand our user base...

- Geographic Expansion. We plan to develop a broad set of partnerships globally to increase relevant local content ... and make Twitter more accessible in new and emerging markets.
- Mobile Applications. We plan to continue to develop and improve our mobile applications...
- Product Development. We plan to continue to build and acquire new technologies to develop and improve our products and services...

Platform Partners. We believe growth in our platform partners is complementary to our user growth strategy...

- Expand the Twitter Platform to Integrate More Content. We plan to continue to build and acquire new technologies to enable our platform partners to distribute content of all forms.
- Partner with Traditional Media ... to drive more content distribution on our platform...

Advertisers... [I]ncrease the value of our platform for our advertisers by enhancing our advertising services and making our platform more accessible.

- Targeting. We plan to continue to improve the targeting capabilities of our advertising services.
- Opening our Platform to Additional Advertisers. We believe that advertisers outside of the United States represent a substantial opportunity...
- New Advertising Formats.

Source: Twitter, Inc. Amendment no. 4 to Form S-1, Registration Statement, SEC, November 4, 2013.

All these are intentions and, as we shall see, strategic intent is not necessarily realized. Ultimately, strategy is realized as action. Hence, strategy is observable in where and how a firm chooses to compete. For example, information on a firm's business scope (products and its markets) and how it competes within these markets can be found in a company's annual reports. For US corporations, the description of the business that forms Item 1 of the 10-K annual report to the Securities and Exchange Commission (SEC) is particularly informative about strategy.

Checking a company's pronouncements about strategy against its decisions and actions may reveal a gap between rhetoric and reality. As a reality check upon grandiose and platitudinous sentiments of vision and mission, it is useful to ask:

- Where is the company investing its money? Notes to financial statements provide detailed breakdowns of capital expenditure by region and by business segment.
- What technologies is the company developing? Identifying the patents that a company has filed (using the online databases of the US and EU patent offices) indicates the technological trajectory a firm is pursuing.
- What new products have been released, major investment projects initiated, and top management hired? These strategic decisions are typically announced in press releases and reported in trade journals.

To identify a firm's strategy it is necessary to draw upon multiple sources of information in order to build an overall picture of what the company says it is doing matches what it is actually doing. We will return to this topic when we discuss *competitive intelligence* in Chapter 4.

Corporate and Business Strategy

Strategic choices can be distilled into two basic questions:

- Where to compete?
- How to compete?

The answers to these questions define the two major areas of a firm's strategy: **corporate strategy** and **business strategy**.

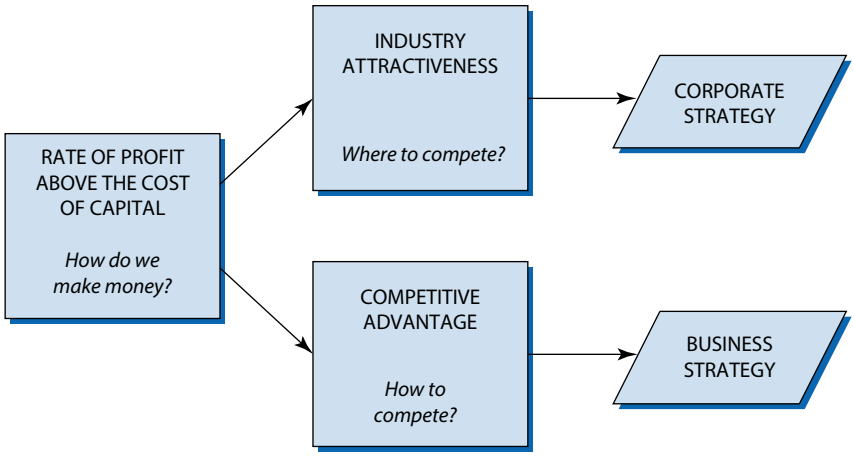
Corporate strategy defines the scope of the firm in terms of the industries and markets in which it competes. Corporate strategy decisions include choices over diversification, vertical integration, acquisitions, and new ventures, and the allocation of resources between the different businesses of the firm.

Business strategy is concerned with how the firm competes within a particular industry or market. If the firm is to prosper within an industry, it must establish a competitive advantage over its rivals. Hence, this area of strategy is also referred to as *competitive strategy*.

The distinction between corporate strategy and business strategy corresponds to the organizational structure of most large companies. Corporate strategy is the responsibility of corporate top management. Business strategy is primarily the responsibility of the senior managers of divisions and subsidiaries.

This distinction between corporate and business strategy also corresponds to the primary sources of superior profit for a firm. To survive and prosper over the long term,

FIGURE 1.5 The sources of superior profitability



a firm must earn a rate of return on its capital that exceeds its cost of capital. There are two possible ways of achieving this. First, by locating within industries that offer attractive rates of profit (corporate strategy). Second, by establishing a competitive advantage over rivals within an industry (Figure 1.5). This distinction may be expressed even more simply. The basic question facing the firm is "How do we make money?" This prompts the two basic strategic choices we identified above: "Where to compete?" and "How to compete?"

As an integrated approach to firm strategy, this book deals with both business and corporate strategy. However, our primary emphasis will be on business strategy. This is because the critical requirement for a company's success is its ability to establish competitive advantage. Hence, issues of business strategy precede those of corporate strategy. At the same time, these two dimensions of strategy are intertwined: the scope of a firm's business has implications for the sources of competitive advantage, and the nature of a firm's competitive advantage determines the industries and markets it can be successful in.

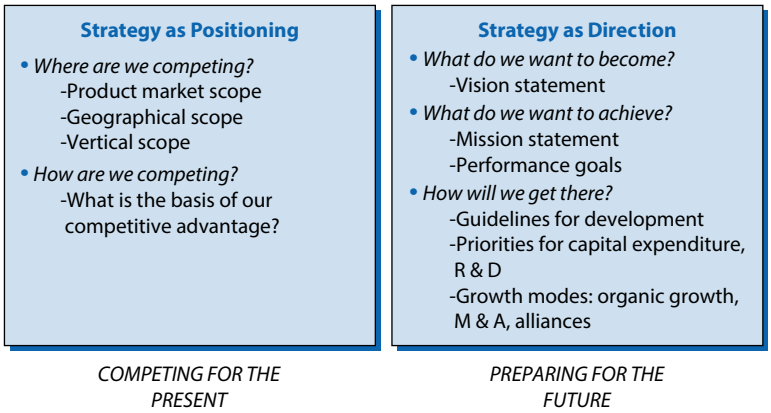
Describing Strategy

These same two questions—"Where is the firm competing?" and "How is it competing?"—also provide the basis upon which we can describe the strategy that a firm is pursuing. The *where* question has multiple dimensions. It relates to the products the firm supplies, the customers it serves, the countries and localities where it operates, and the vertical range of activities it undertakes. The *how* question relates to the nature of the firm's competitive advantage: Is it seeking a cost advantage or a differentiation advantage? How is the firm using its distinctive resources and capabilities to establish a competitive advantage?

However, strategy is not simply about "competing for today"; it is also concerned with "competing for tomorrow." This dynamic aspect of strategy involves establishing objectives for the future and determining how they will be achieved. Future objectives relate to the overall purpose of the firm (mission), what it seeks to become (vision), and how it will meet specific performance targets.

These two dimensions of strategy—the static and the dynamic—are depicted in Figure 1.6. As we shall see in Chapter 8, reconciling these two dimensions of

FIGURE 1.6 Describing firm strategy: Competing in the present, preparing for the future



strategy—what Derek Abell calls "competing with dual strategies"—is one of the central dilemmas of strategic management.[25]

How is Strategy Made? The Strategy Process

How companies make strategy and how they should make strategy are among the most hotly debated issues in strategic management. The corporate planning undertaken by large companies during the 1960s was a highly formalized approach to strategy making. Strategy may also be made informally: emerging through adaptation to circumstances. In our opening discussion of Queen Elizabeth and Lady Gaga, I discerned a consistency and pattern to their career decisions that I identified as strategy, even though there is no evidence that either of them engaged in any systematic process of strategy formulation. Similarly, successful companies are seldom the products of grand designs. The rise of Apple Inc. to become the world's most valuable company (in terms of stock market capitalization) has often been attributed to a brilliant strategy of integrating hardware, software, and design aesthetics to create electronic products that offered a unique consumer experience. Yet, there is little evidence that Apple's incredible success since 2004 was the result of an explicit strategy. Apple's huge success with its iPod, iPhone, and iPad was the outcome of a set of strategic decisions that combined Steve Job's penetrating insight into consumer preferences and technological trends with Apple's capabilities in design, marketing, the integration of hardware and software, and the management of an ecosystem of partners.

So, what does this mean for strategy making by companies and other organizations? Should managers seek to formulate strategy through a rational systematic process, or is the best approach in a turbulent world to respond to events with opportunism and creativity?

Design versus Emergence

Henry Mintzberg is a leading critic of rational, analytical approaches to strategy design. He distinguishes *intended, emergent*, and *realized* strategies. **Intended strategy** is

strategy as conceived of by the leader or top management team. Even here, intended strategy may be less a product of rational deliberation and more an outcome of inspiration, negotiation, bargaining, and compromise among those involved in the strategy-making process. However, **realized strategy**—the actual strategy that is implemented—is only partly related to that which was intended (Mintzberg suggests only 10–30% of intended strategy is realized). The primary determinant of realized strategy is what Mintzberg terms **emergent strategy**—the decisions that emerge from the complex processes in which individual managers interpret the intended strategy and adapt it to changing circumstances.[26]

According to Mintzberg, rational design is not only an inaccurate account of how strategies are actually formulated but also a poor way of making strategy: "The notion that strategy is something that should happen way up there, far removed from the details of running an organization on a daily basis, is one of the great fallacies of conventional strategic management."[27] The emergent approaches to strategy-making permit adaptation and learning through a continuous interaction between strategy formulation and strategy implementation in which strategy is constantly being adjusted and revised in the light of experience.

The debate between those who view strategy-making as a rational, analytical process of deliberate planning (the *design school*) and those who envisage strategy-making as an emergent process (the *process* or *learning school* of strategy) has centered on the case of Honda's successful entry into the US motorcycle market during the early 1960s.[28] The Boston Consulting Group lauded Honda for its single-minded pursuit of a global strategy based on exploiting economies of scale and learning to establish unassailable cost leadership.[29] However, subsequent interviews with the Honda managers in charge of its US market entry revealed a different story: a haphazard, experimental approach with little analysis and no clear plan.[30] As Mintzberg observes: "Brilliant as its strategy may have looked after the fact, Honda's managers made almost every conceivable mistake until the market finally hit them over the head with the right formula."[31]

In practice, strategy-making involves both thought and action: "Strategy exists in the cognition of managers but also is reified in what companies do."[32] Top-down rational design is combined with decentralized adaptation:

- The design aspect of strategy comprises organizational processes through which strategy is deliberated, discussed, and decided. These include board meetings, a strategic planning process, and informal participative events, such as strategy workshops. I will discuss processes of strategic planning more fully in Chapter 6.
- The enactment of strategy through decisions and actions being taken throughout the organization is a decentralized process where middle managers play a central role. These emergent processes are typically viewed as occurring when formal strategic plans are being implemented. However, these emergent processes may come first. Intel's historic decision to abandon memory chips and concentrate on microprocessors was initiated in the operational decisions of business unit and plant managers and subsequently adopted as strategy by top management.[33]

I refer to this process of strategy-making that combines design and emergence as "planned emergence."[34] The balance between the two depends greatly upon the stability and predictability of the organization's business environment. The Roman Catholic Church and La Poste, the French postal service, inhabit relatively stable environments; they can plan activities and resource allocations in some detail quite far into the future.

For WikiLeaks, the Somali Telecom Group, and Islamic State, strategic planning will inevitably be restricted to a few guidelines; most strategic decisions must be responses to unfolding circumstances.

As the business environment becomes more turbulent and less predictable, so strategy-making becomes less about detailed decisions and more about guidelines and general direction. Bain & Company advocates the use of *strategic principles*—"pithy, memorable distillations of strategy that guide and empower employees"—to combine consistent focus with adaptability and responsiveness.[35] McDonald's strategy statement in Strategy Capsule 1.5 is an example of such strategic principles. Similarly, Southwest Airlines encapsulates its strategy in a simple statement: "Meet customers' short-haul travel needs at fares competitive with the cost of automobile travel." For fast-moving businesses, strategy may be reduced to a set of "simple rules." For example, Lego evaluates new product proposals by applying a checklist of rules: "Does the product have the Lego look?" "Will children learn while having fun?" "Does it stimulate creativity?"[36]

Applying Strategy Analysis

Despite the criticisms leveled at rational, analytical approaches to strategy formulation, the emphasis of this book will be the application of analytical tools to strategy issues. This is not because I wish to downplay the role of intuition, creativity, or spontaneity—these qualities are essential ingredients of successful strategies. Nevertheless, whether strategy formulation is formal or informal, deliberate or emergent, systematic analysis leads to better decisions and helps protect strategic decision-making from power battles, whims, fads, and wishful thinking. Concepts, theories, and analytic tools are complements to, and not substitutes for, intuition and creativity, and they provide a framework for organizing discussion, processing information, and developing consensus.

We must also recognize limitations of strategy analysis. Unlike many of the analytical techniques in accounting, finance, market research, or production management, strategy analysis does not offer algorithms or formulae that tell us the optimal strategy to adopt. The purpose of strategy analysis is not to provide answers but to help us to probe the relevant issues. By providing a framework that allows us to examine the factors that influence a strategic situation and organize relevant information, strategy analysis places us in a superior position to a manager who relies exclusively on experience and intuition. Finally, to the extent that our analytic tools are not specific to individual businesses or situations, they can improve our flexibility as managers. The concepts and frameworks we shall cover are not specific to particular industries, companies, or situations. Hence, they can help increase our confidence and effectiveness in understanding and responding to new situations and new circumstances.

So, how do we go about applying our tools of strategy analysis in a systematic and productive way that allows us to make sound strategy recommendations? Developing a strategy for a business typically involves four main stages. These are shown in Figure 1.7.[37]

1. *Setting the strategic agenda.* Any strategy-making exercise must begin by identifying the important issues that the strategy must address. For an existing company, this involves assessing whether the current strategy is working, which requires that we:

   - *Identify the current strategy.* A vital preliminary step is to establish consensus around what the current strategy is. The above sections on *Where Do We Find Strategy?* and *Describing Strategy* offer guidance in this.

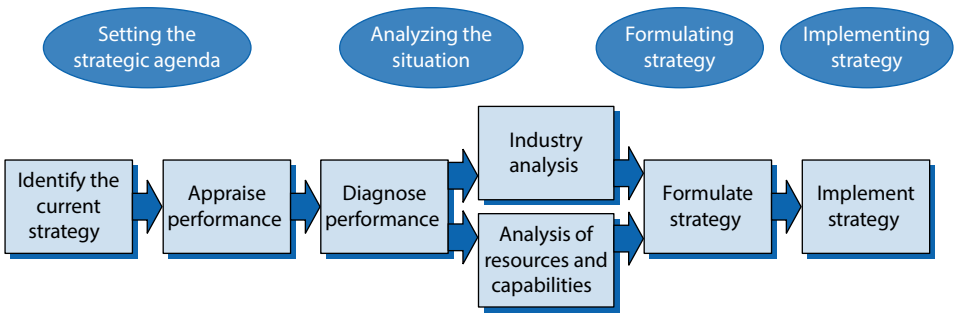
- *Appraise performance.* How well is the current strategy performing? In the next chapter, we shall how to apply financial analysis to assess firm performance.

2. *Analyzing the situation*

   - *Diagnose performance.* Having determined the level and trend of the firm's performance, the next challenge is *diagnosis*: In the case of poor performance, what are the sources of unsatisfactory performance? In the case of good performance, what are the factors driving this? Chapter 2 offers guidance on performance. Dick Rumelt puts it even more succinctly: the core question in most strategy situations is, "What's going on here?"[38]
   - *Industry analysis.* To determine whether the current strategy needs to be changed, we need to look not just at how it is currently performing, but how it will perform in the future. This requires looking at the likely changes in the firm's industry and their implications. Chapters 3 and 4 address industry analysis.
   - *Analysis of resources and capabilities.* Having established likely external changes, what do these mean for the firm's competitive position? This requires analysis of the firm's resources and capabilities—which we address in Chapter 5.

3. *Formulating strategy.* Performance diagnosis, industry analysis, and resource and capability analysis provide a basis for generating strategic options, the most promising of which can be developed into a recommended strategy. Recommended strategies tend to avoid precise specifications of what is to be done, they are more likely to articulate the primary basis for a firm's competitive advantage and what this means for how it will compete. Chapter 7 discusses how the intersection of internal strengths and external success factors create the basis for a firm's competitive advantage.
4. *Implement strategy.* Without action, a strategy is merely an idea expressed in words. Implementing strategy requires allocating resources and motivating people. As we shall see in Chapter 6, this requires putting in place the organizational structure and management systems within which action can take place.

FIGURE 1.7 Applying strategy analysis



Strategic Management of Not-For-Profit Organizations

When strategic management meant top-down, long-range planning, there was little distinction between business corporations and not-for-profit organizations: the techniques of forecast-based planning applied equally to both. As strategic management has become increasingly oriented toward the identification and exploitation of sources of profit, it has become more closely identified with for-profit organizations. So, can the concepts and tools of corporate and business strategy be applied to not-for-profit organizations?

The short answer is *yes*. Strategy is as important in not-for-profit organizations as it is in business firms. The benefits I have attributed to strategic management in terms of improved decision-making, achieving coordination, and setting performance targets (see the section "Why Do Firms Need Strategy?" above) may be even more important in the nonprofit sector. Moreover, many of the same concepts and tools of strategic analysis are readily applicable to not-for-profits—albeit with some adaptation. However, the not-for-profit sector encompasses a vast range of organizations. Both the nature of strategic planning and the appropriate tools for strategy analysis differ among these organizations.

The basic distinction here is between those not-for-profits that operate in competitive environments (most nongovernmental, nonprofit organizations) and those that do not (most government departments and government agencies). Among the not-for-profits that inhabit competitive environments, we may distinguish between

TABLE 1.2 The applicability of the concepts and tools of strategic analysis to different types of not-for-profit organizations

	Organizations in competitive environments that charge users	Organizations in competitive environments that provide free services	Organizations sheltered from competition
Examples	Royal Opera House Guggenheim Museum Stanford University	Salvation Army Habitat for Humanity Greenpeace Linux	UK Ministry of Defence, European Central Bank, New York Police Department, World Health Organization
Analysis of goals and performance	Identification of mission, goals, and performance indicators and establishing consistency between them is a critical area of strategy analysis for all not-for-profits		
Analysis of the competitive environment	Main tools of competitive analysis are the same as for for-profit firms	Main arena for competition and competitive strategy is the market for funding	Not important. However, there is interagency competition for public funding
Analysis of resources and capabilities	Identifying and exploiting distinctive resources and capabilities critical to designing strategies that confer competitive advantage		Analysis of resources and capabilities essential for determining priorities and designing strategies
Strategy implementation	The basic principles of organizational design, performance management, and leadership are common to all organizational types		

those that charge for the services they provide (most private schools, non profit-making private hospitals, social and sports clubs, etc.) and those that provide their services free—most charities and NGOs (nongovernmental organizations). Table 1.2 summarizes some key differences between each of these organizations with regard to the applicability of the basic tools of strategy analysis.

Among the tools of strategy analysis that are applicable to all types of not-for-profit organizations, those that relate to the role of strategy in specifying organizational goals and linking goals to resource-allocation decisions are especially important. For businesses, profit is always a key goal since it ensures survival and fuels development. But for not-for-profits, goals are typically complex. The mission of Harvard University is to "create knowledge, to open the minds of students to that knowledge, and to enable students to take best advantage of their educational opportunities." But how are these multiple objectives to be reconciled in practice? How should Harvard's budget be

STRATEGY CAPSULE 1.6

The Strategic Plan of the International Red Cross

The International Federation of Red Cross and Red Crescent Societies (IFRC) coordinates activities of 190 National Red Cross and Red Crescent Societies. "*Strategy 2020* provides the basis for the strategic plans of National Societies." It included the following:

Fundamental Principles	Humanity, Impartiality, Neutrality, Independence, Voluntary service, Unity, Universality		
Vision	To inspire, encourage, facilitate and promote at all times all forms of humanitarian activities by National Societies, with a view to preventing and alleviating human suffering, and thereby contributing to the maintenance and promotion of human dignity and peace in the world.		
Strategic Aims	1. Save lives, protect livelihoods, and strengthen recovery from disasters and crises	2. Enable healthy and safe living	3. Promote social inclusion and a culture of non violence and peace
Enabling Actions	Build strong National Red Cross and Red Crescent Societies	Pursue humanitarian diplomacy to prevent and reduce vulnerability in a globalized world	Function effectively as the IFRC
Expected Impact	Expanded sustainable national and local capacities of National Societies A stronger culture of voluntary service and participation in National Societies. Scaled-up services for the most vulnerable people	Greater access to help people who are vulnerable and earlier attention to causes of vulnerability Deeper public, government, and partner support More resources to address vulnerabilities Stronger recognition of community perspectives	Stronger cooperation, coordination and support arrangements Improved accountability for IFRC activities Greater IFRC contribution to meeting vulnerability needs at global, national and local levels

Source: International Federation of Red Cross and Red Crescent Societies, *Strategy 2020* (Geneva, 2010).

allocated between research and financial aid for students? Is Harvard's mission better served by investing in graduate or undergraduate education? The strategic planning process of not-for-profits needs to be designed so that mission, goals, resource allocation, and performance targets are closely aligned. Strategy Capsule 1.6 shows the 10-year strategic planning framework for the International Red Cross.

Similarly, most of the principles and tools of strategy implementation—especially in relation to organizational structure, management systems, techniques of performance management, and choice of leadership styles—are common to both for-profit and not-for-profit organizations.

In terms of the analysis of the external environment, there is little difference between the techniques of industry analysis applied to business enterprises and those relevant to not-for-profits that inhabit competitive environments and charge for their services. In many markets (theaters, sports clubs, vocational training), for-profits and not-for-profits may be in competition with one another. Indeed, for these types of not-for-profit organizations, the pressing need to break even in order to survive may mean that their strategies do not differ significantly from those of for-profit firms.

In the case of not-for-profits that do not charge users for the services they offer (mostly charities), competition does not really exist at the final market level: different homeless shelters in San Francisco cannot really be said to be competing for the homeless. However, these organizations compete for funding—raising donations from individuals, winning grants from foundations, or obtaining contracts from funding agencies. Competing in the market for funding is a key area of strategy for most not-for-profits.

The analysis of resources and capabilities is important to all organizations that inhabit competitive environments and, hence, must deploy their resources and capabilities to establish a competitive advantage. However, even for those organizations that are monopolists—such as government departments and other public agencies—performance is enhanced by aligning strategy with internal strengths in resources and capabilities.

Summary

This chapter has covered a great deal of ground—I hope that you are not suffering from indigestion. If you are feeling a little overwhelmed, not to worry: we shall be returning to the themes and issues raised in this chapter in the subsequent chapters of this book.

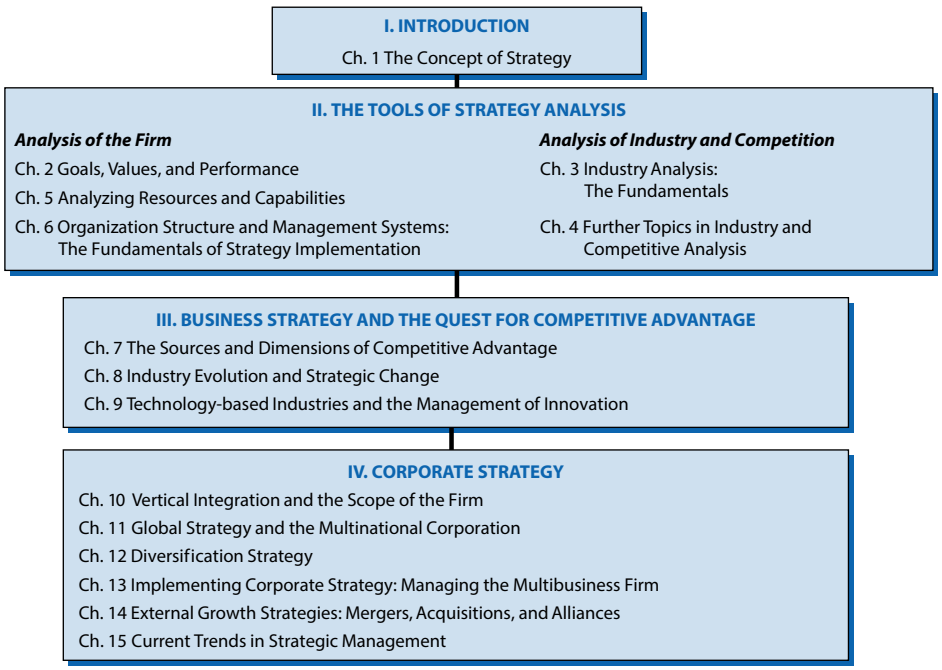
The key lessons from this chapter are:

- Strategy is a key ingredient of success both for individuals and organizations. A sound strategy cannot guarantee success, but it can improve the odds. Successful strategies tend to embody four elements: clear, long-term goals; profound understanding of the external environment; astute appraisal of internal resources and capabilities; and effective implementation.
- The above four elements form the primary components of strategy analysis: determination of goals, industry analysis, analysis of resources and capabilities, and strategy implementation.

- Strategy is no longer concerned with using forecasts as the basis for detailed planning; it is increasingly about direction, identity, and exploiting the sources of superior profitability.
- To describe the strategy of a firm (or any other type of organization), we need to recognize where the firm is competing, how it is competing, and the direction in which it is developing.
- Developing a strategy for an organization requires a combination of purpose-led planning (rational design) and a flexible response to changing circumstances (emergence).
- The principles and tools of strategic management have been developed primarily for business enterprises; however, they are also applicable to the strategic management of not-for-profit organizations, especially those that inhabit competitive environments.

Our next stage is to delve further into the basic strategy framework shown in Figure 1.2. The elements of this framework—goals and values, the industry environment, resources and capabilities, and structure and systems—are the subjects of the five chapters that form Part II of the book. We then deploy these tools to analyze the quest for competitive advantages in different industry contexts (Part III), and then in the development of corporate strategy (Part IV). Figure 1.8 shows the framework for the book.

FIGURE 1.8 The structure of the book



Self-Study Questions

1. In relation to the four characteristics of successful strategies in Figure 1.1, assess the US government's Middle East strategy since the invasion of Iraq in 2003.
2. What is your career strategy for the next five years? To what extent does your strategy fit with your long-term goals, the characteristics of the external environment, and your own strengths and weaknesses?
3. The discussion of the evolution of business strategy (see the section "From Corporate Planning to Strategic Management") established that the characteristics of a firm's strategic plans and its strategic planning process are strongly influenced by the volatility and unpredictability of its external environment. On this basis, what differences would you expect in the strategic plans and strategic planning processes of Coca-Cola Company and Spotify SA, the Swedish-based music streaming service?
4. I have noted that a firm's strategy can be described in terms of the answers to two questions: "Where are we competing?" and "How are we competing?" Applying these two questions, provide a concise description of Lady Gaga's career strategy (see Strategy Capsule 1.2).
5. Using the framework of Figure 1.6, describe the strategy of the university or school you attend.
6. Your business school is considering appointing as dean someone whose entire career has been spent in business management. What challenges might the new dean face in applying her strategic management skills to a business school?

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II

THE TOOLS OF STRATEGY ANALYSIS

2 Goals, Values, and Performance

3 Industry Analysis: The Fundamentals

4 Further Topics in Industry and Competitive Analysis

5 Analyzing Resources and Capabilities

6 Organization Structure and Management Systems: The Fundamentals of Strategy Implementation

2 Goals, Values, and Performance

The strategic aim of a business is to earn a return on capital, and if in any particular case the return in the long run is not satisfactory, then the deficiency should be corrected or the activity abandoned for a more favorable one.

—ALFRED P. SLOAN JR., PRESIDENT AND THEN CHAIRMAN OF GENERAL MOTORS, 1923 TO 1956.

Profits are to business as breathing is to life. Breathing is essential to life, but is not the purpose for living. Similarly, profits are essential for the existence of the corporation, but they are not the reason for its existence.

—DENNIS BAKKE, FOUNDER AND FORMER CEO, AES CORPORATION

OUTLINE

- **Introduction and Objectives**
- **Strategy as a Quest for Value**
  - Value Creation
  - Value for Whom? Shareholders versus Stakeholders
- **Profit, Cash Flow, and Enterprise Value**
  - Types of Profit
  - Linking Profit to Enterprise Value
  - Enterprise Value and Shareholder Value
- **Putting Performance Analysis into Practice**
  - Appraising Current and Past Performance
  - Performance Diagnosis
  - Using Performance Diagnosis to Guide Strategy Formulation
  - Setting Performance Targets
- **Beyond Profit: Values and Corporate Social Responsibility**
  - Values and Principles
  - Corporate Social Responsibility
- **Beyond Profit: Strategy and Real Options**
  - Strategy as Options Management
- **Summary**
- **Self-Study Questions**
- **Notes**

Introduction and Objectives

Our framework for strategy analysis (Figure 1.3) comprises four components: the firm's goals and values, its resources and capabilities, its structure and management systems, and its industry environment. The chapters that form Part II of this book develop these four components of strategy analysis. We begin with goals and values of the firm and, by extension, the performance of the firm in attaining its goals.

As the opening quotations to this chapter indicate, there is fierce debate over the appropriate goals for business enterprises. In this chapter, we will consider whether the firm should pursue the interests of its owners only or of all its stakeholders, including society as a whole. Our approach will be pragmatic. While acknowledging that firms pursue multiple goals and that each firm chooses a particular purpose, we focus upon a single goal: the creation of value. This I interpret as the pursuit of profit over the lifetime of the firm. Hence, the focus of our strategy analysis is upon concepts and techniques that are concerned with identifying and exploiting the sources of profitability available to the firm. Our emphasis on profitability and value creation allows us to draw upon the tools of financial analysis for the purposes of performance appraisal, performance diagnosis, and target setting.

Although profitability is the most useful indicator of firm performance, we shall acknowledge that firms are motivated by goals other than profit. Indeed, the pursuit of these alternative goals may be conducive to a superior generation of profit. Profit may be the lifeblood of the enterprise, but it is not a goal that inspires organizational members to outstanding achievement. Moreover, for a firm to survive and generate profit over the long run requires responsiveness and adaptability to its social, political, and natural environments.

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

- Recognize that, while every firm has a distinct purpose, the common goal for all firms is creating value, and appreciate how the debate over shareholder versus stakeholder goals involves different definitions of value creation.
- Understand how profit, cash flow, and enterprise value relate to one another.
- Use the tools of financial analysis to appraise firm performance, diagnose the sources of performance problems, and set performance targets.
- Appreciate how a firm's values, principles, and pursuit of corporate social responsibility can help define its strategy and support its creation of value.
- Understand how real options contribute to firm value and how options thinking can contribute to strategy analysis.

Strategy as a Quest for Value

There is more to business than making money. For the entrepreneurs who create business enterprises, personal wealth appears to be a less important motivation than the wish for autonomy, desire for achievement, and lust for excitement. Almost 90 years ago, the economist Joseph Schumpeter observed: "The entrepreneur–innovator's motivation includes such aspects as the dream to found a private kingdom, the will to conquer and to succeed for the sake of success itself, and the joy of creating and getting things done."[1] Business enterprises are creative organizations that offer individuals unsurpassed opportunity to make a difference in the world. Certainly, making money was not the goal that inspired Henry Ford to build a business that precipitated a social revolution:

> I will build a motor car for the great multitude . . . It will be so low in price that no man making good wages will be unable to own one and to enjoy with his family the blessing of hours of pleasure in God's great open spaces . . . When I'm through, everyone will be able to afford one, and everyone will have one.[2]

Each entrepreneur is inspired by a goal that is personal and unique—family cars for the multitude (Henry Ford), bringing the power of personal computing to the individual (Steve Jobs), reducing deaths from infection after surgery (Johnson & Johnson), or revolutionizing vacuum cleaning (James Dyson). A business purpose is a feature of established companies as well as entrepreneurial start-ups: Cynthia Montgomery argues that "forging a compelling organizational purpose" is the ongoing job of company leaders and the "crowning responsibility of the CEO."[3] Organizational purpose is articulated in companies' mission statements:

- Twitter's mission is "To give everyone the power to create and share ideas and information instantly, without barriers."
- Nike's mission is "To bring inspiration and innovation to every athlete* in the world. (*If you have a body, you are an athlete.)"
- The Lego Group's mission is "To inspire and develop the builders of tomorrow."

Value Creation

Within this multiplicity of organizational purposes, there is a common denominator: the desire, and the need, to create value. **Value** is the monetary worth of a product or asset. Hence, we can generalize by saying that the purpose of business is to create value for customers. However, if the firm is to survive and prosper, it is essential that it is able to appropriate some of this customer value in the form of profit.

Value can be created in two ways: by production and by commerce. Production creates value by physically transforming products that are less valued by consumers into products that are more valued by consumers—turning coffee beans and milk into cappuccinos, for example. Commerce creates value not by physically transforming products but by repositioning them in space and time. Trade involves transferring products from individuals and locations where they are less valued to individuals and locations where they are more valued. Similarly, speculation involves transferring products from a point in time where a product is valued less to a point in time where it is valued more. Thus, commerce creates value through arbitrage across time and space.[4]

How do we measure the value created by a firm? It is the value of the firm's output that is received by customers in excess of the real cost of producing that output:

Value creation = Total customer value – Real costs of production

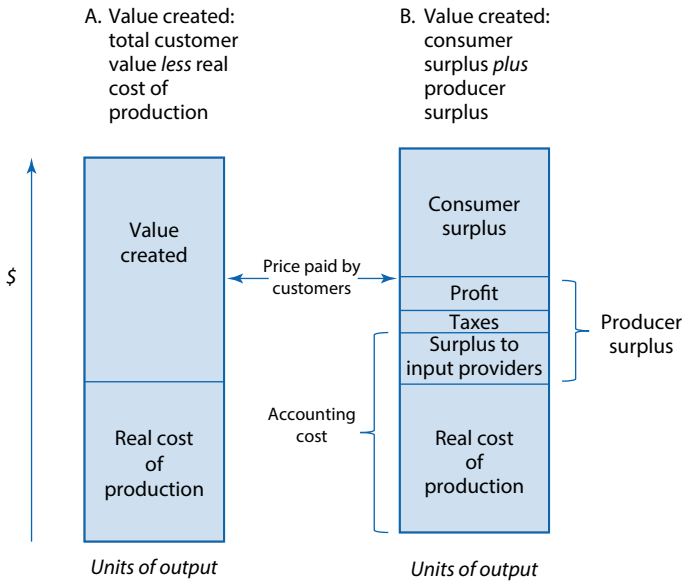
So, is value creation the same as profit (where Profit = Revenue – Cost)? No, because the value received by customers is typically greater than the amount they pay. Total customer value is measured by their *willingness to pay*, not what they actually pay. The difference is called **consumer surplus**. Similarly, the real cost of production is usually less than the firm's accounting costs, since the owners of productive inputs (particularly employees) typically receive more than the minimum they needed in order to supply their inputs. Producer surplus is comprised of the profits that accrue to the owners of the firm together with earnings by input owners in excess of the minimum they require. (We can also include taxes paid to government as part of this producer surplus.) Figure 2.1 shows these relationships.

Consider Google (now a subsidiary of Alphabet Inc.), the total customer value it creates far exceeds its revenue since most of its output—notably its search engine, Gmail, and YouTube videos—are offered free. Similarly, its accounting costs exceed its real production costs to the extent that its employees (including its managers) receive pay and benefits in excess of would be needed to keep them working at Google. For example, its software engineers are paid an average of about $160,000 compared to a US average of about $95,000.

Value for Whom? Shareholders versus Stakeholders

As Figure 1.5 shows, the value created by firms is distributed among different parties: customers receive consumer surplus, owners receive profits, government receives taxes, and employees and the owners of other factors of production receive

FIGURE 2.1 Value creation



remuneration in excess of the minimum needed for them to supply their inputs. So, whose interests should the firm consider when considering which component of value to pursue?

There are two answers to this question:

- ***Stakeholder value maximization.*** Stakeholder theory proposes that the firm should operate in the interests of all its constituent groups (including society as a whole), which implies that the goal of the firm should be to maximize total value creation (i.e., the sum of consumer and producer surplus, including external benefits to society as well).[5]
- ***Shareholder value maximization.*** Shareholder capitalism is based upon two principles, first, that firms should operate in the interests of their owners (who wish to earn profit); second, that the effectiveness of the market economy is dependent upon firms responding to profit incentives (the so-called "invisible hand"). Hence, the interests of both shareholders and society are best served by firms maximizing profits.

The idea that the corporation should balance the interests of multiple stakeholders has a long tradition, especially in Asia and continental Europe. By contrast, most English-speaking countries have endorsed shareholder capitalism, where companies' overriding duty is to produce profits for owners. These differences are reflected in international differences in companies' legal obligations. In the United States, Canada, the United Kingdom, and Australia, company boards are required to act in the interests of shareholders. In most continental European countries, companies are legally required to take account of the interests of employees, the state, and the enterprise as a whole.[6]

The debate as to whether companies should operate exclusively in the interests of their owners or should pursue the goals of all stakeholders has yet to be resolved. During the late 20th century, "Anglo-Saxon" shareholder capitalism was in the ascendant—many continental European and Asian companies changed their strategies and **corporate governance** to give primacy to shareholder interests. However, during the 21st century, shareholder value maximization has become tainted by its association with short-termism, financial manipulation, excessive CEO compensation, and the failures of risk management that precipitated the 2008–09 financial crisis.

Clearly, companies have legal and ethical responsibilities to employees, customers, society, and the natural environment, but should companies go beyond these responsibilities and manage their businesses in the interests of these diverse stakeholders? Pursuing the interests of all stakeholders is inherently appealing, yet, in practice the stakeholder approach encounters two serious difficulties:

1 *Measuring performance.* Pursuing stakeholder interests means maximizing total value creation and ensuring its equitable distribution among stakeholders. In practice, estimating the components of value creation—consumer surplus, producer surplus, and social externalities—is near impossible.[7] Alternatively, it may be possible to establish distinct goals for each stakeholder group, but establishing tradeoffs among them is exceptionally difficult. As Michael Jensen observes: "multiple objectives is no objective."[8]

2 *Corporate governance.* If top management is to pursue and balance the interests of different stakeholders, how can management's performance be assessed and by whom? Must boards of directors comprise the representatives of every stakeholder group? The resulting conflicts, wrangling, and vagueness around performance objectives would make it easy for top management to substitute its own interests for those of stakeholders.

To provide simplicity and clarity to our analysis of firm strategy, I make the assumption that the primary goal of strategy is to maximize the value of the enterprise through seeking to maximize profits over the long term. Having extolled the virtues of business enterprises as creative institutions, how can I rationalize this unedifying focus on money-making? I have three justifications:

- *Competition:* Competition erodes profitability. As competition increases, the interests of different stakeholders converge around the goal of survival. To survive a firm must, over the long term, earn a rate of profit that covers its cost of capital; otherwise, it will not be able to replace its assets. When weak demand and fierce international competition depress return on capital, few companies have the luxury of sacrificing profits for other goals.
- *Threat of acquisition:* Management teams that fail to maximize the profits of their companies tend to be replaced by teams that do. In the "market for corporate control," companies that underperform financially suffer a depressed share price. This attracts acquirers—both other public companies and private equity funds. Despite the admirable record of British chocolate maker Cadbury in relation to employees and local communities, its dismal return to shareholders between 2004 and 2009 meant that it was unable to resist acquisition by Kraft Foods. Subsequently, both Kraft and Heinz were acquired by private equity firm, 3G Capital, which imposed an even more rigorous focus on profit generation.[9] Even without acquisition, activist investors—both individuals and institutions—can pressure boards of directors to dismiss CEOs who fail to create value for shareholders.[10]
- *Convergence of stakeholder interests:* There is likely to be more community of interests than conflict of interests among different stakeholders. Profitability over the long term requires loyalty from employees, trusting relationships with suppliers and customers, and support from governments and communities. Indeed, the instrumental theory of stakeholder management argues that pursuit of stakeholder interests is essential to creating competitive advantage, which in turn leads to superior financial performance.[11] Empirical evidence shows that firms that take account of a broader set of interests, including that of society, achieve superior financial performance.[12]

Hence, the issue of whether firms should operate in the interests of shareholders or of all stakeholders matters more in principle than in practice. According to Jensen: "enlightened shareholder value maximization ... is identical to enlightened stakeholder theory." We shall return to this issue later in this chapter when we consider explicitly the social and environmental responsibilities of firms.

Profit, Cash Flow, and Enterprise Value

Thus far, I have referred to firms' quest for profit in general terms. It is time to look more carefully at what we mean by profit and how it relates to value creation.

Profit is the surplus of revenues over costs available for distribution to the owners of the firm. But if profit maximization is to be a realistic goal, the firm must know what profit is and how to measure it. What is the firm to maximize: total profit or rate of profit? Over what period? With what kind of adjustment for risk? And what is profit anyway—accounting profit, cash flow, or economic profit? These ambiguities become apparent once we compare the profit performance of companies. Table 2.1 shows that ranking companies by profitability depends critically on what profitability measure is used.

Types of Profit

Accounting Profit is measured at different levels:

- Gross profit is sales revenue less the cost of bought-in materials and components.
- Operating profit (or operating income) is the gross profit less operating expenses, before deduction of interest and taxes.
- Net profit (or net income) is profit after the deduction of all expenses and charges.

TABLE 2.1 Profitability measures for some of the world's largest companies, 2017

Company	Market capitalization[a] ($ billion)	Net income ($ billion)	ROS[b] (%)	ROE[c] (%)	ROA[d] (%)	Return to shareholders[e] (%)
Apple	824	48.4	26.9	39.0	16.3	+46.8
Amazon	689	3.0	2.3	9.6	3.1	+27.4
Alibaba	480	6.2	29.8	21.9	9.1	+94.1
JPMorgan Chase	397	24.4	50.2	9.5	1.4	+24.6
ExxonMobil	358	19.7	5.2	11.8	5.7	−5.8
Wal mart	310	13.6	4.1	14.9	11.9	+45.2
Toyota	204	15.8	7.6	13.2	4.1	+5.8

Notes:

[a]Shares outstanding × closing price of shares on February 02, 2018.

[b]Return on sales = Operating profit as a percentage of sales revenues.

[c]Return on equity = Net income as a percentage of year-end shareholder equity.

[d]Return on assets = Operating income as a percentage of year-end total assets.

[e]Dividend + share price appreciation during 2017.

Economic Profit is pure profit. A major problem of *accounting profit* is that it combines two types of returns: the normal return to capital, which rewards investors for the use of their capital, and economic profit, which is the surplus available after all inputs (including capital) have been paid for. Economic profit is a purer measure of profit that measures more precisely the surplus value a firm generates. To distinguish it from accounting profit, economic profit is often referred to as *rent* or *economic rent*.

Economic profit is calculated by deducting the cost of capital from operating profit (where the cost of capital is: capital employed *multiplied* by the weighted average cost of capital).

Economic profit has two main advantages over accounting profit as a performance measure. First, it is a more realistic performance indicator. At many capital-intensive companies, seemingly healthy profits disappear once cost of capital is taken into account. McKinsey & Company calculated that among the world's top 3000 companies, 47% were earning negative economic profit.[13] Second, it improves the allocation of capital between the different businesses of the firm by taking account of the real costs of more capital-intensive businesses. The consulting firm Stern Stewart has popularized the use of a particular measure of economic profit, **economic value added**, for allocating capital (see Strategy Capsule 2.1).

Cash Flow shows the firm's flows of cash transactions: *operating cash flow* is the cash generated by the firm's operations; *free cash flow* is operating cash flow less capital investment. As a performance indicator, cash flow has the merit of being relatively immune from accounting manipulation. Its main usefulness is in discounted cash flow

STRATEGY CAPSULE 2.1

Economic Value Added (EVA) at Diageo plc.

At Guinness-to-Johnny-Walker drinks giant Diageo, EVA transformed the way in which Diageo measured its performance, allocated its capital and advertising expenditures, and evaluated its managers.

Taking account of the costs of the capital tied up in slow-maturing, vintage drinks such as Talisker and Lagavulin malt whisky, Hennessey cognac, and Dom Perignon champagne showed that these high-margin drinks were often not as profitable as the company had believed. The result was that Diageo's advertising expenditures were reallocated toward Smirnoff vodka, Gordon's gin, Baileys, and other drinks that could be sold within weeks of distillation.

Once managers had to report profits after deduction of the cost of the capital tied up in their businesses, they took measures to reduce their capital bases and make their assets work harder. At Diageo's Pillsbury food business, the economic profit of every product and every major customer was scrutinized. The result was the elimination of many products and efforts to make marginal customers more profitable. Ultimately, EVA analysis resulted in Diageo selling Pillsbury to General Foods. This was followed by the sale of Diageo's Burger King chain to Texas Pacific, a private equity group.

Value-based management was extended throughout the organization by making EVA the primary determinant of the incentive pay earned by 1400 Diageo managers.

Sources: John McGrath, "Tracking Down Value," *Financial Times Mastering Management Review* (December 1998); www.diageo.com.

(DCF) calculation of the value of a business. Earnings before interest, taxes, depreciation, and amortization (EBITDA) provide a proxy for operating cash flow.

Linking Profit to Enterprise Value

There is also the problem of time. Once we consider multiple periods of time, then profit maximization means maximizing the net present value of the stream of profits over the lifetime of the firm.

Hence, profit maximization translates into maximizing the value of the firm. The value of the firm is calculated in the same way as any other asset: it is the *net present value* (NPV) of the returns that the asset generates. The relevant returns are the cash flows to the firm. Hence, firms are valued using the same *discounted cash flow* (DCF) methodology that we apply to the valuation of investment projects. Thus, the value of an enterprise (V) is the sum of its free cash flows (C) in each year t, discounted at the enterprise's cost of capital. The relevant cost of capital is the weighted average cost of capital (WACC) that averages the cost of equity and the cost of debt:

$$V = \sum_t \frac{C_t}{(1 + \text{WACC})^t}$$

In practice, valuing companies by discounting economic profit gives the same result as by discounting net cash flows. The difference is in the treatment of the capital consumed by the business. The cash flow approach deducts capital at the time when the capital expenditure is made; the economic profit approach follows the accounting convention of charging capital as it is consumed (depreciation).

The difficulties of forecasting cash flows far into the future have encouraged the search for approximations to DCF valuation. One approach is to estimate cash flows over a 5-to-10-year horizon, then estimate a terminal value for the firm.[14] Another is proposed by McKinsey consultants who show that cash flow can be disaggregated into return on capital employed (ROCE) and growth of revenue, both of which are easier to forecast than free cash flow.[15]

Enterprise Value and Shareholder Value

How does maximizing the value of the firm (enterprise value) relate to the much-lauded and widely vilified goal of maximizing shareholder value? At the foundation of modern financial theory is the principle that the net present value of a firm's profit stream is equal to the market value of its securities—both equity and debt.[16] Hence:

Enterprise value = Market capitalization of equity + Market value of debt[17]

Therefore, for the equity financed firm, maximizing the present value of the firm's profits over its lifetime also means maximizing the firm's current market capitalization.

If maximizing profits over the life of the firm also means maximizing the stock market value of the firm, why is it that shareholder value maximization has attracted so much criticism in recent years? The problems arise from the fact that the stock market cannot see the future with much clarity; hence, its valuations of companies are strongly influenced by short-term and psychological factors. The danger is that top management focuses upon boosting their firm's stock market value rather than increasing profits over the lifetime of the firm. For example, if stock markets are myopic, management

may be encouraged to maximize short-term profits to the detriment of long-run profitability. This in turn may tempt top management to boost short-term earnings through financial manipulation rather than by growing the firm's operating profits. Such manipulation may include adjustments to financial structure, earnings smoothing, and asset sales that lift reported profits.

To avoid some of the criticisms that shareholder value maximization has attracted, my emphasis will be on maximizing enterprise value rather than on maximizing shareholder value. This is partly for convenience: distinguishing debt from equity is not always straightforward, due to the presence of preference stock, convertible debt, and junk bonds. More importantly, focusing on the value of the enterprise as a whole helps emphasize the fundamental drivers of firm value over the distractions and distortions that result from a preoccupation with stock market value.

Putting Performance Analysis into Practice

Our discussion so far has established that every business enterprise has a distinct purpose. Yet, for all businesses, the profit earned over the life of the business—enterprise value—is a sound indicator of a business's success in creating and capturing value. Long-term profitability also offers a sound criterion for selecting the strategy through which the firm achieves its business purpose.

So, how do we apply these principles to appraise and develop business strategies? There are four key areas where our analysis of profit performance can guide strategy: first, in appraising a firm's (or business unit's) performance; second, in diagnosing the sources of poor performance; third, in selecting strategies on the basis of their profit prospects; and, finally, setting performance targets.

Appraising Current and Past Performance

The first task of any strategy formulation exercise is to assess the current situation. This means identifying the current strategy of the firm and assessing how well that strategy is doing in terms of the performance of the firm. The next stage is diagnosis—identifying the sources of unsatisfactory performance. Thus, good strategic practice emulates good medical practice: first, assess the patient's state of health, and then determine the causes of any sickness.

Forward-Looking Performance Measures: Stock Market Value If our goal is to maximize profit over the lifetime of the firm, then to evaluate the performance of a firm we need to look at its stream of profit (or cash flows) over the rest of its life. The problem, of course, is that we can only make reasonable estimates of these a few years ahead. For public companies stock, market valuation represents the best available estimate of the NPV of future cash flows (net of interest payments). Thus, to evaluate the performance of a firm in value creation, we can compare the change in the market value of the firm relative to that of competitors over a period (preferably several years). In the market for package and freight delivery, United Parcel Services, Inc. (UPS) had a market capitalization and enterprise value that exceeded that of its rival FedEx Corp. (see Table 2.2). This indicates that UPS is expected to generate a higher cash flow than FedEx in the future (principally, because of its greater size and

TABLE 2.2 The comparative performance of UPS and Federal Express

Company	Market capitalization, end 2017 ($ billion)	Enterprise value, end 2017[a] ($ billion)	Return to shareholders, 2015–2017[b] (%)	Operating margin, 2015–2017[c] (%)	ROE, 2013–2017[d] (%)	ROCE, 2015–2017[e] (%)	ROA, 2015–2017[f] (%)
UPS	102.7	117.0	12.1	11.2	237.6	47.2	16.7
FedEx	66.9	82.1	50.8	6.3	13.1	12.4	7.6

Notes:
[a]Market capitalization + Book value of long-term debt.
[b]Percentage increase in share price + Dividend yield.
[c]Operating income/Sales revenue.
[d]Net income/Shareholders' equity.
[e]Operating income/(Shareholders' equity + long-term debt).
[f]Operating income/Total assets.

higher profitability). However, over the period 2012–17 the gap has closed: FedEx has created more value than UPS–as indicated by UPS's higher total shareholder return over the five-year period. Clearly, stock market valuation is an imperfect performance indicator—it is vulnerable to disequilibrium, swings in market psychology, and misinterpretation of new information—but, as an indicator of a company's risk-adjusted profit stream over its lifetime, it is the best we have.

Backward-Looking Performance Measures: Accounting Ratios Because of the volatility of stock market values, assessments of firm performance for the purposes of appraising the current strategy or evaluating management effectiveness tend to use accounting measures of performance. These are inevitably historical: financial reports appear at least three weeks after the period to which they relate. That said, many firms offer *earnings guidance*—forecasts of profit for the next 12 months (or longer).

Return on capital employed (ROCE) or closely-related measures, such as return on equity (ROE) and return on assets (ROA), are the most useful indicators of a firm's effectiveness in generating profits from its assets. Indeed (as we saw on page 41), the McKinsey valuation framework uses projections of ROCE, together with growth and cost of capital, to estimate enterprise value. However, it is important to be aware of the limitations and biases inherent in any particular profitability measure. Multiple measures of profitability can be used to build a more balanced picture of a company's performance. Table 2.3 lists some widely used profitability indicators.

Interpreting probability ratios requires benchmarks. Comparisons over time tell us whether performance is improving or deteriorating. Interfirm comparisons tell us how a firm is performing relative to a competitor, relative to its industry average, or relative to firms in general (e.g., relative to the Fortune 500, S&P 500, or FT 500). Another key benchmark is cost of capital. ROCE should be compared with WACC, and ROE compared with the cost of equity capital. Table 2.2 shows that, during 2013–17, UPS earned an operating margin, ROE, ROCE, and ROA that exceeded those of FedEx. UPS's greater market capitalization and enterprise value reflects expectations that UPS's superior profit performance will be sustained into the future.

TABLE 2.3 Profitability ratios

Ratio	Formula	Comments
Return on capital employed (ROCE)	$\frac{\text{Operating profit (or EBIT)}}{\text{Total assets } \textit{less} \text{ current liabilities}}$	ROCE is also known as return on invested capital (ROIC). The denominator can also be measured as shareholders' equity *plus* long-term debt.
Return on equity (ROE)	$\frac{\text{Net income}}{\text{Shareholders' equity}}$	ROE measures a firm's ability to use equity capital to generate profits that can be returned to shareholders. Net income may be adjusted to exclude discontinued operations and special items.
Return on assets (ROA)	$\frac{\text{Operating profit (or EBIT or EBITDA)}}{\text{Total assets}}$	The numerator should correspond to the return on all the firm's assets—e.g., operating profit, EBIT (earnings before interest and tax), or EBITDA.
Gross margin	$\frac{\text{Sales} - \text{Cost of bought-in goods and services}}{\text{Sales}}$	Gross margin measures the extent to which a firm adds value to the goods and services it buys in.
Operating margin	$\frac{\text{Operating profit}}{\text{Sales}}$	Operating margin and net margin measure a firm's ability to extract profit from its sales.
Net margin	$\frac{\text{Net income}}{\text{Sales}}$	Margins are useful to compare the performance of firms within the same industry, but are not useful for comparing firms in different industries because margins depend on an industry's capital intensity (see Table 2.1).

Notes:
Few accounting ratios have standard definitions; hence, it is advisable to be explicit about how you have calculated the ratio you are using.
A general guideline for rate of return ratios is that the numerator should be the profits that are available to remunerate the owners of the assets in the denominator.
Profits are measured over a period of time (typically over a year). Assets are valued at a point of time. Hence, in rate of return calculations, assets, equity, and capital employed should to be averaged between the beginning and end of the period.

Performance Diagnosis

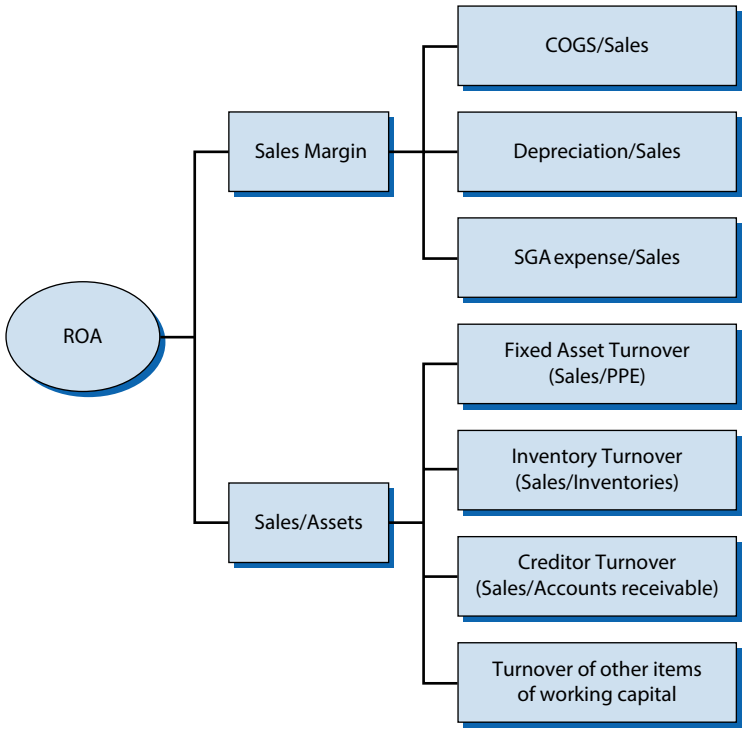
If profit performance is unsatisfactory, we need to identify the sources of poor performance so that management can take corrective actions. The main tool of diagnosis is disaggregation of return on assets (or return on capital employed) in order to identify the fundamental *value drivers*. A starting point is to disaggregate return on assets into sales margin and asset turnover (i.e., profit/assets = profit/sales x sales/assets). We can then further disaggregate both sales margin and asset turnover into their component items (Figure 2.2). This points us toward the specific activities that are the sources of poor performance.

Strategy Capsule 2.2 disaggregates the return on assets for UPS and FedEx so that we can begin to pinpoint the sources of UPS's superior profitability. If we supplement the financial data with the qualitative data on the two companies' business strategies, operations, and organization together with information on conditions within the industry in which the two companies compete, we can gain insight into why UPS has outperformed FedEx.

Using Performance Diagnosis to Guide Strategy Formulation

A probing diagnosis of a firm's recent performance—as outlined in Strategy Capsule 2.2—provides a useful input into strategy formulation. If we can establish why a company has been performing badly, then we have a basis for corrective actions. These

FIGURE 2.2 Disaggregating return on assets



Notes:
ROA: Return on assets.
COGS: Cost of goods sold.
PPE: Property, plant, and equipment.
For further discussion, see T. Koller *et al.*, *Valuation*, 5th edn (Chichester: John Wiley & Sons, Ltd., 2010).

corrective actions are likely to be both strategic (with a medium- to long-term focus) and operational (focused on the short term). The worse a company's performance the greater the need to concentrate on the short term. For companies teetering on the brink of bankruptcy, long-term strategy takes a back seat; survival is the dominant concern.

For companies that are performing well, financial analysis allows us to understand the sources of superior performance so that strategy can protect and enhance these determinants of success. For example, in the case of UPS (see Strategy Capsule 2.2), financial analysis points to the efficiency benefits that arise from being market leader and having an integrated system of collection and delivery that optimizes operational efficiency. The superior profitability of UPS's international business points to its ability to successfully enter foreign markets and integrate overseas operations within its global system.

However, analyzing the past only takes us so far. The world of business is one of constant change and the role of strategy is to help the firm to adapt to change. The challenge is to look into the future and identify factors that threaten performance or create new opportunities for profit. In making strategy recommendations to UPS, our financial analysis can tell us some of the reasons why UPS has been doing well up until now, but the key to sustaining UPS's performance is to recognize how its industry environment will be changing in terms of customer requirements, competition, technology, and energy costs and to assess UPS's capacity to adapt to these new conditions. While financial analysis is inevitably backward-looking, strategic analysis allows us to look forward and understand some of the critical factors impacting a firm's success in the future.

STRATEGY CAPSULE 2.2

Diagnosing Performance: UPS versus FedEx

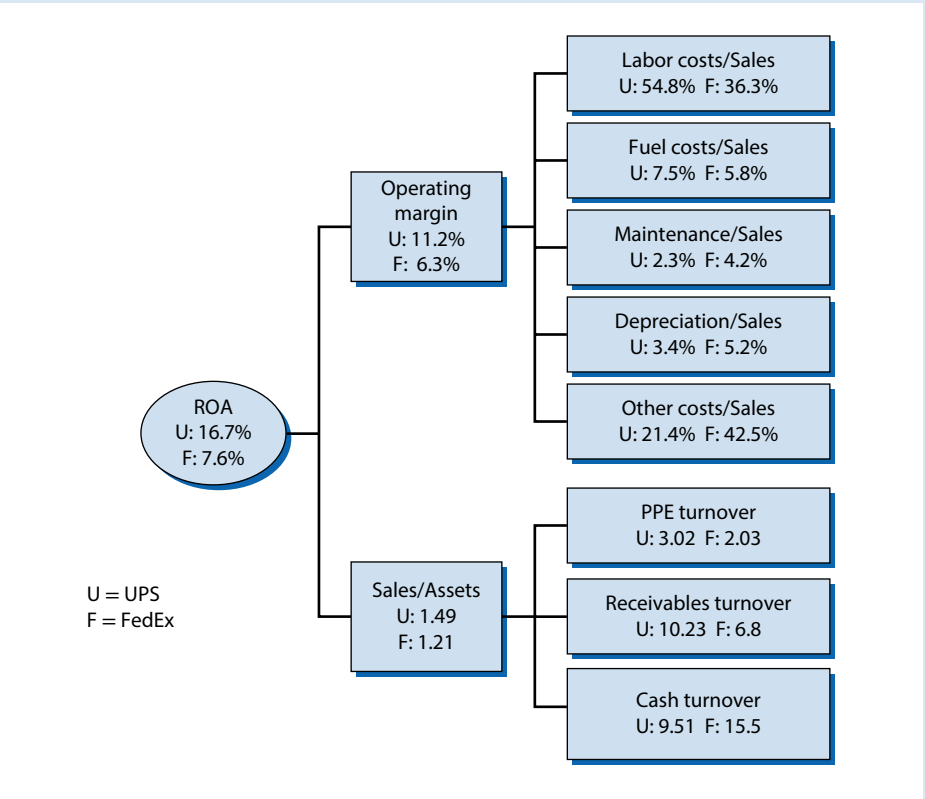
Between 2013 and 2017, United Parcel Service (UPS) has earned more than double the return on assets as its closest rival, FedEx Corporation. What insights can financial analysis offer into the sources of this performance differential?

Disaggregating the companies' return on capital employed into operating margin and capital turnover shows that differences in ROCE are due to UPS's superior operating margin and higher capital turnover (See Figure 2.3).

Probing UPS's higher operating margin highlights major differences in the cost structure of the two companies: UPS is more labor intensive with a much higher ratio of employee costs to sales (however, UPS's average compensation per employee is much lower than FedEx's). FedEx has higher costs of fuel, maintenance, depreciation, and "other." UPS's higher capital turnover is mainly due to its higher turnover of fixed assets (property, plant, and equipment).

These differences reflect the different composition of the two companies' businesses. UPS is more heavily involved in ground transportation (UPS has 103,000 vehicles; FedEx has 55,000), which tends to be more labor intensive. FedEx is more oriented toward air transportation (UPS has 620 aircraft; FedEx has 650). Express delivery services tend to be less profitable than ground delivery. However, the differences in business mix do not appear to completely explain the wide discrepancy in fuel, maintenance, and other costs between FedEx and UPS. The likelihood is that UPS has superior operational efficiency.

FIGURE 2.3 Analyzing why UPS earns a higher return on assets (ROA) than FedEx



Setting Performance Targets

We noted in Chapter 1 that an important role for strategic planning systems is to translate strategic goals into performance targets and then monitor the performance achieved against these targets. To be effective, performance targets need to be consistent with long-term goals, linked to strategy, and relevant to the tasks and responsibilities of individual organizational members. Translating goals into actionable performance targets presents major problems for the stakeholder-focused firm. Even for the shareholder-focused firm, the goal of maximizing the value of the firm offers little guidance to the managers entrusted with that goal. The three main approaches to setting performance targets are as follows:

Financial Disaggregation If the goal of the firm is to maximize profitability, we can use the same financial disaggregation in Figure 2.2 to cascade targets down the organization. Thus, for the top management team, performance goals might include maximizing ROCE on existing assets while investing in new projects whose return on capital exceeds their cost of capital. For functional vice presidents, performance targets might include maximizing sales and market shares (for marketing and sales), minimizing raw material and component costs (for purchasing), minimizing production costs (for operations), maximizing inventory turns (for logistics/supply chain), and minimizing the cost of capital (for finance). These functional goals can be further disaggregated to the department level (e.g., plant maintenance is required to minimize machine downtime in order to increase capacity utilization, the customer accounts department is required to minimize the number of days of outstanding receivables, and so on).

The dilemma with any system of performance management is that the performance goals are long term (e.g., maximizing profits over the lifetime of the company), but to act as an effective control mechanism performance targets need to be monitored over the short term. For financial targets, there is the ever-present danger that pursuing short-term profitability undermines long-term profit maximization.

Balanced Scorecards One solution to this dilemma is to combine financial targets with strategic and operational targets. The most widely used method for doing this is the **balanced scorecard** developed by Robert Kaplan and David Norton.[18] The balanced scorecard methodology provides an integrated framework for balancing financial and strategic goals and cascading performance measures down the organization to individual business units and departments. The performance measures included in the balanced scorecard derive from the answers to four questions:

- How do we look to shareholders? The financial perspective is composed of measures such as cash flow, sales and income growth, and return on equity.
- How do customers see us? The customer perspective comprises measures such as goals for new products, on-time delivery, and defect and failure levels.
- What must we excel at? The internal business perspective relates to internal business processes such as productivity, employee skills, cycle time, yield rates, and quality and cost measures.
- Can we continue to improve and develop? The innovation and learning perspective includes measures related to new product development cycle times, technological leadership, and rates of improvement.

FIGURE 2.4 Balanced scorecard for a regional airline

Simplified Strategy Map	Performance Measures	Targets	Initiatives
Financial: Increase Profitability; Lower Cost; Increase Revenue	• Market Value • Seat Revenue • Plane Lease Cost	• 25% per year • 20% per year • 5% per year	• Optimize routes • Standardize planes
Customer: More Cust-omers; On-time Flights; Low Prices	• FAA on-time arrival rating • Customer ranking • No. customers	• First in industry • 98% satisfaction • % change	• Quality management • Customer loyalty program
Internal: Improve turnaround time	• On Ground Time • On-Time Departure	• <25 Minutes • 93%	• Cycle time optimization program
Learning: Align Ground Crews	• % Ground crew stockholders • % Ground crew trained	• Year 1, 70% • Year 4, 90% • Year 6, 100%	• Stock ownership plan • Ground crew training

Source: Reproduced from www.balancedscorecard.org with permission.

By balancing a set of strategic and financial goals, the scorecard methodology allows the strategy of the business to be linked with the creation of shareholder value while providing measurable targets to guide this process. Moreover, because the balanced scorecard allows explicit consideration of the goals of customers, employees, and other interested parties, scorecards can also be used to implement stakeholder-focused management. Figure 2.4 shows the balanced scorecard for a US regional airline.

Strategic Profit Drivers Financial value drivers and balanced scorecards are systematic techniques of performance management based upon the notion that, if overall goals can be disaggregated into precise, quantitative, time-specific targets, each member of the organization knows what is expected of him or her and can be incentivized toward achieving the targets set. However, a mounting body of evidence points to the unintended consequences of performance targets.

In relation to profit maximization, setting profit targets may induce behavior that undermines that goal's attainment. Thus, many of the firms that are most successful at creating shareholder value are those that emphasize purpose over profit. Conversely, many of the firms most committed to profit and maximizing shareholder value—Enron, BP, and Lehman Brothers for example—have been spectacularly unsuccessful in realizing these goals.[19] The experiences of Boeing illustrate this problem (see Strategy Capsule 2.3).

The problem of translating goals into targets is vividly illustrated by performance management in the public sector. In Soviet shoe factories, quantitative monthly targets would be met by producing low-quality shoes of a single size.[20] In the British National Health Service, the target of eight-minute ambulance response times was achieved by

STRATEGY CAPSULE 2.3

The Pitfalls of Pursuing Shareholder Value: Boeing

Boeing was one of the most financially successful members of the Dow Jones Industrial Index between 1960 and 1990. Yet Boeing gave little attention to financial management. CEO Bill Allen was interested in building great planes and leading the world market with them: "Boeing is always reaching out for tomorrow. This can only be accomplished by people who live, breathe, eat and sleep what they are doing." At a board meeting to approve Boeing's biggest ever investment, the 747, Allen was asked by non-executive director Crawford Greenwalt for Boeing's financial projections on the project. In response to Allen's vague reply, Greenwalt buried his head in his hands. "My God," he muttered, "these guys don't even know what the return on investment will be on this thing."

In 1997, Boeing acquired McDonnell Douglas and a new management team of Harry Stonecipher and Phil Condit took over. Mr Condit talked proudly of taking the company into "a value-based environment where unit cost, return on investment, and shareholder return are the measures by which you'll be judged."

The result was lack of investment in major new civil aviation projects and diversification into defense and satellites. Under Condit, Boeing relinquished market leadership in passenger aircraft to Airbus, while faltering as a defense contractor due partly to ethical lapses by key executives. When Condit resigned on December 1, 2003, Boeing's stock price was 20% lower than when he was appointed.

Sources: John Kay, "Forget How the Crow Flies," *Financial Times Magazine* (January 17, 2004): 17–27; R. Perlstein, *The Stock Ticker and the Superjumbo* (Prickly Paradigm Press, 2005).

replacing regular ambulance crews with single paramedics (or volunteers) in cars—no progress was met in improving survival rates from heart attacks and strokes.[21]

The solution to this problem is what John Kay calls "obliquity": pursuing goals indirectly.[22] In the case of firm profitability, this implies establishing targets around the strategic factors that drive profit, rather than profitability itself. This focus on the drivers of profit is the core theme of this book. Once we have identified the primary sources of profit available to the firm we have a basis, first, for formulating a strategy to exploit these sources of profit and, second, for implementing that strategy through performance guidelines and targets based upon those strategic variables. This approach can also bring clarity to the complex and contentious issue of the corporate social responsibility.

Beyond Profit: Values and Corporate Social Responsibility

At the beginning of this chapter, I argued that, while every company has a distinct organizational purpose, a common goal for every business enterprise is to create value, and the best indicator of value creation is profit over the lifetime of the company—or, equivalently, maximizing enterprise value. Although the corporate scandals of the 21st century have discredited the pursuit of profit and shareholder value maximization, I have justified long-run profit maximization as an appropriate and practical goal for the strategic management of firms.

This justification rests upon the overall alignment between profits and the interests of society as a whole (Adam Smith's notion of the "invisible hand" of profit guiding firms to serve the needs of consumers) and the convergence of stakeholder and shareholder interests. But what about situations when the pursuit of profit conflicts with the social good or with widely held ethical principles? How are such inconsistencies and conflicts to be managed? Milton Friedman's answer was clear:

> There is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engage in open and free competition without deception or fraud.[23]

Under this doctrine, it is the role of government to intervene in the economy where the pursuit of profit conflicts with the interest of society, using taxes and regulations to align profit incentives with social goals and legislation to criminalize unethical behavior. Others have argued that business enterprises should take the initiative to establish principles and values that extend beyond the limits of the law, and pursue strategies that are explicitly oriented toward the interests of society. Let us discuss each of these areas in turn.

Values and Principles

A sense of purpose—as articulated in statements of mission and vision—is often complemented by beliefs about how this purpose should be achieved. These organizational beliefs typically comprise a set of **values**—in the form of commitments to certain ethical precepts and to different stakeholder interests—and a set of principles to guide the decisions and actions of organizational members. Strategy Capsule 2.4 displays the values statement of Accenture plc, the world's biggest consulting company.

At one level, statements of values and principles may be regarded as instruments of companies' external image management. Yet, to the extent that companies are consistent and sincere in their adherence to values and principles, these ideals can be a critical component of organizational identity and an important influence on employees' commitment and behavior. When values are shared among organizational members, they form a central component of corporate culture.

The evidence that commitment to values and principles influences organizational performance is overwhelming. McKinsey & Company places "shared values" at the center of its "7-S framework."[24] Jim Collins and Jerry Porras argue that "core values" and "core purpose" unite to form an organization's "core ideology," which "defines an organization's timeless character" and is "the glue that holds the organization together."[25] They argue that when core ideology is put together with an "envisioned future" for the enterprise the result is a powerful sense of strategic direction that provides the foundation for long-term success.

Corporate Social Responsibility

The debate over the social responsibilities of companies has been both contentious and confused. Underlying the debate are different ideas about what a company

STRATEGY CAPSULE 2.4
Accenture: Our Core Values

Since its inception, Accenture has been governed by its core values. They shape the culture and define the character of our company. They guide how we behave and make decisions.

- ***Stewardship*** Fulfilling our obligation of building a better, stronger and more durable company for future generations, protecting the Accenture brand, meeting our commitments to stakeholders, acting with an owner mentality, developing our people and helping improve communities and the global environment.
- ***Best People*** Attracting, developing and retaining the best talent for our business, challenging our people, demonstrating a "can-do" attitude, and fostering a collaborative and mutually supportive environment.
- ***Client Value Creation*** Enabling clients to become high-performance businesses and creating long-term relationships by being responsive and relevant and by consistently delivering value.
- ***One Global Network*** Leveraging the power of global insight, relationships, collaboration and learning to deliver exceptional service to clients wherever they do business.
- ***Respect for the Individual*** Valuing diversity and unique contributions, fostering a trusting, open and inclusive environment and treating each person in a manner that reflects Accenture's values.
- ***Integrity*** Being ethically unyielding and honest and inspiring trust by saying what we mean, matching our behaviors to our words and taking responsibility for our actions.

Source: http://www.accenture.com/us-en/company/overview/values/Pages/index.aspx, accessed July 20, 2015.

is: "the property conception" views the company as a set of assets owned by the shareholders; the "social entity conception" views it as a community of individuals sustained and supported by its social, political, economic, and natural environment.[26] While the "firm as property" view implies that management's sole responsibility is to operate in the interests of shareholders, the "firm as social entity" implies a responsibility to maintain the firm within its overall network of relationships and dependencies.

Yet, from a practical viewpoint, both these conceptions are problematic. The view that the sole purpose of the business enterprise is to make profit fails to recognize that to survive and prosper, any organization must maintain social legitimacy. The near-elimination of investment banks during the financial crisis of 2008–09—including the transformation of Goldman Sachs and Morgan Stanley into commercial banks—was caused less by their commercial failure than by a collapse of legitimacy. The phone hacking scandal that caused the closure of a British newspaper owned by Rupert Murdoch's News Corporation represented less than 1% of News Corp's revenues. However, in the five weeks after the scandal broke in July 2011, News Corp's market capitalization declined by 25%—a loss of $11 billion.

The argument that the primary responsibility of business enterprises should be the pursuit of social goals is similarly untenable. To extend Adam Smith's observation

that it "is not from the benevolence of the butcher, the brewer or the baker, that we expect our dinner, but from their regard to their own interest,"[27] it is likely that if the butcher becomes an animal rights activist, the brewer joins the Temperance League, and the baker signs up to Weight Watchers, none of us has much hope of getting dinner!

Somewhere between these two conceptions lies a middle ground of viability where business enterprises are aligned with the needs of their social and natural environment, but remain committed to their business purpose and the generation of profit. Several contributions to the management literature offer guidance as to how firms can reconcile their commercial and social responsibilities.

The efficacy argument for **corporate social responsibility (CSR)** emphasizes the evolutionary fitness of the firm. The firm is embedded within natural and social ecosystems to which it must adapt and sustain. Thus, according to former Shell executive Arie de Geus, long-living companies are those that build strong communities, have a strong sense of identity, commit to learning, and are sensitive to the world around them. In short, they recognize they are living organisms whose life spans depend upon effective adaptation to a changing environment.[28]

This view of the firm jointly pursuing its own interests and those of its ecosystem has been developed by Michael Porter and Mark Kramer into a pragmatic approach to CSR.[29] They offer three reasons why CSR might also be in the interests of a company: the *sustainability* argument—CSR is in firms' interests due to a mutual interest in sustaining the ecosystem; the *reputation* argument—CSR enhances a firm's reputation with consumers and other third parties; and the *license-to-operate* argument—to conduct their businesses firms need the support of the constituencies upon which they depend. The critical task in selecting which CSR initiatives firms should pursue is to identify specific intersections between the interests of the firm and those of society (i.e., projects and activities that create competitive advantage for the firm while generating positive social outcomes)—what they term *strategic CSR*.

At the intersection between corporate and social interests is what Porter and Kramer refer to as *shared value*: "creating economic value in a way that also creates value for society."[30] It is not about redistributing value, but expanding the total pool of value. For example, fair trade redistributes value by paying farmers a higher price for their crops—in the case of Ivory Coast cocoa growers, it increases their incomes by 10–20%. By contrast, efforts by cocoa buyers to improve the efficiency of cocoa growing can increase growers' incomes by 300%, while lowering the cost of cocoa beans for chocolate manufacturers. Creating shared value involves reconceptualizing the firm's boundaries and its relationship with its environment from a transactional to a co-dependency viewpoint. This offers three types of opportunity for shared value creation: reconceiving products and markets, redefining productivity within the value chain, and building local clusters of suppliers, distributors, and related businesses at the places where the firm does business. Unilever's Sustainable Growth Plan exemplifies this approach (see Strategy Capsule 2.5).

This notion of shared value is embedded in *bottom of the pyramid* initiatives—the potential for multinational companies to simultaneously create profitable business and promote social and economic development.[31] The key is a switch of perception: viewing the poor as consumers, workers, and entrepreneurs rather than as victims or charity recipients.

STRATEGY CAPSULE 2.5
Unilever's Sustainable Living Plan

Since launching its Sustainable Living Plan in November 2010, Unilever—the Anglo-Dutch multinational supplying over 400 brands of food, personal care, and household products—has become a world leader in environment sustainability. According to the *Economist*, Unilever is "reckoned to have the most comprehensive strategy of enlightened capitalism of any global firm." The program—with its goals of reducing Unilever's environmental footprint, increasing its positive social impact, doubling sales, and increasing long-term profitability—has been the centerpiece of CEO Paul Polman's strategy for the company. Unilever has embedded its sustainability program within its strategic, operational, and human resource management: the plan is overseen by the board and incentive bonuses are linked to quantitative targets for emissions and waste reduction and energy and water conservation.

While Polman emphasizes that Unilever's commitment to sustainability is because it is "the right thing to do," he is also clear that the primary motivation is the fact that the Sustainable Living Plan is in the long-term interests of Unilever itself. In an interview with McKinsey and Company, Polman noted that the benefits to Unilever included improved access to raw materials, greater employee commitment, a stronger drive toward innovation throughout the company, greatly increased numbers of applications for jobs at Unilever, and improvement in efficiency in Unilever plants and throughout its supply chain. Shareholders appear to have benefitted as well: in the five years following the launch of the Sustainable Living Plan, Unilever's share price rose by 40%, well ahead of rivals Procter & Gamble and Nestlé.

However, when Polman announced, en route for the January 2015 Davos meetings, that he planned to "use the size and scale of Unilever" to lobby global leaders for a binding agreement on climate change and poverty eradication, some wondered whether he was putting global interests ahead of Unilever's—especially given Unilever's disappointing sales performance during 2014. When Unilever survived a hostile takeover bid from Kraft Heinz in 2017, Polman shifted his attention towards cost reduction and asset sales.

Sources: McKinsey & Company, "Committing to sustainability: An interview with Unilever's Paul Polman," http://www.mckinsey.com/videos/video?vid=3564008886001&plyrid=2399849255001&Height=270&Width=480, accessed July 20, 2015; "Unilever: In search of the good business," *Economist*, August 9, 2014.

Beyond Profit: Strategy and Real Options

So far, we have identified the value of the firm with the net present value (NPV) of its profit earnings (or, equivalently, free cash flows). But conventional approaches to calculating NPV ignore an important feature of our uncertain world: the simple idea that an option—the choice of whether to do something or not—has value. In recent years, the principles of option pricing have been extended from valuing financial securities to valuing investment projects and companies. The resulting field of **real option analysis** has emerged as vitally important both for investment decisions and for strategy formulation. The technical details of valuing real options are complex. However, the underlying principles are intuitive. Let me outline the basic ideas of real options theory and what they mean for strategy analysis.

Consider the investments that Royal Dutch Shell is making in joint-venture development projects to produce hydrogen for use in fuel cells. The large-scale use of fuel cells in transportation vehicles or for power generation seems unlikely within the foreseeable future. Shell's expenditure on these projects is small, but almost certainly these funds would generate a higher return if they were used in Shell's core oil and gas business. So, how can these investments—indeed, all of Shell's investments in renewable energy—be consistent with shareholder interests?

The answer lies in the option value of these investments. Shell is not developing a full-scale fuel cell business, and nor is it developing commercial-scale hydrogen production plants: it is developing technologies that could be used to produce hydrogen if fuel cells become widely used. By building know-how and intellectual property in this technology, Shell has created an *option*. If economic, environmental, or political factors restrict hydrocarbon use and if fuel cells advance to the point of technical and commercial viability, then Shell could exercise that option by investing much larger amounts in commercial-scale hydrogen production.

In a world of uncertainty, where investments, once made, are irreversible, flexibility is valuable. Instead of committing to an entire project, there is virtue in breaking the project into a number of phases, where the decision of whether and how to embark on the next phase can be made in the light of prevailing circumstances and the learning gained from the previous stage of the project. Most large companies have a "phases and gates" approach to product development in which the development process is split into distinct "phases," at the end of which the project is reassessed before being allowed through the "gate." Such a phased approach creates the options to continue the project, to abandon it, to amend it, or to wait. Venture capitalists clearly recognize the value of growth options. By August 2017, Hyperloop One had raised $160 million to develop commercial hyperloop transportation systems. Will these systems ever be completed, let alone make a profit? It is doubtful. Investors—which include General Electric, Dubai Ports, and SNCF, the French rail system, as well as several venture capital firms—are making small bets on the initial development of a technology that just might revolutionize transportation.[32] The emphasis that venture capitalists place on *scalability*—the potential to scale up or replicate a business should the initial launch be successful—similarly acknowledges the value of growth options. Strategy Capsule 2.6 addresses the calculation of real option values.

Strategy as Options Management

For strategy formulation, our primary interest is how we can use the principles of option valuation to create enterprise value. There are two types of real option: growth options and flexibility options. *Growth options* allow a firm to make small initial investments in a number of future business opportunities but without committing to them. *Flexibility options* relate to the design of projects and plants that permit adaptation to different circumstances—flexible manufacturing systems allow different product models to be manufactured on a single production line. Individual projects can be designed to introduce both growth options and flexibility options. This means avoiding commitment to the complete project and introducing decision points at multiple stages, where the main options are to delay, modify, scale up, or abandon the project. Merck, an early adopter of option pricing, notes, "When you make an initial investment in a research project, you are paying an entry fee for a right, but you are not obligated to continue that research at a later stage."[33]

STRATEGY CAPSULE 2.6
Calculating Real Option Value

Application of real option value to investment projects and strategies has been limited by the complexity of the valuation techniques. Yet, even without getting into the mathematics needed to quantify option values, we can use the basic principles involved to understand the factors that determine option values and to recognize how projects and strategies can be designed in order to maximize their option values.[a]

The early work on real option valuation adapted the Black–Scholes option-pricing formula developed for valuing financial options to the valuation of real investment projects. Black–Scholes comprises six determinants of option value, each of which has an analogy (~) in the valuation of a real option:

1. Stock price ~ The NPV of the project: a higher NPV increases option value.
2. Exercise price ~ Investment cost: the higher the cost, the lower the option value.
3. Uncertainty ~ for both financial and real options, uncertainty increases option value.
4. Time to expiry ~ for both financial and real options, the longer the option lasts, the greater its value.
5. Dividends ~ Decrease in the value of the investment over the option period: lowers option value.
6. Interest rate ~ a higher interest rate increases option value by making deferral more valuable.[b]

However, the dominant methodology used for real option valuation is the binomial options pricing model. By allowing the sources of uncertainty and key decision points in a project to be modeled explicitly, the technique offers a more intuitive appreciation of the sources of option value. The analysis involves two main stages:

1. Create an event tree that shows the value of the project at each development period under two different scenarios.
2. Convert the event tree into a decision tree by identifying the key decision points on the event tree, typically the points where commitments of new funds to the project are required, or where there is the option to defer development. Incremental project values at each stage can then be calculated for each decision point by working back from the final nodes of the decision tree (using a discount factor based upon the replicating portfolio technique). If the incremental project value at the initial stage exceeds the initial investment, proceed with the first phase, and similarly for each subsequent phase.[c]

Notes:

[a]See: L. Trigeorgis and J. J. Reuer, "Real Options Theory in Strategic Management" *Strategic Management Journal* 38 (2017): 42–63.

[b]See: K. J. Leslie and M. P. Michaels, "The Real Power of Real Options," *McKinsey Quarterly Anthology: On Strategy* (Boston: McKinsey & Company, 2000); A. Dixit and R. Pindyck, "The Options Approach to Capital Investment," *Harvard Business Review* (May/June 1995): 105–115.

[c]This approach is developed in T. Copeland and P. Tufano, "A Real-World Way to Manage Real Options," *Harvard Business Review* (March 2004). See also T. Copeland, "Developing Strategy Using Real Options" (Monitor Company, October 2003).

In developing strategy, our main concern is with growth options. These might include:

- Platform investments. These are investments in core products or technologies that create a stream of additional business opportunities.[34] 3M's investment in nanotechnology offers the opportunity to create new products across a wide

range of its businesses, from dental restoratives and drug-delivery systems to adhesives and protective coatings. Snapchat, the image messaging service, supports a growing array of applications including news, payments, image augmentation, sponsored stories, collaborative stories, and original video entertainment.[35]

- Strategic alliances and joint ventures are limited investments that provide a development stage for creating a new business or new strategy.[36] Virgin Group has used joint ventures as the basis for creating a number of new businesses. A joint venture may be a preliminary to a full acquisition. In July 2017, Starbucks announced the acquisition of its partners' shareholdings in its highly successful Chinese joint venture.
- Organizational capabilities can also be viewed as options that offer the potential to create competitive advantage across multiple products and businesses.[37] Fujifilm's thin-film coating capabilities developed in its photographic business have provided Fuji with the option to diversify into magnetic recording materials, cosmetics, and industrial coatings.

Summary

Chapter 1 introduced a framework for strategy analysis that provides the structure for Part II of this book. This chapter has explored the first component of that framework—the goals, values, and performance of the firm.

We have explored in some depth the difficult, and still contentious, issue of the appropriate goals for the firm. While each firm has a specific business purpose, common to all firms is the desire, and the necessity, to create value. How that value is defined and measured distinguishes those who argue that the firms should operate primarily in the interests of owners (shareholders) from those who argue for a stakeholder approach. Our approach is pragmatic: shareholder and stakeholder interests tend to converge and, where they diverge, the pressure of competition limits the scope for pursuing stakeholder interests at the expense of profit; hence, my conclusion that long-run profit—or its equivalent, enterprise value—is appropriate both as an indicator of firm performance and as a guide to strategy formulation. We explored the relationships between value, profit, and cash flow and saw how the failings of shareholder value maximization resulted more from its misapplication than from any inherent flaw.

The application of financial analysis to the assessment of firm performance is an essential component of strategic analysis. Financial analysis creates a basis for strategy formulation, first, by appraising overall firm performance and, second, by diagnosing the sources of unsatisfactory performance. Combining financial analysis and strategic analysis allows us to establish performance targets for companies and their business units.

Finally, we looked beyond the limits of our useful, yet simplistic, profit-oriented approach to firm performance and business strategy. We looked, first, at how the principles of corporate social responsibility can be incorporated within a firm's strategy to enhance its creation of both social and shareholder value. Second, we extended our analysis of value maximization to take account of the fact that strategy creates enterprise value not only by generating profit but also by creating real options.

Self-Study Questions

1. Since long-run profitability requires that a firm is sensitive to the interests of its customers, employees, suppliers, and society-at-large, whether a firm is run in the interests of its shareholders or its stakeholders makes no real difference. Do you agree? Are there situations where shareholder and stakeholder interests diverge?
2. Table 2.1 compares companies according to different profitability measures.
   a. Which two of the six performance measures do you think are the most useful indicators of how well a company is being managed?
   b. Is return on sales or return on equity a better basis on which to compare the performance of the companies listed?
   c. Several companies are highly profitable yet delivered very low returns to their shareholders during 2017. How is this possible?
3. With regard to Strategy Capsule 2.2, what additional data would you seek and what additional analysis would you undertake to investigate further the reasons for UPS's superior profitability to FedEx?
4. The CEO of a chain of pizza restaurants wishes to initiate a program of CSR to be funded by a 5% levy on the company's operating profit. The board of directors, fearing a negative shareholder reaction, is opposed to the plan. What arguments might the CEO use to persuade the board that CSR might be in the interests of shareholders, and what types of CSR initiatives might the program include to ensure that this was the case?
5. Nike, a supplier of sports footwear and apparel, is interested in the idea that it could increase its stock market value by creating options for itself. What actions might Nike take that might generate option value?

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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

OUTLINE

- **Introduction and Objectives**
- **From Environmental Analysis to Industry Analysis**
- **Analyzing Industry Attractiveness**
  - Porter's Five Forces of Competition Framework
  - Competition from Substitutes
  - Threat of Entry
  - Rivalry between Established Competitors
  - Bargaining Power of Buyers
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- **Applying Industry Analysis to Forecasting Industry Profitability**
  - Identifying Industry Structure
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- **Using Industry Analysis to Develop Strategy**
  - Strategies to Alter Industry Structure
  - Positioning the Company
- **Defining Industries: Where to Draw the Boundaries**
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- **Summary**
- **Self-Study Questions**
- **Notes**

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.

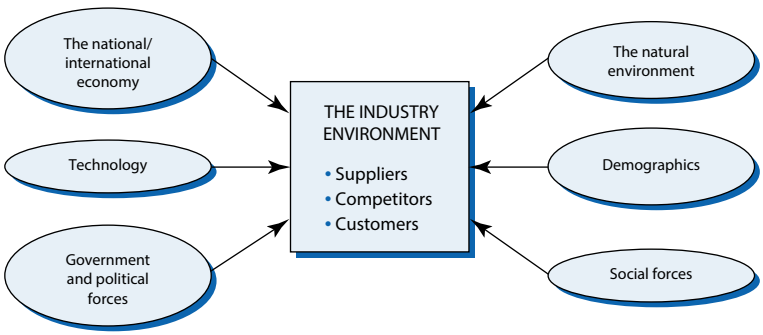
The prerequisite for effective environmental analysis is to distinguish the vital from the merely important. Hence, we need to establish what features of a firm's external environment are critical to its decisions. For the firm to make a profit, it must create value for customers. Hence, it must understand 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	Flour, 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, www.devro.com, and 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.[1] 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

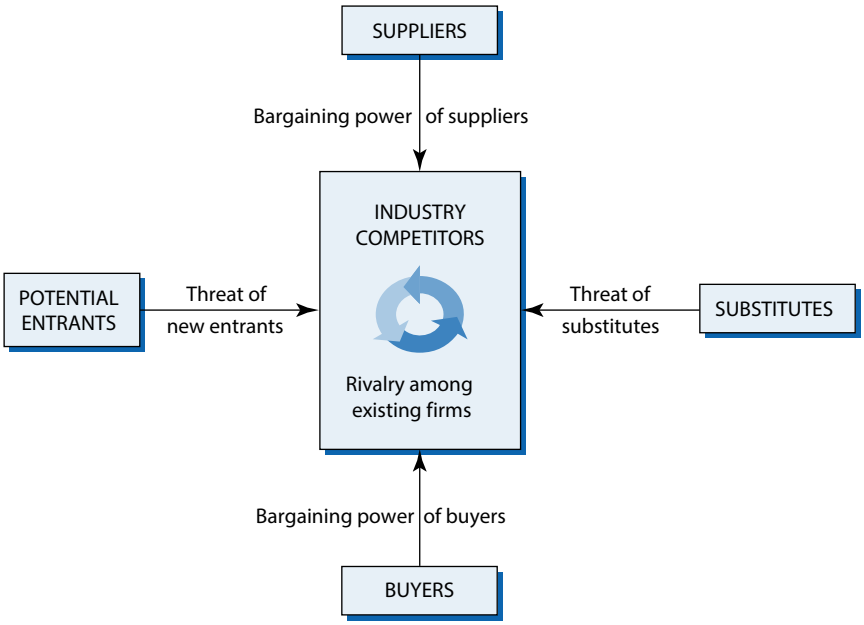
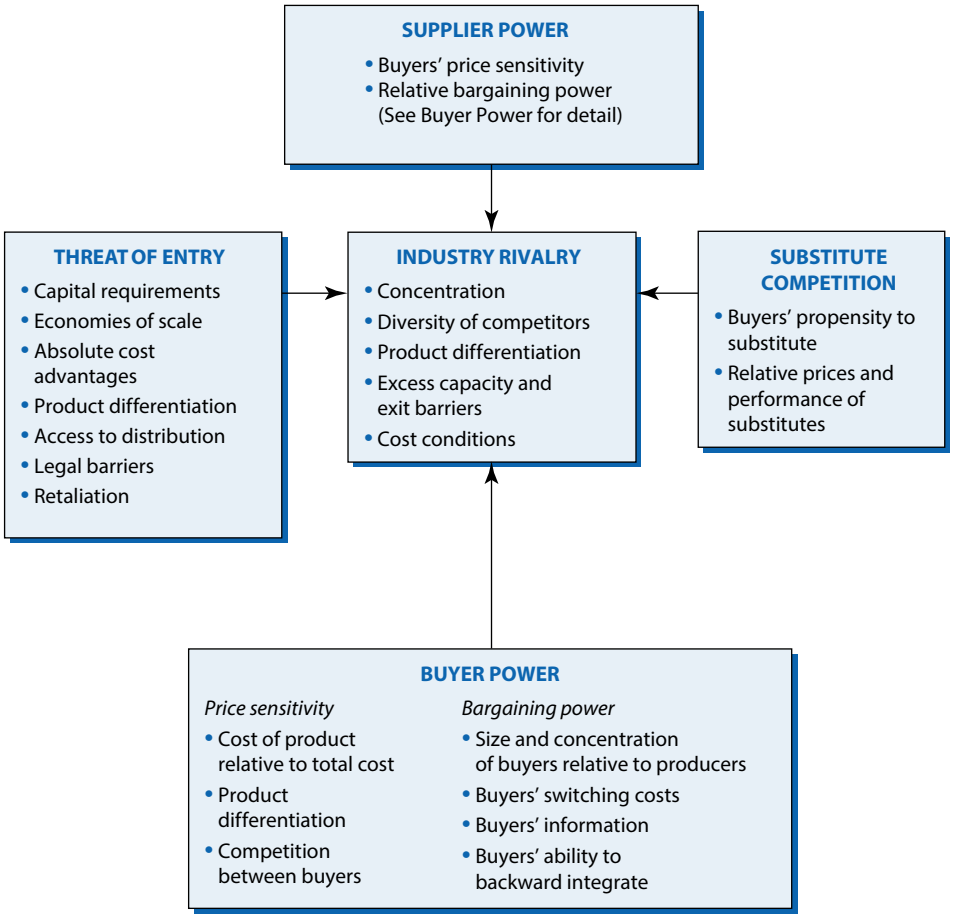


FIGURE 3.3 The structural determinants of the five forces of competition



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.[2] 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.[3] 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.[4]

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.[5] 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.[6] 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.[7] 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.[8] 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.[9] 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."[10]

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.[11]

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.[12] 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).

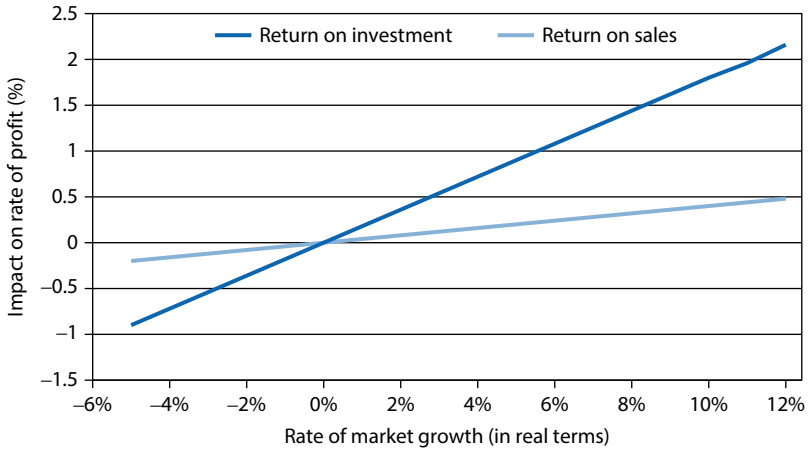
Cost Conditions: Scale Economies and the Ratio of Fixed to Variable Costs When excess capacity causes price competition, how low will prices go? The key factor is cost structure. Where fixed costs are high relative to variable costs, firms will take on marginal business at any price that covers variable 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.[13] 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

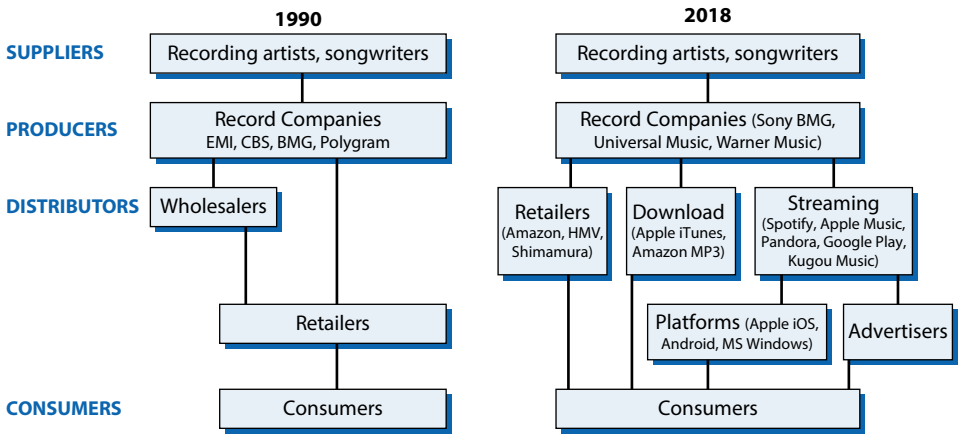
The first stage of any industry analysis is to identify the key elements of the industry's structure. In principle, this is a simple task. It requires identifying who are the main players—the producers, the buyers, the suppliers of inputs, and the producers of substitute goods—then distinguishing the 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	• Internationalization by domestic producers • New producers of EVs	Moderate ⇩	Increased competition from both sources.	Increasing ⇩
Internal rivalry	• 22 companies with annual output of >1 million cars • Massive excess capacity (global capacity utilization approx. 72%) • High fixed costs and large-scale economies encourage quest for market share	Strong ⇩	• M&A to reduce no. of producers • Continuing excess capacity due to exit barriers (especially government support) and falling demand due to lower personal ownership of cars	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	• Consolidation among component suppliers • Suppliers control key technologies	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.[14]
- 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.[15]
- 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.[16]
- 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.[17] 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.[18]

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."[19]

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.[20]

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.[21] 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

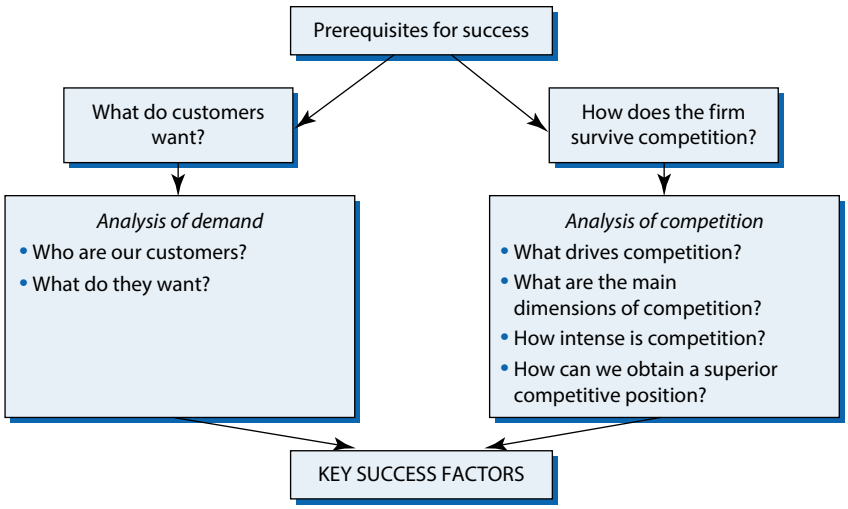


TABLE 3.2 Identifying key success factors: Steel, fashion clothing, and supermarkets

	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."[22] 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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4 Further Topics in Industry and Competitive Analysis

Economic progress, in capitalist society, means turmoil.

—JOSEPH A. SCHUMPETER, AUSTRIAN ECONOMIST, 1883–1950

OUTLINE

- **Introduction and Objectives**
- **The Limits of Industry Analysis**
  - Does Industry Matter?
  - Hypercompetition
  - Winner-Take-All Industries
- **Beyond the Five-Forces: Complements, Ecosystems, and Business Models**
  - Complements: A Missing Force in the Porter Model?
  - Business Ecosystems: Managing Value Migration
  - Using Business Models to Manage the Business Ecosystem
  - Business Ecosystems: The Value Capture Model
- **Competitive Interaction: Game Theory and Competitor Analysis**
  - Game Theory
  - Competitor Analysis
- **Segmentation and Strategic Groups**
  - Segmentation Analysis
  - Strategic Groups
- **Summary**
- **Self-Study Questions**
- **Notes**

Introduction and Objectives

The previous chapter outlined Porter's five forces framework and demonstrated its application to analyzing competition, predicting industry profitability, and developing strategy. The Porter framework is one of the most useful and widely applied tools of strategic analysis. It also has its limitations. In this chapter, we shall extend our analysis of industry and competition beyond the limits of the Porter framework.

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

- Recognize the limits of the Porter five forces framework, especially when industry structure is unstable and in winner-take-all industries.
- Extend industry analysis to include the role of complements, business ecosystems, and business models.
- Understand competitive interaction, applying insights from game theory and the tools of competitor analysis.
- Apply segmentation analysis and strategic group analysis in order to analyze industries at a more disaggregated level.

The Limits of Industry Analysis

Does Industry Matter?

Porter's five forces of competition framework has been subject to two main attacks. Some have criticized its theoretical foundations, arguing that the "structure–conduct–performance" approach to industrial organization that underlies it lacks rigor (especially when compared with the logical robustness of game theory). Others have recognized its empirical weaknesses. A firm's industry environment is a relatively minor determinant of its profitability. Studies of the sources of interfirm differences in profitability have produced diverse results, but all acknowledge that industry factors account for less than 20% of the variation in return on assets among firms.[1]

Do these findings imply that industry doesn't matter and we relegate the analysis of industry and competition to a minor role in our strategic analysis? Certainly not!

It is true that profitability differences *within* industries are greater than profitability differences *between* industries: McKinsey & Company provide clear evidence of this for US industries.[2]

However, the usefulness of industry analysis is not conditional upon the relative importance of inter-industry and intra-industry profitability differences. Industry analysis is important because, without a deep understanding of their competitive environment, firms cannot make sound strategic decisions. Industry analysis is not just about choosing which industries to locate within, it is also important for identifying competitive threats, attractive segments, and the sources of competitive advantage. Nevertheless, it

is important that we acknowledge the limitations of the Porter framework and, where possible, augment our industry analysis.

Hypercompetition

The Porter's five forces framework is based upon the assumption that industry structure determines competitive behavior, which in turn determines industry profitability. But competition also unleashes the forces of innovation and entrepreneurship that transform industry structures. Joseph Schumpeter viewed competition as a "perennial gale of creative destruction" in which market-dominating incumbents are challenged, and often unseated, by rivals' innovations.[3]

Schumpeter's view of competition as a dynamic process in which industry structure is in constant change raises the issue of whether competitive behavior should be seen as an outcome of industry structure or a determinant of industry structure.[4] The issue here is the speed of structural change in the industry: if structural transformation is rapid, then the five forces framework does not offer a stable basis for predicting competition and profitability.

In most industries, Schumpeter's process of "creative destruction" tends to be more of a breeze than a gale. In established industries, new entry tends to be infrequent and changes in industrial concentration are slow.[5] One survey observed: "the picture of the competitive process . . . is, to say the least, sluggish in the extreme."[6] As a result, both at firm and industry levels, profits tend to be highly persistent in the long run.[7]

However, this stability of industry structures is being eroded by the disruptive impact of digital technologies and intensifying international competition. Rich D'Aveni argues that a general feature of industries today is **hypercompetition**: "intense and rapid competitive moves, in which competitors must move quickly to build [new] advantages and erode the advantages of their rivals."[8] If industries are hypercompetitive, their structures are unstable and competitive advantage is temporary.[9] According to Rita McGrath, "Transient advantage is the new normal."[10]

Despite a lack of consistent empirical evidence of growing instability of industry structure and accelerating erosion of competitive advantage,[11] casual observation suggest that the rapid structural change is not restricted to the hi-tech sector—financial services, oil and gas, and taxi services have all experienced disruptive change in recent years. Yet, hypercompetition does not necessarily obviate Porter's five forces framework. For example, in analyzing the dramatic structural changes that have occurred in the solar panel industry, in pharmaceuticals, in retailing, and in telecom services, the five forces framework allows us to forecast how changes in industry structure will affect the forces of competition, and what their impact on profitability is likely to be.

Winner-Take-All Industries

In some industries, the disparities in profitability between firms are so great as to render irrelevant the whole notion of industry attractiveness. In mobile devices, Apple earned a return on equity of about 30% during 2015–2017; most its competitors made losses. Throughout the history of the video game industry, the console maker with market leadership—typically Nintendo or Sony—has accounted for almost all of the industry's profits. In these industries, market share confers massive competitive advantage. Often, this advantage is the result, not of conventional scale economies, but of positive feedback loops—the most important of which are **network externalities**. In online auctions (dominated by eBay) and social media (dominated by Facebook), users gravitate

to the firm that has the greatest number of users. More generally, a firm with market share leadership attracts resources away from competitors. In web search, once Google established a lead over Yahoo!, Excite, Lycos, and AltaVista, the expectations it generated allowed it to attract resources that enabled it to accelerate quality and innovation.

In these industries, the market leader may well scoop the entire profit pool. Followers may continue to endure losses for some time—what sustains them is the possibility of gaining market leadership should the current leader stumble. During 2017, the woes that engulfed ride-sharing giant, Uber, were eagerly exploited by its rival, Lyft. In these "winner-take-all" industries, analyzing the dynamics of competitive advantage—network externalities in particular—takes precedent over conventional industry analysis. As we shall see shortly, complementary products play a central role in creating network externalities.

Beyond the Five Forces: Complements, Ecosystems, and Business Models

If our industry analysis is to fulfill its potential, it needs to go beyond the confines of the Porter five forces framework. To understand competitive behavior and the determinants of profitability, we need to look more broadly at industries to include complements, extended value chains, and other participants that form part of the "business ecosystem." We also need to look more narrowly: disaggregating broad industry sectors to examine competition within particular segments and among particular groups of firms. Let's begin by considering extensions to the Porter framework.

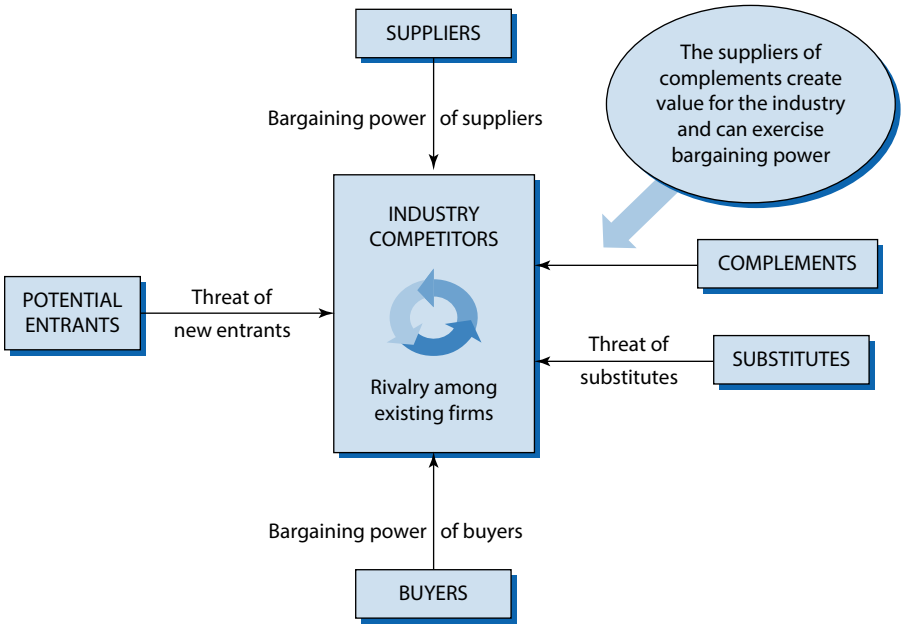
Complements: A Missing Force in the Porter Model?

The Porter framework considers the suppliers of substitutes as one of the forces of competition that reduces the profit available to firms within an industry. But what about *complements*? While the presence of substitutes reduces the value of a product, complements increase its value: without ink cartridges my printer is useless, as is my car without gasoline. Given the importance of complements to most products, our analysis of the competitive environment needs to take them into account. The simplest way is to add a sixth force to Porter's framework (Figure 4.1).[12]

If complements have the opposite effect to substitutes—they increase rather than reduce the value of an industry's product—the key question is: how is this value shared between the producers of the different complementary products?

- During the 1990s, Nintendo earned huge profits from its video game consoles. Although most of the revenue and consumer value was in the software, mostly supplied by independent developers, Nintendo's dominance over the games developers, through its control over its operating system and over the manufacture and distribution of games cartridges, allowed it to appropriate most of the profits of the entire system.
- In personal computers there is similar complementarity between hardware and software, but here power has lain with the software suppliers—Microsoft in particular. IBM's adoption of open architecture meant that Microsoft Windows became a proprietary standard, while PCs were gradually reduced to commodity status. This is a very different situation from video games, where hardware suppliers keep proprietary control over their operating systems.

FIGURE 4.1 Five forces, or six?



Where two products complement one another, profit accrues to the supplier that builds the stronger market position and reduces the value appropriated by the other. How is this done? The key is to achieve monopolization, differentiation, and short supply of one's own product, while encouraging competition, commoditization, and excess capacity in complementary products.[13] Apple's domination of its complementors—especially the suppliers of applications software—has made its iPhone one of the lucrative proprietary products of all time. Such dominance requires power over complementors that typically require ownership of intellectual property. Apple's ownership of its iOS operating system allows it to choose which apps are offered for its iPhone and to take 30% of the revenues these apps generate. Such control is essential whether or not the complementary products are supplied in-house or by third parties. Gillette's monopolization of blades for its razors and printer manufacturers' monopolization of ink cartridges rests upon their control of the technology in both the equipment and the consumable. Producing the consumables in-house facilitates control—but is not enough on its own. Nestlé supplies its own coffee capsules for its Nespresso coffee system, but once its patents became ineffective, it was unable to prevent a flood of new suppliers of Nespresso-compatible capsules.[14]

As the above examples suggest, products based on digital technologies present fascinating issues of competition and profit appropriation. Many digital markets involve systems that comprise hardware, an operating system, application software, and Internet connection. In these markets, competition tends to be among rival **platforms**—the interfaces that link the component parts of the system. A platform attracts complementors—in some cases in huge numbers: Android has over 2.8 million apps; Amazon's online retailing platform offers over 450 million different products in the US. The availability of complements creates a powerful network externality: complementors favor the platform with the most users; users favor the platform with the greater number of complements. As we have already observed, network externalities are the main source of winner-take-all markets. We shall revisit network externalities and platform-based competition in Chapter 9.

Business Ecosystems: Managing Value Migration

Incorporating the suppliers of complementary products is a first step in broadening industry analysis beyond Porter's five forces—but we can go further. Recognition that a firm's business environment extends beyond conventional industry boundaries has given rise to the term **business ecosystem** to describe the "community of organizations, institutions, and individuals that impact the enterprise."[15] This notion of an ecosystem also emphasizes the codependencies among its members and the continually evolution of the system.

Michael Jacobides shows how, within business systems, value migrates between its different parts.[16] This migration is the result of external forces such as technology, regulation, and changing customer preferences, but it can also be influenced by individual firms—even those that are not dominant players. The quest for value requires identifying potential "bottlenecks" within the ecosystems—activities that create significant customer value and can be dominated by the firm. Jacobides and his co-authors offer the following guidelines:

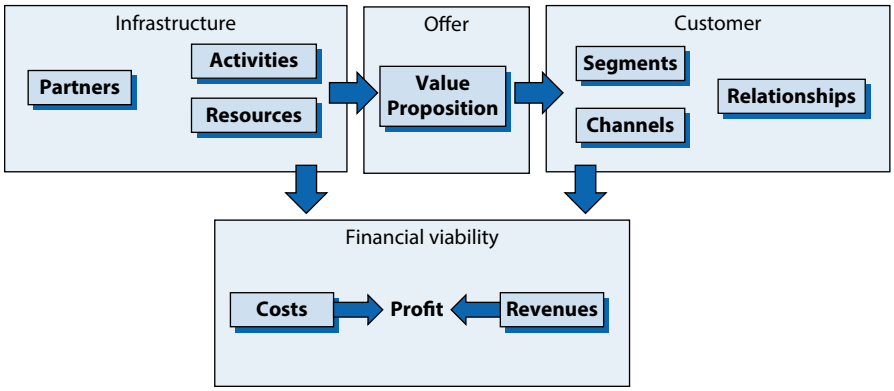
- Become the "guardian of quality." Who controls a product's reputation? In wine, there is competition for control between growers grouped by location (champagne, chianti), wine makers (Krug, Chateau Margaux), importers/distributors (Harveys of Bristol, Berry Bros. & Rudd), and critics (Wine Spectator, Decanter). Control typically lies with players that are closest to the consumer—but not always: Intel's "Intel Inside" campaign showed the potential for component suppliers to forge links with consumers.
- Become irreplaceable: The battle to capture value is won by those who can make themselves irreplaceable. In many industries, these are the system integrators. Conversely, those who contribute a tiny portion of the value chain are easily substituted. Apple is a master of "supply chain atomization"—ensuring that each of its suppliers occupy limited roles that can be substituted by other companies.
- Take advantage of changing customer needs. Shifts in customer preferences can shift value within an ecosystem. As consumers expand the range of online payment options they are willing to use, there are growing opportunities for payment service providers such as Adyen, Worldpay, and Square.
- Redefine the value chain. In addition to fragmenting and integrating value chains, firms may redefine roles along it. IKEA's building of a global value chain for furniture has involved the transfer of furniture assembly from manufacturers to consumers.

Using Business Models to Manage the Business Ecosystem

Business model is a widely used but poorly understood concept—which is hardly surprising given the variety of ways in which it has been used. A model is a simplified description of a real thing. Hence, a business model is a simplified description of a business—it specifies the "core logic for creating value"[17] or, as David Teece explains: "the manner by which the business enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit."[18]

There is a long-running debate over whether there is anything distinctive about the concept of a business model, or whether business model is simply another name for a business strategy. We will not resolve that debate here. Instead, let us focus on situations where the concept of a business model can extend our strategy analysis. One area

FIGURE 4.2 The Business Model Canvas



is in formulating strategies to exploit the opportunities within a firm's business ecosystem. The other, which we shall address in Chapter 7, concerns strategic innovation.

The reason that business models are useful is because strategy is often viewed too narrowly—business strategy in terms of cost or differentiation advantage, corporate strategy in terms of selecting sectors then managing linkages between them. Business models allow us to consider more complex business situations and envisage business opportunities more widely.

Most approaches to the design and selection of business models identify the components of business models and alternative ways to configure them. One widely used framework, the *Business Model Canvas*, views the firm as an *infrastructure* (comprising resources, activities, and partners) that is applied to *customers* (comprising segments, channels, and relationships) through a *value proposition* that generates *revenue* at a *cost* that permits a *profit* (see Figure 4.2). The firm's business model represents an integrated set of choices in relation to these components. By mapping the firm's business model on this canvas, it is possible to experiment with alternatives: How can the firm change the components of its business model to create new configurations?[19]

Traditionally, most enterprises are operated with fairly simple business models. For example, the typical business model for a consumer goods producer involves adding value to bought-in materials and components, then supplying the finished product to distributors. More elaborate business models involve complementary products (e.g., the "razors-and-blades" model favored by Gillette and suppliers of inkjet printers) or supplying inputs rather than outputs (e.g., franchising).

Digital technologies have caused the emergence of more complex business ecosystems that offer opportunities for more diverse business models. As established industries are disrupted by digital technologies, the challenge for traditional firms is to find business models to replace those rendered obsolete by new competition. Travel agents have transitioned from being commission-based retailers to providing customized, fee-based services to travelers; newspapers have experimented with different online revenue models: free content/paid advertising, "freemium" (free access to basic content; charges for premium content), metered access, or variants on these.

The more elaborate business models that exploit the opportunities available in more complex digital ecosystems are illustrated by Google (see Strategy Capsule 4.1). However, as Strategy Capsule 4.1. shows in relation to Ryanair, many mature industries also have complex business ecosystems that offer opportunities for business models that exploit relationships among diverse partner organizations.

STRATEGY CAPSULE 4.1

Business Models for Complex Business Ecosystems: Google and Ryanair

Google: At the heart of Google's strategy is a business model whereby free search supports paid advertising—over two-thirds of the revenues of Google's parent, Alphabet, are generated by advertising placed on Google's own websites and applications. However, Google's full business model is more extensive. It includes the following:

- Using its advertising management capabilities and relationships with advertisers to manage advertising placements on other content providers' websites (AdSense).
- Gathering huge quantities of user data that allow more precise targeting of advertising.
- Protecting the availability and data-gathering capabilities of Google's search products by providing its own web browser (Chrome) and operating systems (Android, Chrome OS).
- Sustaining dominance of online advertising through launching competing products against rivals such as Apple, Facebook, and Microsoft.

Ryanair: At the core of Ryanair's strategy is the low-cost carrier business model developed by Southwest Airlines (see Figure 1.3 in Chapter 1). However, this model has been extended by Ryanair to exploit multiple sources of revenue generated by a range of partners. Elements of the Ryanair business model include the following:

- Extreme unbundling. In addition to paying for flight tickets, passengers are encouraged to pay for services such as seat assignments, checked baggage, priority boarding, credit card fees, and inflight refreshments.
- Payments from airports and local government authorities (incentives to Ryanair to initiate and maintain specific routes).
- Commission on sales of partners' complementary products and services such as car hire, train and bus services, insurance, hotels, theater, and sports tickets—also ticket sales for other airlines (e.g., Air Europa).
- Advertising on Ryanair website, travel magazine, and seat backs.

Sources: Allan Afuah, *Business Model Innovation: Concepts, Analysis, and Cases* (Routledge, 2014); Ryanair Holdings plc, Annual Report, 2017.

Business Ecosystems: The Value Capture Model

In an approach, variously described as the "value capture model," "value-based strategy," and "bi-form models," initial work by Brandenburger and Stuart[20] has been developed into a strategy framework that combines both breadth and analytic rigor. The framework envisages the firm within a broad network of transacting parties. The approach then establishes boundaries for the amount of value that the firm can appropriate. The upper limit is determined by the amount of value that the firm creates within its current network—which is the amount by which the total value created within the network would diminish if the firm left the network. The lower limit is determined by the amount of value that the form could add to an alternative business network.

Within this framework, a firm's strategic decisions are mainly about investments in resources and capabilities that influence the value it can capture. These decisions relate to two types of action. First, those that increase the value that is available to the firm by increasing the maximum value the firm adds either to its existing network or to an alternative network—these are investments with competitive intent. Second, actions that determine how much value the members of the network are willing to give up to the firm—these are actions with persuasive intent.[21] Recent work on the value capture model attempts to measure then value created and captured and explores strategies through which value creation and capture occur.[22]

Competitive Interaction: Game Theory and Competitor Analysis

Game Theory

Central to the criticisms of Porter's five forces framework is its failure to address competitive interaction among firms. A fundamental feature of strategic situations is *interdependence*—the decisions made by any one player are dependent on the actual and anticipated decisions of the other players. By relegating competition to a mediating variable that links industry structure with profitability, the five forces analysis offers little insight into competition as a process of interactive decision-making by rival firms. Game theory allows us to model this competitive interaction. In going so, it permits:

- The framing of strategic interaction by providing a structure, a set of concepts, and a terminology that allows us to characterize a competitive situation in terms of:
  - Who are the players?
  - What are each player's options?
  - What are the payoffs from every combination of options?
  - What is the sequence of decisions?
- Predicting the outcome of competitive situations and identifying optimal strategic choices in situations of rivalry and bargaining. In doing so, game theory offers penetrating insights into central issues of strategy that go well beyond pure intuition. Simple models (e.g., the prisoners' dilemma) predict whether outcomes will be competitive or cooperative, whereas more complex games permit analysis of the effects of reputation,[23] deterrence,[24] information,[25] and commitment,[26] especially within the context of multi-period games. Particularly, important for practicing managers, game theory can indicate strategies for improving the outcome of the game through manipulating the payoffs to the different players.[27]

Game theory has been applied to a wide variety of competitive situations: the Cuban missile crisis of 1962,[28] rivalry between Boeing and Airbus,[29] NASCAR race tactics,[30] auctions of airwave spectrum,[31] the 2008 financial crisis,[32] and the evolutionary determinants of male bird plumage.[33] In terms of business competition, game theory points to five types of strategic behavior for influencing competitive outcomes: *cooperation*, *deterrence*, *commitment*, *changing the structure of the game*, and *signaling*.

Cooperation One of the key merits of game theory is its ability to encompass both competition and cooperation. While the five forces framework emphasizes competitive relations between firms, Adam Brandenburger and Barry Nalebuff's concept of *coopetition* recognizes the competitive/cooperative duality of business relationships.[34] While some relationships are predominantly competitive (Coca-Cola and Pepsi) and others are predominantly cooperative (Intel and Microsoft), there is no simple dichotomy between competition and cooperation: all business relationships combine elements of both. For all their intense rivalry, Coca-Cola and Pepsi cooperate on multiple fronts, including common policies on sales of soda drinks within schools, environmental issues, and health concerns. They may also coordinate their pricing and product introductions.[35] Exxon and Shell have competed for leadership of the world's petroleum industry for over a century; at the same time they cooperate in a number of joint ventures. The desire of competitors to cluster together—antique dealers in London's Bermondsey Market or movie studios in Hollywood—points to the common interests of competing firms in growing the size of their market and developing its infrastructure. Although cooperation usually results in better outcomes for rival firms, the communication and trust needed to avoid competition are difficult to establish. The prisoners' dilemma game not only analyzes this predicament and points to the strategic initiatives through which a player can transform the game in order to reach a cooperative outcome (Strategy Capsule 4.1).

Deterrence As we see in Strategy Capsule 4.1, one way of changing a game's equilibrium is through *deterrence*. The principle behind deterrence is to impose costs on the other players for actions deemed to be undesirable. By establishing the certainty that deserters would be shot, the British army provided a strong incentive to its troops to participate in advances on heavily fortified German trenches during the First World War.

The key to the effectiveness of any deterrent is that it must be credible. If administering the deterrent is costly or unpleasant for the threatening party, it will lack credibility. Threatening a potential new entrant with a price war usually lacks credibility since it would inflict more damage on the incumbent than on the new entrant. Investing in excess capacity can be more effective in discouraging entry. Prior to the expiration of its NutraSweet patents, Monsanto invested heavily in unneeded plant capacity to deter manufacturers of generic aspartame.[36]

However, deterrence only works when the adversaries can be deterred. A central weakness of President George W. Bush's "war on terror" was that ideologically motivated terrorists are not susceptible to deterrence.[37]

Commitment For deterrence to be credible, it must be backed by commitment. Commitment involves the elimination of strategic options: "binding an organization to a future course of action."[38] When Hernán Cortés destroyed his ships on arrival in Mexico in 1519, he communicated, both to Montezuma and to his own troops, that there was no alternative to the conquest of the Aztec empire. Once Airbus had decided to build its A380 superjumbo, it was critical to signal its commitment to the project. During 2000–02, Airbus spent heavily on advertising the plane, even before completing the design phase, in order to encourage airlines to place orders and discourage Boeing from developing a rival plane.

These commitments to aggressive competition can be described as *hard commitments*. A company may also make commitments that moderate competition; these are called *soft commitments*. For example, if a company commits to achieving certain target profit levels in the coming year, this would be a soft commitment: it signals its desire to avoid aggressive competition.

STRATEGY CAPSULE 4.2
The Prisoners' Dilemma

The classic prisoners' dilemma game involves a pair of crime suspects who are arrested and interrogated separately. The dilemma is that each will rat on the other with the result that both end up in jail despite the fact that, if both had remained silent, they would have been released for lack of evidence.

The dilemma arises in most competitive situations—everyone could be better off with collusion. Consider competition between Coca-Cola and Pepsi in Ecuador, where each has the choice of setting a big or small advertising budget. Figure 4.3 shows the payoffs to each firm.

Clearly, the best solution for both firms is for each to restrain their advertising expenditure (the upper left cell). However, in the absence of cooperation, both firms adopt big budgets (the lower right cell). The reason is that each fears that any restraint will be countered by the rival seeking advantage by shifting to a big advertising budget. The resulting "maxi-min" strategy (each company chooses the strategy that maximizes the minimum payoff) is a "Nash equilibrium": no player can increase its payoff by a unilateral change in strategy. Even if collusion can be achieved, it will be unstable because of the incentives for cheating—a constant problem for OPEC, where the member countries agree quotas but then cheat on them.

How can a firm escape from such prisoners' dilemmas? One answer is to change a one-period game (single transaction) into a repeated game. In the above example of competition in advertising, a multiperiod perspective allows the companies to recognize the futility of advertising campaigns that merely cancel one another out. In the case of supplier–buyer relations, where the typical equilibrium is a low-quality product at a low price, moving from a spot-transaction to a long-term vendor relationship gives the supplier the incentive to offer a better-quality product and the buyer to offer a price that reflects the preferred quality.

A second solution is to change the payoffs through deterrence. In the classic prisoners' dilemma, the Mafia shifts the equilibrium: the threat of draconian reprisals encourages both suspects to maintain the "code of silence." Similarly, if both Coca-Cola and Pepsi were to threaten one another with aggressive price cuts should the other seek advantage through a big advertising budget, this could shift the equilibrium to the top-left cell.

FIGURE 4.3 Coca-Cola's and Pepsi's advertising budget: The prisoners' dilemma

COCA-COLA (Payoffs in $ millions)

PEPSI	Small Advertising Budget	Big Advertising Budget
Small Advertising Budget	10 / 10	15 / −2
Big Advertising Budget	−2 / 15	4 / 4

In each cell, the lower-left number is the payoff to Pepsi; the upper-right the payoff to Coke.

Changing the Structure of the Game Creative strategies can change the structure of the competitive game. A company may seek to change the structure of its industry to increase the industry's profit potential or to appropriate a greater share of the available profit. Thus, establishing alliances and agreements with competitors can increase the value of the game by increasing the size of the market and building combined strength against possible entrants. There may be many opportunities for converting win–lose (or even lose–lose) games into win–win games through cooperative strategies.

In some cases, it may be advantageous for a firm to assist its competitors. When in June 2014, Tesla Motors offered to make available its patents to competitors, it was betting that any loss in its own competitive advantage would be offset by the benefits of expanding the market for electric vehicles and encouraging the wider adoption of its own technologies with regard to battery design and battery recharging systems.[39] As we shall see in Chapter 9, standards battles often involve the deliberate sacrificing of profit margins in order to build market leadership.

Signaling Competitive reactions depend on how the competitor perceives its rival's initiative. The term *signaling* is used to describe the selective communication of information to competitors (or customers) designed to influence their perceptions and hence provoke or suppress certain types of reaction.[40] The use of misinformation is well developed in military intelligence. In 1943, British military intelligence used a corpse dressed as a marine officer and carrying fake secret documents to convince German high command that the Allied landings would be in Greece, not Sicily.[41]

Threats are credible when backed by reputation.[42] Although carrying out threats is costly and depresses short-term profitability, exercising such threats can build a reputation for aggressiveness that deters competitors in the future. The benefits of building a reputation for aggressiveness may be particularly great for diversified companies where reputation can be transferred from one market to another.[43] Hence, Procter & Gamble's protracted market share wars in disposable diapers and household detergents established a reputation for toughness that protects it from competitive attacks in other markets.

Signaling may also be used to communicate a desire to cooperate: preannounced price changes can facilitate collusive pricing among firms.[44]

How useful is game theory? The great virtue of game theory is its rigor: it bases the analysis of competition on sound theoretical foundations.

However, the price of theoretical rigor is limited applicability to real-world situations. Game theory provides clear predictions in stylized situations involving few external variables and restrictive assumptions. When applied to more complex (and more realistic) situations, game theory frequently results in either no equilibrium or multiple equilibria, and outcomes that are highly sensitive to small changes in initial assumptions. Overall, game theory has made limited progress in modeling real business situations in a way that can generate clear strategy recommendations.[45]

Game theory is better at explaining the past than predicting the future. In diagnosing Nintendo's domination of the video games industry in the 1980s, Monsanto's efforts to prolong NutraSweet's market leadership beyond the expiration of its patents, or Airbus's wresting of market leadership from Boeing, game theory provides penetrating insight into the competitive situation and deep understanding of the rationale behind the strategies deployed. However, in predicting outcomes and designing strategies,

game theory has been much less impressive. For example, the application of game theory by US and European governments to design auctions for wireless spectrum has produced some undesirable and unforeseen results.[46]

So, where can game theory assist us in designing successful strategies? As with all our theories and frameworks, game theory is useful not because it gives us answers but because it can help us understand business situations. Game theory provides a set of tools that allows us to structure our view of competitive interaction. By identifying the players in a game, the decision choices available to each, and the implications of each combination of decisions, we have a systematic framework for exploring the dynamics of competition. Most importantly, by describing the structure of the game we are playing, we have a basis for suggesting ways of changing the game and thinking through the likely outcomes of such changes.

Game theory continues its rapid development—in particular, the value capture model we discussed above, and which has considerable potential for developing a general framework for strategy analysis, has its basis in cooperative game theory. We shall draw upon game theory in several places in this book, especially in exploring competitive dynamics in highly concentrated markets. However, our emphasis in strategy formulation will be less on achieving advantage through influencing the behavior of competitors and much more on transforming competitive situations through building positions of unilateral competitive advantage. Game theory typically deals with competitive situations where closely matched players have strategic options (typically relating to price changes, advertising budgets, capacity decisions, and new product introductions) and outcomes depend upon the order of moves, signals, bluffs, and threats. Our emphasis will be less on managing competitive interactions and more on establishing competitive advantage through exploiting uniqueness.

Competitor Analysis

In highly concentrated industries, the dominant feature of a company's competitive environment is likely to be the behavior of its closest rivals. In household detergents, Unilever's industry environment is dominated by the strategy of Procter & Gamble. The same is true in soft drinks (Coca-Cola and Pepsi), jet engines (GE, United Technologies, and Rolls-Royce), and financial information (Bloomberg and Reuters). Similarly, in local markets: the competitive environment of my local Costa coffee shop is dominated by the presence of Starbucks across the road. While game theory provides a theoretical apparatus for analyzing competitive interaction between small numbers of rivals, for most strategic decisions, a less formal and more empirically-based approach to predicting competitors' behavior may suffice. Let us examine how information about competitors can be used to predict their behavior.

Competitive Intelligence Competitive intelligence involves the systematic collection and analysis of information about rivals for informing decision making. It has three main purposes:

- to forecast competitors' future strategies and decisions
- to predict competitors' likely reactions to a firm's strategic initiatives
- to determine how competitors' behavior can be influenced to make it more favorable.

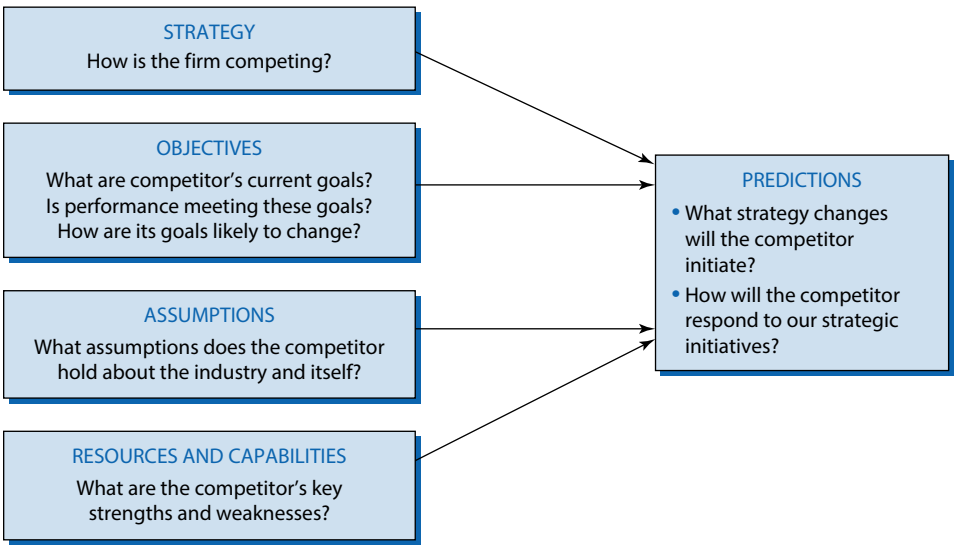
For all three purposes, the key requirement is to understand competitors in order to predict their responses to environmental changes and to our own competitive moves. To understand competitors, it is important to be informed about them. Competitive intelligence is a growth field, with specialist consulting firms, professional associations, and a flood of recent books.[47] About one-quarter of large US corporations have specialist competitive intelligence units.

The boundary between legitimate competitive intelligence and illegal industrial espionage is not always clear. The distinction between public and private information is uncertain and the law relating to trade secrets is much less precise than that which covers patents and copyrights. In addition to several well-publicized cases of trade secret theft,[48] more general allegations of systematic industrial espionage have been levied against Chinese enterprises and government agencies.[49]

A Framework for Predicting Competitor Behavior Competitive intelligence is not simply about collecting information. The problem is likely to be too much rather than too little information. The key is a systematic approach that makes it clear what information is required and for what purposes it will be used. The objective is to understand one's rival. A characteristic of great generals from Hannibal to Patton has been their ability to go beyond military intelligence and to "get inside the heads" of their opposing commanders. Michael Porter proposes a four-part framework for predicting competitor behavior (Figure 4.4).

- *Competitor's current strategy:* To predict how a rival will behave in the future, we must understand how that rival is competing at present. Identifying a firm's strategy requires looking at what the company says and what it does (see "Where Do We Find Strategy?" in Chapter 1)—and then to reconcile the two.

FIGURE 4.4 A framework for competitor analysis



- *Competitor's objectives:* To forecast how a competitor might change its strategy, we must identify its goals. Is the company driven by financial goals or market goals? A company whose primary goal is attaining market share is likely to be much more aggressive a competitor than one that is mainly interested in profitability. The most difficult competitors can be those that are not subject to profit disciplines at all—state-owned enterprises in particular. The level of current performance in relation to the competitor's objectives determines the likelihood of strategy change. The more performance falls short of target, the more likely is strategic change, possibly accompanied by a change in top management.
- *Competitor's assumptions about the industry:* A competitor's strategic decisions are conditioned by its perceptions of itself and its environment. These perceptions are guided by the beliefs that senior managers hold about their industry and the success factors within it. These beliefs tend to be stable over time and also converge among the firms within an industry: what J.-C. Spender refers to as "industry recipes."[50] Industry recipes may engender "blindspots" that limit the capacity of a firm—even an entire industry—to respond to an external threat. The failure of British and US motorcycle manufacturers to respond to emerging Japanese competition during the 1960s reflected a belief system that failed to acknowledge the threat posed by high-performance, lightweight motorcycles. (Strategy Capsule 4.2).

STRATEGY CAPSULE 4.3

Motorcycle Myopia

During the 1960s, lightweight Japanese motorcycles began to flood Britain and North America. The chairman of BSA, Eric Turner, was dismissive of this competitive challenge to the dominant position of his Triumph and BSA brands:

> The success of Honda, Suzuki, and Yamaha has been jolly good for us. People start out by buying one of the low-priced Japanese jobs. They get to enjoy the fun and exhilaration of the open road and they frequently end up buying one of our more powerful and expensive machines.
>
> (*Advertising Age*, December 27, 1965)

Similar complacency was expressed by William Davidson, president of Harley-Davidson:

> Basically, we do not believe in the lightweight market. We believe that motorcycles are sports vehicles, not transportation vehicles. Even if a man says he bought a motorcycle for transportation, it's generally for leisure time use. The lightweight motorcycle is only supplemental. Back around World War I, a number of companies came out with lightweight bikes. We came out with one ourselves. We came out with another in 1947 and it just didn't go anywhere. We have seen what happens to these small sizes.
>
> (*American Motor Cycle*, September 15, 1966)

By 1980, BSA and Triumph had ceased production and Harley-Davidson was struggling for survival. The world motorcycle industry, including the heavyweight segment, was dominated by Japanese companies.

- *Competitor's resources and capabilities:* Evaluating the likelihood and seriousness of a competitor's potential challenge requires assessing the strength of that competitor's resources and capabilities. If our rival has a massive cash pile, we would be unwise to unleash a price war. Conversely, if we direct our competitive initiatives toward our rivals' weaknesses, it may be difficult for them to respond. Richard Branson's Virgin Group has entered into music, airlines, financial services, and wireless telecommunications using innovative forms of differentiation that are difficult for established incumbents to respond to.

Segmentation and Strategic Groups

Segmentation Analysis[51]

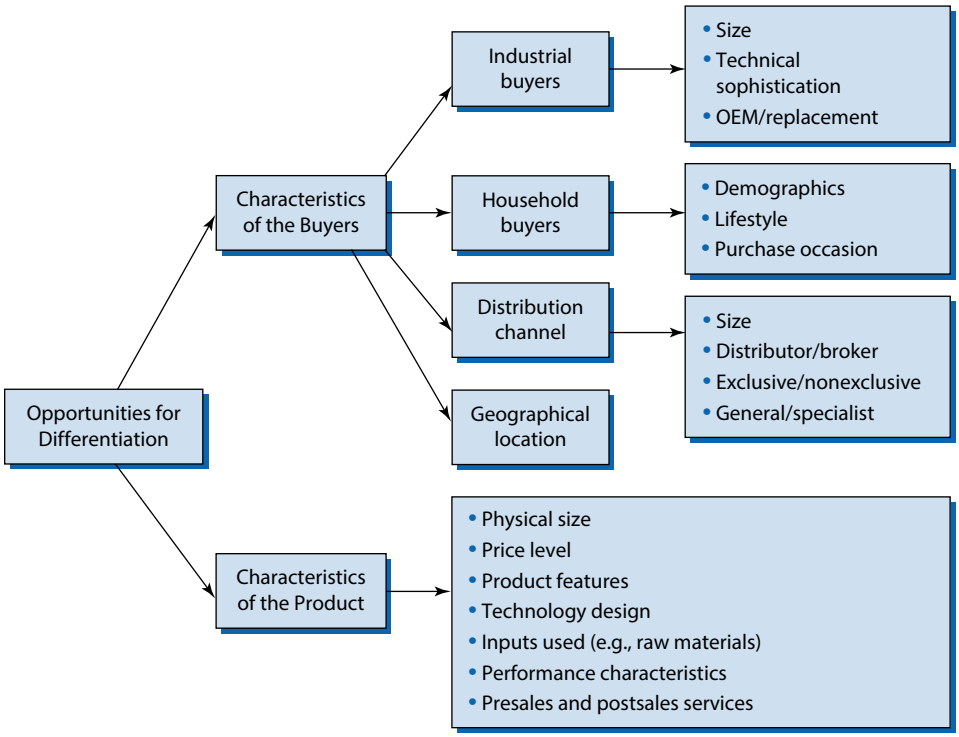
In Chapter 3, we noted the difficulty of drawing industry boundaries and the need to define industries both broadly and narrowly according to the types of question we are seeking to answer. Initially, it may be convenient to define industries broadly, but for a more detailed analysis we need to focus on more narrowly drawn markets. This process of disaggregating industries we call **segmentation**.

Astute choices of segment positioning can allow a firm to outperform its rivals. During 2007–11, Nintendo's Wii became a surprise market share leader in video game consoles by focusing on a large and underserved market segment: casual and older video game players. In the brutally competitive tire industry, Pirelli has achieved superior margins by emphasizing high-performance tires for sports and luxury cars.[52]

The purpose of segmentation analysis is to identify attractive segments, to select strategies for different segments, and to determine how many segments to serve. The analysis proceeds in five stages.

1. *Identify key segmentation variables:* Our starting point is to determine the basis of segmentation. Segmentation decisions are essentially choices about which customers to serve and what to offer them: hence segmentation variables relate to the characteristics of customers and the product (Figure 4.5). Typically, segmentation analysis generates far too many segmentation variables; we need to reduce these to two or three. This requires that we (a) identify the most strategically significant segmentation variables and (b) combine segmentation variables that are closely correlated. For example, in the restaurant industry, price level, service level, cuisine, and alcohol license tend to be closely related. We could use a single variable, restaurant type, with three categories—full-service restaurants, cafés/casual dining, and fast-food outlets—as a proxy for all of these variables.
2. *Construct a Segmentation Matrix:* Once the segmentation variables have been selected and discrete categories determined for each, the individual segments may be identified using a two- or three-dimensional matrix. Strategy Capsule 4.3 shows a two-dimensional segmentation matrix for the world automobile industry. Strategy Capsule 4.4 takes an alternative approach to industry segmentation, using the industry value chain as the basis for segmentation.
3. *Analyze segment attractiveness:* Profitability within an industry segment is determined by the same structural forces that determine profitability within an industry as a whole. As a result, Porter's five forces of competition framework is equally

FIGURE 4.5 The basis for segmentation: The characteristics of buyers and products



effective in relation to a segment as to an entire industry. There are, however, a few differences. Substitute competition comes not only from other industries but also from other segments within the same industry. Similarly, entry into a segment is most likely to be from producers established in other segments within the same industry. The barriers that protect a segment from firms located in other segments are called **barriers to mobility** to distinguish them from the *barriers to entry*, which protect the industry as a whole.[53] As in most segments within the auto industry, the lack of barriers to mobility results in the superior returns of high-profit segments being quickly eroded (see Strategy Capsule 4.3).

Segmentation analysis can help identify unexploited opportunities in an industry. Companies that have built successful strategies by concentrating on unoccupied segments include Walmart (discount stores in small towns), Enterprise Rent-A-Car (suburban locations), and Edward Jones (full-service brokerage for small investors in smaller cities). This identification of unoccupied market segments is one aspect of what Kim and Mauborgne refer to as "blue ocean strategy": the quest for uncontested market space.[54]

4 *Identify the segment's key success factors (KSFs):* By analyzing how buyers' purchasing criteria and the basis of competition varies between segments, we can identify KSFs for individual segments. For example, in the bicycle industry, we can distinguish high-price enthusiasts' bikes sold through specialist bike stores and economy bikes sold through discount stores. KSFs in the enthusiast segment are technology, reputation, and dealer relations. In the economy segment, KSFs are low-cost manufacture and a supply contract with a leading retail chain.

STRATEGY CAPSULE 4.4
Segmenting the World Automobile Industry

1 Identify key segmentation variables and categories. Possible segmentation variables include price, size, engine power, body style, buyer type (retail versus fleet), and geographical market. We can reduce the number of segmentation variables—in particular, price, size, and engine power tend to be closely correlated. Other variables clearly define distinct markets (e.g., geographical regions and individual national markets).

2 Construct a segmentation matrix. The segmentation matrix in Figure 4.6 shows geographical regions (columns) and product types (rows). These product types combine multiple segmentation variables: price, size, design, and fuel type.

3 Analyze segment attractiveness. Applying five forces analysis to individual segments points to the attractiveness of the growth markets of Asia and Latin America (especially for luxury cars) as compared with the saturated, excess capacity-laden markets of Europe and North America. In these mature markets, the hybrid and electric car segments may be attractive due to fewer competitors and lack of excess capacity.

4 Identify KSFs in each segment. In sports cars, technology and design aesthetics are likely to be key differentiators. In luxury cars, quality and interior design are likely to be essential. In family compact and mini cars, low cost is the primary basis for competitive advantage.

5 Analyze attractions of broad versus narrow segment scope. Because of the potential to share technology, design, and components across models, all product segments are dominated by full-range mass-manufactures. In terms of geographical segments, only in the biggest markets (primarily China) have nationally-focused producers survived.

FIGURE 4.6 A segmentation matrix of the World Automobile Market

REGIONS

PRODUCTS

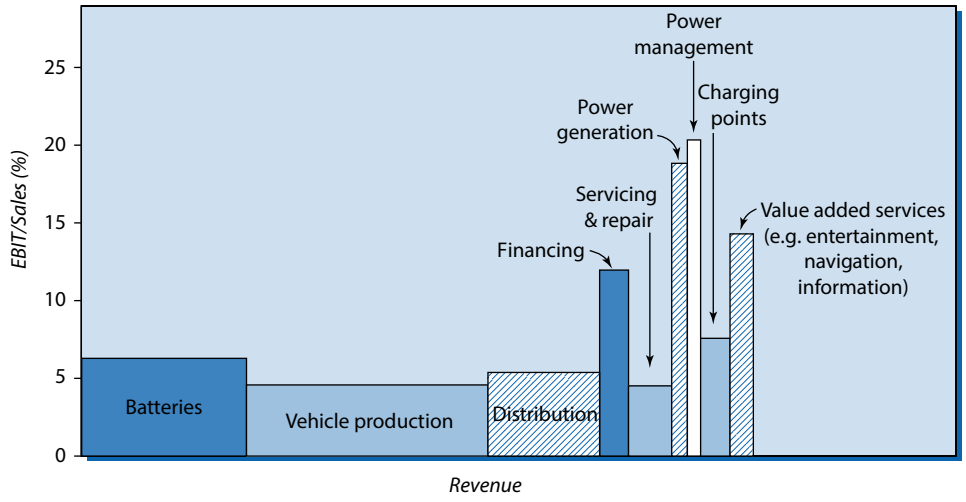
	North America	Western Europe	Eastern Europe	Asia	Latin America	Australia & NZ	Africa
Luxury cars							
Full-size cars							
Mid-size cars							
Small cars							
Station wagons							
Minivans							
Sports cars							
Sport utility							
Pickup trucks							
Hybrids/Plug-ins							

STRATEGY CAPSULE 4.5

Vertical Segmentation: Profitability along the Value Chain

Segmentation is usually horizontal: markets are disaggregated according to products, geography, and customer groups. We can also segment an industry vertically by identifying different value chain activities. Bain & Company's profit pool analysis maps profit differences between different vertical activities. Figure 4.7 shows the distribution of value in the electric vehicle sector. The area of each segment's rectangle corresponds to the total profit for that activity. Alternatively, stock market capitalization can be used to identify which groups of firms within a sector are most successful at appropriating value.

FIGURE 4.7 A profit pool mapping for electric vehicles



Source: Adapted from Bain & Company, "Is your electric vehicle strategy shock-proof?" (January 28, 2011).

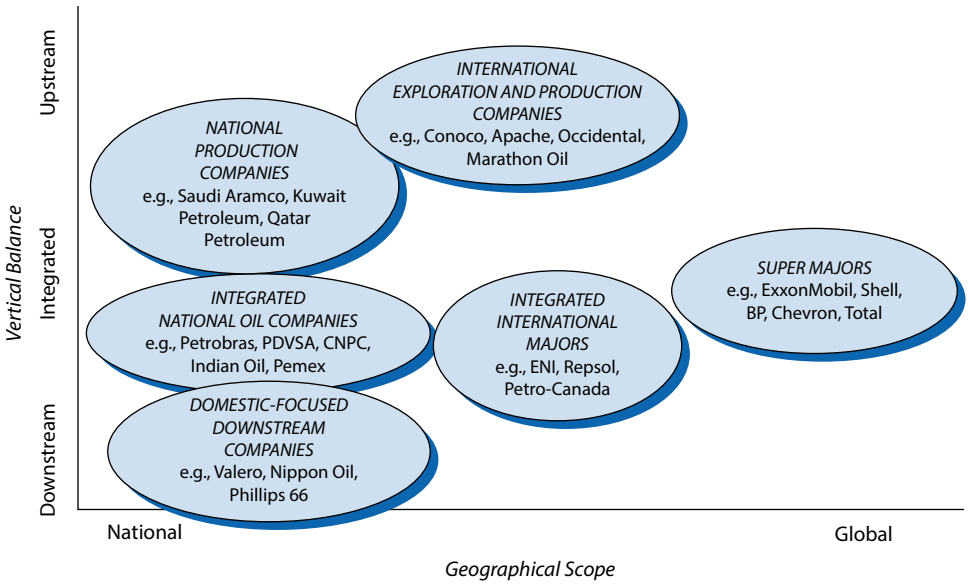
5 *Select segment scope:* Finally, a firm needs to decide whether it wishes to be a segment specialist or to compete across multiple segments. The advantages of a broad over a narrow segment focus depend on two main factors: similarity of KSFs and the presence of shared costs. If KSFs are different across segments, a firm will need to deploy distinct strategies which may require different capabilities for different segments. Harley-Davidson has found it difficult to expand from its core segments of heavyweight cruiser and touring bikes into other segments of the motorcycle industry. Conversely, in automobiles, segment specialists have found it difficult to survive competition from broad-scope, volume producers.

Strategic Groups

Strategic group analysis segments industries on the basis of the strategies of member firms. A strategic group is "the group of firms in an industry following the same or a similar strategy along the strategic dimensions."[55] These strategic dimensions might include product range, geographical breadth, choice of distribution channels, product quality, degree of vertical integration, choice of technology, and so on. By selecting the most important strategic dimensions and locating each firm in the industry along them, we can identify groups of companies that have adopted similar approaches to competing within the industry. In some industries strategic groups are readily observable, for example, airlines fall into two broad strategic groups: "legacy carriers" (such as American, JAL, and British Airways) and "low-cost carriers" (such as Ryanair, Easyjet, and Southwest). Other industries are more complex: Figure 4.8 shows strategic groups within the petroleum industry.

Most empirical research into strategic groups has investigated profitability differences between groups—on the basis that mobility barriers between strategic groups preserve profitability differentials.[56] However, there is limited evidence of sustained, systematic profitability differences between strategic groups.[57] This may reflect the fact that the members of a strategic group, although pursuing similar strategies, are not necessarily in competition with one another. For example, within the European airline industry, the low-cost carriers pursue similar strategies, but do not, for the most part, compete on the same routes. Hence, strategic group analysis is mainly useful for understanding strategic positioning and recognizing patterns of competition; it is less useful for analyzing interfirm profitability differences.[58]

FIGURE 4.8 Strategic groups within the world petroleum industry



Summary

The purpose of this chapter has been to go beyond the basic analysis of industry structure, competition, and profitability presented in Chapter 3 to consider the dynamics of competitive rivalry and the internal complexities of industries.

In terms of industry and competitive analysis, we have extended our strategy toolkit in several directions:

- We have recognized the limitations of conventional industry analysis. These include: the limited impact of industry upon firm profitability, the role of competition in transforming industries through a process of creative destruction, and the emergence of "winner-take-all" industries.
- We have extended our analysis of industry and competition to take account of complementary products—especially in industries where these complementarities give rise to network externalities, platform-based competition, and business ecosystems.
- We have become familiar with two approaches to analyzing competitive interactions between close rivals: (a) game theory which, despite its technical rigor, offers penetrating insights into competition, bargaining, and the design of winning strategies and (b) competitor analysis which provides a less formal approach to understanding competitors and predicting their behavior.
- We have examined the microstructure of industries and markets using segmentation analysis and strategic group analysis to understand industries at a more detailed level and to select advantageous strategic positions.

Self-Study Questions

1. Among the industries listed in Table 3.1 in Chapter 3, which would you consider to be the most "hypercompetitive" (i.e., ones in which competitive advantage and market leadership are frequently overturned)?
2. During 2010, the Apple iPhone replaced RIM's Blackberry as global market leader in smartphones. By 2017, the world market for smartphones was dominated by Apple and Google's Android; RIM and Microsoft each held market shares of less than 0.1%. Why did Google succeed in this market while Microsoft and RIM failed?
3. HP, Canon, Epson, and other manufacturers of inkjet printers make most of their profits from their ink cartridges. Why are cartridges more profitable than printers? Would the situation be different:
   a. if cartridges were manufactured by different firms from those which make printers?
   b. if cartridges were interchangeable between different printers?
   c. if patent and copyright restrictions did not prevent other firms from supplying ink cartridges that could be used in the leading brands of printer?

4. In November 2005, six of Paris's most luxurious hotels—including George V, Le Bristol, the Ritz, and Hotel de Crillon—were fined for colluding on room rates. Regular guests showed little concern—noting that, whatever the listed rack rate, it was always possible to negotiate substantial discounts. Using the prisoners' dilemma model, can you explain why the hotels were able to collude over their listed rates but not over discounts?
5. During 2017, Amazon made its first major foray into bricks-and-mortar retailing with the acquisition of Whole Foods Market, the up-market supermarket chain. The acquisition followed Amazon's entry into online food retailing with Amazon Fresh. The shares of Kroger, the biggest supermarket chain in the United States, fell by 11% on news of the deal. How might Kroger use the competitor analysis framework outlined in Figure 4.4 to predict Amazon's competitive strategy in the US grocery market?
6. How would you segment the restaurant market in your hometown? How would you advise someone thinking of starting a new restaurant which segments might be most attractive in terms of profit potential?
7. Consider either the North American or European markets for air travel. Can these markets be segmented? If so, by what variables and into which categories? Can an airline be financially viable by specializing in certain segments or must airlines seek to compete across all (or most) segments?

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5 Analyzing Resources and Capabilities

One gets paid only for strengths; one does not get paid for weaknesses. The question, therefore, is first: What are our specific strengths? And then: Are they the right strengths? Are they the strengths that fit the opportunities of tomorrow, or are they the strengths that fitted those of yesterday? Are we deploying our strengths where the opportunities no longer are, or perhaps never were? And finally, what additional strengths do we have to acquire?

— PETER DRUCKER[1]

You've gotta do what you do well.

—LUCINO NOTO, FORMER VICE CHAIRMAN, EXXONMOBIL

OUTLINE

- **Introduction and Objectives**
- **The Role of Resources and Capabilities in Strategy Formulation**
  - Basing Strategy on Resources and Capabilities
  - Resources and Capabilities as Sources of Profit
- **Identifying Resources and Capabilities**
  - Identifying Resources
  - Identifying Organizational Capabilities
- **Appraising Resources and Capabilities**
  - Appraising the Strategic Importance of Resources and Capabilities
  - Appraising the Relative Strength of a Firm's Resources and Capabilities
- **Developing Strategy Implications**
  - Exploiting Key Strengths
  - Managing Key Weaknesses
  - What about Superfluous Strengths?
  - The Industry Context of Resource Analysis
- **Summary**
- **Self-Study Questions**
- **Notes**

Introduction and Objectives

In Chapter 1, I noted that the focus of strategy thinking has been shifted from the external environment of the firm toward its internal environment. In this chapter, we will make the same transition. Looking within the firm, we will concentrate our attention on the resources and capabilities that firms possess. This provides the internal foundations for our analysis of competitive advantage (which complements Chapter 3's discussion of key success factors—the external foundations of competitive advantage).

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

- Appreciate the role of a firm's resources and capabilities as a basis for formulating strategy.
- Identify the resources and capabilities of a firm.
- Evaluate the potential for a firm's resources and capabilities to confer sustainable competitive advantage.
- Formulate strategies that exploit internal strengths while defending against internal weaknesses.

I begin by explaining why a company's resources and capabilities are so important to its strategy.

The Role of Resources and Capabilities in Strategy Formulation

Strategy is concerned with matching a firm's resources and capabilities to the opportunities that arise in the external environment. So far, our emphasis has been on identifying profit opportunities in the external environment of the firm. In this chapter, our emphasis shifts to the internal environment of the firm—specifically, with the resources and capabilities of the firm.

There is nothing new in the idea that strategy should exploit the resource and capability strengths of a person or an organization. The biblical tale of David and Goliath can be interpreted from this perspective (Strategy Capsule 5.1). However, in recent decades, two factors have focused increased attention on the role of resources and capabilities as the basis for strategy. First, as firms' industry environments have become more unstable, so internal resources and capabilities rather than external markets offer a more secure basis for strategy. Second, competitive advantage rather than industry attractiveness has emerged as the primary source of superior profitability. Let us consider each of these factors.

Basing Strategy on Resources and Capabilities

During the 1990s, ideas concerning the role of resources and capabilities in coalesced into what has become known as the *resource-based view of the firm*—a conceptualization of the firm as a collection of resources and capabilities that form the basis of competitive advantage and the foundation for strategy.[2]

STRATEGY CAPSULE 5.1
David and Goliath

In about 1000 BC, David, an Israeli shepherd boy, took up the challenge of meeting Goliath, the champion of the Philistines in single combat. Goliath's "height was six cubits and a span [three meters]. He had a bronze helmet on his head and wore a coat of scale armor of bronze weighing five thousand shekels [58 kg]; on his legs he wore bronze greaves, and a bronze javelin was slung on his back." King Saul of the Israelites offered David armor and a helmet, but David discarded them: "'I cannot go in these,' he said to Saul, 'because I am not used to them.' … Then he took his staff in his hand, chose five smooth stones from the stream, put them in the pouch of his shepherd's bag and, with his sling in his hand, approached the Philistine… As the Philistine moved closer to attack him, David ran quickly toward the battle line to meet him. Reaching into his bag and taking out a stone, he slung it and struck the Philistine on the forehead. The stone sank into his forehead, and he fell face-down on the ground."

David's victory reflects a strategy based upon exploiting his three core strengths: courage and self-confidence, speed and mobility, and expertise with a sling. This strategy allowed him to negate Goliath's core strengths: size, advanced offensive and defensive equipment, and combat experience. Had he followed King Saul's advice and adopted a conventional strategy for armed single combat, the outcome would almost certainly have been very different.

Source: *Holy Bible* (New International Version): 1 Samuel 17: 39–49.

To understand why the resource-based view has had a major impact on strategy thinking, let us go back to the starting point for strategy formulation: the underlying purpose of the firm that can be answered by posing the question: "What is our business?" Conventionally, this question has been answered in terms of the market being served: "Who are our customers?" and "Which of their needs are we seeking to serve?" However, in a world where customer preferences are volatile and the identity of customers and the technologies for serving them are changing, a market-focused strategy may not provide the stability and constancy of direction needed to guide strategy over the long term. When the external environment is in a state of flux, the firm itself, in terms of the bundle of resources and capabilities it possesses, may be a more stable basis on which to define its identity.

This emphasis on resources and capabilities as the foundation of firm strategy was popularized by C. K. Prahalad and Gary Hamel in their 1990 landmark paper "The Core Competence of the Corporation."[3] The potential for capabilities to be the "roots of competitiveness," the sources of new products, and the foundation for strategy is exemplified by Honda and 3M, among other companies (Strategy Capsule 5.2).

The greater the rate of change in a firm's external environment, the more likely it is that internal resources and capabilities, rather than external market focus, will provide a secure foundation for long-term strategy. In fast-moving, technology-based industries, basing strategy upon capabilities can help firms to outlive the life cycles of their initial products. Microsoft's initial success was the result of its MS-DOS operating system for the IBM PC followed by Windows. However, its software development, marketing, and partnering capabilities have allowed Microsoft to expand from operating systems in to applications software (e.g., Office), Internet services (e.g., Xbox Live), and cloud-based computing services. W. L. Gore and Associates' distinctive capability is developing

STRATEGY CAPSULE 5.2

Basing Strategy upon Resources and Capabilities: Honda and 3M

Honda Motor Company has never defined itself either as a motorcycle or an automobile company. As Figure 5.1 shows, since its founding in 1948, its development of expertise in designing and manufacturing engines (some of it honed on the race track) has taken it from motorcycles to a wide range of products that embody internal combustion engines.

3M Corporation (originally Minnesota Mining and Manufacturing) has expanded from sandpaper into over 55,000 industrial, office, medical, and household products. Is it a conglomerate?

Certainly not, claims 3M. Its vast product range rests on a cluster of technological capabilities that it has systematically developed for more than a century (Figure 5.2).

FIGURE 5.1 Key initiatives at Honda Motor Company

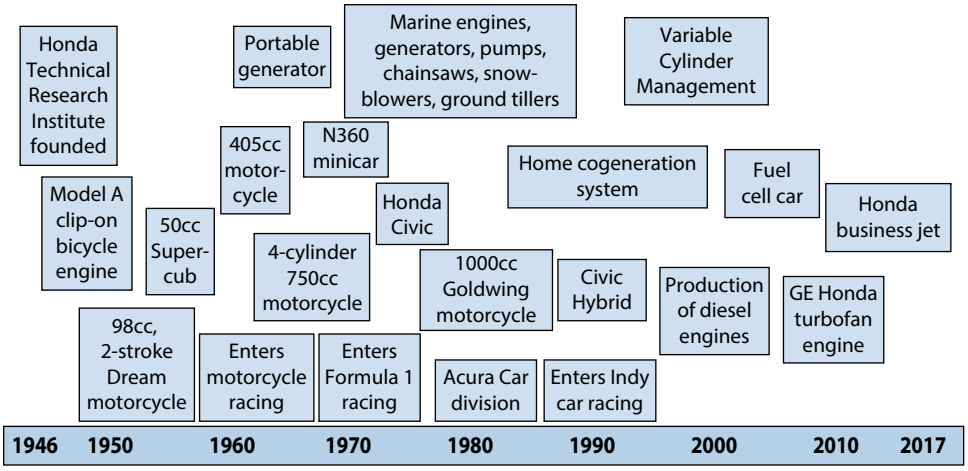
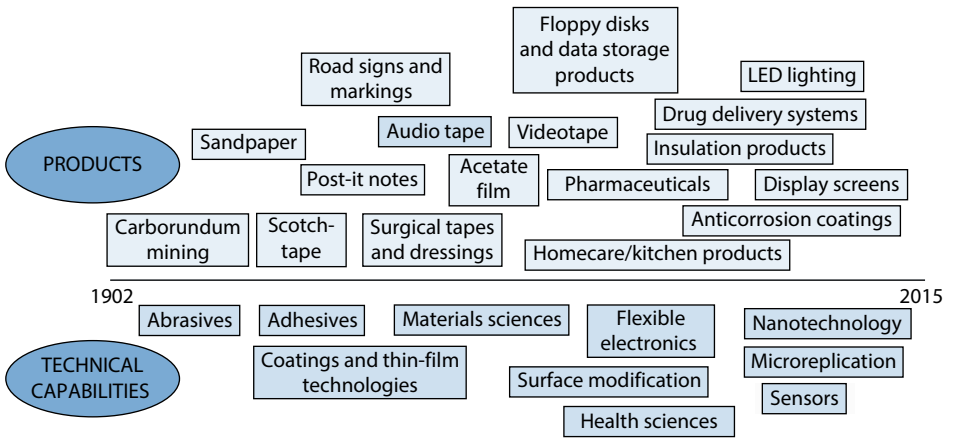


FIGURE 5.2 The evolution of products and technical capabilities at 3M



product applications for the polymer, PTFE. This has taken W. L. Gore from rainwear fabric (Gore-Tex) to dental floss, guitar strings, cardiac implants, fiber optic cables, and a host of other products.

Conversely, those companies that attempted to maintain their market focus in the face of radical technological change have often experienced huge difficulties in building the new capabilities needed to serve their customers.

The saga of Eastman Kodak is a classic example. Its dominance of the world market for photographic products was threatened by digital imaging. Kodak invested billions of dollars developing digital technologies and digital imaging products. Yet, in January 2012, Kodak was forced into bankruptcy. Might Kodak have been better off allowing its photographic business to decline while developing applications of its chemical-based capabilities to plastics, industrial coatings pharmaceuticals, and health care?[4]

Typewriter and office equipment makers Olivetti and Smith Corona offer similar cautionary tales. Despite their investments in microelectronics, both failed as suppliers of personal computers. Might Olivetti and Smith Corona have been better advised to deploy their existing electrical and precision engineering know-how in other products?[5] The inability of established firms to adjust to disruptive technological change within their own industries has been examined by Harvard's Clay Christensen.[6]

Resources and Capabilities as Sources of Profit

In Chapter 1, we identified two major sources of superior profitability: industry attractiveness and competitive advantage. Of these, competitive advantage is the more important. As we observed in the previous chapter (Figure 4.1), industry factors account for only a small proportion of interfirm profit differentials. Hence, establishing competitive advantage through the development and deployment of resources and capabilities, rather than seeking shelter from the storm of competition, has become the primary goal of strategy.

The distinction between industry attractiveness and competitive advantage (based on superior resources) as sources of a firm's profitability corresponds to economists' distinction between two types of profit (or *rent*). The profits arising from market power are referred to as *monopoly rents*; those arising from superior resources are *Ricardian rents*, after the 19th century British economist David Ricardo. Ricardo showed that, in a competitive wheat market, when land at the margin of cultivation earned a negligible return, fertile land would yield high returns. Ricardian rent is the return earned by any superior resource or capability whose supply is limited.[7] Most of the $940 million of royalties earned in 2017 by Dolby Laboratories from licensing its sound reduction technologies comprise Ricardian rents, as does most of the $125 million earned by Floyd Mayweather for his fight with Conor McGregor in August 2017.

Distinguishing between profit arising from market power and profit arising from resource superiority is less clear in practice than in principle. A closer look at Porter's five-forces framework suggests that industry attractiveness often derives from the ownership of strategic resources. Barriers to entry, for example, are typically the result of patents, brands, know-how, or distribution channels, learning, or some other resource possessed by incumbent firms. Monopoly is usually based on the ownership of a key resource such as a technical standard or government license.

The resource-based approach has profound implications for companies' strategy formulation. When the primary concern of strategy was industry selection and positioning, companies tended to adopt similar strategies. The resource-based view, by

STRATEGY CAPSULE 5.3

Capability-Based Strategy: Lyor Cohen on Mariah Carey

The year 2001 was disastrous for Mariah Carey. Her first movie, *Glitter*, was a flop, the soundtrack was Carey's worst selling album in years, she was dropped by EMI, and suffered a nervous breakdown.

Lyor Cohen, the workaholic chief executive of Island Def Jam records was quick to spot an opportunity: "I cold-called her on the day of her release from EMI and I said, I think you are an unbelievable artist and you should hold your head up high. What I said stuck on her and she ended up signing with us."

His strategic analysis of Carey's situation was concise: "I said to her, what's your competitive advantage? A great voice, of course. And what else? You write every one of your songs—you're a great writer. So why did you stray from your competitive advantage? If you have this magnificent voice and you write such compelling songs, why are you dressing like that, why are you using all these collaborations [with other artists and other songwriters]? Why? It's like driving a Ferrari in first—you won't see what that Ferrari will do until you get into sixth gear."

Cohen signed Carey in May 2002. Under Universal Music's Island Def Jam Records, Carey returned to her versatile voice, song-writing talents, and ballad style. Her next album, *The Emancipation of Mimi*, was the biggest-selling album of 2005, and in 2006 she won a Grammy award.

Sources: "Rap's Unlikely Mogul," *Financial Times* (August 5, 2002). "A Superstar Returns with Another New Self," *New York Times* (April 12, 2005).

contrast, recognizes that each company possesses a unique collection of resources and capabilities; the key to profitability is not doing the same as other firms but exploiting differences. Establishing competitive advantage involves formulating and implementing a strategy that exploits a firm's unique strengths.

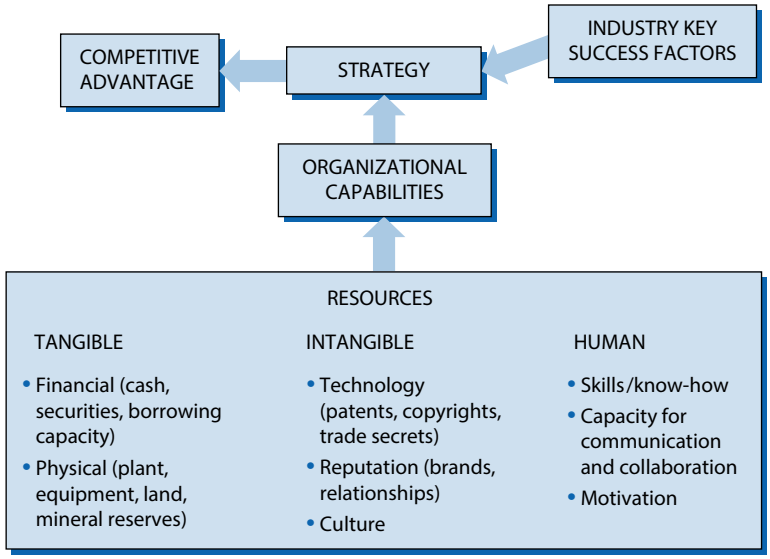
The remainder of this chapter outlines a resource-based approach to strategy formulation. Fundamental to this approach is a thorough and profound understanding of the resources and capabilities of a firm. This enables the firm to adopt a strategy that exploits its resource and capability strengths, while protecting against its weaknesses.

The same principles can be applied to guiding our own careers. A sound career strategy is one that, like David against Goliath, leverages one's strengths while minimizing vulnerability to one's weaknesses—see Strategy Capsule 5.3 for an example. For both individuals and organizations the starting point is to identify the available resources and capabilities.

Identifying Resources and Capabilities

Let us begin by distinguishing between the **resources** and the **capabilities** of the firm. Resources are the productive assets owned by the firm; capabilities are what the firm can do. On their own, individual resources do not confer competitive advantage; they must work together to create organizational capability. Organizational capability, when applied through an appropriate strategy, creates competitive advantage. Figure 5.3 shows the relationships between resources, capabilities, and competitive advantage.

FIGURE 5.3 The links between resources, capabilities, and competitive advantage



Identifying Resources

Drawing up an inventory of a firm's resources can be surprisingly difficult. No such document exists within the accounting or management information systems of most organizations. The balance sheet provides only a partial view of a firm's resources—it comprises mainly financial and physical resources. Our broader view of a firm's resources encompasses three main types of resource: tangible, intangible, and human.

Tangible Resources Tangible resources are the easiest to identify and value: financial resources and physical assets are valued in the firm's balance sheet. Yet, accounting conventions—especially historic cost valuation—typically result in tangible resources being misvalued. The Walt Disney Company's annual accounts for 2016 valued its entire movie library—based on production cost less amortization—at a mere $1.7 billion and its total land assets (including its 28,000 acres in Florida) at a paltry $1.2 billion.[8]

However, the primary goal of resource analysis is not to value a company's tangible resources but to understand their potential for generating profit. This requires not just valuation but information on their composition and characteristics. With that information, we can explore two main routes to create additional value from a firm's tangible resources:

- What opportunities exist for economizing on their use? Can we use fewer resources to support the same level of business or use the existing resources to support a larger volume of business?
- Can existing assets be redeployed more profitably?

Strategy Capsule 5.4 discusses how Michael Eisner's turnaround of Walt Disney during the mid-1980s used both these approaches.

STRATEGY CAPSULE 5.4
Resource Utilization: Revival at Walt Disney

In 1984, Michael Eisner became CEO of the Walt Disney Company. Between 1984 and 1988, Disney's net income increased from $98 million to $570 million, and its stock market valuation from $1.8 billion to $10.3 billion.

The key to the Disney turnaround was the mobilization of Disney's considerable resource base. With the acquisition of Arvida, a real estate development company, Disney's land holdings in Florida were developed into hotels, convention facilities, residential housing, and a new theme park, the Disney-MGM Studio Tour.

To exploit its huge film library, Disney began selling the Disney classics on videocassette and licensing packages of movies to TV networks. To put Disney's underutilized movie studios to work, Eisner doubled the number of movies in production and made Disney a major producer of TV programs.

Supporting the exploitation of these tangible resources was Disney's critically important intangible resource: the enduring affection of millions of people across generations and throughout the world for Disney and its characters. As a result, Disney's new management was able to boost theme park admission charges, launch a chain of Disney Stores to push sales of Disney merchandise, and replicate Disney theme parks in Europe and Asia.

Intangible Resources For most companies, intangible resources are more valuable than tangible resources. Yet, in companies' balance sheets, intangible resources tend to be either undervalued or omitted altogether. The exclusion or undervaluation of intangible resources is a major reason for the large and growing divergence between companies' balance-sheet valuations (or book values) and their stock-market valuations (Table 5.1). Among the most important of these undervalued or unvalued intangible resources are brands. Table 5.2 values the Walt Disney brand at $52 billion; yet in Disney's balance sheet, its trademarks are valued at $1.2 billion.

Trademarks, together with patents, copyrights, and trade secrets, form the intellectual property of the firm. The growing importance of intellectual property as a strategic resource is evident from the legal efforts companies make to protect their patents, copyrights, and trademarks from infringement.

A firm's relationships can also be considered resources. They provide a firm with access to information, know-how, inputs, and a wide range of other resources that lie beyond the firm's boundaries. Being embedded within an interfirm network also conveys legitimacy upon a firm, which can enhance its survival capacity. These interfirm relationships have been referred to as "network resources."[9]

Finally, organizational culture may also be considered an intangible resource. Organizational culture is "an amalgam of shared beliefs, values, assumptions, significant meanings, myths, rituals, and symbols that are held to be distinctive."[10] Although difficult to identify and describe, it is clear that organizational culture is a critically important resource in most firms: it exerts a strong influence on the capabilities an organization develops and the effectiveness with which they are exercised.[11]

Human Resources Human resources comprise the skills and productive effort offered by an organization's employees. Human resources do not appear on the firm's balance sheet—the firm does not own its employees; it purchases their services under

TABLE 5.1 Large companies with the highest market-to-book ratios, September 14, 2017

Company	Nationality	Market capitalization ($ bn.)	Market-to-book ratio
Lockheed Martin Corp.	US	88	40.8
Home Depot, Inc.	US	189	27.8
Netflix, Inc.	US	80	26.0
Amazon.com	US	472	22.8
MasterCard, Inc.	US	152	22.8
AbbVie, Inc.	US	140	22.0
Glaxo Smith Kline	UK	96	14.9
NVIDIA Corp.	US	102	14.5
PepsiCo, Inc.	US	164	13.4
Novo Nordisk A/S	Denmark	95	13.1
Celgene Corp.	US	111	12.8
Naspers Ltd.	S. Africa	100	12.4
Starbucks Inc.	US	77	12.2
Tencent Holdings	China	408	12.0
Accenture plc	UK	88	10.5
3M Company	US	125	10.5
Alibaba	China	449	10.4
Roche	Switzerland	175	9.1
Coca-Cola Co.	US	199	8.9
Altria Inc.	US	120	8.8

Note:
The table shows companies with market capitalizations exceeding $75 billion with the highest ratios of market capitalization to balance-sheet net asset value.
Sources: Merrill Lynch, Financial Times.

employment contacts. However, the stability of employment relationships allows us to consider human resources as part of the resources of the firm. In the United States, the average length of time an employee stays with an employer is 4.2 years, in Europe it is longer—8.6 years in Great Britain, 11.4 in France and 11.0 in Germany; in Japan it is 12.1 years.[12]

Pronouncements that "our people are our greatest asset," are more than a platitude: most companies devote considerable effort to analyzing their human resources—in hiring new employees, appraising their performance, and planning their development. Many organizations have established assessment centers to measure the skills and attributes of employees and prospective employees. *Competency*

TABLE 5.2 The world's 20 most valuable brands, 2017

Rank	Brand	Value, 2017 ($ bn)	Change from 2016
1	Google	246	+7.1
2	Apple	235	+2.7
3	Microsoft	143	+17.6
4	Amazon	139	+40.7
5	Facebook	130	+26.6
6	AT&T	115	+7.2
7	Visa	111	+10.1
8	Tencent	108	+27.5
9	IBM	102	+18.4
10	McDonald's	98	+10.2
11	Verizon	89	−4.2
12	Marlboro	88	+4
13	Coca-Cola	78	−2.7
14	Alibaba	59	+19.9
15	Wells Fargo	58	−0.2
16	UPS	58	+17.0
17	China Mobile	57	+1.1
18	Disney	52	+5.7
19	General Electric	50	−7.2
20	Mastercard	50	+8.2

Note:
Brand values are calculated as the net present value of forecasted future earnings generated by the brand.
Source: BrandZ ranking of the world's top brands, compiled by Kantar Millward Brown, *Financial Times* (June 29, 2017).

modeling involves identifying the set of skills, content knowledge, attitudes, and values associated with superior performers within a particular job category, then assessing each employee against that profile.[13] The finding that psychological and social aptitudes are critical determinants of superior work performance has fueled interest in *emotional* and *social intelligence*[14] Hence the growing trend to "hire for attitude; train for skills."

Identifying Organizational Capabilities

Resources are not productive on their own. A brain surgeon is close to useless without a radiologist, anesthetist, nurses, surgical instruments, imaging equipment, and a host of other resources. To perform a task, resources must work together.

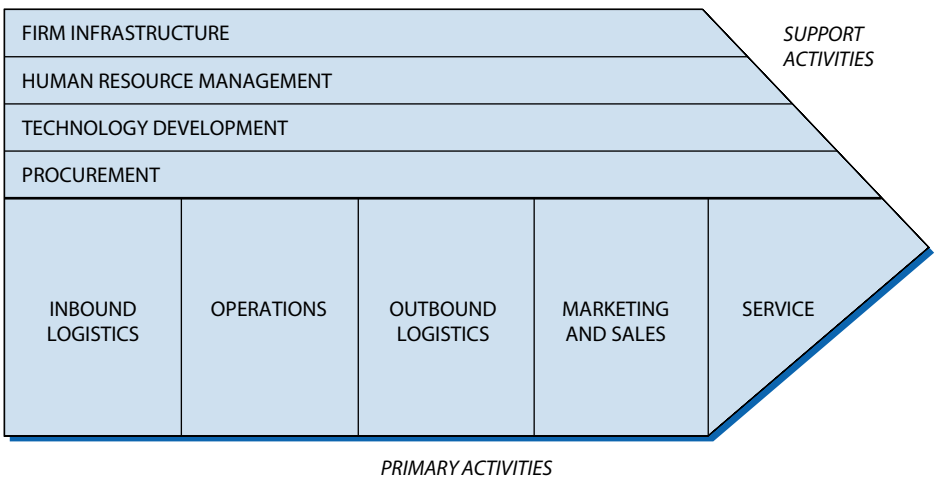
An organizational capability is a "firm's capacity to deploy resources for a desired end result."[15] Just as an individual may be capable of playing the violin, ice-skating, and speaking Mandarin, so an organization may possess the capabilities needed to manufacture widgets, distribute them globally, and hedge the resulting foreign-exchange exposure.

The idea that organizations possess *distinctive competences* is long established,[16] but it was not until Prahalad and Hamel introduced the term *core competences* to describe those capabilities fundamental to a firm's strategy and performance that organizational capability became a central concept in strategy analysis.[17] The resulting flood of literature has created considerable confusion over terminology: I shall use the terms *capability* and *competence* interchangeably.[18]

Classifying Capabilities Before deciding which organizational capabilities are "distinctive" or "core," the firms need to take a systematic survey of its capabilities. For this we need some basis for classifying and disaggregating the firm's activities. Two approaches are commonly used:

- A *functional analysis* identifies organizational capabilities within each of the firm's functional areas: A firm's functions would typically include operations, purchasing, logistics/supply chain management, design, engineering, new product development, marketing, sales and distribution, customer service, finance, human resource management, legal, information systems, government relations, communication and public relations, and HSE (health, safety, and environment).
- A *value chain analysis* identifies a sequential chain of the main activities that the firm undertakes. Michael Porter's generic **value chain** distinguishes between primary activities (those involved with the transformation of inputs and interface with the customer) and support activities (Figure 5.4).[19] Porter's broadly defined value chain activities can be disaggregated to provide a more detailed identification of the firm's activities (and the capabilities that correspond to each activity). Thus, marketing might include market research, test marketing, advertising, promotion, pricing, and dealer relations.

FIGURE 5.4 Porter's value chain



The problem of both approaches is that, despite providing a comprehensive view of an organization's capabilities, they may fail to identify those idiosyncratic capabilities that are truly distinctive and critical to an organization's competitive advantage. We observed earlier that Apple's remarkable ability to create products of unrivaled ease of use and customer appeal results from its combining technical capabilities with design aesthetics and penetrating market insight. This capability is not readily apparent from either a functional or a value chain analysis. To look beyond generic capabilities to uncover those that are unique requires insight and judgment. A careful examination of an organization's history can be revealing. In reviewing an organization's successes and failures over time, do patterns emerge and what do these patterns imply about the capabilities that underlie them?

The Hierarchy of Capabilities Organizational capability involves coordinated behavior among organizational members. This is what distinguishes an organizational capability from an individual skill. Routines and processes play a critical role in integrating individual actions to create organizational capabilities (see Strategy Capsule 5.5). Integration is also important among organizational capabilities. Hence, the capabilities of an organization may be viewed as a hierarchical system in which lower-level capabilities are integrated to form higher-level capabilities. For oil and gas companies, a key requirement for success is the ability to find oil and gas. Figure 5.5 shows that exploration capability comprises a number of component capabilities, which, in turn, can be further disaggregated into even more specialized capabilities.

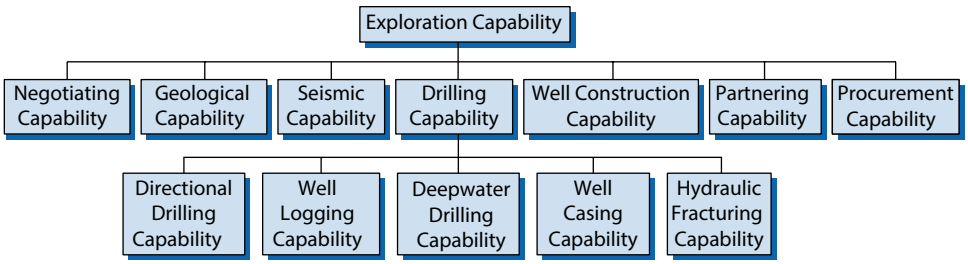
For most companies, it is these higher-level capabilities that constitute the "core competences" described by Prahalad and Hamel. Thus, Toyota's "lean production" capability integrates multiple capabilities that relate to just-in-time scheduling, total quality management, statistical process control, flexible manufacturing, and continuous improvement.

These higher-level capabilities tend to be cross-functional. For example, new product development capability is an upper-level capability that integrates technological development, marketing, design, product engineering, process engineering, and finance.

Some writers have proposed that at the highest level of the capability hierarchy are **dynamic capabilities**—capabilities that allow the modification and adaptation of lower-level operational and functional capabilities.[20] We shall look more closely at dynamic capabilities in Chapter 8.

This notion of an organization's capabilities forming a hierarchy of integration emphasizes their complementarity. For example, Walmart's "everyday low prices" strategy rests upon four mutually reinforcing capabilities: aggressive vendor management, point-of-sale data analysis, superior logistics, and rigorous working capital management.[21]

FIGURE 5.5 Organization capabilities as a hierarchy of integration: The case of oil and gas exploration



STRATEGY CAPSULE 5.5

Routines and Processes: The Foundations of Organizational Capability

Resources are combined to create organizational capabilities; however, an organization's capabilities are not simply an outcome of the resources upon which they are based.

In sport, resource-rich teams are often outplayed by teams that create strong capabilities from modest resources. In European soccer, star-studded teams (e.g., Chelsea, Real Madrid, and Manchester City) are frequently humbled by those built from limited means (e.g., Borussia Dortmund, Porto, and Atletico Madrid). In business too, we see upstarts with modest resources outcompeting established giants: Dyson against Electrolux in domestic appliances, Hyundai against Toyota in automobiles, Dollar Shave Club against Gillette in shaving products, ARM against Intel in microprocessors. Clearly, there is more to organizational capability than just resources.

The academic literature views organizational capability as based upon *organizational routines*: "regular and predictable behavioral patterns [comprising] repetitive patterns of activity"[a] that determine what firms do, who they are, and how they develop. Like individual skills, organizational routines develop through learning by doing—and, if not used, they wither. Hence, there is a trade-off between efficiency and flexibility. A limited repertoire of routines can be performed highly efficiently with near-perfect coordination. The same organization may find it difficult to respond to novel situations.

Organizational capabilities do not simply emerge: they must be created through management action: hence in this book we shall focus on processes rather than routines. Processes are coordinated sequences of actions through which specific productive tasks are performed. Not only is the term *process* well understood by managers, the tools for designing, mapping, and improving business processes are well developed.[b]

However, creating and developing organizational capabilities is not only about putting in place processes. Processes need to be located within appropriately designed organizational units, the individuals involved need to be motivated, and the resources, processes, structures, and management systems need to be aligned with one another.[c] In the next chapter, we shall address in greater detail the challenge that companies face in developing organizational capabilities.

Notes:

[a]R. R. Nelson and S. G. Winter, *An Evolutionary Theory of Economic Change* (Cambridge, MA: Belknap, 1982).

[b]T. W. Malone, K. Crowston, J. Lee, and B. Pentland, "Tools for Inventing Organizations: Toward a Handbook of Organizational Processes," *Management Science* 45 (1999): 425–443.

[c]T. Felin, N. J. Foss, K. H. Heimeriks, and T. L. Madsen, "Microfoundations of Routines and Capabilities: Individuals, Processes, and Structure," *Journal of Management Studies*, 49 (2012): 1351–1374.

Appraising Resources and Capabilities

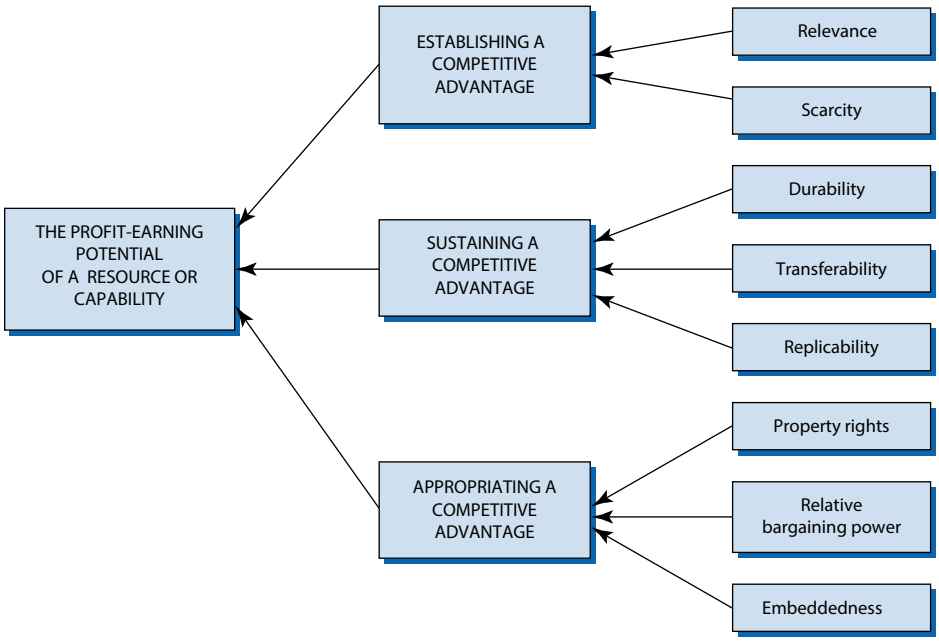
Having identified the principle resources and capabilities of an organization, how do we appraise their potential for value creation? There are two fundamental issues: first, the *strategic importance* of the different resources and capabilities of the firm and, second, their *strength* relative to those of competitors'.

Appraising the Strategic Importance of Resources and Capabilities

Strategically important resources and capabilities are those with the potential to generate substantial streams of profit for the firm that owns them. This depends on three

factors: their potential to establish a competitive advantage, to sustain that competitive advantage, and to appropriate the returns from the competitive advantage. Each of these is determined by a number of resource characteristics. Figure 5.6 summarizes the key relationships. The criteria I identify for appraising the strategic importance of resources and capabilities are similar to those included in Barney's VRIO framework (see Strategic Capsule 5.6).

FIGURE 5.6 Appraising the strategic importance of resources and capabilities



Establishing Competitive Advantage For a resource or capability to establish a competitive advantage, two conditions must be present:

- *Relevance:* A resource or capability must be relevant to the key success factors in the market—in particular, it must be capable of creating value for customers. British coal mines produced some wonderful brass bands, but these musical capabilities did little to assist the mines in meeting competition from cheap imported coal and North Sea gas. As retail banking shifts toward automated teller machines and online transactions, so retail branches have become a less relevant resource.
- *Scarcity:* If a resource or capability is widely available within the industry, it may be essential but it will not provide a basis for competitive advantage. In oil and gas exploration, technologies such as directional drilling and 3-D seismic analysis are widely available—hence they are "needed to play" but they are not "sufficient to win."

Sustaining Competitive Advantage Once established, competitive advantage tends to erode; three characteristics of resources and capabilities determine the sustainability of the competitive advantage they offer:

STRATEGY CAPSULE 5.6

Appraising Resources and Capabilities: Grant versus Barney

The approach outlined in this chapter for appraising the strategic importance of resources is an alternative to the more widely used VRIO framework developed by Jay Barney. Let me compare the two approaches so that their similarities and differences are apparent.

GRANT: Strategic Importance Framework	BARNEY: VRIO Framework	Comparison
Establishing competitive advantage		
• Relevance	• Valuable	Similar: both are concerned with creating value for customers
• Scarcity	• Rare	Identical: scarcity = rareness
Sustaining competitive advantage		
• Durability	—	No equivalent criterion in VRIO
• Transferability	• Imitable	Similar: imitating a resource or capability requires either buying it (i.e., transferring it) or replicating it
• Replicability		
Appropriating competitive advantage		
• Appropriability	• Organization	Similar: being organized to capture value implies the ability to appropriate value

Sources: The VRIO Framework is found in J. B. Barney, "Looking Inside for Competitive Advantage," *Academy of Management Executive* 9 (1995): 49–61 and J. B. Barney and W. Hesterly, *Strategic Management and Competitive Advantage* 5th edn (Pearson, 2014).

- *Durability:* The more durable a resource, the greater its ability to support a competitive advantage over the long term. For most resources, including capital equipment and proprietary technology, the quickening pace of technological innovation is shortening their life spans. Brands, on the other hand, can be remarkably resilient. Heinz sauces, Kellogg's cereals, Guinness stout, Burberry raincoats, and Coca-Cola have been market leaders for over a century.
- *Transferability:* Competitive advantage is undermined by competitive imitation. If resources and capabilities are transferable between firms—that is, if they can be bought and sold—then any competitive advantage that is based upon them will be eroded. Most resources—including most human resources—are easily acquired. Other resources and most capabilities are not easily transferred. Some resources are immobile. A competitive advantage of the Laphroaig distillery and its 10-year-old, single malt whiskey is its spring on the Isle of Islay, which supplies water flavored by peat and sea spray. Capabilities, because they combine multiple resources and are embedded in processes, are also difficult to move from one firm to another. Another

STRATEGY CAPSULE 5.7

Appropriating Returns from Superior Capabilities: Employees versus Owners

Investment banking provides a fascinating arena to observe the struggle between employees and owners to appropriate the returns to organizational capability. Goldman Sachs possesses outstanding capabilities in merger and acquisition services, underwriting and proprietary trading. These capabilities combine employee skills, IT infrastructure, corporate reputation, and the company's systems and culture. All but the first of these are owned by the company. However, the division of returns between employees and owners suggests that employees have the upper hand in appropriating rents. In 2016, total employee compensation was $11.7 billion—an average of $338,576 per employee; net after-tax profit was $7.1 billion out of which shareholders received $1.1 billion in dividends.

A similar situation exists in professional sport: star players are able to exploit the full value of their contribution to their teams' performance. The $38.4 million salary the Los Angeles Lakers will pay LeBron James for the 2018/19 NBA season seems likely to fully exploit his value to the Lakers.

So too CEOs: Expedia's CEO, Dara Khosrowshahi, was paid $94.6 million in 2014—an exceptional level of pay when compared to Expedia's net profit of $425 million or to the average pay of Expedia's 16,291 other US employees.

The more organizational performance can be identified with the expertise of an individual employee, the more mobile is that employee, and the more likely that the employee's skills can be deployed with another firm, then the stronger is the bargaining position of that employee.

Hence, the emphasis that many investment banks, advertising agencies, and other professional service firms give to team-based rather than individual skills. "We believe our strength lies in… our unique team-based approach," declares audit firm Grant Thornton. However, employees can reassert their bargaining power through emphasizing team mobility: in August 2018, a team of European equity analysts moved from Societe Generale to Barclays plc.

barrier to transferability is limited information regarding resource quality. Sellers of resources are better informed about the performance characteristics of resources than buyers—this is certainly true of human resources. This creates a problem of *adverse selection* for buyers.[22] Finally, resources are complementary: they are less productive when detached from their original home. Hence, when Chinese companies acquire European brands—Aquascutum by YGM, Cerruti by Trinity Ltd., MG (the British sports car marque) by SAIC, and Ferretti by Weichai Group—there is a risk that brand equity is eroded.

- *Replicability:* If a firm cannot buy a resource or capability, it must build it. Technologies that are not protected by patents can be imitated easily by competitors. Capabilities based on complex networks of interacting organizational routines are less easy to copy. Federal Express's national, next-day delivery service and Singapore Airlines' superior inflight services are complex capabilities based on carefully-honed processes, well-developed HR practices, and unique corporate cultures. Even when resources and capabilities can be copied, imitators are typically at a disadvantage to initiators.[23]
- *Appropriating the returns to competitive advantage:* Who gains the returns generated by superior resources and capabilities? Typically the owner of that

resource or capability. But ownership may not be clear-cut. Are organizational capabilities owned by the employees who provide skills and effort or by the firm which provides the processes and culture? In human-capital-intensive firms, there is an ongoing struggle between employees and shareholders as to the division of the rents arising from superior capabilities. As Strategy Capsule 5.7 describes, bargaining between star employees and owners over the sharing of spoils is a characteristic feature of both investment banking and professional sports. This struggle is reminiscent of Karl Marx's description of the conflict between labor and capital to capture surplus value. The prevalence of partnerships (rather than shareholder-owned companies) in law, accounting, and consulting firms is one solution to the battle for rent appropriation: the star workers are the owners.

Appraising the Relative Strength of a Firm's Resources and Capabilities

Having established which resources and capabilities are strategically most important, we need to assess how a firm measures up relative to its competitors. Appraising a company's resources and capabilities relative to those of its competitors' is difficult. Organizations frequently fall victim to past glories, hopes for the future, and their own wishful thinking. Executives within the same company often have quite different perceptions of their own company's strengths and weaknesses.[24] Executives may also mistake luck for capability, creating overconfidence in their company's capabilities.[25] Royal Bank of Scotland's successful acquisition of NatWest Bank was followed by an acquisition binge culminating in the disastrous takeover of ABN Amro in 2007.[26]

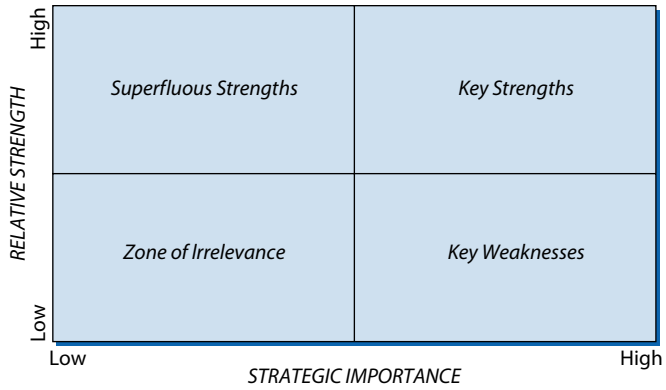
Benchmarking—the process of comparing one's processes and performance to those of other companies—offers an objective and quantitative way for a firm to assess its resources and capabilities relative to its competitors.[27] The results can be salutary: Xerox Corporation's pioneering use of benchmarking during the 1980s revealed the massive superiority of its Japanese competitors in cost, quality, and new product development, providing the impetus for company-wide transformation.[28] The case for benchmarking has been reinforced by recent evidence showing that the substantial productivity differences between firms within the same industry are primarily the result of differences in management practices.[29]

Benchmarking is most useful for assessing functional capabilities. To assess idiosyncratic capabilities—Johnson & Johnson's ability to infuse ethics into its business practices; Lego's ability to inspire children across countries, cultures and generations; Nokia's capacity for corporate reincarnation—benchmarking needs to be supplemented by more reflective approaches to recognizing strengths and weaknesses. As I discussed earlier ("Identifying Organizational Capabilities"), in-depth probing of a company' history and traits can be highly instructive.

Developing Strategy Implications

Our analysis so far—identifying resources and capabilities and appraising them in terms of strategic importance and relative strength—can be summarized diagrammatically (Figure 5.7).

FIGURE 5.7 The framework for appraising resources and capabilities



Our focus is the two right-hand quadrants of Figure 5.7. How do we exploit our key strengths most effectively? How can we address our key weaknesses in terms of both reducing our vulnerability to them and correcting them? Finally, what about our "superfluous strengths": are these really inconsequential or are there ways in which we can deploy them to greater effect? Let me offer a few suggestions.

Exploiting Key Strengths

The foremost task is to ensure that the firm's critical strengths are deployed to the greatest effect:

- If some of Walt Disney's key strengths are the Disney brand, the worldwide affection that children and their parents have for Disney characters, and the company's capabilities in the design and operation of theme parks, the implication is that Disney should not limit its theme park activities to six locations (Anaheim, Orlando, Paris, Tokyo, Hong Kong, and Shanghai); it should open theme parks in other locations which have the market potential for year-round attendance.
- If a core competence of quality newspapers such as the *New York Times*, the *Guardian* (United Kingdom), and *Le Monde* (France) is their ability to interpret events and identify emerging trends, can this capability be used as a basis for creating new revenue sources such as specialized business and financial intelligence, individually customized news feeds, and political consulting services?
- If a company has few key strengths, this may suggest adopting a niche strategy. Harley-Davidson's key strength is its brand identity; its strategy has been to focus upon traditionally styled, technologically backward, cruiser motorcycles. British semiconductor company ARM is a technology leader in RISC architecture; its strategy is highly focused: it licenses its microprocessor designs for mobile devices worldwide.[30]

Managing Key Weaknesses

What does a company do about its key weaknesses? It is tempting to counter weaknesses with plans to upgrade existing resources and capabilities. However, converting weakness into strength is likely to be a long-term task for most companies. In the short

to medium term, a company is likely to be stuck with the resources and capabilities that it has inherited.

The most decisive, and often most successful, solution to weaknesses in key functions is to *outsource*. Companies have become increasingly selective in the activities they perform internally: concentrating on their key strengths and outsourcing other activities. Across a range of activities specialist suppliers have developed high-level capabilities in contact manufacture (Hon Hai Precision/Foxconn, Flextronics), IT (Accenture, IBM, Capgemini), logistics (Exel, Kuehne + Nagel, UPS), and food service (Compass, Sodexo).

Some companies may be present in relatively few activities within their value chains. In athletic shoes and clothing, Nike undertakes product design, marketing, and overall "systems integration," but most other functions are contracted out. We shall consider the vertical scope of the firm in greater depth in Chapter 11.

Clever strategy formulation can allow a firm to negate its vulnerability to key weaknesses. Harley-Davidson cannot compete with Honda, Yamaha, and BMW on technology. The solution? It has made a virtue out of its outmoded technology and traditional designs. Harley-Davidson's old-fashioned, push-rod engines, and recycled designs have become central to its retro-look authenticity.

What about Superfluous Strengths?

What about those resources and capabilities where a company has particular strengths that don't appear to be important sources of sustainable competitive advantage? One response may be selective divestment. If a retail bank has a strong but increasingly underutilized branch network, it may be time to prune its real-estate assets and invest in web-based customer services.

However, in the same way that companies can turn apparent weaknesses into competitive strengths, so it is possible to develop innovative strategies that turn apparently inconsequential strengths into key strategy differentiators. Edward Jones' network of brokerage offices and 8000-strong sales force looked increasingly irrelevant in an era when brokerage transactions were going online. However, by emphasizing personal service, trustworthiness, and its traditional, conservative investment virtues, Edward Jones has built a successful contrarian strategy based on its network of local offices.[31]

In the fiercely competitive MBA market, business schools can also differentiate on the basis of idiosyncratic resources and capabilities. Georgetown's Jesuit heritage is not an obvious source of competitive advantage for its MBA programs. Yet, the Jesuit emphasis on developing the whole person and cultivating ethics, integrity, and emotional intelligence provide a strong foundation for developing successful business leaders. Similarly, Dartmouth College's location in the woods of New Hampshire far from any major business center is not an obvious benefit to its business programs. However, Dartmouth's Tuck Business School has used the isolation and natural beauty of its locale to create close-knit MBA classes that then join a loyal and supportive alumni network.

The Industry Context of Resource Analysis

The results of our resource and capability appraisal depend critically upon how broadly or narrowly we define the industry within which the firm is located. If we are appraising the resources and capabilities of Harley-Davidson, should we view Harley as located in the motorcycle industry or in the heavyweight motorcycle segment? Clearly, our appraisal of both the strategic importance of resources and Harley's relative strength will differ substantially. Initially at least, it is best to define industries fairly

broadly; otherwise, there is a risk our analysis will be constrained by the focal firm's existing strategic positioning, Thus, in the case of Harley-Davidson, it is useful to view the company within the context of the motorcycle industry as a whole. That way we can address the question of which segments Harley should be located within. We can then go on to a more focused analysis of Harley's resources and capabilities for the different industry segments.

As with all strategy frameworks, we need to be alert to the limitations of resource and capability analysis. Not only are our criteria of strategic importance and relative strength context-dependent but also individual resources and capabilities are themselves

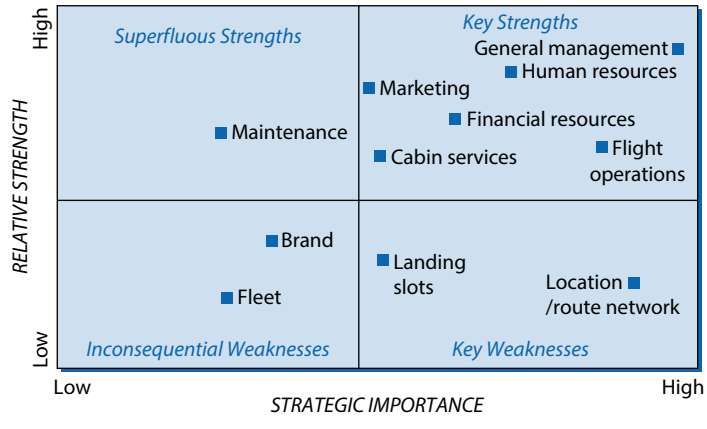
STRATEGY CAPSULE 5.8

Resource and Capability Analysis in Action: Icelandair Group

If the key success factor in the airline business is providing safe, reliable transportation between city pairs at a competitive price, we can begin by identifying the resources and capabilities needed to achieve that goal. We can then use the value chain to fill out more systematically this list of resources and capabilities. Table 5.3 and Figure 5.8 show the major resources and capabilities required in the airline business and assess Icelandair's position relative to a peer group of competitors.

In terms of strategy implications, a key resource that distinguishes Icelandair is location: Iceland's population of 326,000 offers a passenger and freight market that Icelandair can easily dominate, but is too small to support an international airline. Hence, to achieve efficient scale, Icelandair must (a) collaborate with other firms and the Icelandic government to develop Iceland as a tourist destination and (b) compete on North Atlantic routes between European and North American cities. For (b) to be viable, Icelandair needs to make routes that involve a stopover at its Reykjavik hub competitive with the point-to-point routes offered by the major US and European airlines. This requires (a) using Icelandair's operational efficiency to undercut other airlines on price and (b) exploiting Icelandair's operational and customer service capabilities, its human resource strengths, and the appeal of Reykjavik/Iceland as a stopover to establish a differentiation advantage. Icelandair's strategy is encapsulated in its vision statement: "To unlock Iceland's potential as a year-round destination, to strengthen Iceland's position as a connecting hub, and to maintain our focus on flexibility and experience."

FIGURE 5.8 Icelandair's resource and capability profile



multidimensional aggregations. For example, a firm's manufacturing capability might be assessed in relation to efficiency, quality, and flexibility. Hence, the resource and capability analysis as outlined in this chapter is likely to be a fairly crude tool for appraising a firm's potential for competitive advantage. However, what it does offer is a systematic approach to describe and assess an organization's portfolio of resources and capabilities that can be subsequently refined.

Strategy Capsule 5.8 illustrates how the approach outlined in this chapter can be applied to identify and appraise the resources and capabilities of the Icelandair Group and indicate its potential to establish a competitive advantage within the airline industry.

TABLE 5.3 The resources and capabilities of Icelandair Group[a]

	Strategic importance [1–10]	Icelandair's relative strength [1–10][b]
Resources		
Fleet	Planes are transferrable; main differentiator is age of fleet **[2]**	Above-average age of fleet until new planes are delivered in 2018–21 **[2]**
Financial resources	Critical for (a) buying other resources (b) surviving downturns **[7]**	Strong balance sheet; positive cash flow **[8]**
Location and route network	Critical to market access and exploiting network economies **[9]**	Tiny domestic market and inferior North Atlantic routes **[3]**
Landing slots	Key determinant of access to congested airports **[6]**	Limited presence at the key capacity-constrained airports of Europe and North America **[3]**
Brand	Important indicator of quality and reliability **[5]**	Lacks international prominence and still tainted by former image as a "hippy airline" **[4]**
Human resources	Human resources critical to most capabilities **[8]**	Well-educated, well-trained, and well-motivated employees **[8]**
Capabilities		
Flight operations	Operational capabilities are critical to cost efficiency and user satisfaction **[9]**	Strong record of operational efficiency, safety, and flexibility; cost per average seat mile below that of US and European legacy carriers **[8]**
Cabin services	Critically important in business class; less important in economy class **[6]**	Customer reviews suggest parity in business class and superior quality/price combination in economy **[6]**
Maintenance	Relevant to reliability and safety, but easily outsourced **[3]**	Safety record and reliability performance suggest superior capability **[7]**
Marketing	Important for building brand awareness and stimulating demand **[5]**	A key element in Icelandair's success in expanding tourist traffic and market share of North Atlantic market **[8]**
General management	Essential for developing and maintaining operational, customer service, marketing, and support capabilities **[8]**	Icelandair has a dynamic, hands-on senior management team that supports a flexible and committed approach to management **[9]**

Notes:

[a]This exercise is for illustrative purposes only. The assessments provided are based upon the author's perceptions, not upon objective measurement.

[b]Compared to peer group, comprising Norwegian, SAS, Lufthansa, British Airways, American, EasyJet, and WOW Air.

Summary

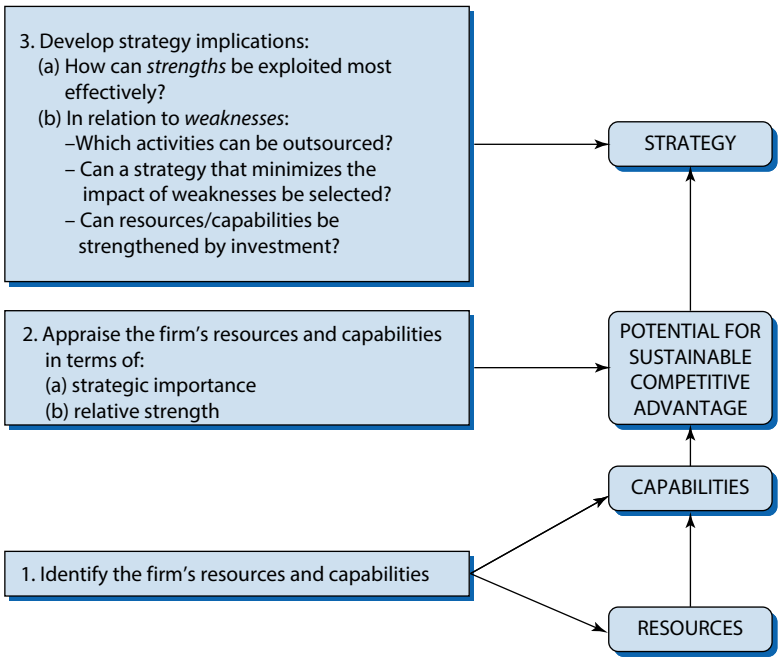
We have shifted the focus of our attention from the external environment of the firm to its internal environment. We have observed that internal resources and capabilities offer a sound basis for building strategy. Indeed, when a firm's external environment is in a state of flux, internal strengths are likely to provide the primary basis upon which it can define its identity and its strategy.

In this chapter, we have followed a systematic approach to identifying the resources and capabilities that an organization has access to; we then have appraised these resources and capabilities in terms of their potential to offer a sustainable competitive advantage and, ultimately, to generate profit.

Having built a picture of an organization's key resources and capabilities and having identified areas of strength and weakness, we can then devise strategies through which the organization can exploit its strengths and minimize its vulnerability to its weaknesses. Figure 5.9 summarizes the main stages of our analysis.

In the course of the chapter, we have encountered a number of theoretical concepts and relationships; however, the basic issues of resource and capability analysis are intensely practical. At its core, resource and capability analysis asks what is distinctive about a firm in terms of what it can do better than its competitors and what it cannot. This involves not only analysis of balance sheets, employee competencies, and benchmarking data, but also insight into the values, ambitions, and traditions of a company that shape its priorities and identity.

FIGURE 5.9 Summary: A framework for analyzing resources and capabilities



Because the resources and capabilities of the firm form the foundation for building competitive advantage, we shall return again and again to the concepts of this chapter. In the next chapter, we shall consider the organizational structure and management systems through which resources and capabilities are deployed. In Chapter 7, we shall look more closely at the competitive advantages that arise when resource and capability strengths intersect with key success factors. In Chapter 8, we shall consider how companies build the capabilities needed to deal with the challenges of the future.

Self-Study Questions

1. Since it was founded in 1994, Amazon has expanded its business from online book sales, to online general retailing, to audio and video streaming, to e-readers and tablet computers, to cloud computing. Is Amazon's strategy based primarily upon serving a market need or primarily on exploiting its resources and capabilities?
2. The world's leading typewriter manufacturers in the 1970s included Olivetti, Underwood, IBM, Olympia, Remington, Smith Corona, and Brother Industries. While IBM and Brother adapted to the microelectronics revolution, most of the others failed. What strategies might these companies have pursued as an alternative to producing personal computers and electronic word processors market?
3. I have argued that the part of discrepancy between firms' stock market value and their book value reflects the fact that intangible resources are typically undervalued or not valued at all in their balance sheets. For the companies listed in Table 5.1, which types of resource are likely to be absent or undervalued in the firms' balance sheets?
4. Many companies announce in their corporate communications: "Our people are our greatest resource." In terms of the criteria listed in Figure 5.7, can employees be considered of the utmost strategic importance? For Walmart, McDonald's, and McKinsey & Company, how important are employees to their competitive advantages?
5. The chapter argues that Apple's key capabilities are product design and product development that combine hardware technology, software engineering, aesthetics, ergonomics, and cognitive awareness to create products with a superior user interface and unrivalled market appeal. How easy would it be for Samsung to replicate these capabilities of Apple?
6. Given the profile of Icelandair's resources and capabilities outlined in Strategic Capsule 5.8, how might Icelandair best exploit its resources and capabilities to (a) expand passenger numbers traveling to and from Iceland and (b) profitably grow its share of the North Atlantic market?
7. Apply resource and capability analysis to your own business school. Begin by identifying the resources and capabilities relevant to success in the market for business education, appraise the resources and capabilities of your school, and then make strategy recommendations regarding such matters as the programs to be offered and the overall positioning and differentiation of the school and its offerings.

Notes

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6 Organization Structure and Management Systems: The Fundamentals of Strategy Implementation

Ultimately, there may be no long-term sustainable advantage other than the ability to organize and manage.

—JAY GALBRAITH AND ED LAWLER

I'd rather have first-rate execution and second-rate strategy anytime than brilliant ideas and mediocre management.

—JAMIE DIMON, CEO, JPMORGAN CHASE & CO.

Many people regard execution as detail work that's beneath the dignity of a business leader. That's wrong. To the contrary, it's a leader's most important job.

—LARRY BOSSIDY, FORMER CEO, HONEYWELL

OUTLINE

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- **Strategy Formulation and Strategy Implementation**
  - The Strategic Planning System: Linking Strategy to Action
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  - Specialization and Division of Labor
  - The Cooperation Problem
  - The Coordination Problem
- **Developing Organizational Capability**
  - Processes
  - Motivation
  - Structure
- **Organization Design**
  - The Role of Hierarchy
  - Defining Organizational Units
  - Alternative Structural Forms: Functional, Multidivisional, Matrix
  - Systems and Style: Mechanistic versus Organic Organizational Forms
  - Recent Trends in Organizational Design
- **Summary**
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- **Notes**

Introduction and Objectives

We spend a lot of our time strategizing: pondering our next career move, making plans for a vacation; thinking about how to improve our marketability. Most of these strategies remain just wishful thinking: if strategy is to yield results, it must be backed by commitment and translated into action.

The challenges of strategy implementation are even greater for organizations than for individuals. Executing strategy requires the combined efforts of all the members of the organization, many of whom will have played no role in its formulation; others will find that the strategy conflicts with their own personal interests. Even without these impediments, implementation tends to be neglected because it requires commitment, persistence, and hard work. "How many meetings have you attended where people left without firm conclusions about who would do what and when?" asks super-consultant, Ram Charan.[1]

In this chapter, we consider some of the fundamentals of strategy implementation. We begin by clarifying the relationship between strategy formulation and strategy implementation. If strategy involves translating intention into action, the basic organizational requirements are for coordination and cooperation. We view organizational capability as the mechanism through which coordination and cooperation effectuate action. We disaggregate organizational capability into four components: resources, motivation, processes, and structure and go on to explore the role of each of these in strategy implementation.

This chapter introduces only the fundamentals of strategy implementation. In subsequent chapters, we shall consider strategy implementation in particular contexts, such as strategic change (Chapter 8), innovation (Chapter 9), mature industries (Chapter 10), international business (Chapter 12), multibusiness firms (Chapter 14), and mergers and acquisitions (Chapter 15). At the same time, our consideration of strategy implementation is limited: ultimately strategy implementation embraces the whole of management.

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

- Understand the relationship between strategy formulation and strategy implementation and the role of strategic planning systems in linking strategy to action.
- Recognize the role of cooperation and coordination as the basic requirements for organizational effectiveness.
- Appreciate the role that resources, processes, motivation, and structure play in developing organizational capabilities.
- Select the organizational structure best suited to a particular business context.

Strategy Formulation and Strategy Implementation

The relationship between strategy formulation and strategy implementation has long been a contentious issue. During the early years of corporate planning, strategy was viewed as a two-stage process: first, formulation (mainly by top management), then implementation (mainly by middle management). This conception was challenged by Henry Mintzberg who envisaged strategy as emerging from the interaction between the formulation and implementation (see the discussion of "How is Strategy Made? The Strategy Process" in Chapter 1).[2]

From what we have learned about the nature of strategy, it is clear that we cannot separate strategic management into self-contained formulation and implementation stages. The intended strategy of any organization is inevitably incomplete: it comprises goals, directions, and priorities, but it can never be comprehensive. It is during implementation that the gaps are filled in and, because circumstances change, the strategy adapts. Equally, strategy formulation must take account of the conditions of implementation. The observation "Great strategy; lousy implementation" is typically a misdiagnosis of strategic failure: a strategy which has been formulated without taking account of its ability to be implemented is a poorly formulated strategy. Clearly, strategy formulation and implementation are interdependent. Nevertheless, the fact remains that purposeful behavior requires that action must be preceded by intention, and intention needs to be preceded by thought.

The Strategic Planning System: Linking Strategy to Action

Our outline of the development of strategic management in Chapter 1 (see "A Brief History of Business Strategy") indicated that companies adopted corporate planning, not to formulate strategy but to facilitate coordination and control in increasingly large and complex organizations.

Similarly with entrepreneurial start-ups, when Steve Jobs and Steve Wozniak founded Apple Computer at the beginning of 1977, strategy was developed in their heads and through their conversation. A written articulation of Apple's strategy did not appear until they needed to write a business plan in order to attract venture capital funding.[3] However, Apple did not adopt a systematic strategic planning process until several years later when it needed to establish capital expenditure budgets for its different functions and product teams and link strategy to day-to-day decision-making.

Thus, Mintzberg's claim that formalized strategic planning is a poor way to make strategy, even if it is right, fails to recognize the real value purpose of strategic planning systems. As we shall see, strategic planning systems provide a framework for the strategy process which can assist in building consensus, communicating the strategy and its rationale throughout the organization, allocating resources to support the strategy, and establishing performance goals to guide and motivate the individuals and groups responsible for carrying out the strategy.

The Strategic Planning Cycle Most large companies have a regular (normally annual) strategic planning process that results in a document that is endorsed by the board of directors and provides a development plan for the company for the next three to five years. The strategic planning process is a systematized approach that assembles information, shares perceptions, conducts analysis, reaches decisions, ensures

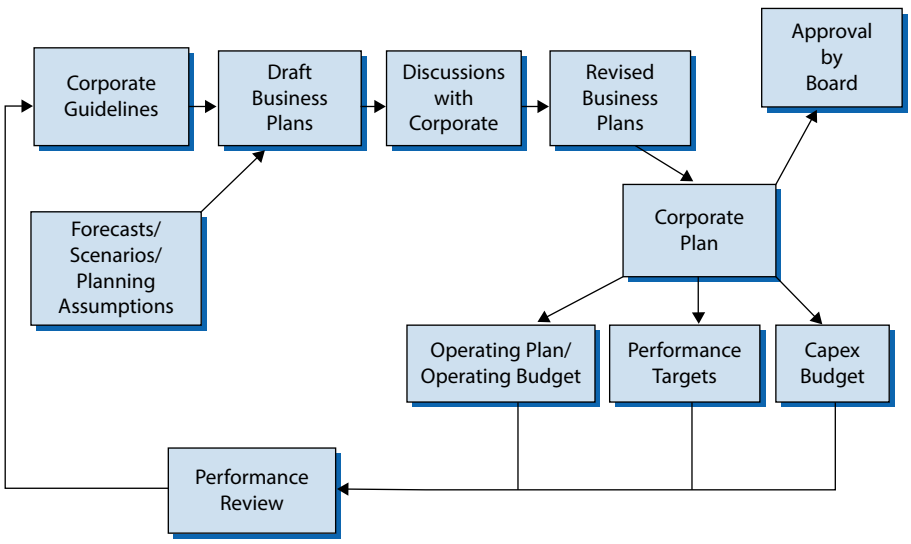
consistency among those decisions, and commits managers to courses of action and performance targets.

Strategic planning processes vary between organizations. At some they are highly centralized. Even after an entrepreneurial start-up has grown into a large company, strategy making may remain the preserve of the chief executive. At MCI Communications, former CEO Orville Wright observed: "We do it strictly top-down at MCI."[4] However, at most large companies, the strategic planning process involves a combination of top-down direction and bottom-up initiatives.[5]

Figure 6.1 shows a typical strategic planning cycle. The principal stages are:

1. *Setting the context: guidelines, forecasts, assumptions.* The CEO typically initiates the process by indicating strategic priorities—these will be influenced by the outcome of the previous performance reviews. In addition, the strategic planning unit may provide assumptions or forecasts that offer a common basis for strategic planning by different units within the organization. For example, the 2017–20 strategic plan of the Italian oil and gas company Eni was based upon (a) the goal of increasing free cash flow by expanding petroleum production and selling assets and (b) assumptions that the price of crude would rise to $60 per barrel and the dollar/euro exchange rate would appreciate to 1.20 by 2020.[6]
2. *Business plans.* On the basis of these priorities and planning assumptions, the different organizational units—product divisions, functional departments, and geographical units—create strategic plans that are then presented for comment and discussion to top management. This dialogue represents a critically important feature of the strategy system: it provides a process for sharing knowledge, communicating ideas, and reaching consensus. This process may be more important than the strategic plans that are created. As General (later President) Dwight Eisenhower observed: "Plans are worthless, but planning is everything."[7]

FIGURE 6.1 The generic annual strategic planning cycle



3 *The corporate plan.* Once agreed, the business plans are then integrated to create the corporate strategic plan that is then presented to the board for approval.

4 *Capital expenditure budgets.* Capital expenditure budgets link strategy to resource allocation. They are established through both top-down and bottom-up initiatives. When organizational units prepare their business plans, they will indicate the major projects they plan to undertake during the strategic planning period and the capital expenditures involved. When top management aggregates business plans to create the corporate plan, it establishes capital expenditure budgets both for the company as a whole and for the individual businesses. The businesses then submit capital expenditure requests for specific projects that are evaluated through standard appraisal methodologies, typically using discounted cash flow analysis. Capital expenditure approvals take place at different levels of a company according to their size. Projects of up to $5 million might be approved by a business unit head; projects of up to $25 million might be approved by divisional top management; larger projects might need to be approved by the top management committee; the biggest projects may require approval by the board of directors.

5 *Operational plans and performance targets.* Implementing strategy requires breaking down strategic plans into a series of shorter-term plans that provide a focus for action and a basis for performance monitoring. At the basis of the annual operating plan are a set of performance targets derived from the strategic plan. These performance targets are both financial (sales growth, margins, return on capital) and operational (inventory turns, defect rates, number of new outlets opened). In the section on "Setting Performance Targets" in Chapter 2, I outlined the basic cascading logic for goal setting: overall goals of the organization are disaggregated into more specific performance goals as we move down the organization. As Chapter 2 shows, this can use either a simple financial disaggregation or the balanced scorecard methodology. There is nothing new about this approach: management by objectives (the process of participative goal setting) was proposed by Peter Drucker in 1954.[8] Performance targets can be built into the annual operating budget. The operating budget is a pro forma profit-and-loss statement for the company as a whole and for individual divisions and business units for the upcoming year. It is usually divided into quarters and months to permit continual monitoring and the early identification of variances. The operating budget is part forecast and part target. Each business typically prepares an operating budget for the following year that is then discussed with the top management committee and, if acceptable, approved. In some organizations, the budgeting process is part of the strategic planning system: the operating budget is the first year of the strategic plans; in others, budgeting follows strategic planning. Operational planning is more than setting performance targets and agreeing budgets; it also involves planning specific activities. As Bossidy and Charan explain: "An operating plan includes the programs your business is going to complete within one year ... Among these programs are product launches; the marketing plan; a sales plan that takes advantage of market opportunities; a manufacturing plan that stipulates production outputs; and a productivity plan that improves efficiency."[9]

The Fundamentals of Organizing: Specialization, Cooperation, and Coordination

Translating intention into action requires organizing. To understand what organizing involves, we must understand why firms exist.

Specialization and Division of Labor

Firms exist because of their efficiency advantages in producing goods and services that results from the *division of labor*: each worker specializing in a specific task. Consider Adam Smith's description of pin manufacture:

> One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the papers.[10]

Smith's pin makers produced about 4800 pins per person each day. "But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each have made 20, perhaps not one pin, in a day."

However, specialization comes at a cost: dividing the production process requires integrating the separate efforts. This involves two problems: first, the *cooperation problem*, aligning the interests of individuals who have divergent goals; second, the *coordination problem*, even in the absence of goal conflict, how do individuals harmonize their separate efforts?

The Cooperation Problem

The economics literature analyzes cooperation problems arising from goal misalignment as the **agency problem**.[11] An agency relationship exists when one party (the principal) contracts with another party (the agent) to act on behalf of the principal. The problem is ensuring that the agent acts in the principal's interest. Particular attention has been given to agency problems arising between owners (shareholders) and managers. The central issue of corporate governance is ensuring that managers act in the interests of shareholders. However, agency problems exist throughout the entire hierarchy: employees tend to pursue their own interests rather than those of their organization. Even organizational goals fragment as a result of specialization as each department creates its own subgoals. The classic conflicts are between different functions: sales wishes to please customers, production wishes to maximize output, R & D wants to introduce mind-blowing new products, while finance worries about profit and loss.

Several mechanisms are available to management for achieving goal alignment within organizations:

- *Control mechanisms* typically operate through hierarchical supervision: managers supervise the behavior and performance of subordinates using positive and negative incentives. The principal positive incentive is the opportunity for promotion up the hierarchy; negative incentives are dismissal and demotion.

- *Performance incentives* link rewards to output: they include piece rates for production workers and profit bonuses for executives. Performance-related incentives have the advantages of being "high powered"—rewards are directly related to performance—and they avoid the need for costly monitoring and supervision of employees. Pay-for-performance is less effective when employees work in teams or where output is difficult to measure.
- *Shared values.* Some organizations achieve high levels of cooperation and low levels of goal conflict without resorting to either punitive controls or performance incentives. The members of churches, charities, and voluntary organizations often share values that support common purpose. Similarly, for business enterprises, as we saw in Chapter 2 (see pp. 52–53), shared values among members encourage the convergence of interests and perceptions that facilitate consensus and enhances performance.[12] In doing so, shared values can act as a control mechanism that is an alternative to bureaucratic control or financial incentives. An organization's values are one component of its culture. Strategy Capsule 6.1 discusses the role of organizational culture in aligning individual actions with company strategy.
- *Persuasion.* Implementing strategy requires leadership and at the heart of leadership is persuasion. J.-C. Spender argues that, language is central, both to the conceptualization of strategy and to its implementation.[13] Leadership requires influencing others, where *rhetoric*—the use of language for persuasion—is a core skill. Management rhetoric is not simply about communicating strategy; it involves changing the perceptions of organizational members, their relationships with the organization, and, ultimately, guiding their actions to actualize the strategy in the face of uncertainty and ambiguity.

The Coordination Problem

Willingness to cooperate is not enough to ensure that organizational members integrate their efforts—it is not a lack of a common goal that causes Olympic relay teams to drop the baton. Unless individuals can find ways of coordinating their efforts, production does not happen. As we shall see in our discussion of organizational capabilities, the exceptional performance of Disney theme parks, the Ferrari Formula 1 pit crew, and the US Marine Corps band derives less from the skills of the individual members and more from superb coordination among them.

Mechanisms for coordination include the following:

- *Rules and directives:* A basic feature of all firms is a general employment contract under which individuals agree to perform a range of duties as required by their employer. This allows managers to exercise authority by means of general rules ("Secret agents on overseas missions will have essential expenses reimbursed only on production of original receipts") and specific directives ("Miss Moneypenny, show Mr Bond his new toothbrush with 4G communication and a concealed death ray").
- *Mutual adjustment:* The simplest form of coordination involves the mutual adjustment of individuals engaged in related tasks. In soccer or doubles tennis, players coordinate their actions spontaneously without direction or established routines. Such mutual adjustment occurs in leaderless teams and is especially suited to novel tasks where routinization is not feasible.

STRATEGY CAPSULE 6.1
Organizational Culture as an Integrating Device

Corporate culture comprises the beliefs, values, and behavioral norms of the company, which influence how employees think and behave.[a] It is manifest in symbols, ceremonies, social practices, rites, vocabulary, and dress. While shared values are effective in aligning the goals of organizational members, culture exercises a wider influence on an organization's capacity for purposeful action. Organizational culture is a complex phenomenon. It is shaped by the national and ethnic cultures within which the firm is embedded and the social and professional cultures of organizational members. Most of all, it is a product of the organization's history, especially the founder's personality and beliefs: the corporate culture of Walt Disney Company continues to reflect the values, aspirations, and personal style of Walt Disney. A corporate culture is seldom homogeneous: different cultures coexist within different functions and departments.

Culture can facilitate both cooperation and coordination through fostering social norms and a sense of identity. Cultures can also be divisive and dysfunctional. At the British bank NatWest during the 1990s, John Weeks identified a "culture of complaining" which was a barrier to top-down strategy initiatives.[b] A culture may support some types of corporate action but handicap others. Lehman Brothers (whose collapse in September 2008 triggered the global financial crisis) was renowned for its individualistic, entrepreneurial culture whose downside was ineffective risk management. The culture of the British Broadcasting Corporation reflects internal politicization, professional values, and dedication to the public good, but a lack of customer focus.[c]

Cultures take a long time to develop and cannot easily be changed. As the external environment changes, a highly effective culture may become dysfunctional. The police forces of some US cities have developed cultures of professionalism and militarism, which increased their effectiveness in fighting crime, but led to isolation and unresponsiveness to community needs.[d]

Despite its power in determining how an organization behaves, culture is far from being a flexible management tool at the disposal of chief executives. It is a property of the organization as a whole, which is not amenable to manipulation. CEOs inherit rather than create the culture of their organizations. The key issue is to recognize the culture of the organization and to ensure that structure and systems work with the culture and not against it. Where strategy is aligned with organizational culture, it can act as a control device and a source of flexibility: when individuals internalize the goals and principles of the organization, they can be allowed to use their initiative and creativity in their work.

Notes:

[a] E. H. Schein, "Organizational Culture," *American Psychologist* 45 (1990): 109–119.

[b] J. Weeks, *Unpopular Culture: The Ritual of Complaint in a British Bank* (Chicago: University of Chicago Press, 2004).

[c] T. Burns, *The BBC: Public Institution and Private World* (London: Macmillan, 1977).

[d] "Policing: Don't Shoot," *Economist* (December 13, 2014): 37.

- *Routines:* Where activities are performed repeatedly, coordination becomes routinized. As we shall see in more detail when we discuss processes, organizational routines are "regular and predictable sequences of coordinated actions by individuals" that provide the foundation of organizational capability. If organizations are to perform complex activities efficiently and reliably, rules, directives, and mutual adjustments are not enough—coordination must become embedded in routines.

The relative roles of these different coordination devices depend on the types of activity being performed and the intensity of collaboration required. Rules are highly efficient for activities where standardized outcomes are required—most quality-control procedures involve the application of simple rules. Routines are essential for activities where close interdependence exists between individuals, be the activity a basic production task (supplying customers at Starbucks) or more complex (performing a heart bypass operation). Mutual adjustment works best for nonstandardized tasks (such as problem-solving), where those involved are well informed of the actions of their coworkers, either because they are in close visual contact (a chef de cuisine and her sous chefs) or because of information exchange (a design team using interactive CAD software).

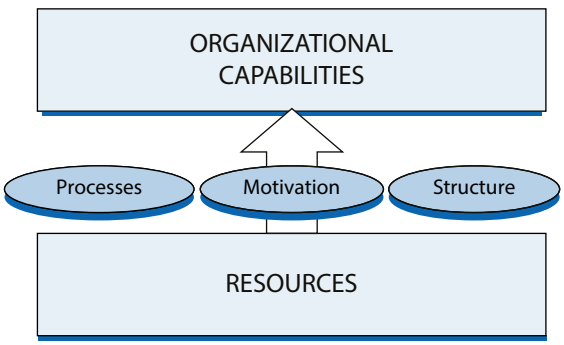
Developing Organizational Capability

Translating strategy into action requires organizational capability. Hence, the development and deployment of organizational capabilities lies at the core of strategy implementation. So far, we have said little about the determinants of organizational capability beyond recognizing that capabilities involve combining resources to perform a task. Let us look more closely at the structure of organizational capability in the light of our preceding discussion of the fundamentals of organizing.

Capabilities require resources, and the level of capability depends, to some degree, upon the amount and quality of these resources. However, there is more to capability than resources alone. In sport, all-star teams can be beaten by teams that create strong capabilities from modest resources. In 1992, the US men's Olympic basketball team—the "Dream Team" that included Charles Barkley, Larry Bird, Patrick Ewing, Magic Johnson, Michael Jordan, Karl Malone, and Scottie Pippen—lost to a team of college players in one of their practice games. In Euro 2016, the English soccer team, with a market value of $810 million, was eliminated by Iceland, a team valued at $30 million. Similarly, in business: upstarts with modest resources can outcompete established giants—Dyson against Electrolux in domestic appliances, ARM against Intel in microprocessors, Spotify against Apple in streamed music. Clearly, there is more to organizational capability than just resources.

The effectiveness with which resources—people especially—are integrated to create capabilities depends upon three major factors: processes, motivation, and structure. These are depicted in Figure 6.2.

FIGURE 6.2 Integrating resources to build capability



Processes

The academic literature views organizational capability as based upon **organizational routines**—"regular and predictable behavioral patterns [comprising] repetitive patterns of activity" that determine what firms do, who they are, and how they develop.[14] Like individual skills, organizational routines develop through learning-by-doing—and, if not used, they wither.

However, the academic literature's emphasis on routines as an emergent phenomenon ignores the role of management. In practice, patterns of coordination among organizational members to undertake a productive task are planned by managers who use learning-before-doing as a vital preliminary to learning-by-doing. For this reason, I emphasize *organizational processes* over *organizational routines*, where a process is a coordinated sequence of actions through which specific productive tasks are performed. Not only is the term *process* well understood by managers, but there are established tools for their design, mapping, and development.[15]

Motivation

Processes provide the basis for team members to coordinate their individual actions; however, the effectiveness of the coordination depends upon the extent of their motivation. We discussed motivation in relation to the challenge of aligning the goals of individuals with those of the organization. Team motivation is more complex: it depends not only on each individual's willingness to strive in performing his/her specific task but also on a willingness to subordinate individuals to team goals. Despite decades of research, the determinant of exceptional team performance remains a mystery—which is why outstandingly successful sports coaches—Alex Ferguson, Joe Gibbs, John Wooden, Scotty Bowman—command huge fees on the corporate lecture circuits.

Structure

The people and processes that contribute to an organizational capability need to be located within the same organizational unit if they are to coordinate effectively. Processes that span internal organizational boundaries rarely achieve high levels of capability. Until the mid-1980s, European and US automakers used a sequential system of new product development which began in marketing then went, in turn, to styling, engineering, manufacturing, and finance. When they adopted the cross-functional product development teams pioneered by Toyota and Honda, the time to develop a new model of car was halved.[16] As companies develop new capabilities, so their organizational structures become more complex. Strategy Capsule 6.2 shows the evolution of organizational structure at a management consulting company as it developed specialist capabilities.

The design of organizational structure is a broad topic that cannot be reduced to the simple principle of locating each organizational process within an organizational unit. So let us consider more generally the basic issues that are involved in the design of organizational structures.

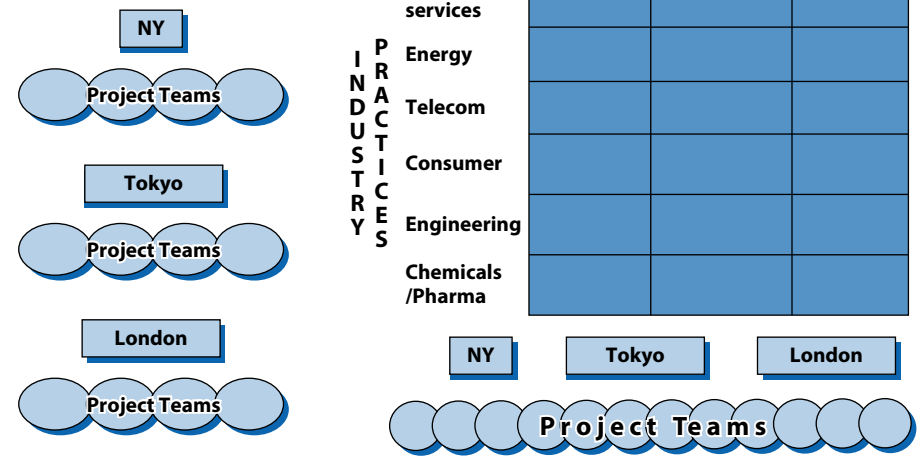
STRATEGY CAPSULE 6.2

Capability Development and Organizational Structure at Booz & Company

During the 1990s, Booz Allen Hamilton (now Strategy&, a subsidiary of PwC) transitioned from a "generalist" to a "specialist" model of management consulting. Under the generalist model, consultants were located in one of its 28 offices throughout the world and were then assigned to one or more consulting projects. The expectation was that they would develop, through experience, broad-based consulting expertise that was not specific either to a particular management function or particular sector. Booz's managing partner referred to the firm as "a colony of artists" (see Figure 6.3a).

During the 1990s, Booz recognized the need to develop specialist capabilities in relation to individual management functions (such as strategy, operations, information technology, and change management) and specific sectors (e.g., energy, telecom, financial services, and automobiles). To develop these specialist capabilities, Booz adopted a matrix structure comprising functional practices and sector practices (see Figure 6.3b). Hence, a new consultant or associate joining Booz would be located within a particular office and assigned to one or more client teams, but training and career development purposes would also be part of a functional practice and a sector practice.

FIGURE 6.3 Booz Allen Hamilton (Worldwide commercial business)



a 1992: "A colony of artists" **b 1998: Organizing for capability**

Organization Design

Designing structures that can reconcile efficiency through specialization with effective integration is a major management challenge that is informed by a substantial body of organizational theory. Let us restrict ourselves to four issues that are especially relevant to implementing strategy. We begin by acknowledging the need for hierarchy—all organizations are hierarchical to a greater or lesser degree. We go on to consider how to define organizational units within these hierarchies. We then examine how these organizational units are configured within the overall structure of the company. Finally, we look at formality within organizations and the relative merits of mechanistic and organic structures.

The Role of Hierarchy

Hierarchy is the fundamental feature of all but the simplest organizations and the primary mechanism for achieving coordination and cooperation. Despite the negative images that hierarchy often conveys, there are no viable alternatives for complex organizations—the critical issue is how hierarchy should be structured and how its various parts should be linked. Hierarchy is a solution both to the problem of cooperation and the problem of coordination.

Hierarchy as Mechanism for Cooperation: Hierarchy is system of control through authority: each member of the organization reports to a superior and has subordinates to supervise and monitor. Hierarchy is a core feature of *bureaucracy*—a formalized administrative system devised by the Qin emperor of China in about 220BC, and deployed ever since in public administration, the military, and commerce. For the German sociologist, Max Weber, bureaucracy was the most efficient and rational way to organize human activity. It involves "each lower office under the control and supervision of a higher one"; a "systematic division of labor"; formalization in writing of "administrative acts, decisions, and rules"; and work governed by standardized rules and operating procedures. Authority is based on "belief in the legality of enacted rules and the right of those elevated to authority under such rules to issue commands."[17]

Hierarchy as Coordination: Hierarchy is a feature not only of human organizations, but of all complex systems:

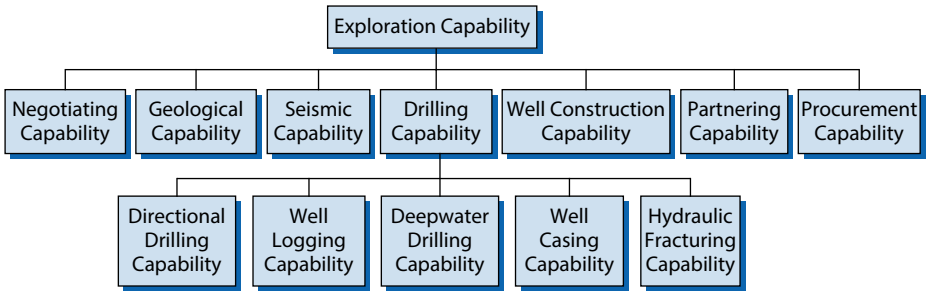
- The human body comprises subsystems such as the respiratory system, nervous system, and digestive system, each of which consists of organs, each of which is made up of individual cells.
- The physical universe is a hierarchy with galaxies at the top, solar systems below, planets below that, and so on, all the way down to atoms and subatomic particles.
- A novel is organized by chapters, paragraphs, sentences, words, and letters.

The basic principle here is that of *modularity*: dividing complex systems into hierarchically organized components.[18] Modular, hierarchical structures have two major advantages in coordinating productive activities:

- *Economizing on coordination:* Hierarchy reduces the amount of communication needed to coordinate the activities of organizational members. Suppose that the optimal span of control is five. In a group of six individuals, there are 15 bilateral interactions, if one member is appointed coordinator, there are five vertical interactions. Similarly, a group of 25 involves 250 bilateral interactions; a hierarchical system with a span of control of five requires a three-tier hierarchy and 24 interactions. The larger the number of organizational members, the greater the efficiency benefits from organizing hierarchically. Complex computer software can require large development teams: Microsoft's Windows 8 development team comprised about 3200 software development engineers, test engineers, and program managers. These were organized into 35 "feature teams," each of which was divided into a number of component teams. As a result, each engineer needed to coordinate only with the members of his or her immediate team. The modular structure of the Windows 8 development team mirrored the modular structure of the product.
- *Adaptability:* Hierarchical, modular systems can evolve more rapidly than unitary systems. This adaptability requires *decomposability*: the ability of each component subsystem to operate with some measure of independence from the other subsystems. Modular systems that allow significant independence for each module are referred to as *loosely coupled*.[19] The modular structure of Windows enabled a single feature team to introduce innovative software features without the need to coordinate with all 34 other teams. The key requirement is that the different modules must fit together—this requires a standardized interface. Entire companies may be viewed as loosely coupled modular structures. At Procter & Gamble, decisions about developing new shampoos can be made by the Beauty, Hair, and Personal Care sector without involving P&G's other three sectors (Baby, Feminine, and Family Care; Fabric and Home Care; and Health and Grooming). A modular structure also makes it easier to add new businesses and divest others—in 2015, P&G sold its cosmetics and fragrances business to Coty.[20]

Organizational capabilities can also be viewed as being organized hierarchically. In the petroleum sector, drilling capability is composed of several specialist capabilities; then drilling capability links with other capabilities to form overall exploration capability (see Figure 6.4). Similarly with Apple's new product development capability, this

FIGURE 6.4 The hierarchical structure of organization capabilities: The case of oil and gas exploration



too is a higher-level capability that combines an array of lower-level capabilities such as market insight, microelectronic capability, software engineering, design aesthetics, and partner relations management. Because these upper-level capabilities integrate such a broad span of specialist know-how, they are difficult for others to imitate.

Defining Organizational Units

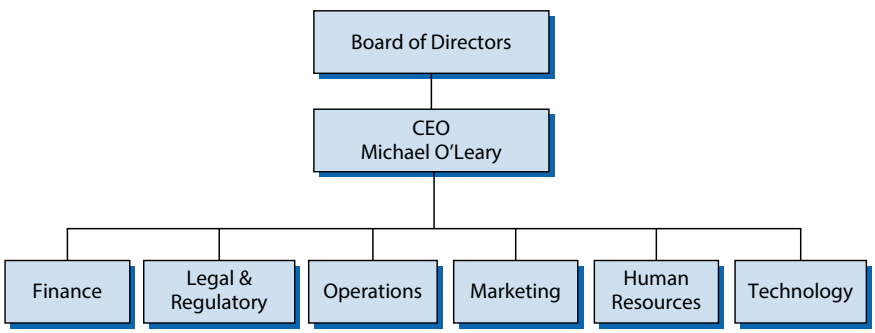
An organizational hierarchy is composed of organizational units—but how should we define these units? The principle we have established so far is that organizational structure should be aligned with processes: those who perform a process should be located within the same organizational unit. The fundamental issue is *intensity of coordination needs*: those individuals who need to interact most closely should be located within the same organizational unit. In the case of McDonald's, the store managers and crew members undertake food preparation, cooking, and cleaning: the individual store is the basic organizational unit. At Infosys Consulting, a client engagement may involve consultants and software engineers at different Infosys offices throughout the world as well as those at the client site: the project team is the appropriate organizational unit—even if it is temporary and spans multiple locations. However, individuals' organizational roles typically involve them in multiple processes—which should take precedence when defining organizational units? James Thompson's answer was "Where interdependence among organizational members is most intense."[21]

Alternative Structural Forms: Functional, Multidivisional, Matrix

The same principle of defining organizational units in the basis of the intensity of interdependence also applies to the integration of lower-level organizational units into higher-level units. On the basis of these alternative approaches to grouping tasks and activities, we can identify three basic organizational forms for companies: the **functional structure**, the **multidivisional structure**, and the **matrix structure**.

The Functional Structure Single-business firms tend to be organized by function. Most airlines have functional structures (see Figure 6.5). Grouping together functionally similar tasks is conducive to exploiting scale economies, promoting learning and capability building, and deploying standardized control systems. Since cross-functional integration occurs at the top of the organization, functional

FIGURE 6.5 Ryanair Holdings plc: Organizational structure



structures are conducive to a high degree of centralized control by the CEO and top management team.

As functionally organized companies grow and diversify, so there are pressures to decentralize through adopting a divisional structure (see below). However, as companies and their industries mature, the advantages of efficiency, centralized control, and well-developed functional capabilities can cause companies to revert to functional structures. General Motors, a pioneer of the multidivisional structure, integrated its product divisions and overseas subsidiaries into a more integrated functional structure as scale economies became its dominant strategic priority.

The Multidivisional Structure In a multidivisional corporation, the divisions are separate businesses, defined by product or geography. The key advantage of the multidivisional structure is the potential for decentralized decision-making. It is a loosely coupled, modular organization where business-level strategies and operating decisions can be made at the divisional level, while the corporate headquarters concentrate on corporate planning, budgeting, and providing common services.

The effectiveness of the multidivisional form depends on the ability of the corporate center to apply a common management system to the different businesses. At ITT, Harold Geneen's "managing by the numbers" allowed him to cope with over 50 divisional heads reporting directly to him. At BP, a system of "performance contracts" allowed CEO John Browne to oversee BP's 24 businesses, each of which reported directly to him. Divisional autonomy also fosters the development of leadership capability among divisional heads—an important factor in grooming candidates for CEO succession.

The large, divisionalized corporation is typically organized into three levels: the corporate center, the divisions, and the individual business units, each representing a distinct business for which financial accounts can be drawn up and strategies formulated. Figure 6.6 shows General Electric's organizational structure at the corporate and divisional levels. Chapter 14 will look in greater detail at the management of the multidivisional corporation.

Matrix Structure Whatever the primary basis for grouping, all companies that embrace multiple products, multiple functions, and multiple locations must coordinate across all three dimensions. Organizational structures that formalize coordination and control across multiple dimensions are called *matrix structures*.

FIGURE 6.6 General Electric: Organizational structure, January 2018

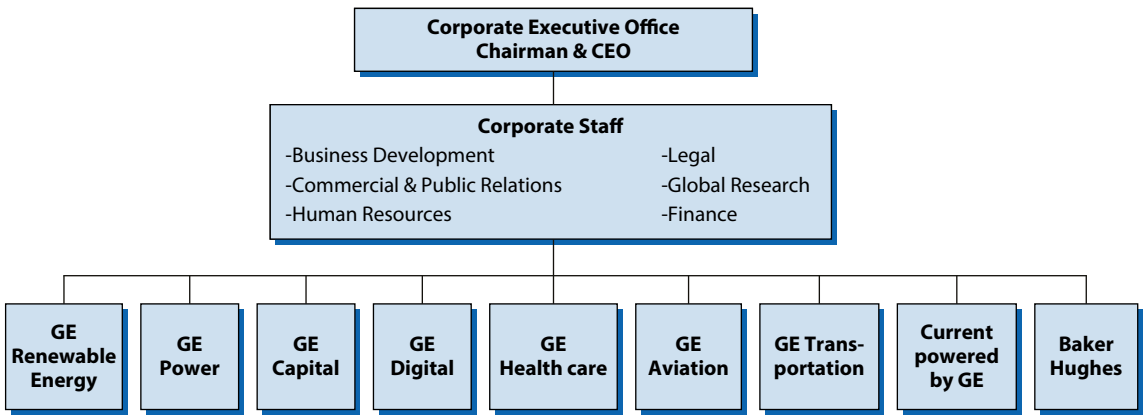
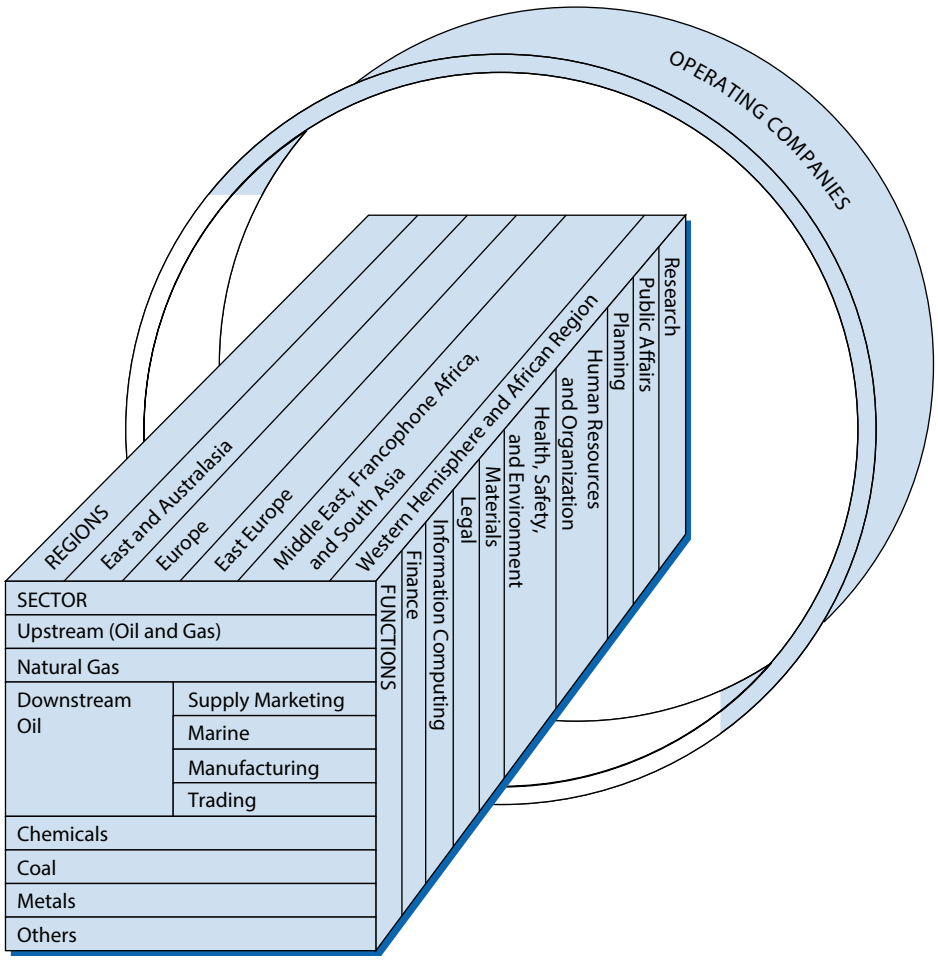


Figure 6.7 shows the Shell management matrix (prior to reorganization in 1996). Within this structure, the general manager of Shell's Berre refinery in France reported to his country manager, the managing director of Shell France, but also to his business sector head, the coordinator of Shell's refining sector, as well as having a functional relationship with Shell's head of manufacturing.

Many diversified, multinational companies, including Philips, Nestlé, and Unilever, adopted matrix structures during the 1960s and 1970s, although in all cases one dimension of the matrix tended to be dominant in terms of authority. Thus, in the old Shell matrix, the geographical dimension, as represented by country heads and regional coordinators, had primary responsibility for budgetary control, personnel appraisal, and strategy formulation.

Since the 1980s, the matrix structure has fallen out of favor and several large corporations have claimed to have dismantled their matrix organizations: "They led to conflict and confusion; the proliferation of channels created informational logjams as a proliferation of committees and reports bogged down the organization; and overlapping responsibilities produced turf battles and a loss of accountability."[22] Yet, any company that operates over multiple products, multiple functions, and multiple geographical

FIGURE 6.7 Royal Dutch Shell Group: Pre-1996 matrix structure



markets has to coordinate with each of these dimensions. So, all multifunctional, multiproduct, multinational companies are *de facto* matrix organizations. The problem is over-formalization, resulting in a top-heavy corporate HQ and over-complex systems that slow decision-making and dull entrepreneurial initiative. The trend has been for companies to focus on formal systems of coordination and control on one dimension, then allowing the other dimensions of coordination to be mainly informal. Thus, while Shell claims to have dismantled its matrix and organized itself around four business sectors, the reality is that it still has country heads, responsible for coordinating all Shell's activities in relation to legal, taxation, and government relations within each country, and functional heads, responsible for technical matters and best-practice transfer within their particular function.

Systems and Style: Mechanistic versus Organic Organizational Forms

So far, we have looked just at structure—the architecture of organizations. Equally important are the systems through which the structure operates and the management styles through which these systems are manifest. During the first half of the 20th century, management thought was dominated by Weber's theory of bureaucracy and Frederick Taylor's rational approach to job design and employee incentives. During the 1950s, the human relations school of management recognized the importance of social relationships within organizations and adverse impact of inertia and alienation on employee effort. "Theory X" had been challenged by "Theory Y."[23] The important issue here is that different types of management suit different circumstances. Among Scottish engineering companies, Burns and Stalker found that firms in stable environments had *mechanistic forms*, characterized by formality and high degrees of job specialization; those in less stable markets had *organic forms* that were less formal and more flexible.[24] Table 6.1 contrasts key characteristics of the two forms.

This principle that an organization's structure, systems, and management style should reflect the environment, in which it operates forms the basis of *contingency theory*—there is no one best way to organize; it depends upon circumstances.[25] Although Alphabet (Google) and McDonald's are both large international companies, their structures and systems are very different. McDonald's is highly bureaucratized: high levels

TABLE 6.1 Mechanistic versus organic organizational forms

Feature	Mechanistic forms	Organic forms
Task definition	Rigid and highly specialized	Flexible and broadly defined
Coordination and control	Rules and directives vertically imposed	Mutual adjustment, common culture
Communication	Vertical	Vertical and horizontal
Knowledge	Centralized	Dispersed
Commitment and loyalty	To immediate superior	To the organization and its goals
Environmental context	Stable with low technological uncertainty	Dynamic with significant technological uncertainty and ambiguity

Source: Adapted from Richard Butler, *Designing Organizations: A Decision-Making Perspective* (London: Routledge, 1991): 76, by permission of Cengage Learning.

of job specialization, formal systems, and a strong emphasis on rules and procedures. Google emphasizes informality, low job specialization, horizontal communication, and the importance of principles over rules. These differences reflect differences in strategy, technology, human resources, and the dynamism of the business environments that each firm occupies. In general, the more standardized are a firm's products (beverage cans, blood tests, or haircuts for army inductees) and the more stable its environment, the greater are the efficiency advantages of mechanistic approach with standard operating procedures and high levels of specialization. Once markets become turbulent, or innovation becomes desirable, or buyers require customized products—then the bureaucratic model breaks down.

Contingency also requires the functions within a company to be organized differently. At my university, admissions, student records, and accounting operate on bureaucratic principles; research, fund raising, and external relations are organized organically.

As the business environment has become increasingly turbulent, the trend has been toward organic approaches to organizing, which have tended to displace more bureaucratic approaches. Since the mid-1980s, almost all large companies have made strenuous efforts to restructure and reorganize to achieve greater flexibility and responsiveness. Within their multidivisional structures, companies have decentralized decision-making, reduced their number of hierarchical layers, shrunk headquarters staffs, emphasized horizontal rather than vertical communication, and shifted the emphasis of control from supervision to accountability.

However, the trend has not been one way. The financial crisis of 2008 and its aftermath have caused many companies to reimpose top-down control. Greater awareness of the need to manage financial, environmental, and political risks in sectors such as banking, petroleum, and mining have also reinforced centralized control and reliance on rules. Many companies follow the cycles of centralization and decentralization that may be a means by which they balance the trade-off between integration and flexibility.[26]

Developments in information and communication technology (ICT) have worked in different directions. In some cases, the automation of processes has permitted their centralization and bureaucratization (think of the customer services at your bank or telecom supplier). In other areas, ICT has encouraged informal approaches to coordination. The huge leaps in the availability of information available to organizational members and the ease with which they can communicate with one another have increased vastly the capacity for mutual adjustment without the need for intensive hierarchical guidance and leadership.

Recent Trends in Organizational Design

Consultants and management scholars have proclaimed the death of hierarchical structures and the emergence of new organizational forms. Two decades ago, two of America's most prominent scholars of organization identified a "new organizational revolution" featuring "flatter hierarchies, decentralized decision-making, greater tolerance for ambiguity, permeable internal and external boundaries, empowerment of employees, capacity for renewal, self-organizing units, and self-integrating coordination mechanisms."[27]

In practice, there has been more organizational evolution than organizational revolution. Certainly, major changes have occurred in the structural features and management systems of industrial enterprises, yet there is little that could be described as radical organizational innovation or discontinuities with the past. Hierarchy remains the basic structural form of almost all companies, and the familiar structural configurations—functional, divisional, and matrix—are still evident. Nevertheless, within these familiar structural features, change has occurred:

- *Delayering:* Companies have made their organizational hierarchies flatter. The motive has been to reduce costs and to increase organizational responsiveness. Wider spans of control have also changed the relationships between managers and their subordinates, resulting in less supervision and greater decentralization of initiative. At General Electric, Jack Welch reduced the number of hierarchical levels from nine to five throughout most of the company. As a result, senior executives had up to 25 subordinates directly reporting to them, forcing them to decentralize decision-making.
- *Adhocracy and team-based organization:* Adhocracies, according to Henry Mintzberg, are organizations that feature shared values, high levels of participation, flexible communication, and spontaneous coordination. Hierarchy, authority, and control mechanisms are largely absent.[28] Adhocracies tend to exist where problem-solving and other nonroutine activities predominate and where expertise is prized. Team-based organizations engaged in research, consulting, engineering, and entertainment tend to be adhocracies, as are some technology-based startup companies.
- *Project-based organizations:* Consulting and construction companies are organized around projects, the defining characteristic of which is that work assignments have finite lives, hence the organization structure needs to be dynamically flexible. Because every project is different and involves a sequence of phases, each project needs to be undertaken by a closely interacting team that is able to draw upon the know-how of previous and parallel project teams. As cycle times become compressed across more and more activities, project-based organization is becoming increasingly common across the business sector.
- *Network structures:* A major feature of the shift from formal to informal organizational structures is that coordination is determined less by hierarchical structures and more by social networks—the patterns of interactions among organizational members. The importance of social networks to the behavior and performance of organizations has led several management thinkers to recommend that these informal social structures be the primary basis for organizational structure and supplant traditional, formal structures. Thus, Gunnar Hedlund and Bartlett and Ghoshal have proposed network-based models of the multinational corporation.[29] Advances in information and communications technology have greatly enhanced the potential for coordination to occur spontaneously without the need for formal organizational structure.
- *Permeable organizational boundaries:* Network relationships are not limited by company boundaries. As firms specialize around their core competencies and products become increasingly complex, so these interfirm networks become increasingly important. As we shall see when we look more closely at strategic alliances (Chapter 15), localized networks of closely interdependent firms are features not only of traditional industrial districts such as those of northern Italy,[30] but also the high-tech clusters such as the concentration of Formula 1 constructors in Britain's "Motorsport Valley" and Israel's medical electronics cluster.[31]

Common to these emerging organizational phenomena are:

- A focus on coordination rather than on control: In contrast to the command-and-control hierarchy, these structures focus almost wholly on achieving coordination. Financial incentives, culture, and social controls take the place of hierarchical control.

- Reliance on informal coordination where mutual adjustment replaces rules and directives: Central to all nonhierarchical structures is their dependence on voluntary coordination through bilateral and multilateral adjustment. The capacity for coordination through mutual adjustment has been greatly enhanced by information technology.
- Individuals occupying multiple organizational roles thereby requiring informal structures that facilitate flexibility and responsiveness.

Summary

Strategy formulation and strategy implementation are closely interdependent. The formulation of strategy needs to take account of an organization's capacity for implementation; at the same time, the implementation process inevitably involves creating strategy. If an organization's strategic management process is to be effective then its strategic planning system must be linked to actions, commitments and their monitoring, and the allocation of resources. Hence, operational plans and capital expenditure budgets are critical components of a firm's strategic management system.

Strategy implementation involves the entire design of the organization. By understanding the need to reconcile specialization with cooperation and coordination, we are able to appreciate the fundamental principles of organizational design.

Applying these principles, we can determine how best to allocate individuals to organizational units and how to combine these organizational units into broader groupings—in particular, the choice between basic organizational forms such as functional, divisional, or matrix organizations.

We have also seen how companies' organizational structures have been changing in recent years, influenced both by the demands of their external environments and the opportunities made available by advances in information and communication technologies.

The chapters that follow will have more to say on the organizational structures and management systems appropriate to different strategies and different business contexts. In the final chapter (Chapter 16), we shall explore some of the new trends and new ideas that are reshaping our thinking about organizational design.

Self-Study Questions

1. Jack Dorsey, the CEO of Twitter, Inc., has asked for your help in designing a strategic planning system for the company. Would you recommend a formal strategic planning system with an annual cycle such as that outlined in "The Strategic Planning System: Linking Strategy to Action" and Figure 6.1? (Note: Twitter's strategy is summarized in Strategy Capsule 1.5 in Chapter 1.)
2. Select a persistently successful team in a professional sport with which you are familiar. To what extent can the superior capabilities of this team be attributed to the role of processes, motivation, and structure (as discussed in the section "Developing Organizational Capability")?

3. Within your own organization (whether a university, company, or not-for-profit organization), which departments or activities are organized mechanistically and which organically? To what extent does the mode of organization fit the different environmental contexts and technologies of the different departments or activities?
4. In 2008, Citigroup announced that its Consumer business would be split into Consumer Banking, which would continue to operate through individual national banks, and Global Cards, which would form a single global business (similar to Citi's Global Wealth Management division). On the basis of the arguments relating to the "Defining Organizational Units" section above, why should credit cards be organized as a global unit and all other consumer banking services as national units?
5. The examples of Apple and General Motors (see "Functional Structure" section above) point to the evolution of organizational structures over the industry life cycle. During the growth phase, many companies adopt multidivisional structures; during maturity and decline, many companies revert to functional structures. Why might this be? (Note: you may wish to refer to Chapter 8, which outlines the main features of the life-cycle model.)
6. Draw an organizational chart for a business school that you are familiar with. Does the school operate with a matrix structure (for instance, are there functional/discipline-based departments together with units managing individual programs)? Which dimension of the matrix is more powerful, and how effectively do the two dimensions coordinate? How would you reorganize the structure to make the school more efficient and effective?

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III

BUSINESS STRATEGY AND THE QUEST FOR COMPETITIVE ADVANTAGE

7 **The Sources and Dimensions of Competitive Advantage**

8 **Industry Evolution and Strategic Change**

9 **Technology-based Industries and the Management of Innovation**

7 The Sources and Dimensions of Competitive Advantage

If you don't have a competitive advantage—don't compete!

JACK WELCH, CEO, GENERAL ELECTRIC 1981–2001.

OUTLINE

- **Introduction and Objectives**
- **How Is Competitive Advantage Established?**
  - External Sources of Competitive Advantage
  - Internal Sources of Competitive Advantage: Strategic Innovation through Business Models and Blue Ocean Strategy
- **How Is Competitive Advantage Sustained?**
- **Cost Advantage**
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Introduction and Objectives

In this chapter, we integrate and develop the elements of competitive advantage that we have analyzed in previous chapters. Chapter 1 noted that a firm can earn superior profitability either by locating in an attractive industry or by establishing a competitive advantage over its rivals. Of these two, competitive advantage is the more important. As competition has intensified across almost all industries, very few industry environments can guarantee secure returns; hence, the primary goal of a strategy is to build competitive advantage for the firm.

Chapters 3 and 5 provided the two primary components of our analysis of competitive advantage. The last part of Chapter 3 analyzed the external sources of competitive advantage: the determinants of the key success factors within a market. Chapter 5 analyzed the internal sources of competitive advantage: the potential for the firm's resources and capabilities to establish and sustain competitive advantage.

This chapter looks more deeply at competitive advantage. We first explore the dynamics of competitive advantage, examining the processes through which competitive advantage is created and destroyed. This gives us insight into how competitive advantage can be attained and sustained. We then look at the two primary dimensions of competitive advantage: cost advantage and differentiation advantage and develop systematic approaches to their analysis.

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

- Identify how a firm can create competitive advantage—including the roles that anticipation, agility, business model innovation, and blue ocean strategies can play.
- Identify how a firm can sustain competitive advantage—including the use of different types of *isolating mechanism*.
- Use cost analysis to identify the sources of cost advantage in an industry, assess a firm's relative cost position, and recommend strategies to enhance cost competitiveness.
- Use differentiation analysis to identify the sources of differentiation and formulate strategies that create differentiation advantage.
- Appreciate the feasibility of pursuing both cost and differentiation advantage.

How Is Competitive Advantage Established?

Competitive advantage refers to a firm's ability to outperform its rivals. Most of us can recognize competitive advantage when we see it: Walmart in discount retailing, Vestas in wind turbines, Google in online search, and Embraer in regional jets. Yet, defining competitive advantage is troublesome. Competitive advantage can be defined broadly in terms of a firm's superiority in creating value for its stakeholders, or more narrowly in terms of profitability. Because of the difficulties in identifying and measuring total value creation (see the section on "Strategy as a Quest for Value" in Chapter 2), I shall

take the simple approach and define competitive advantage as: *a firm's potential to earn a higher rate of profit than its direct competitors*. I emphasize the *potential* for superior profitability rather than *actual* superior profitability to take account of the fact that competitive advantage may not be revealed in higher profitability—a firm may forgo current profit in favor of investing in market share, technology, customer loyalty, or executive perks. For example, over the ten-year period, 1998–2007, Amazon earned a net loss, despite its obvious competitive advantage in online retailing. Amazon had foregone profit in favor of sales growth.

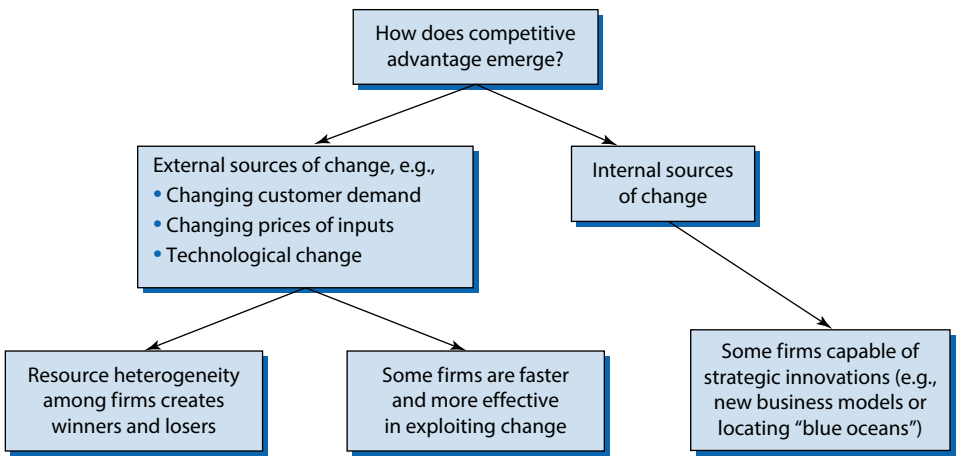
In viewing competitive advantage as the result of matching internal strengths to external success factors, I may have conveyed the notion of competitive advantage as something static and stable. In fact, as we observed in Chapter 4 when discussing competition as a process of "creative destruction," competitive advantage is a disequilibrium phenomenon: it is created by change and, once established, it sets in motion the competitive process that leads to its destruction.[1] The changes that generate competitive advantage can be either internal or external. Figure 7.1 depicts the basic relationships.

External Sources of Competitive Advantage

External changes create competitive advantage when they have differential effects on companies because of their different resources and capabilities or strategic positioning. For example, by reducing subsidies for renewable energy, the tax bill passed by the US Congress in December 2017, will enhance the competitive advantage of power producers that use fossil fuels, such as Duke Energy and AEP, over wind and solar power producers such as Terra-Gen and Caithness Energy.

The greater the magnitude of the external change and the greater the difference in the strategic positioning of firms, the greater the propensity for external change to generate competitive advantage, as indicated by the dispersion of profitability among the firms within an industry. The world's beer brewing industry has a relatively stable external environment and the leading firms—AB Inbev, Carlson, Heineken, and Molson Coors—pursue similar strategies with similar resources and

FIGURE 7.1 The emergence of competitive advantage



capabilities: differences in profitability among this group tend to be small and stable. The major toy companies (Mattel, Lego, Hasbro, Bandai Namco, and MGA Entertainment), on the other hand, comprise a heterogeneous group that experience unpredictable shifts in consumer preferences, resulting in wide and variable profitability differences.

The competitive advantage that arises from external change also depends on firms' ability to respond to change. Any external change creates entrepreneurial opportunities that will accrue to the firms that exploit these opportunities most effectively. Entrepreneurial responsiveness involves one of two key capabilities:

- *Anticipation*. Over its 100-year history, IBM has demonstrated a remarkable ability to renew its competitive advantage through anticipating, and then taking advantage of, many of the major shifts in the IT sector: the birth of the mainframe, the rise of personal computing, advent of the internet, migration of value from hardware to software and services, cloud computing, big data, and quantum computing. Conversely, Hewlett-Packard has been less adept in recognizing and responding to these changes.
- *Agility*. As markets become more turbulent and unpredictable, quick-response capability has become increasingly important as a source of competitive advantage. Quick responses require information. As conventional economic and market forecasting has become less effective, so companies rely increasingly on "early-warning systems" through contact with customers, suppliers, and competitors, then compress their cycle times so that information can be acted upon speedily. Zara, the retail fashion chain owned by the Spanish company Inditex, has built a vertically integrated supply chain that cuts the time between a garment's design and retail delivery to under three weeks (against an industry norm of three to six months).[2] This emphasis on speed as a source of competitive advantage was popularized by the Boston Consulting Group's concept of *time-based competition*[3] and in the surge of interest by consultants and academics in *strategic agility*.[4]

Internal Sources of Competitive Advantage: Strategic Innovation through Business Models and Blue Ocean Strategy

Competitive advantage may also be generated internally through innovation which creates competitive advantage for the innovator while undermining previously established competitive advantages—the essence of Schumpeter's "creative destruction."[5] Although innovation is typically thought of as applications of new technology, our emphasis here is *strategic innovation*—new approaches to serving customers and competing with rivals.

Business Model Innovation Strategic innovation has long been recognized as an important source of competitive advantage. Four decades ago, McKinsey & Co. drew the distinction between "same game" strategies ("playing by the traditional rules") and "new game" strategies ("rewriting them completely").[6] More recently, the term *business model innovation* has been used to describe the introduction of novel approaches to creating and/or capturing value within an industry.[7] Its importance in creating competitive advantage is indicated by research showing business model innovation to be a more potent profit generator than either product or process innovation.[8] It has been argued that

STRATEGY CAPSULE 7.1
Examples of Business Model Innovations

Business model innovations are typically associated with e-commerce businesses such as Google, eBay, Facebook, Amazon, and Spotify. Yet, many of these business models are variants on business models established much earlier. Significant business model innovations include the following:

- *Free content supported by paid advertising* originated with US commercial radio at the beginning of the 1920s.
- *Platform business models.* A platform is an interface between two sets of platform users. The first platform businesses were auction houses. Sotheby's was established in 1744, Christies in 1766.
- *Shared-ownership models* used by Airbnb, Zipcar, Netjets, and the like have their origins in real estate timeshares (pioneered by the Swiss company, Hapimag, during the 1960s).
- *Franchising.* The system of local licensed distributors, each with defined exclusive territories, is attributed to the Singer Sewing Machine Company which introduced its system in the 1880s.
- *Consumer cooperatives.* The Rochdale Society of Equitable Pioneers' cooperative grocery store was not the world's first consumer cooperative, but created a model for future cooperatives.
- *Microfinance*—small loans to low-income business owners—was developed by Muhammad Yunus's Grameen Bank during the 1970s.
- *Tied products (razor-and-blades) model* involving below-cost pricing of the durable item and premium pricing of consumables, was introduced by Gillette's competitors during the 1910s, then copied by Gillette.
- *Mail order.* The first major mail order retailer was Montgomery Ward, established in 1872.

most new companies entering the Fortune 500 between 1997 and 2007 owed their success to innovative business models.[9] While business model innovations continue to create new corporate giants and transform entire sectors, very often these innovative business models are a variation on a theme or the transfer of an existing business model from a different sector (see Strategy Capsule 7.1).

Business model innovations can be classified in different ways, A study by IBM identified three generic types:

- *New industry models*—reconfigurations of the conventional industry value chain such as Dell's direct sales model for PCs or Zara's vertically integrated fast-fashion model.
- *New revenue models*—changing the value proposition, the target audience or pricing strategy. In the 1980s, Rolls Royce introduced "Power by the Hour": instead of buying jet engines outright, airlines could pay usage based fees for engines, maintenance, and spares and other support services. Virgin America introduced a novel customer offering comprising low airfares and a differentiated in-flight experience.
- *New enterprise models*—involve reconfiguring enterprise boundaries and partner relationships. Apple's iPhone with outsourced manufacture and network of application providers created a new model of the smartphone business.

Conceiving of business model innovations is much easier than implementing them. To the extent that most business model innovations are variations on existing themes, then analogical reasoning is a powerful tool for revealing new possibilities.[10] Office products retailer, Staples, was established as the "Toys 'R' Us for office supplies"; cannabis infrastructure company, Diego Pellicer Worldwide, Inc., envisages itself as the "Starbucks of marijuana."

Implementing business model innovations comes up against the resistance created by commitment to the prevailing business model. Established companies may be reluctant to experiment with new business models because of their adherence to current asset allocations or to senior executives 'perceptions of the "dominant logic" of their business.[11] However, using the lexicon of business models may assist in overcoming these barriers: business models offer a narrative that can be used, not only to simplify cognition, but also as a communication device creating a sense of legitimacy around the initiative.[12] Moreover, adopting new business models does not necessarily involve abandoning existing models—increasingly companies are getting used to operating multiple models: Netflix offers both video streaming and DVDs by mail.

STRATEGY CAPSULE 7.2
Blue Ocean Strategy

Kim and Mauborgne argue that the best value-creating opportunities for business lie not in existing industries following conventional approaches to competing (what they refer to as "red oceans"), but seeking uncontested market space. These "blue oceans" may be entirely new industries created by technological innovation (such as artificial intelligence and nanotechnology), but are more likely to be the creation of new market space within existing industries using existing technologies. This may involve:

- New customer segments for existing products, for example, Tesla's Powerwall battery for electrical storage in the home.
- Reconceptualization of existing products, for example, Mark Zuckerberg's reconceptualization of a printed Facebook of class members as an online, interactive, and social platform.
- Novel recombinations of product attributes and reconfigurations of established value chains that establish new positions of competitive advantage, for example, Dell's integrated system for ordering, assembling, and distributing PCs, which permitted unprecedented customer choice and speed of fulfillment.

The *strategy canvas* is a framework for developing blue ocean strategies. The horizontal axis shows the different product characteristics along which the firms in the industry compete; the vertical axis shows the amount of each characteristic a firm offers its customers. Starting with the value line showing the industry's existing offerings, the challenge is to identify a strategy that can provide a novel combination of attributes. This involves four types of choice:

- Raise: What factors should be raised well above the industry's standard?
- Eliminate: Which factors that the industry has long competed on should be eliminated?
- Reduce: Which factors should be reduced well below the industry's standard?

Pursuing multiple business models can offer companies the benefits of both synergy and risk spreading.[13]

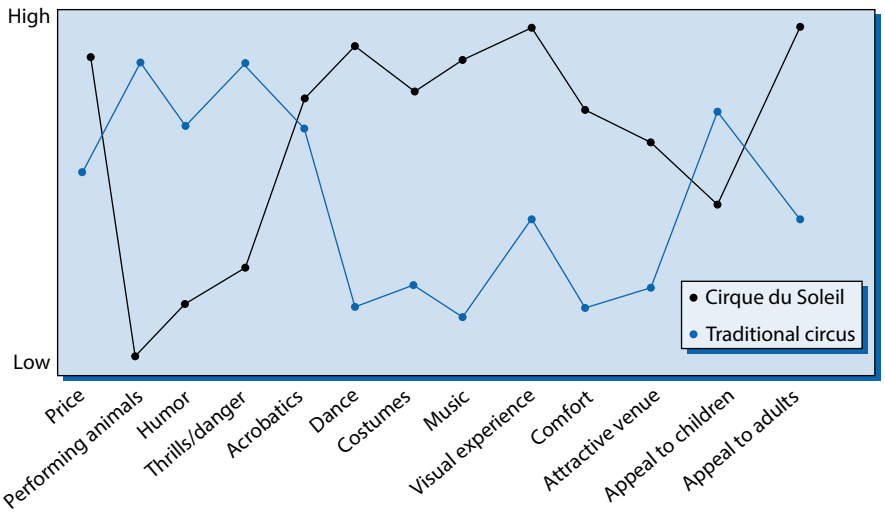
Blue Ocean Strategy An alternative approach to identifying the potential for strategic innovation is that developed by Insead's Kim Chan and Renee Mauborgne. Their **blue ocean strategy** involves a quest for "uncontested market space."[14] Creating untapped market space doesn't necessarily require finding new market opportunities well beyond existing industry boundaries, blue oceans can also be created within existing markets. The challenge is "to create new rules of the game by breaking the existing value/cost trade-off."[15] One approach is to combine performance attributes that were previously viewed as conflicting. Thus, Virgin America offers the low fares typical of budget airlines together with inflight services that are superior to those of most legacy carriers. Indeed, common to many blue ocean strategies is offering superior customer value through reconciling low price with differentiation. Strategy Capsule 7.2 outlines how the concept of blue ocean strategy can help companies pursue strategic innovation.

- Create: Which factors should be created that the industry has never offered?

Figure 7.2 compares value lines for Cirque du Soleil and a traditional circus.

Source: Based upon W. C. Kim and R. Mauborgne, *Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant* (Boston: Harvard Business School Press, 2005).

FIGURE 7.2 The strategy canvas: Value lines for Cirque du Soleil and the traditional circus



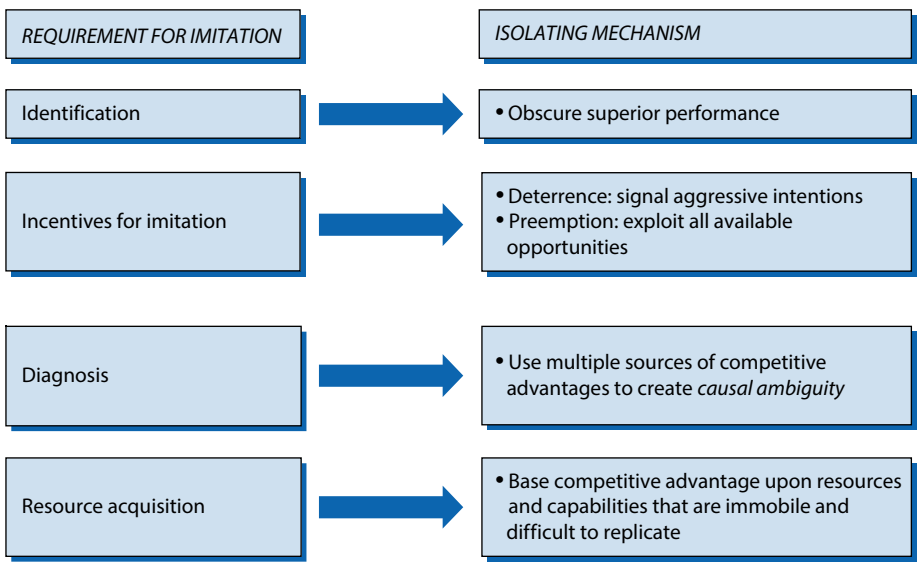
How Is Competitive Advantage Sustained?

Once established, competitive advantage is eroded by competition. The speed with which competitive advantage is undermined depends on the ability of competitors to challenge either by imitation or innovation. Imitation is the most direct form of competition; hence, for competitive advantage to be sustained over time, *barriers to imitation* must exist. Rumelt uses the term **isolating mechanisms** to describe the barriers that prevent the erosion of a business's superior profitability.[16] The tendency for profit differences between competitors to persist for periods of a decade or more suggests that isolating mechanisms can be very effective.[17]

To identify the sources of isolating mechanisms, let us examine the process of competitive imitation. For one firm to successfully imitate the strategy of another, it must meet four conditions: it must identify the competitive advantage of a rival, it must have an incentive to imitate, it must be able to diagnose the sources of the rival's competitive advantage, and it must be able to acquire the resources and capabilities necessary for imitation. At each stage, the incumbent can create isolating mechanisms to impede the would-be imitator (Figure 7.3).

Obscuring Superior Performance A simple barrier to imitation is to obscure the firm's superior profitability. According to George Stalk, former managing director of the Boston Consulting Group: "One way to throw competitors off balance is to mask high performance so rivals fail to see your success until it's too late."[18] One of the attractions of private company status is avoiding disclosure of financial performance. Few food processors realized the profitability of canned cat and dog food until the UK Monopolies Commission revealed that the leading firm, Pedigree Petfoods (a subsidiary of Mars, Inc.), earned a return on capital employed of 47%.[19]

FIGURE 7.3 Sustaining competitive advantage: Types of isolating mechanism



In order to discourage new competitors, companies may forgo maximizing their short-term profits. The *theory of limit pricing*, in its simplest form, postulates that a firm in a strong market position sets prices at a level that just fails to attract entrants.[20]

Deterrence and Preemption A firm may avoid competition by persuading potential rivals that imitation will be unprofitable. Deterrence (as we discussed in the section on "Game Theory" in Chapter 4) involves making threats that competitive incursions will be resisted vigorously.[21] For deterrence to work, threats must be clearly signaled, backed by commitment, and credible. Following the expiration of its NutraSweet patents in 1987, Monsanto fought an aggressive price war against the Holland Sweetener Company. Although costly, this gave Monsanto a reputation for aggression that deterred other would-be entrants into the aspartame market.[22]

A firm can also deter imitation by *preemption*—occupying existing and potential strategic niches to reduce the range of investment opportunities open to the challenger. Preemption may include:

- Proliferation of product varieties by market leaders leaving few niches for new entrants and smaller rivals to occupy. Between 1950 and 1972, for example, the six leading suppliers of breakfast cereals introduced 80 new brands into the US market.[23]
- Investing in underutilized production capacity can be especially discouraging to rivals and potential entrants. Part of Monsanto's strategy to protect its NutraSweet business were heavy investments in aspartame plants.
- Patent proliferation can limit competitors' innovation opportunities. In 1974, Xerox's dominant market position in plain-paper copiers was protected by a wall of over 2000 patents, most of which were not used. When IBM introduced its first copier, Xerox sued it for infringing 22 of these patents.[24]

Causal Ambiguity and Uncertain Imitability If a firm is to imitate the competitive advantage of another, it must understand the basis of its rival's success. For Kmart or Target to imitate Walmart's success in discount retailing, they must first understand what makes Walmart so successful. Walmart does many things differently, but which of these differences are the critical determinants of superior profitability?

Lippman and Rumelt identify this problem as **causal ambiguity**: when a firm's competitive advantage is multidimensional and is based on complex bundles of resources and capabilities, it is difficult for rivals to diagnose the success of the leading firm. The outcome of causal ambiguity is *uncertain imitability*: if the causes of a firm's success cannot be known for sure, successful imitation is uncertain.[25]

Recent research suggests that the problems of strategy imitation may run even deeper. We observed in Chapter 5 that capabilities are the outcome of complex combinations of resources and that multiple capabilities interact to confer competitive advantage. Research into complementarity among an organization's activities suggests that these interactions extend across the whole range of management practices.[26] Strategy Capsule 7.3 describes Urban Outfitters as an example of a unique "activity system." Where activities are tightly linked, complexity theory—NK modeling in particular—predicts that, within a particular competitive environment, a number of *fitness peaks*

STRATEGY CAPSULE 7.3
Urban Outfitters

Urban Outfitters, Inc. was founded in Philadelphia in 1976. By 2018, it operated 650 Urban Outfitters, Anthropologie, and Free People stores in 14 countries. The company targets, "Well-educated, urban-minded, young adults aged 18—30 through its unique merchandise mix and compelling store environment 'creating' a unified environment that establishes an emotional bond with the customer. Every element of the environment is tailored to the aesthetic preferences of our target customers. Through creative design, much of the existing retail space is modified to incorporate a mosaic of fixtures, finishes and revealed architectural details. In our stores, merchandise is integrated into a variety of creative vignettes and displays designed to offer our customers an entire look at a distinct lifestyle."

According to Michael Porter and Nicolaj Siggelkow, these management practices are both distinctive and highly interdependent. The urban-bohemian-styled product mix, which includes clothing, furnishings, and gift items, is displayed within bazaar-like stores, each of which has a unique design. To encourage frequent customer visits, the layout of each store is changed every two weeks, creating a new shopping experience whenever customers return. Each practice makes little sense on its own, but together they represent a distinctive, integrated strategy. It may be possible to replicate the individual elements of Urban Outfitters' business system; the real challenge for an imitator integrating them into a cohesive whole.

Source: Urban Outfitters, Inc. 10-K Report to January 31, 2018; M. E. Porter and N. Siggelkow, "Contextuality within Activity Systems and Sustainable Competitive Advantage," *Academy of Management Perspectives* 22 (May 2008): 34–56.

will appear, each associated with a unique combination of strategic variables.[27] The implications for imitation is that to locate on the same fitness peak as another firm not only requires recreating a complex configuration of strategy, structure, management systems, leadership, and business processes, but also means that getting it just a little bit wrong may result in the imitator missing the fitness peak and finding itself in an adjacent valley.[28]

One of the challenges for the would-be imitator is deciding which management practices are generic best practices and which are *contextual*—they only work in combination with other management practices. For example, if Sears Holdings is considering which of Walmart's management practices to imitate in its Kmart stores, some practices (e.g., employees required to smile at customers, point-of-sale data transferred direct to the corporate database) are likely to be generically beneficial. Others, such as Walmart's "everyday low prices" pricing policy, low advertising sales ratio, and hub-and-spoke distribution are likely to be beneficial only when combined with other practices that ensure low costs.

Acquiring Resources and Capabilities Having diagnosed the sources of an incumbent's competitive advantage, the imitator's next challenge is to assemble the necessary resources and capabilities for imitation. As we saw in Chapter 5, a firm can acquire resources and capabilities either by buying them or by building them.

STRATEGY CAPSULE 7.4
Competitive Advantage in Different Market Settings

Competitive advantage arises where there are imperfections in the competitive process, which in turn result from the conditions under which essential resources and capabilities are available. Hence, by analyzing imperfections of competition, we can identify the sources of competitive advantage in different types of market. We distinguish between two types of value-creating activity: *trading* and *production*.

In trading markets, the limiting case is *efficient markets*, which correspond closely to perfectly competitive markets (e.g., the markets for securities, currencies, and commodity futures). If prices reflect all available information and adjust instantaneously to new information, no market trader can expect to earn more than any other. It is not possible to beat the market on any consistent basis—in other words competitive advantage is absent. This reflects the conditions of resource availability. Both of the resources needed to compete—finance and information—are equally available to all traders.

Competitive advantage in trading markets requires imperfections in the competitive process:

- Where there is an imperfect availability of information, competitive advantage results from superior access to information—hence the criminal penalties for insider trading in most advanced economies.
- Where transaction costs are present, competitive advantage accrues to the traders with the lowest transaction costs, hence the superior returns to low-cost index mutual funds over professionally managed funds. Vanguard's S&P 500 Index fund with administrative costs of 0.07% annually has outperformed 90% of US equity mutual funds.
- If markets are subject to systematic behavioral trends (e.g., the *small firm effect* or the *January effect*), competitive advantage accrues to traders with superior knowledge of market psychology or of systematic price patterns (chart analysis). If markets are subject to bandwagon effects, competitive advantage can be gained in the short term by following the herd (momentum trading) and longer term by a contrarian strategy. Warren Buffett is a contrarian who is "fearful when others are greedy, and greedy when others are fearful."

In production markets, the potential for competitive advantage is much greater because of the complex combinations of the resources and capabilities required, the highly differentiated nature of these resources and capabilities, and the imperfections in their supply. Within an industry, the more heterogeneous are firms' endowments of resources and capabilities, the greater the potential for competitive advantage. In the European electricity-generating industry, the growing diversity of players—utilities (EDF, ENEL), gas distributors (Gaz de France, Centrica), petroleum majors (Shell, ENI), independent power producers (AES, E.ON), and wind generators—has expanded opportunities for competitive advantage and widened the profit differentials between them.

Differences in resource endowments also influence the erosion of competitive advantage: the more similar are competitors' resources and capabilities, the easier is imitation.

The imitation barriers here are limits to the *transferability* and *replicability* of resources and capabilities (see Chapter 5, "Sustaining Competitive Advantage"). Strategy Capsule 7.4 shows how the resource requirements for competitive advantage differ across different market settings.

Cost Advantage

A firm can achieve a higher rate of profit (or potential profit) over a rival in one of two ways: either it can supply an identical product or service at a lower cost or it can supply a product or service that is differentiated in such a way that the customer is willing to pay a price premium that exceeds the additional cost of the differentiation. In the former case, the firm possesses a *cost advantage*; in the latter, a *differentiation advantage*. In pursuing cost advantage, the goal of the firm is to become the cost leader in its industry or industry segment. Cost leadership requires the firm to "find and exploit all sources of cost advantage [and] sell a standard, no-frills product."[29] Differentiation by a firm from its competitors is achieved "when it provides something unique that is valuable to buyers beyond simply offering a low price."[30] Figure 7.4 illustrates these two types of advantage. By combining the two types of competitive advantage with the firm's choice of scope—broad market versus narrow segment—Michael Porter has defined three generic strategies: cost leadership, differentiation, and focus (Figure 7.5).

Historically, strategic management has emphasized cost advantage as the primary basis for competitive advantage in an industry. This focus on cost reflected the traditional emphasis by economists on price as the principal medium of competition. It also reflected the quest by large industrial corporations during the last century to exploit economies of scale and scope through investments in mass production and mass distribution. This preoccupation with cost advantage was reinforced during the 1970s and 1980s when the **experience curve** became a widely-used tool of strategy analysis (see Strategy Capsule 7.5).

Since then, increasing low-cost competition from emerging market countries has resulted in Western firms adopting a number of new approaches to cost reduction, including outsourcing, offshoring, process re-engineering, lean production, and organizational delayering.

FIGURE 7.4 Sources of competitive advantage

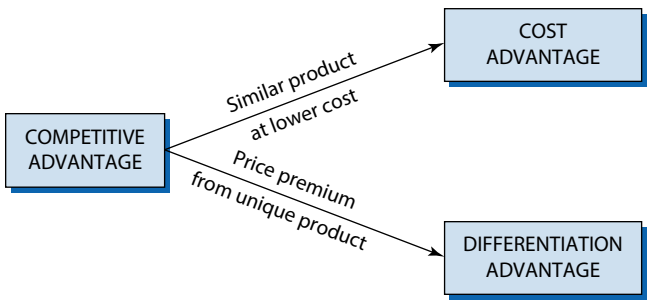
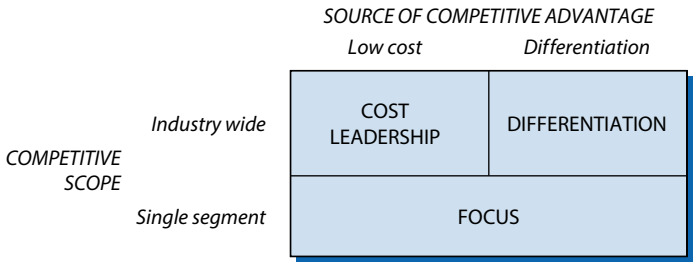


FIGURE 7.5 Porter's generic strategies



STRATEGY CAPSULE 7.5

BCG and the Experience Curve

The experience curve has its basis in the systematic reduction in the time taken to build airplanes and Liberty ships during World War II. In studies ranging from bottle caps and refrigerators to long-distance calls and insurance policies, the Boston Consulting Group (BCG) observed a remarkable regularity in the reductions in unit costs with increased cumulative output. Its *law of experience* states: the unit cost of value added to a standard product declines by a constant percentage (typically between 15% and 30%) each time cumulative output doubles. (Where "unit cost of value added" is the unit cost of production less the unit cost of bought-in components and materials).[a] Figure 7.6 shows the experience curve for Ford's Model T.

The experience curve has important implications for strategy. If a firm can expand its output faster than its competitors can, it can move down the experience curve more rapidly and open up a widening cost differential. BCG recommended that a firm's primary strategic goal should be driving volume growth through increasing its market share. BCG identified Honda in motorcycles as an exemplar of this strategy.[b] The benefits market share were supported by studies showing a positive relationship between profitability and market share.[c] However, association does not imply causation—it is likely that market share and profitability are both outcomes of some other source of competitive advantage—product innovation, or superior marketing.[d]

The weaknesses of the experience curve as a strategy tool are, first, it fails to distinguish several sources of cost reduction (learning, scale, process innovation); second, it presumes that cost reductions from experience are automatic—in reality they must be managed.

Notes:

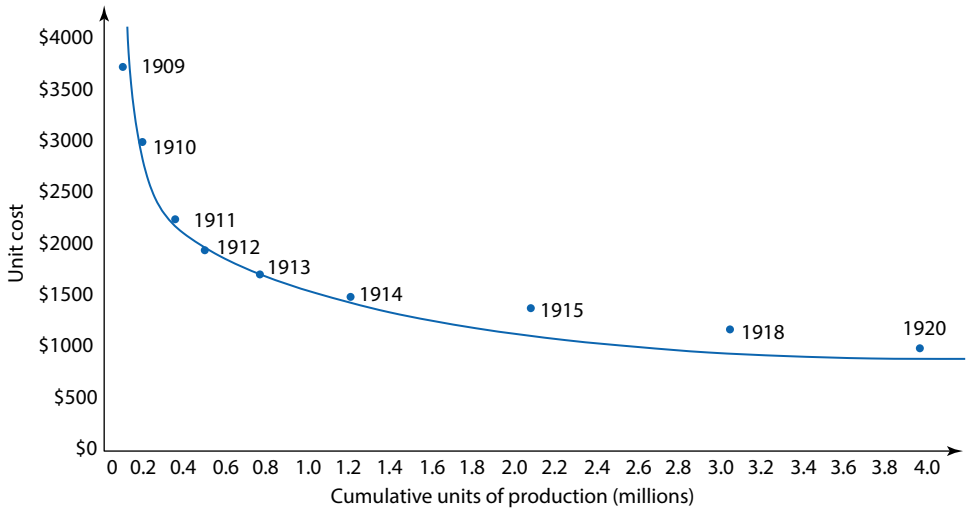
[a] Boston Consulting Group, *Perspectives on Experience* (Boston: BCG, 1970).

[b] Boston Consulting Group, *Strategy Alternatives for the British Motorcycle Industry* (London: HMSO, 1975).

[c] R. Jacobsen and D. Aaker, "Is Market Share All That It's Cracked Up To Be?" *Journal of Marketing* 49 (Fall 1985): 11–22.

[d] R. Wensley, "PIMS and BCG: New Horizons or False Dawn?" *Strategic Management Journal* 3 (1982): 147–58.

FIGURE 7.6 Experience curve for the Ford Model T, 1909–1920



Note: The figure shows an 85% experience curve, that is, unit costs declined by approximately 15% with each doubling of cumulative volume.

The Sources of Cost Advantage

There are seven principal determinants of a firm's unit costs (cost per unit of output) relative to its competitors; we refer to these as *cost drivers* (Figure 7.7).

The relative importance of these different cost drivers varies across industries, between firms within an industry, and across the different activities within a firm. By examining each of these different cost drivers in relation to a particular firm, we can analyze a firm's cost position relative to its competitors', diagnose the sources of inefficiency, and make recommendations as to how a firm can improve its cost efficiency.

Economies of Scale The predominance of large corporations in most manufacturing and service industries is a consequence of economies of scale. Economies of scale exist wherever proportionate increases in the amounts of inputs employed in a production process result in lower unit costs. Economies of scale have been conventionally associated with manufacturing. Figure 7.8 shows a typical relationship between unit cost and plant capacity. The point at which most scale economies are exploited is the *minimum efficient plant size* (MEPS).

FIGURE 7.7 The drivers of cost advantage

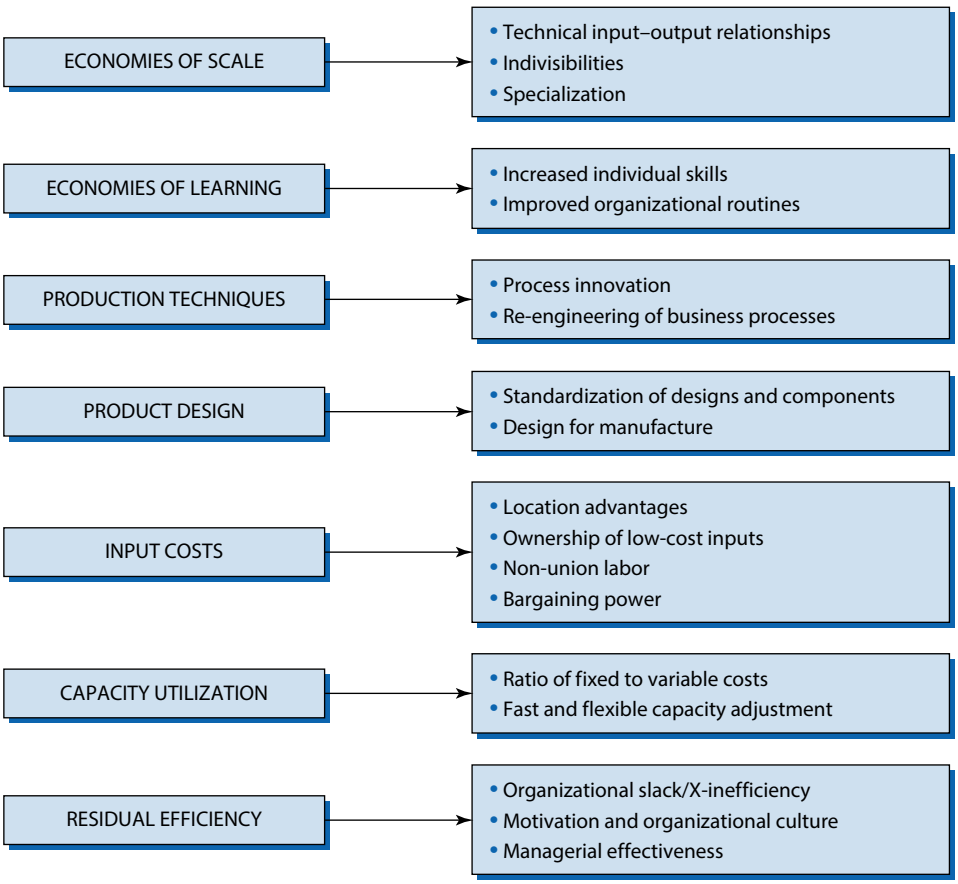
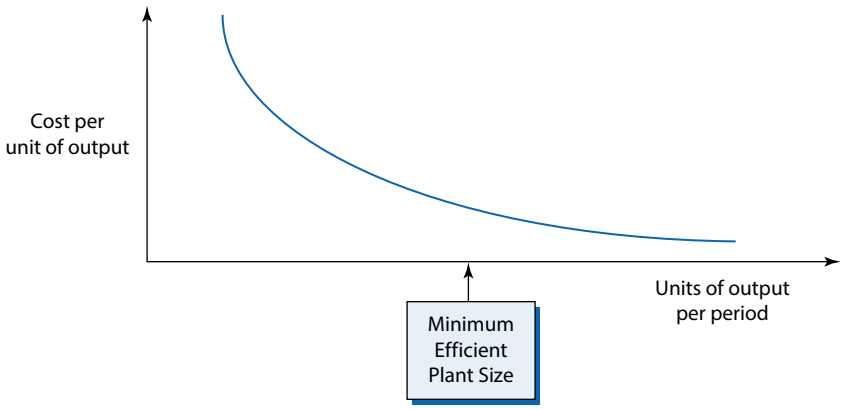


FIGURE 7.8 The long-run average cost curve for a plant



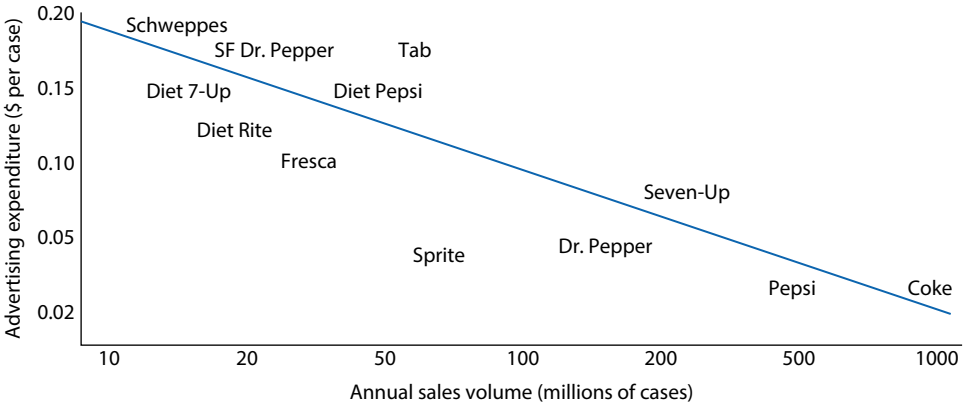
Scale economies arise from three principal sources:

- Technical input–output relationships: In many activities, increases in output do not require proportionate increases in input. A 10,000-barrel oil storage tank does not cost five times as much as a 2000-barrel tank. Similar volume-related economies exist in ships, trucks, and steel and petrochemical plants.
- Indivisibilities: Many resources and activities are "lumpy"—they are unavailable in small sizes. Hence, they offer economies of scale as firms are able to spread the costs of these items over larger volumes of output. In R&D, new product development and advertising market leaders tend to have much lower costs as a percentage of sales than their smaller rivals.
- Specialization: Increased scale permits greater task specialization. Mass production involves breaking down the production process into separate tasks performed by specialized workers using specialized equipment. Division of labor promotes learning and assists automation. Economies of specialization are especially important in knowledge-intensive industries: in investment banking, management consulting, and legal services, large firms are able to offer a broader array of specialized expertise.

Scale economies are a key determinant of an industry's level of concentration. In many consumer goods industries, scale economies in marketing have driven industry consolidation. Figure 7.9 shows how soft drink brands with the greatest sales volume tend to have the lowest unit advertising costs. In other industries—especially aerospace, automobiles, software, and movie production—economies of scale arise from the huge costs of new product development. The Boeing 747 was hugely profitable because 1536 were built between 1970 and 2017. The challenge for the Airbus A380 is whether there is sufficient worldwide demand to cover the plane's $18 billion development cost.

In industries where scale economies are important, small- and medium-sized companies can avoid disadvantages of small scale by outsourcing activities where scale is critical. For example, specialist car makers typically license technologies and designs and buy in engines.

FIGURE 7.9 Economies of scale in advertising: US soft drinks



Economies of Learning The experience curve has its basis in learning-by-doing. Repetition develops both individual skills and organizational routines. In 1943, it took 40,000 labor-hours to build a B-24 Liberator bomber. By 1945, it took only 8000 hours.[31] Intel's dominance of the world microprocessor market owes much to its accumulated learning in the design and manufacture of these incredibly complex products. Learning occurs both at the individual level through improvements in dexterity and problem solving and at the group level through the development and refinement of organizational routines.[32]

Process Technology and Process Design Superior processes can be a source of huge cost economies. Pilkington's revolutionary float glass process gave it (and its licensees) an unassailable cost advantage in producing flat glass. Ford's moving assembly line reduced the time taken to assemble a Model T from 106 hours in 1912 to six hours in 1914. When process innovation is embodied in new capital equipment, diffusion is likely to be rapid. However, the full benefits of new process technologies typically require system-wide changes in job design, employee incentives, product design, organizational structure, and management controls. Between 1979 and 1986, General Motors achieved few productivity gains from the $40 billion it spent on robotics and other advanced manufacturing technologies. The problem was that Toyota's system of lean production, which GM sought to imitate, relies less on advanced automation than on work practices such as just-in-time scheduling, total quality management, continuous improvement (kaizen), teamwork, job flexibility, and supplier partnerships.[33]

Business process re-engineering (BPR) is an approach to redesigning operational processes that became widely popular during the 1990s. "Re-engineering gurus" Michael Hammer and James Champy define BPR as: "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service, and speed."[34] BPR recognizes that processes can evolve haphazardly, hence, BPR begins with the question: "If we were starting afresh, how would we design this process?"

BPR can lead to major gains in efficiency, quality, and speed (Strategy Capsule 7.6), but where business processes are complex and embedded in organizational routines, "obliterating" existing processes and starting with a "clean sheet of paper" may endanger organizational capabilities that have been nurtured over a long period. In recent years, BPR has been partly superseded by *business process management*, where the emphasis has shifted from workflow management to the broader application of information technology (web-based applications in particular) to the redesign and enhancement of organizational processes.[35]

STRATEGY CAPSULE 7.6

Process Re-engineering at IBM Credit

Michel Hammer and James Champy describe how business process re-engineering resulted in IBM reducing the time taken to approve requests by sales personnel for new customer credit approval from six days to four hours. Under the old system, five stages were involved:

1. an IBM salesperson telephoned a request for financing, which was logged on a piece of paper;
2. the request was sent to the credit department, which checked the customer's creditworthiness;
3. the request and credit check were sent to the business practices department where a loan covenant was drawn up;
4. the paperwork was passed to a pricer, who determined the interest rate;
5. the clerical group prepared a quote letter that was sent to the salesperson.

Frustrated by the delays and resulting lost sales, two managers undertook an experiment. They took a financing request and walked it through all five steps—it took just 90 minutes!

The problem was that the process had been designed for the most complex credit requests that IBM received, yet, in most cases no specialist judgment was called for: all that was needed was to check credit ratings and to plug numbers into standard algorithms. The credit approval process was redesigned by replacing the specialists (credit checkers, pricers, and so on) with generalists who undertook all five processes. Specialists were reserved for nonstandard or unusually complex requests. Processing time was cut by 94%, fewer employees were required, and the volume of customer approvals increased.

Source: Adapted from M. Hammer and J. Champy, *Re-engineering the Corporation: A Manifesto for Business Revolution* (New York: Harper Business, 1993): 36–39.

Product Design *Design-for-manufacture*—designing products for ease of production rather than simply for functionality and esthetics—can offer substantial cost savings, especially when linked to the introduction of new process technology. In 2014, General Motors CEO Mary Barra announced the goal of reducing 26 global vehicle production platforms to just four by 2015. Such a transition would offer major savings in component and product development costs.[36]

Service offerings, too, can be designed for ease and efficiency of production. Motel 6, cost leader in US budget motels, carefully designs its product to keep operating costs low. Its motels occupy low-cost, out-of-town locations; it uses standard motel designs; it avoids facilities such as pools and restaurants; and it designs rooms to facilitate easy cleaning and low maintenance. However, efficiency in service design is compromised by the tendency of customers to request deviations from standard offerings ("I'd like my hamburger with the bun toasted on one side only, please"). This requires a clear strategy to manage variability either through accommodation or restriction.[37]

Capacity Utilization Over the short and medium terms, plant capacity is more or less fixed and variations in output cause capacity utilization to rise or fall. Underutilization raises unit costs because fixed costs must be spread over fewer units of production. Pushing output beyond normal full capacity also creates inefficiencies. Boeing's efforts to boost output during 2006–2011 resulted in increased unit costs due to overtime pay, premiums for night and weekend shifts, increased defects, and higher maintenance costs.

Input Costs There are several reasons why a firm may pay less for an input than its competitors:

- Locational differences in input prices: The prices of inputs—wage rates especially—vary between locations. In the United States, software engineers earned an average of $85,000 in 2017. In India, the average was $13,000. In auto assembly, the hourly rate in Chinese plants was about $3.90 an hour in 2016, compared with $30 in the United States (not including benefits).[38]
- Ownership of low-cost sources of supply: In raw-material-intensive industries, ownership of low-cost sources of material can offer a massive cost advantage. In petroleum, lifting costs for the three "supermajors" (ExxonMobil, Royal Dutch Shell, and BP) were about $21 per barrel in 2016; for Saudi Aramco they were about $5.
- Nonunion labor: Labor unions result in higher levels of pay and benefits and work rules that can lower productivity. In the US airline industry, nonunion Virgin America had average salary and benefit cost per employee of $79,161 in 2013 compared with $98,300 for United States (80% unionized).
- Bargaining power: The ability to negotiate preferential prices and discounts can be a major source of cost advantage for industry leaders, especially in retailing.[39] Amazon's growing dominance of book retailing allows it to demand discounts from publishers of up to 60%.[40]

Residual Efficiency Even after taking account of the basic cost drivers—scale, technology, product and process design, input costs, and capacity utilization—unexplained cost differences between firms typically remain. These residual efficiencies relate to the extent to which the firm approaches its efficiency frontier of optimal operation which depends on the firm's ability to eliminate "organizational slack"[41] or "X-inefficiency."[42] These excess costs have a propensity to accumulate within corporate headquarters—where they become targets for activist investors.[43] Eliminating these excess costs often requires a threat to a company's survival—in his first year as CEO, Carlos Ghosn cut Nissan Motor's operating costs by 20%.[44] At Walmart, Ryanair, and Amazon, high levels of residual efficiency are the result of management systems and company values that are intolerant of unnecessary costs and glorify frugality.

Using the Value Chain to Analyze Costs

To analyze an organization's cost position and seek opportunities for cost reduction, we need to look at individual activities. Chapter 5 introduced the *value chain* as a framework for viewing the sequence of activities that a company or business unit performs. Each activity tends to be subject to a different set of cost drivers, which give it a distinct cost structure. A value chain analysis of a firm's costs seeks to identify:

- the relative importance of each activity with respect to total cost;
- the cost drivers for each activity and the comparative efficiency with which the firm performs each activity;
- how costs in one activity influence costs in another;
- which activities should be undertaken within the firm and which activities should be outsourced.

A value chain analysis of a firm's cost position comprises the following stages:

1. Disaggregate the firm into separate activities: Identifying value chain activities is a matter of judgment. It requires identifying which activities are separate from one another, which are most important in terms of cost, and their dissimilarity in terms of cost drivers.
2. Estimate the cost that each activity contributes to total costs. The goal is to identify which activities are the most important sources of cost, since, even with activity-based costing, detailed cost allocation can be a major exercise.[45]
3. Identify cost drivers: For each activity, what factors determine the level of unit cost relative to other firms? For activities with large fixed costs such as new product development or marketing, the principal cost driver is likely to be the ability to amortize costs over a large volume of sales. For labor-intensive activities, key cost drivers tend to be wage rates, process design, and defect rates.
4. Identify linkages: The costs of one activity may be determined, in part, by the way in which other activities are performed. Xerox discovered that its high service costs relative to competitors' reflected the complexity of design of its.
5. Identify opportunities for reducing costs: By identifying areas of comparative inefficiency and the cost drivers for each, opportunities for cost reduction become evident. If the sources of inefficiency cannot be resolved, can the activity be outsourced?

Figure 7.10 shows how the application of the value chain to automobile manufacture can identify possibilities for cost reductions.

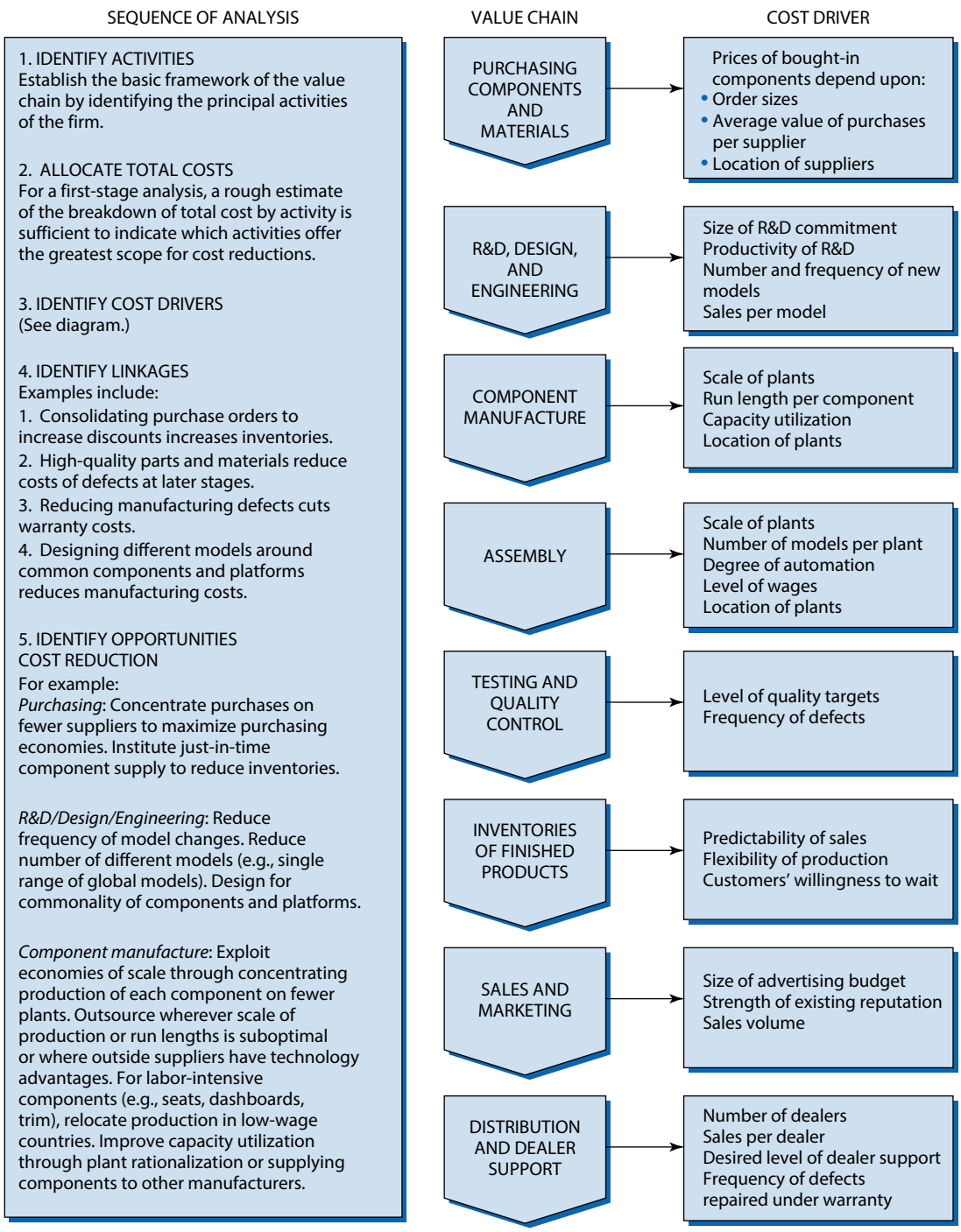
Differentiation Advantage

A firm differentiates itself from its competitors "when it provides something unique that is valuable to buyers beyond simply offering a lower price."[46] Differentiation advantage occurs when the price premium that the firm earns from differentiation exceeds the cost of providing the differentiation.

Every firm has opportunities to differentiate its offering, although the range of differentiation opportunities depends on the characteristics of the product. An automobile or a restaurant offers greater potential for differentiation than cement, wheat, or memory chips. These latter products are called *commodities* precisely because they lack physical differentiation. Yet, according to Tom Peters, "Anything can be turned into a value-added product or service."[47] Consider the following:

- Cement is the ultimate commodity product, yet Cemex, based in Mexico, has become a leading worldwide supplier of cement and ready-mix concrete through emphasizing "building solutions"—one aspect of which is ensuring that 98% of its deliveries are on time (compared to 34% for the industry as a whole).[48]
- Online bookselling is inherently a commodity business—any online bookseller has access to the same titles and same modes of distribution. Yet, Amazon has exploited the information generated by its business to offer a range of value-adding services: best-seller lists, reviews, and customized recommendations.

FIGURE 7.10 Using the value chain in cost analysis: An automobile manufacturer



The lesson is this: differentiation is not simply about offering different product features; it is about identifying and understanding every possible interaction between the firm and its customers and asking how these interactions can be enhanced or changed in order to deliver additional value to the customer. This requires looking at both the firm (the supply side) and its customers (the demand side). While *supply-side analysis*

identifies the firm's potential to create uniqueness, the critical issue is whether such differentiation creates value for customers and whether the value created exceeds the cost of the differentiation. Only by understanding what customers want, how they choose, and what motivates them can we identify opportunities for profitable differentiation.

Thus, differentiation strategies are not about pursuing uniqueness for its own sake. Differentiation is about understanding customers and how to best meet their needs. To this extent, the quest for differentiation advantage takes us to the heart of business strategy. The fundamental issues of differentiation are also the fundamental issues of business strategy: Who are our customers? How do we create value for them? And how do we do it more effectively and efficiently than anyone else?

Because differentiation is about uniqueness, establishing differentiation advantage requires creativity: it cannot be achieved simply through applying standardized frameworks and techniques, but it can be guided by systematic analysis. As we have observed, there are two requirements for creating profitable differentiation. On the supply side, the firm must be aware of the resources and capabilities through which it can create uniqueness (and do it better than competitors). On the demand side, the key is insight into customers and their needs and preferences. These two sides form the major components of our analysis of differentiation.

The Nature and Significance of Differentiation

The potential for differentiating a product or service is partly determined by its physical characteristics. For products that are technically simple (a pair of socks, a brick), that satisfy uncomplicated needs (a corkscrew, a nail), or must meet rigorous technical standards (a DRAM chip, a thermometer), differentiation opportunities are constrained by technical and market factors. Products that are technically complex (an airplane), that satisfy complex needs (an automobile, a vacation), or that do not need to conform to particular technical standards (wine, toys) offer much greater scope for differentiation.

Beyond these constraints, the potential in any product or service for differentiation is limited only by the boundaries of the human imagination. For seemingly simple products such as shampoo, toilet paper, and bottled water, the proliferation of brands on any supermarket's shelves is testimony both to the ingenuity of firms and the complexity of customers' preferences. Differentiation extends beyond the physical characteristics of the product or service to encompass everything about the product or service that influences the value that customers derive from it. Hence, differentiation requires an understanding of every aspect of a company's relationship with its customers. Starbucks' ability to charge up to $5 for a cup of coffee (compared to $1 at Burger King) reflects, not just the characteristics of the coffee, but also the overall "Starbucks Experience" which encompasses the retail environment, the community in which customers participate, and the values that Starbucks projects.

Differentiation includes both tangible and intangible dimensions. *Tangible differentiation* is concerned with the observable characteristics of a product or service that are relevant to customers' preferences and choice processes: for example, size, shape, color, weight, design, material, and performance attributes such as reliability, consistency, taste, speed, durability, and safety. Tangible differentiation also extends to products and services that complement the product in question: delivery, after-sales services, and accessories.

Opportunities for *intangible differentiation* arise because the value that customers perceive in a product is seldom determined solely by observable product features or objective performance criteria. Social, emotional, psychological, and esthetic criteria also guide customer choices. For consumer goods and services, the desire for status,

exclusivity, individuality, security, and community are powerful motivational forces. These attributes are closely linked to the overall image of the firm and its offering. Image is especially important for those products and services whose qualities and performance are difficult to ascertain at the time of purchase (so-called *experience goods*). These include cosmetics, medical services, and education.

Differentiation and Segmentation Differentiation is different from segmentation. Differentiation is concerned with how a firm competes—the ways in which it can offer uniqueness to customers. Such uniqueness might relate to consistency (McDonald's), reliability (Federal Express), status (American Express), quality (BMW), and innovation (Apple). Segmentation is concerned with where a firm competes in terms of customer groups, localities, and product types.

Whereas segmentation is a feature of market structure, differentiation is a strategic choice made by a firm. Differentiation may lead to focusing upon particular market segments, but not necessarily. IKEA, McDonald's, Honda, and Starbucks all pursue differentiation, but position themselves within the mass market spanning multiple demographic and socioeconomic segments.[49]

The Sustainability of Differentiation Advantage Differentiation offers a more secure basis for competitive advantage than low cost does. A position of cost advantage is vulnerable to adverse movements in exchange rates and to new competitors taking advantage of low input costs and new technologies. Differentiation advantage would appear to be more sustainable. Large companies that consistently earn above-average returns on capital—such as Colgate-Palmolive, Diageo, Johnson & Johnson, Kellogg's, Procter & Gamble, 3M, and Wyeth—tend to be those that have pursued differentiation through quality, branding, and innovation.

Analyzing Differentiation: The Demand Side

Analyzing customer demand enables us to determine which product characteristics have the potential to create value for customers, customers' willingness to pay for differentiation, and a company's optimal competitive positioning in terms of differentiation variables. Analyzing demand begins with understanding why customers buy a product or service. Market research systematically explores customer preferences and customer perceptions of existing products. However, the key to successful differentiation is to understand customers: a simple, direct inquiry into the purpose of a product and the needs of its customers can often be far more illuminating than statistically validated market research (Strategy Capsule 7.7).

Understanding customer needs requires the analysis of customer preferences in relation to product attributes. Techniques include the following:

- *Multidimensional scaling* (MDS) compares competing products in terms of key product attributes.[50] Figure 7.11 shows consumer ratings of competing pain relievers. Multidimensional scaling has also been used to classify 109 single-malt Scotch whiskies according to their color, nose, palate, body, and finish.[51]
- *Conjoint analysis* measures the strength of customer preferences for different products which then allows consumer preference for a hypothetical new product to be predicted.[52] Conjoint analysis was used by Marriott to design its Courtyard hotel chain.

- *Hedonic price analysis* views products as bundles of underlying attributes.[53] It uses regression analysis to estimate the implicit market price for each attribute. For example, price differences among European washing machines can be related to differences in capacity, spin speed, energy consumption, number of programs, and reliability.[54] Similarly, price differences between models of personal computer reflect differences in processor speed, memory, and hard drive capacity. This analysis can be used to decide what levels of each attribute to include within a new product and the price for that product.

The Role of Social and Psychological Factors Analyzing product differentiation in terms of measurable performance attributes fails to take account of customers' underlying motivations. Few goods or services only satisfy physical needs: most buying is influenced by social and psychological motivations, such as the desire to find

STRATEGY CAPSULE 7.7
Understanding What a Product Is About

Kenichi Ohmae was the head of McKinsey & Company's Tokyo office (1972–1995). He is Japan's most renowned strategy guru. Product differentiation, in his view, is about understanding customers and their relationship to the product. He recounts the efforts of a Japanese appliance maker to develop a coffee percolator. The development team sought to differentiate its coffee maker from those produced by General Electric, Philips, and Faberware in terms of size, speed, brewing system, and shape. Ohmae urged the development team to ask a different question: "Why do people drink coffee?" The answer: "For the taste." Yet, the company's engineers knew nothing about what determined the taste of good coffee. After a few weeks they discovered that a superior tasting cup of coffee required freshly-ground quality beans, pure water, optimal water temperature, and an even distribution of grains.

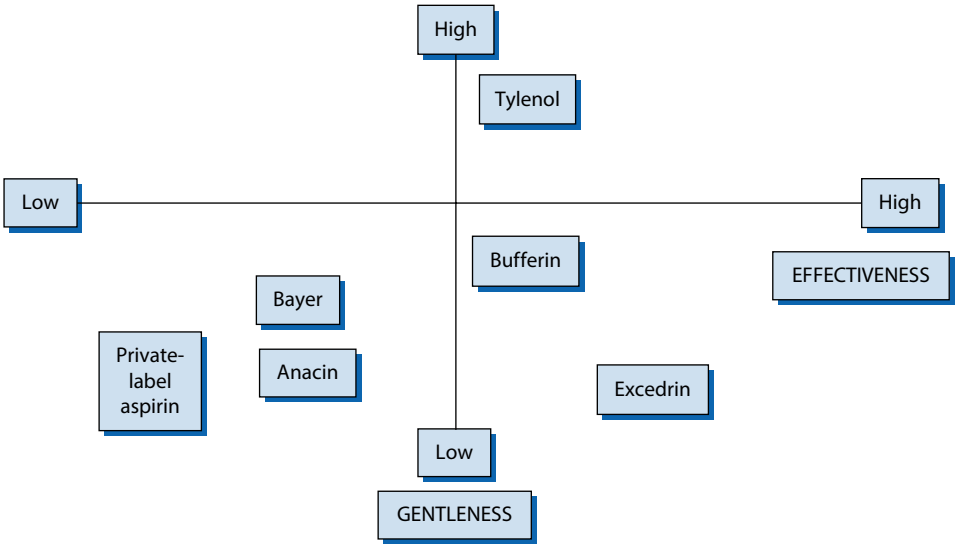
As a result, the essential design features for the coffee maker emerged: it had to have a built-in grinder, it needed a water purifier to remove chlorine, it required precise control of water temperature, and so on.

Ohmae emphasizes the need to ask the right questions when formulating strategy. It is vital to establish a competitive advantage, but concentrating upon what competitors are doing can lock a company into conventional ways of thinking. The Japanese appliance company risked becoming fixated on General Electric's new percolator that brewed coffee in 10 minutes—it targeted a brewing time of eight minutes. Where does this logic lead us? To the conclusion that instant coffee is best! Ohmae encourages us to take a step back and consider a product in relation to customers' innate needs and motives.

Nintendo's success with its Wii and Switch video games consoles confirms the potential of this approach. Rather than a futile attempt to match Sony and Microsoft on computing power, graphics, or virtual reality, Nintendo has concentrated on enhancing users' gaming experiences. This has allowed it to discover differentiation opportunities that don't depend upon advanced microelectronics.

Sources: K. Ohmae "Getting Back to Strategy," *Harvard Business Review* (November/December 1988); K. Ohmae, The Borderless World, (New York: HarperCollins,1999).

FIGURE 7.11 Consumer perceptions of competing pain relievers: A multidimensional scaling mapping



community with others and to reinforce one's own identity. Psychologist Abraham Maslow proposed a hierarchy of human needs that progress from basic survival needs to security needs, to belonging needs, to esteem needs, up to the desire for self-actualization.[55] For most goods, brand equity has more to do with higher-level needs such as status and identity than with tangible product performance. The disastrous introduction of "New Coke" in 1985 was the result of Coca-Cola giving precedence to tangible differentiation (taste preferences) over intangible differentiation (authenticity).[56] Harley-Davidson harbors no such illusions: it recognizes quite clearly that it is in the business of selling lifestyle, not transportation.

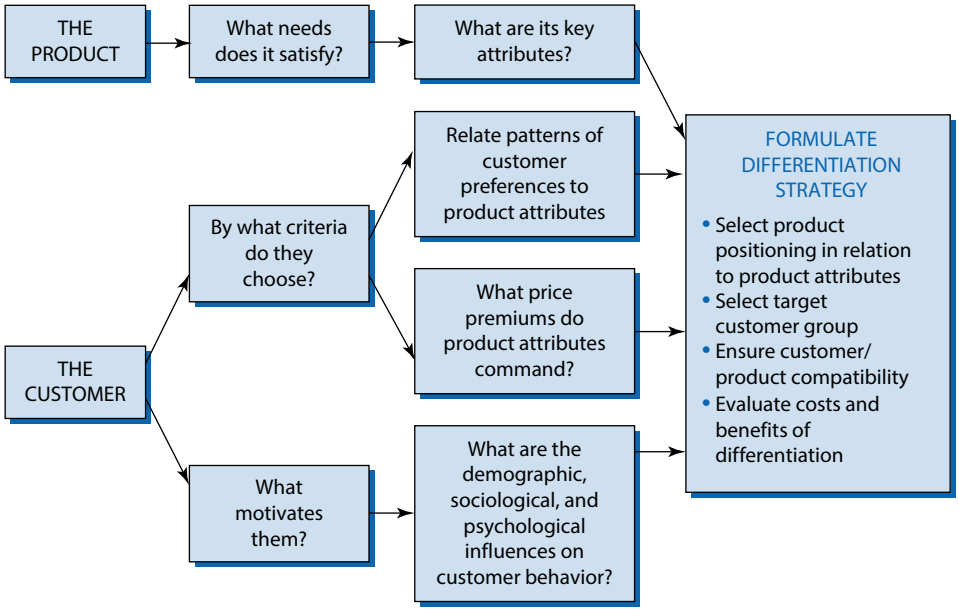
If the main drivers of consumer behavior are identity and social affiliation, the implications for differentiation are that we must analyze not only the product and its characteristics but also customers, their lifestyles and aspirations, and the relationship of the product to those lifestyles and aspirations. Market research that focuses upon traditional demographic and socioeconomic factors may be less useful than a deep understanding of consumers' relationships with a product. As consumers become increasingly sensitive to the activities of companies that supply their goods and services, so companies are drawn toward corporate social responsibility as a means of protecting and augmenting the value of their brands.[57]

Figure 7.12 summarizes the key points of this discussion by posing some basic questions that explore the potential for demand-side differentiation.

Analyzing Differentiation: The Supply Side

Creating differentiation advantage also depends on a firm's ability to offer differentiation. This requires us to pay attention to the activities that the firm undertakes and its capabilities in performing them.

FIGURE 7.12 Identifying differentiation potential: The demand side



The Drivers of Uniqueness Differentiation is concerned with providing customers with uniqueness. Michael Porter argues that the opportunities for providing uniqueness are not limited to a particular function or activity but can arise in virtually everything that the firm does, including:

- product features and product performance;
- complementary services (such as credit, delivery, repair);
- intensity of marketing activities (such as rate of advertising spending);
- technology embodied in design and manufacture;
- quality of purchased inputs;
- procedures that influence the customer experience (such as the rigor of quality control, service procedures, frequency of sales visits);
- skill and experience of employees;
- location (e.g., proximity to the customer);
- degree of vertical integration (which influences a firm's ability to control inputs and intermediate processes).[58]

Differentiation can also occur through *bundling*—combining complementary products and services in a single offering.[59] Such bundling runs contrary to the normal tendency for products to unbundle as markets mature and complementary services become provided by specialist suppliers. Electronic commerce has reinforced unbundling: consumers increasingly create their own customized vacations in preference to purchasing an all-inclusive vacation package. However, rebundling of products and services has become especially important in business-to-business transactions through "providing customer solutions"—combinations of goods and services that are tailored to the needs of each client. This involves a radical rethink of the business models in many companies.[60]

Product Integrity Differentiation decisions cannot be made on a piecemeal basis. Establishing a coherent and effective differentiation position requires the firm to assemble a complementary package of differentiation attributes. If Burberry, the British fashion house, wants to expand its range of clothing and accessories, it needs to ensure that every new product offering is consistent with its overall image as a quality-focused brand that combines traditional British style with contemporary edginess. *Product integrity* refers to the consistency of a firm's differentiation; it is the extent to which a product achieves:

> total balance of numerous product characteristics, including basic functions, esthetics, semantics, reliability, and economy… Internal integrity refers to consistency between the function and structure of the product… External integrity is a measure of how well a product's function, structure, and semantics fit the customer's objectives, values, production system, lifestyle, use pattern, and self-identity.[61]

Simultaneously achieving internal and external integrity is a complex organizational challenge: it requires close cross-functional collaboration and intimate customer contact.[62] This integration of internal and external product integrity is especially important to those supplying "lifestyle" products, where differentiation is based on customers' social and psychological needs. Here, the credibility of the image depends critically on the consistency of the image presented. One element of this integration is a common identity between customers and company employees. For instance:

- Harley-Davidson's image of ruggedness, independence, individuality, and community is supported by a top management team that dons biking leathers and participates in owners' group rides, and a management system that empowers shop-floor workers and fosters quality, initiative, and responsibility.
- Central to the "Starbucks Experience" is the connection between customers and employees, which is reinforced by Starbuck's generous employee benefits and employee involvement in Starbuck's social and environmental initiatives.

Signaling and Reputation Differentiation is only effective if it is communicated to customers. But information about the qualities and characteristics of products is not always readily available to potential customers. The economics literature distinguishes between *search goods*, whose qualities and characteristics can be ascertained by inspection, and *experience goods*, whose qualities and characteristics are only recognized after consumption. This latter class of goods includes medical services, baldness treatments, frozen TV dinners, and wine. Even after purchase, performance attributes may be slow in revealing themselves. Bernie Madoff established Bernard L. Madoff Investment Securities LLC in 1960—it took 48 years before the renowned investment house was revealed as a "giant Ponzi scheme."[63]

In the terminology of game theory (see Chapter 4), the market for experience goods corresponds to a classic prisoners' dilemma. A firm can offer a high-quality or a low-quality product. The customer can pay either a high or a low price. If quality cannot be detected, then equilibrium is established, with the customer offering a low price and the supplier offering a low-quality product, even though both would be better off with a high-quality product sold at a high price. The resolution of this dilemma is for producers to find some credible means of signaling quality to the customer. The most effective signals are those that change the payoffs in the prisoners' dilemma. Thus, an extended warranty is effective because providing such a warranty would be

more expensive for a low-quality producer than a high-quality producer. Brand names, warranties, expensive packaging, money-back guarantees, sponsorship of sports and cultural events, and a carefully designed retail environment for the product are all signals of quality. Their effectiveness stems from the fact that they represent significant investments by the manufacturer that will be devalued if the product proves unsatisfactory to customers.

The more difficult it is to ascertain performance prior to purchase, the more important are these signals of quality.

- A perfume can be sampled prior to purchase and its fragrance assessed, but its ability to augment the identity of the wearer and attract attention remains uncertain. Hence, the key role of branding, packaging, advertising, and lavish promotional events in establishing the perfume's identity and performance credentials.
- In financial services, the customer cannot easily assess the honesty, financial soundness, or competence of the supplier. Hence, financial service companies rely upon symbols of security and stability: imposing head offices, conservative office decor, smartly dressed employees, and trademarks such as Prudential's rock and Travelers' red umbrella. Bernie Madoff's multibillion investment swindle was sustained by his association with leading figures among New York's Jewish community, his prominent role in cultural and charitable organizations, and the aura of exclusivity around his investment firm.

Brands Brands fulfill multiple roles. At the most basic level, a brand provides an implicit guarantee of quality simply by identifying the producer of a product, thereby ensuring the producer is legally accountable for its products. Further, the brand represents an investment that provides an incentive to maintain quality and customer satisfaction. It is a credible signal of quality because of the disincentive of its owner to devalue it. As a result, a brand acts as a guarantee to the customer that reduces uncertainty and search costs. The more difficult it is to discern quality on inspection, and the greater the cost to the customer of purchasing a defective product, the greater the value of a brand: a trusted brand name is more important to us when I purchase mountaineering equipment than when I buy a pair of socks.

However, the value conferred by consumer brands such as Red Bull, Tesla, Mercedes-Benz, Gucci, Virgin, and American Express is more about conferring identity than guaranteeing reliability and quality. As brand building focuses increasingly on "brand experience," "tribal identity," "shared values," and "emotional dialogue," traditional mass-market advertising is taking a back seat to word-of-mouth promotional initiatives using social and the other digital marketing tools of *viral marketing*.[64]

The Costs of Differentiation Differentiation adds cost: higher-quality inputs, better-trained employees, higher advertising costs, and better after-sales service. If differentiation narrows a breadth of appeal, it also limits the potential for exploiting scale economies.

One means of reconciling differentiation with cost efficiency is to postpone differentiation to later stages of the firm's value chain. Modular design with common components permits scale economies while permitting product variety. All the major automakers have standardized platforms, engine types, and components, while offering customers multiple models and innumerable combinations of colors, trim, and accessories.

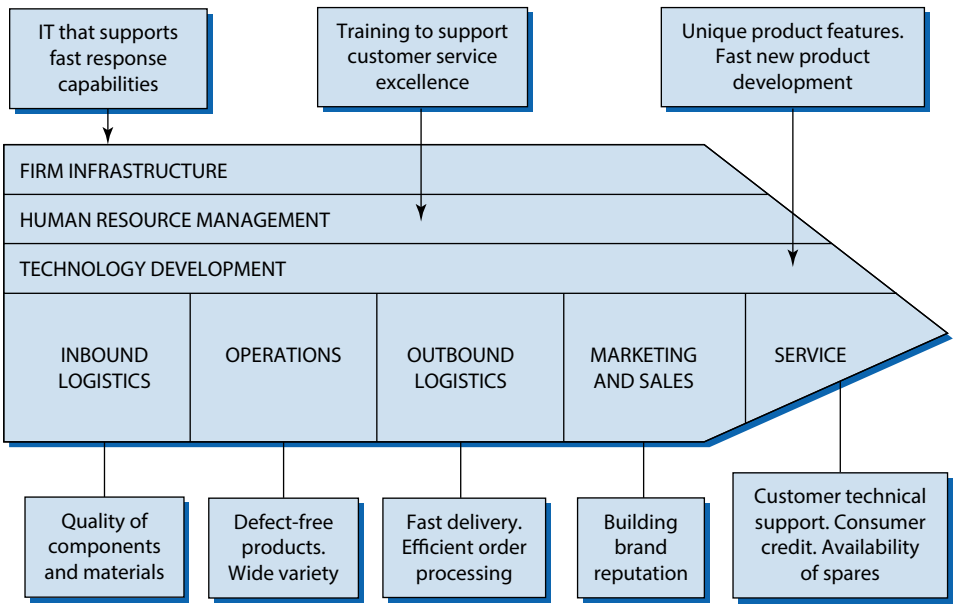
Bringing It All Together: The Value Chain in Differentiation Analysis

Demand side and supply side analyses of differentiation potential is only useful once they are brought together. The key to successful differentiation is matching the firm's capacity for creating differentiation to the attributes that customers value most. For this, the value chain provides a particularly useful framework. Let's begin with the case of a producer good, that is, one that is supplied by one firm to another.

Value Chain Analysis of Producer Goods Using the value chain to identify opportunities for differentiation advantage involves three principal stages:

1. Construct a value chain for the firm and its customer. It may be useful to consider not just the immediate customer but also firms further downstream in the value chain. If the firm supplies different types of customers, it's useful to draw separate value chains for each major category of customer.
2. Identify the drivers of uniqueness in each activity of the firm's value chain. Figure 7.13 identifies some possible sources of differentiation within Porter's generic value chain.
3. Locate linkages between the value chain of the firm and that of the buyer. What can the firm do with its own value chain activities that can reduce the cost or enhance the differentiation potential of the customer's value chain activities? The amount of additional value that the firm creates for its customers through exploiting these linkages represents the potential price premium the firm can charge for its differentiation. Strategy Capsule 7.8 demonstrates the identification of differentiation opportunities by lining the value chains of a firm and its customers.

FIGURE 7.13 Using the value chain to identify differentiation potential on the supply side



STRATEGY CAPSULE 7.8

Using the Value Chain to Identify Differentiation Opportunities for a Manufacturer of Metal Containers

The metal container industry is a highly competitive, low-growth, low-profit industry. Cans lack potential for differentiation, and buyers (especially beverage and food canning companies) are very powerful. Cost efficiency is essential, but can we also identify opportunities for profitable differentiation? Following the procedure outlined above, we can construct a value chain for a firm and its customers, and then identify linkages between the two. Figure 7.14 identifies five such linkages:

1 Distinctive can designs (e.g., Sapporo's beer can) can support the customer's efforts to differentiate its product.

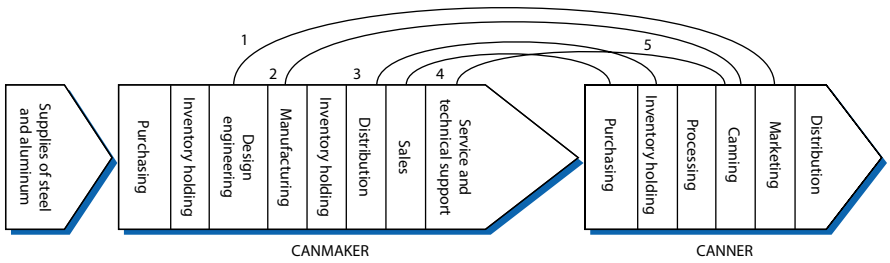
2 Manufacturing cans to high tolerances can minimize breakdowns on customers' canning lines.

3 Reliable, punctual can deliveries allow canners to economize on their can inventories.

4 An efficient order-processing system reduces canners' ordering costs.

5 Speedy, proficient technical support allows customers to operate their canning lines with high-capacity utilization and low downtime.

FIGURE 7.14 Identifying differentiation opportunities by linking the firm's value chain to that of the customer



Value Chain Analysis of Consumer Goods Value chain analysis of differentiation opportunities can also be applied to consumer goods. Few consumer goods are consumed directly: typically, consumers engage in a chain of activities that involve search, acquisition, and use of the product. In the case of consumer durables, the value chain may include search, purchase, financing, acquisition of complementary products and services, operation, service and repair, and eventual disposal. Such complex consumer value chains offer many potential linkages with the manufacturer's value chain, with rich opportunities for innovative differentiation. Harley-Davidson has built its strategy around the notion that it is not supplying motorcycles; it is supplying a customer experience. This has encouraged it to expand the scope of its contact with its customers to provide a wider range of services than any other motorcycle company. Even nondurables involve the consumer in a chain of activities. Consider a frozen TV

dinner: it must be purchased, taken home, removed from the package, heated, and served before it is consumed. After eating, the consumer must clean any used dishes, cutlery, or other utensils. A value chain analysis by a frozen foods producer would identify ways in which the product could be formulated, packaged, and distributed to assist the consumer in performing this chain of activities.

Can Firms Pursue Both Cost and Differentiation Advantage?

The two primary sources of competitive advantage require fundamentally different approaches to business strategy. A firm that is competing on low cost is distinguishable from a firm that competes through differentiation in terms of market positioning, resources and capabilities, and organizational characteristics. Table 7.1 outlines some of the principal features of cost and differentiation strategies.

Porter views cost leadership and differentiation as mutually exclusive strategies. A firm that attempts to pursue both is "stuck in the middle":

> The firm stuck in the middle is almost guaranteed low profitability. It either loses the high-volume customers who demand low prices or must bid away its profits to get this business from the low-cost firms. Yet, it also loses high-margin business—the cream—to the firms who are focused on high-margin targets or have achieved differentiation overall. The firm that is stuck in the middle also probably suffers from a blurred corporate culture and a conflicting set of organizational arrangements and motivation system.[65]

In practice, few firms are faced with such stark alternatives. Differentiation is not simply an issue of "to differentiate or not to differentiate." All firms must make decisions as to which customer requirements to focus on and where to position their product or service in the market. A cost leadership strategy typically implies limited-feature, standardized offerings, but this does not necessarily imply that the product or service is an

TABLE 7.1 Features of cost leadership and differentiation strategies

Generic strategy	Key strategy elements	Organizational requirements
Cost leadership	Scale-efficient plants Maximizing labor productivity Design for manufacture Control of overheads Process innovation Outsourcing Avoid marginal customering accounts	Access to capital Division of labor with incentives linked to quantitative performance targets Product design coordinated with manufacture Tight cost controls Process engineering skills Benchmarking Measuring profit per customer
Differentiation	Emphasis on branding, advertising, design, customer service, quality, and new product development	Marketing abilities Product engineering skills Cross-functional coordination Creativity Research capability Incentives linked to qualitative performance targets

undifferentiated commodity. Southwest Airlines and AirAsia are budget airlines with a no-frills offering yet have clear market positions with unique brand images. The VW Beetle shows that a utilitarian, mass-market product can achieve cult status.

In most industries, market leadership is held by a firm that maximizes customer appeal by reconciling effective differentiation with low cost—Toyota in cars, McDonald's in fast food, Nike in athletic shoes. The huge global success of Japanese suppliers of cars, motorcycles, consumer electronics, and musical instruments during the 1980s and 1990s was the result of simultaneously pursuing cost efficiency, quality, innovation, and brand building. The management techniques pioneered by Japanese companies—notably total quality management—reconciling cost efficiency with differentiation has been facilitated by new management techniques: total quality management repudiated the conventional trade-off between quality and cost; flexible manufacturing systems have reconciled scale economies with variety. In many industries, the cost leader is not the market leader but a smaller competitor with minimal overheads, nonunion labor and cheaply acquired assets.

Summary

Making money in business requires establishing and sustaining competitive advantage. Identifying opportunities for competitive advantage requires insight into the nature and process of competition within a market. Our analysis of the imperfections of the competitive process takes us back to the resources and capabilities needed to compete in a particular market and conditions under which these are available. Similarly, the isolating mechanisms that sustain competitive advantage are dependent primarily upon the ability of rivals to access the resources and capabilities needed for imitation.

Competitive advantage has two primary dimensions: cost advantage and differentiation advantage. The first of these, cost advantage, is the outcome of seven primary cost drivers. We showed that by applying these cost drivers and by disaggregating the firm into a value chain of linked activities, we can appraise a firm's cost position relative to competitors and identify opportunities for cost reduction. The principal message of this section is the need to look behind cost accounting data and beyond simplistic approaches to cost efficiency, and to analyze the factors that drive relative unit costs in each of the firm's activities in a systematic and comprehensive manner.

The appeal of differentiation is that it offers multiple opportunities for competitive advantage with a greater potential for sustainability than does cost advantage. The vast realm of differentiation opportunity extends beyond marketing and design to encompass all aspects of a firm's interactions with its customers. Achieving a differentiation advantage requires the firm to match its own capacity for creating uniqueness to the requirements and preferences of customers. The value chain offers firms a useful framework for identifying how they can create value for their customers by combining demand-side and supply-side sources of differentiation.

Finally, the basis of a firm's competitive advantage has important implications not just for the design of its strategy but for the design of its organizational structure and systems. Typically, companies that are focused on cost leadership design their organizations differently from those that pursue differentiation. However, the implications of competitive strategy for organizational design are complicated by the fact that, for most firms, cost efficiency and differentiation are not mutually exclusive—in today's intensely competitive markets, firms have little choice but to pursue both.

Self-Study Questions

1. Figure 7.1 implies that stable industries, where firms have similar resources and capabilities, offer less opportunity for competitive advantage than industries where change is rapid and firms are heterogeneous. On the basis of these considerations, among the following industries, in which do you predict that interfirm differences in profitability will be small and in which will they be wide: retail banking, video games, wireless handsets, insurance, supermarkets, and semiconductors?
2. Since 2009, Apple has been the world's most profitable supplier of wireless handsets by a large margin. Can Apple sustain its competitive advantage in this market?
3. Illy, the Italian-based supplier of quality coffee and coffee-making equipment, is launching an international chain of gourmet coffee shops. What advice would you offer Illy for how it can best build competitive advantage in the face of Starbucks' market leadership?
4. Which drivers of cost advantage (Figure 7.7) do low-cost carriers such as Southwest Airlines and Ryanair exploit in order to undercut legacy carriers such as United Airlines and British Airways?
5. Target (the US discount retailer), H&M (the Swedish fashion clothing chain), and Primark (the UK discount clothing chain) have pioneered *cheap chic*—combining discount store prices with fashion appeal. What are the principal challenges of designing and implementing a cheap chic strategy? Design a "cheap chic" strategy for a company entering another market, for example, restaurants, sports shoes, cosmetics, or office furniture.
6. To what extent are the seven cost drivers shown in Figure 7.7 relevant in analyzing the costs per student at your business school or educational institution? What recommendations would you make to your dean for improving the cost efficiency of your school?
7. Bottled water sells at least 200 times the price of tap water, with substantial price differentials between different brands. What are the key differentiation variables that determine the price premium that can be obtained for bottled water?
8. Advise a chain of movie theaters on a differentiation strategy to restore its flagging profitability. Use the value chain framework outlined in Strategy Capsule 7.8 to identify potential linkages between the company's value chain and that of its customers in order to identify differentiation opportunities.

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8 Industry Evolution and Strategic Change

No company ever stops changing . . . Each new generation must meet changes—in the automotive market, in the general administration of the enterprise, and in the involvement of the corporation in a changing world. The work of creating goes on.

—ALFRED P. SLOAN JR., PRESIDENT OF GENERAL MOTORS 1923–37, CHAIRMAN 1937–56

It is not the strongest of the species that survive, nor the most intelligent, but the one that is most responsive to change.

—CHARLES DARWIN

You keep same-ing when you ought to be changing.

—LEE HAZLEWOOD, THESE BOOTS ARE MADE FOR WALKING, RECORDED BY NANCY SINATRA, 1966

OUTLINE

- **Introduction and Objectives**
- **The Industry Life Cycle**
  - Demand Growth
  - Creation and Diffusion of Knowledge
  - How General is the Life-Cycle Pattern?
  - Implications of the Life Cycle for Competition and Strategy
- **The Challenge of Organizational Adaptation and Strategic Change**
  - Why is Change So Difficult? The Sources of Organizational Inertia
  - Organizational Adaptation and Industry Evolution
  - Coping with Technological Change
- **Managing Strategic Change**
  - Dual Strategies and Organizational Ambidexterity
  - Combatting Organizational Inertia
  - Developing New Capabilities
  - Dynamic Capabilities
  - Using Knowledge Management to Develop Organizational Capability
- **Summary**
- **Self-Study Questions**
- **Notes**

Introduction and Objectives

Everything is in a state of constant change—the business environment especially. One of the greatest challenges of strategic management is to ensure that the firm keeps pace with changes occurring within its environment.

Change in the industry environment is driven by technology, consumer needs, politics, economic conditions, and a host of other influences. Some industries have been transformed by these forces. In the 1980s, telecommunications were dominated by monopolies such as British Telecom, Deutsche Telekom, and AT&T. Now, diverse providers—Vodafone, SoftBank, Comcast, Twitter and WhatsApp (owned by Facebook)—compete with multiple communications technologies. In other industries—food processing, railroads, and car rental—change is more gradual and more predictable.

The purpose of this chapter is to help us to understand and manage change. To do this we shall explore the forces that drive change and look for patterns that can help us to predict how industries are likely to evolve over time. While each industry follows a unique development path, there are common drivers of change that give rise to similar patterns of change, thereby allowing us to identify opportunities for competitive advantage.

Understanding, even predicting, change in an industry's environment is difficult. Adapting to change is even more so. For individuals, change is disruptive, costly, and uncomfortable. For organizations, the forces of inertia are even stronger. As a result, the life cycles of firms tend to be much shorter than the life cycles of industries: changes at the industry level tend to occur through the death of existing firms and the birth of new firms rather than through continuous adaptation by a constant population of firms. We need to understand these sources of inertia in organizations in order to overcome them. We shall look, not only at firms' adaptation to change, but also at the potential for firms to initiate change. What determines the ability of some firms to become game-changers in their industries?

Whether adapting to or initiating change, competing in a changing world requires the development of new capabilities. Building upon our analysis of organizational capability in Chapters 5 and 6, we address the challenges firms face in building new capabilities.

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

- Recognize the different stages of industry development; understand the factors that drive industry evolution; and recommend strategies appropriate to the different stages of the industry life cycle.
- Understand the sources of organizational inertia, the process of organizational evolution, and the challenges of technological change.
- Become familiar with the different tools to manage strategic change including: organizational ambidexterity, scenarios, crisis management, capability development, dynamic capabilities, and knowledge management.

The Industry Life Cycle

One of the best-known and most enduring marketing concepts is the *product life cycle*.[1] Products are born, their sales grow, they reach maturity, they go into decline, and they ultimately die. If products have life cycles, so the industries that produce them experience an **industry life cycle**. To the extent that an industry produces multiple generations of a product, the industry life cycle is likely to be of longer duration than that of a single product.

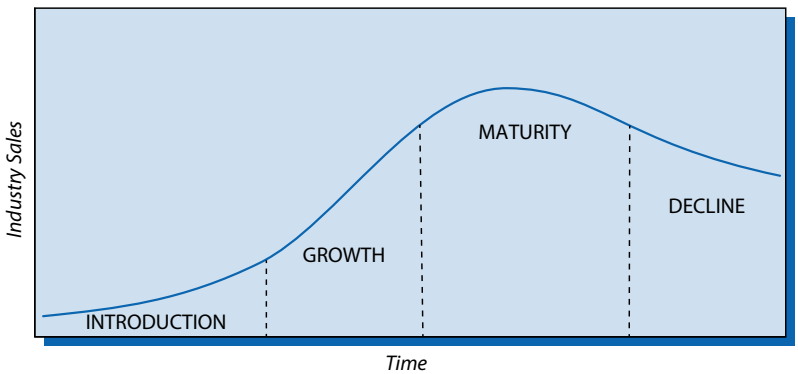
The life cycle comprises four phases: *introduction* (or *emergence*), *growth*, *maturity*, and *decline* (Figure 8.1). Let us first examine the forces that drive industry evolution, and then look at the features of each of these stages. Two forces are fundamental: demand growth and the production and diffusion of knowledge.

Demand Growth

The life cycle and the stages within it are defined primarily by changes in an industry's growth rate over time. The characteristic profile is an S-shaped growth curve.

- In the *introduction stage*, sales are small and the rate of market penetration is low because the industry's products are little known and customers are few. The novelty of the technology, small scale of production, and lack of experience mean high costs and low quality. Customers for new products tend to be affluent, tech-savvy, and risk-tolerant.
- The *growth stage* is characterized by accelerating market penetration as technical improvements and increased efficiency open up the mass market.
- Increasing market saturation causes the onset of the *maturity stage*. Once saturation is reached, demand is wholly for replacement.
- Finally, as new substitute products appear, the industry enters its *decline stage*.

FIGURE 8.1 The industry life cycle



Creation and Diffusion of Knowledge

The second driver of the industry life cycle is knowledge. New knowledge is responsible for an industry's birth, and the dual processes of knowledge creation and knowledge diffusion exert a major influence on industry evolution.

In the introduction stage, product technology advances rapidly. There is no dominant product technology, and rival technologies compete for attention. Competition is primarily between alternative technologies and design configurations:

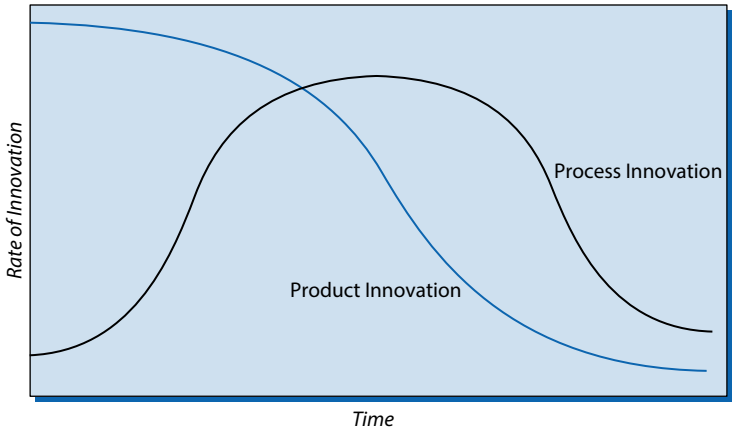
- The first 30 years of steam ships featured competition between paddles and propellers, wooden hulls and iron hulls, and, eventually, between coal and oil.
- The beginnings of the personal computer industry during 1978–82 saw competition between different data storage systems (audiotapes vs. floppy disks), different visual displays (TV receivers vs. dedicated monitors), different operating systems (CPM vs. DOS vs. Apple II), and different microprocessor architectures.

Dominant Designs and Technical Standards The outcome of competition between rival designs and technologies is usually convergence by the industry around a **dominant design**—a product architecture that defines the look, functionality, and production method for the product and becomes accepted by the industry as a whole. Dominant designs have included:

- The Underwood Model 5 introduced in 1899 established the basic architecture and main features of typewriters for the 20th century: a moving carriage, the ability to see the characters being typed, a shift function for upper-case characters, and a replaceable inked ribbon.[2]
- Leica's Ur-Leica camera launched in Germany in 1924 established key features of the 35 mm camera, though it was not until Canon began mass-producing cameras based on the Leica original that this design of 35 mm camera came to dominate still photography.
- When Ray Kroc opened his first McDonald's hamburger restaurant in Illinois in 1955, he established what would soon become a dominant design for the fast-food restaurant industry: a limited menu, no waiter service, eat-in and take-out options, roadside locations for motorized customers, and a franchising model for licensing the entire business system.

The concepts of *dominant design* and **technical standard** are related but distinct. Dominant design refers to the overall configuration of a product or system. A technical standard is a technology or specification that allows compatibility. While technical standards typically embody intellectual property in the form of patents or copyright, dominant designs usually do not. A dominant design may or may not embody a technical standard. IBM's PC established both a dominant design for personal computers and the "Wintel" standard. Conversely, the Boeing 707 was a dominant design for large passenger jets, but did not set industry standards in aerospace technology. Technical standards arise where there are **network effects**—the need for users to connect with one another. Network effects cause each customer to choose the same technology as everyone else to avoid being stranded. Unlike a proprietary technical standard, which is typically embodied in patents or copyrights, a firm that sets a dominant design does not normally own intellectual property in that design. Hence, except for some early-mover advantage, there is not necessarily any profit advantage from setting a dominant design.

FIGURE 8.2 Product and process innovation over time



Dominant designs also exist in processes. In the flat glass industry, there has been a succession of dominant process designs from glass cylinder blowing to continuous ribbon drawing to float glass.[3] Dominant designs are present, too, in business models. In many new markets, competition is between rival business models. In home grocery delivery, e-commerce start-ups such as Webvan and Peapod soon succumbed to competition from "bricks and clicks" retailers such as Giant, and Walmart (and Tesco in the UK).

From Product to Process Innovation The emergence of a dominant design marks a critical juncture in an industry's evolution. Once the industry coalesces around a leading product design, there's a shift from radical to incremental product innovation. Greater certainty over product design and its trajectory reduces risks to customers and firms, triggering the industry's growth phase. The emphasis on efficiency and product reliability causes process innovation to take precedence over product innovation (Figure 8.2). The combination of process improvements, design modifications, and scale economies results in falling costs, which drive rapidly increasing market penetration. Strategy Capsule 8.1 uses the automobile industry to illustrate this pattern of development.

Consumer also benefit from knowledge diffusion. As they become increasingly knowledgeable about the performance attributes of rival manufacturers' products, so they are better able to judge value for money and become more price sensitive.

How General is the Life-Cycle Pattern?

To what extent do industries conform to this life-cycle pattern and how variable is the duration of the life cycle?

- The hotel industry had its origins over two millennia ago. In year 1 AD, the baby Jesus was born in a stable in Bethlehem because, according to Luke's Gospel, "there was no room at the inn." In the US, hotels (as distinct from inns) were established in the late 18th century. During the 21st century, the industry has continued to expand. However, home sharing services such as Airbnb present a threat to continued growth.

STRATEGY CAPSULE 8.1
Evolution of the Automobile Industry

The period 1890–1912 was one of rapid product innovation in the auto industry. Karl Benz's introduction of a three-wheel motor carriage in 1886 was followed by a flurry of technical advances which occurred in Germany, France, the US, and the UK. Developments included

- the first four-cylinder four-stroke engine (by Karl Benz in 1890);
- the honeycomb radiator (by Daimler in 1890);
- the manual gearbox (Panhard and Levassor in 1895);
- automatic transmission (by Packard in 1904);
- electric headlamps (by General Motors in 1908);
- the all-steel body (adopted by General Motors in 1912).

Ford's Model T, introduced in 1908, with its front-mounted, water-cooled engine and transmission with a gearbox, wet clutch, and rear-wheel drive, became a dominant design for the industry. During the remainder of the 20th century, alternative technologies and designs were eliminated. Volkswagen's Beetle was the last mass-produced car with a rear-mounted, air-cooled engine. Citroen abandoned its distinctive suspension and braking systems. Four-stroke engines with four or six inline cylinders became dominant. Distinctive national differences eroded as American cars became smaller and Japanese and Italian cars became bigger. The fall of the Iron Curtain extinguished the last outposts of nonconformity: by the mid-1990s, East German two-stroke Wartburgs and Trabants were collectors' items.

As product innovation slowed, so process innovation took off. In 1913, Ford's Highland Park Assembly Plant with its revolutionary moving assembly line began production. The price of the Model T fell from $628 in 1908 to $260 in 1924. By 1927, 15 million Model Ts had been produced.

Then came Toyota's system of *lean production*, involving a tightly integrated "pull" system of production embodying just-in-time scheduling, team-based production, flexible manufacturing, and total quality management. By the end of the 20th century, lean production had diffused throughout the world's vehicle industry.

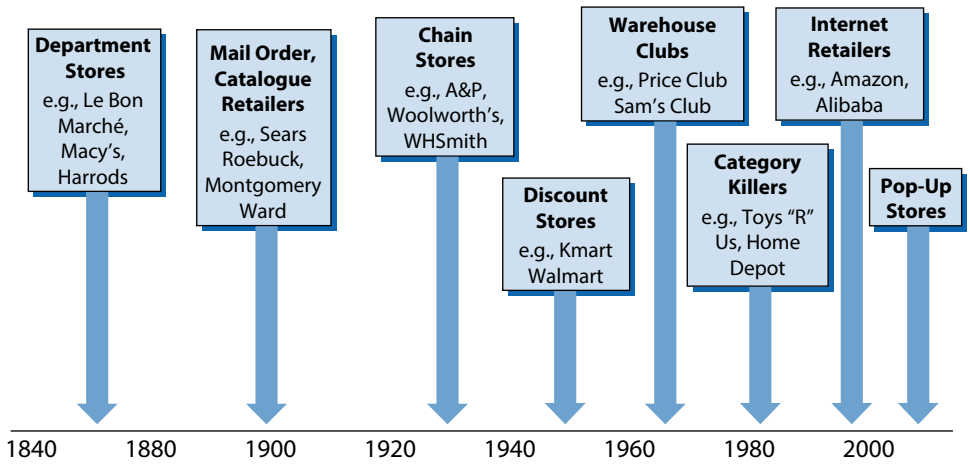
However, by 2018, a new era was dawning: electric propulsion and autonomous driving threatened to transform the world automobile industry.

- The introduction phase of the US railroad industry extended from the building of the first railroad, the Baltimore and Ohio in 1827, to the growth phase of the 1870s. With the growth of road transport, the industry entered its decline phase during the late 1950s.
- Digital audio players (MP3 players) were first introduced by Seehan Information Systems and Diamond Multimedia in 1997. With the launch of Apple's iPod in 2001, the industry entered its growth phase. After reaching a peak in 2009, global sales of MP3 players, including the iPod, went into steep decline. By 2017, dedicated MP3 players were widely viewed as obsolete.

Over time, industry life cycles have become increasingly compressed—especially in e-commerce. The implication is that "competing on internet time" requires a radical rethink of strategies and management processes.[4]

Patterns of evolution also differ. Industries supplying basic necessities such as residential construction, food processing, and clothing may never enter a decline phase

FIGURE 8.3 Innovation and renewal in the industry life cycle: Retailing



because obsolescence is unlikely for essential needs. Some industries may experience a rejuvenation of their life cycle. The market for TV receivers has experienced multiple revivals: color TVs, portable TVs, flat-screen TVs, and HDTVs. Similar waves of innovation have revitalized retailing (Figure 8.3).

An industry is likely to be at different stages of its life cycle in different countries. Although the automobile markets of the EU, Japan, and the US are in their decline phase, those of Asia and Latin America are in their growth phase. Multinational companies can exploit such differences: developing new products and introducing them into the advanced industrial countries, then shifting attention to emerging markets once maturity sets in.

A further feature of industry evolution is shifting industry boundaries—some industries converge (cell phones, portable game players, cameras, and calculators); other industries (banking and medical services) fragment.[5]

Implications of the Life Cycle for Competition and Strategy

Changes in demand growth and technology over the cycle have implications for industry structure, the population of firms, and competition. Table 8.1 summarizes them.

Product Differentiation The introduction stage typically features a variety of product types that incorporate diverse technologies and designs. Convergence around a dominant design is often followed by commoditization during the mature phase unless producers develop new dimensions for differentiation. Personal computers, credit cards, online financial services, wireless communication services, and Internet access have all become commodity items, which buyers select primarily on price. However, the trend toward commoditization also creates incentives for firms to create novel approaches to differentiation.

Organizational Demographics and Industry Structure The number of firms in an industry changes substantially over the life cycle. The field of **organizational ecology**, founded by Michael Hannan, John Freeman, and Glen Carroll, analyzes the

TABLE 8.1 The evolution of industry structure and competition over the life cycle

	Introduction	Growth	Maturity	Decline
Demand	Limited to early adopters: high income, avant garde	Rapidly increasing market penetration	Mass market, replacement/ repeat buying. Customers knowledgeable and price sensitive	Obsolescence
Technology	Competing technologies, rapid product innovation	Standardization around dominant technology, rapid process innovation	Well-diffused technical know-how: quest for technological improvements	Little product or process innovation
Products	Poor quality, wide variety of features and technologies, frequent design changes	Design and quality improve, emergence of dominant design	Trend to commoditization. Attempts to differentiate by branding, quality, and bundling	Limited scope for differentiation
Manufacturing and distribution	Short production runs, high-skilled labor content, specialized distribution channels	Capacity shortages, mass production, competition for distribution	Emergence of overcapacity, deskilling of production, long production runs, distributors carry fewer lines	Chronic overcapacity, reemergence of specialty channels
Trade	Producers and consumers in advanced countries	Exports from advanced countries to rest of world	Production shifts to newly industrializing then developing countries	Exports from countries with lowest labor costs
Competition	Few companies	Entry, mergers, and exits	Shakeout, price competition increases	Price wars, exits
Key success factors	Product innovation, establishing credible image of firm and product	Design for manufacture, access to distribution, brand building, fast product development, process innovation	Cost efficiency through capital intensity, scale efficiency, and low input costs	Low overheads, buyer selection, signaling commitment, rationalizing capacity

population of firms within an industry and the processes of founding and selection that determine entry and exit.[6] Some of the main findings of the organizational ecologists in relation to industry evolution are:

- The number of firms in an industry increases rapidly during the early stages of an industry's life. As an industry gains legitimacy, failure rates decline and the rate of new firm foundings increases. The US automobile industry comprised 272 manufacturers in 1909,[7] while in TV receivers there were 92 companies in 1951.[8] New entrants include both start-up companies (*de novo* entrants) and established firms diversifying from other industries (*de alio* entrants).
- With the onset of maturity, the number of firms begins to fall—often involving a *shakeout* phase during which the rate of firm failure increases sharply. After this point, rates of entry and exit decline and the survival rate for incumbents increases substantially.[9] In the US tire industry, the number of firms grew from one (Goodrich) in 1896 to 274 in 1922 before shakeout reduced the industry to 49 firms in 1936.[10] By 2018, subsequent waves of consolidation resulted in the

world tire industry being dominated by seven companies: Bridgestone, Michelin, Continental, Goodyear, Pirelli, Hankook, and Sumitomo.

- Consolidation may be accompanied by a new phase of entry as new firms seek niche positions in the industry—a process referred to as *resource partitioning*. For example, as the world beer industry has become dominated by a few global giants—AB Inbev, Carlsberg, and Heineken—so a wave of craft brewers have entered the industry.[11]

Location and International Trade Industries migrate internationally during their life cycles. New industries begin in the advanced industrial countries because of the presence of affluent consumers and the availability of technical and scientific resources. As demand grows in other countries, they are serviced initially by exports, but with deskilling of production processes, production shifts first to newly industrializing countries and eventually to developing countries.

In 1975, the world's leading producers of television receivers were Japan, US, Germany, Taiwan, and UK. By 2014, the leading producers were China, Mexico, South Korea, and India.

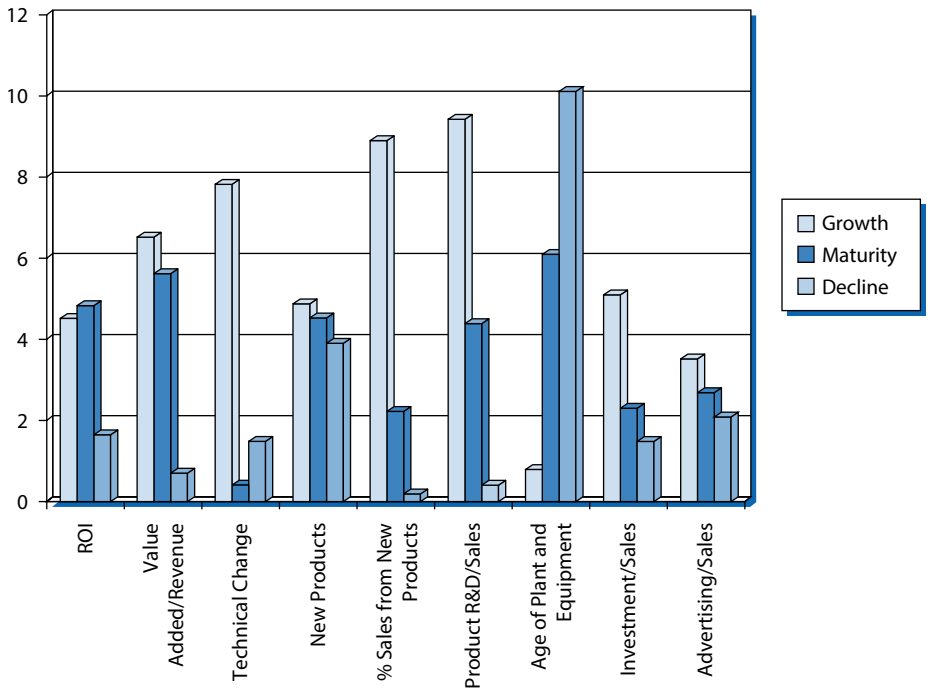
The Nature and Intensity of Competition These changes in industry structure over the life cycle—commoditization, new entry, and international diffusion of production—have implications for competition: first, a shift from nonprice competition to price competition; second, margins shrink as the intensity of competition grows.

During the introduction stage, the battle for technological leadership means that price competition may be weak, but heavy investments in innovation and market development depress profitability. The growth phase is more conducive to profitability as market demand outstrips industry capacity, especially if incumbents are protected by barriers to entry. With the onset of maturity, increased product standardization and excess capacity stimulate price competition, especially during shakeout. How intense this is depends a great deal on the balance between capacity and demand and the extent of international competition. In food retailing, airlines, motor vehicles, metals, and insurance, maturity was accompanied by strong price competition and slender profitability. In household detergents, breakfast cereals, cosmetics, and cigarettes, consolidation and strong brands have limited price rivalry and supported high margins. The decline phase usually involves strong price competition (often degenerating into destructive price wars) and dismal profit performance.

Key Success Factors and Industry Evolution These same changes in structure together with changes in demand and technology over the industry life cycle also have important implications for the sources of competitive advantage at each stage of industry evolution:

1. During the introductory stage, product innovation is the basis for initial entry and for subsequent success. Soon, other requirements for success emerge: growing investment requirements necessitate increased financial resources; product development needs to be supported by capabilities in manufacturing, marketing, and distribution.
2. Once the growth stage is reached, the key challenge is scaling up. As the market expands, product design and manufacturing must adapt to the needs

FIGURE 8.4 Differences in strategy and performance between businesses at different stages of the industry life cycle



Note: The figure shows standardized means for each variable for businesses at each stage of the life cycle.

Source: C. Anderson and C. Zeithaml, "Stage of the Product Life Cycle, Business Strategy and Business Performance," *Academy of Management Journal* 27 (1984): 5–24.

of large-scale production. As Figure 8.4 shows, investment in R&D, plant and equipment, and sales tends to be high during the growth phase. Increased manufacturing must be matched by widening distribution.

3. With maturity, competitive advantage is increasingly a quest for efficiency, particularly in industries that tend toward commoditization. Cost efficiency through scale economies, low wages, and low overheads becomes the key success factor. Figure 8.4 shows that R&D, capital investment, and marketing are lower in maturity than during the growth phase.
4. The transition to decline intensifies pressures for cost cutting. It also requires maintaining stability by encouraging the orderly exit of industry capacity and capturing residual market demand.

The Challenge of Organizational Adaptation and Strategic Change

We have established that industries change. But what about the companies within them? Let us turn our attention to business enterprises and consider both the impediments to change and the means by which change takes place.

Why is Change so Difficult? The Sources of Organizational Inertia

At the heart of all approaches to change management is the recognition that organizations find change difficult. Why is this so? Different theories of organizational and industrial change emphasize different barriers to change:

- *Organizational routines:* Evolutionary economists emphasize the fact that capabilities are based on organizational routines—patterns of coordinated interaction among organizational members that develop through continual repetition. The more highly developed are an organization's routines, the more difficult it is to develop new routines. Hence, organizations get caught in **competency traps**[12] where "core capabilities become core rigidities."[13]
- *Social and political structures:* Organizations are both social systems and political systems. As social systems, organizations develop patterns of interaction that make organizational change stressful and disruptive.[14] As political systems, organizations develop stable distributions of power; change represents a threat to the power of those in positions of authority. Hence, both as social systems and political systems, organizations tend to resist change.
- *Conformity:* Institutional sociologists emphasize the propensity of firms to imitate one another in order to gain legitimacy. The process of **institutional isomorphism** locks organizations into common structures and strategies that make it difficult for them to adapt to change.[15] The pressures for conformity can be external—governments, investment analysts, banks, and other resource providers encourage the adoption of similar strategies and structures. Isomorphism also results from voluntary imitation—risk aversion encourages companies to adopt similar strategies and structures to their peers.[16]
- *Limited search:* The Carnegie School of organizational theory (associated with Herbert Simon, Jim March, and Richard Cyert) views *search* as the primary source of organizational change. Organizations tend to limit search to areas close to their existing activities—they prefer *exploitation* of existing knowledge over *exploration* for new opportunities.[17] Limited search is reinforced, first, by **bounded rationality**—human beings have limited information processing capacity, which constrains the set of choices they can consider and, second, by *satisficing*—the propensity for individuals (and organizations) to terminate the search for better solutions when they reach a satisfactory level of performance rather than to pursue optimal performance. The implication is that organizations are only willing to accept major changes when they are faced with a dramatic decline in performance.
- *Complementarities between strategy, structure, and systems:* We encountered the notion of *strategic fit* in Chapter 1. A firm's strategy must fit its external environment and its internal resources and capabilities. Moreover, all the components of a firm's strategy must fit together: we observed that strategy is manifest as an *activity system*. Ultimately, all the features of an organization—strategy, structure, systems, culture, goals, and employee skills—are complementary.[18] Organizations establish combinations of strategy, processes, structures, and management styles during their early phases of development that are shaped by the circumstances that they encounter. However, once established,

this configuration becomes a barrier to change. For the firm to adapt to new circumstances, it is not enough to make incremental changes in a few dimensions of strategy—it is likely that the firm will need to find a new configuration that involves a comprehensive set of changes (Strategy Capsule 8.2).[19] As a result, organizations tend to evolve through a process of *punctuated equilibrium*, involving long periods of stability during which the widening misalignment between the organization and its environment ultimately forces radical and comprehensive change on the company.[20]

Organizational Adaptation and Industry Evolution

Thinking about industrial and organizational change has been strongly influenced by ideas from evolutionary biology. Evolutionary change is viewed as an adaptive process

STRATEGY CAPSULE 8.2

A Tight-Fitting Business System Makes Change Perilous: The Liz Claiborne Story

During the 1980s, Liz Claiborne became a highly successful designer, manufacturer, and retailer of clothes for professional women. Liz Claiborne's success was based upon a strategy that combined a number of closely linked choices concerning functions and activities.

- Design was based around a "color by numbers" approach involving "concept groups" of different garments that could be mixed and matched.
- Department stores were encouraged to provide dedicated space to present Liz Claiborne's concept collections. Liz Claiborne consultants visited department stores to train their sales staff and to ensure that the collections were being displayed correctly.
- Retailers could not purchase individual garment lines; they were required to purchase the entire concept group and had to submit a single order for each season—they could not reorder.
- Most manufacturing was contracted out to garment makers in SE Asia.
- To create close contact with customers, Liz Claiborne offered fashion shows at department stores, "breakfast clinics" where potential customers could see the latest collection, and tracked customer preferences through point-of-sale data collection.
- Rather than the conventional four-season product cycle, Liz Claiborne operated a six-season cycle.

During the 1990s, Liz Claiborne's performance went into a sharp decline. The key problem was the trend toward more casual clothes in the workplace. Moreover, financial pressures on department stores made them less willing to buy complete collections. As a result, Liz Claiborne allowed reordering by retailers. However, once retailers could split orders into smaller, more frequent orders, the entire Liz Claiborne system began to break down: it could not adapt to the quick-response, fast-cycle model that was increasingly dominant within the garment trade. In 1994, Liz Claiborne appointed a new CEO who systematically rebuilt the business around a more casual look, more flexibility within its collections (although still with a common "color card"), and a shorter supply chain, with most production in North and Central America.

Source: N. Siggelkow, "Change in the Presence of Fit: The Rise, the Fall, and the Renaissance of Liz Claiborne," *Academy of Management Journal* 44 (2001): 838–857.

that involves *variation*, *selection*, and *retention*.[21] Different research traditions focus on different levels at which these evolutionary processes occur:

- *Organizational ecology* has been discussed in relation to changes in the number of firms in an industry over time. However, organizational ecology is a broader theory of economic change that assumes organizational inertia. As a result, industry evolution occurs through changes in the population of firms rather than by adaptation of firms themselves. Industries develop and grow through new entry spurred by the imitation of initial successful entrants. The competitive process is a *selection mechanism*, in which organizations whose characteristics match the requirements of their environment can attract resources; those that do not are eliminated.[22]
- *Evolutionary economics* emphasizes change within individual firms. The processes of variation, selection, and retention take place at the level of the *organizational routine*—unsuccessful routines are abandoned; successful routines are retained and replicated within the organization.[23] As we discussed in Chapter 5, these patterns of coordinated activity are the basis for organizational capability. Firms evolve through searching for new routines, replicating successful routines, and abandoning unsuccessful routines.

While the membership of most industries changes dramatically over time, some firms show a remarkable capacity for adaptation. BASF has been one of the world's leading chemical companies since it was founded in 1865 to produce synthetic dyes. Exxon and Shell have led the world's petroleum industry since the late 19th century.[24] Mitsui Group, a Japanese conglomerate, is even older—its first business, a retail store, was established in 1673.

Yet these companies are exceptions. Among the companies forming the original Dow Jones Industrial Average in 1896, only General Electric remained in the index until it was dropped in July 2018. Of the world's 12 biggest companies in 1912, none remained in the top 12 by 2018 (Table 8.2). And life spans are shortening: the average period in which companies remained in the S&P 500 was 90 years in 1935; in 1958 it was 61 years; by 2011 it was down to 18 years.

The demise of great companies partly reflects the rise of new industries—notably the information and communications technology (ICT) sector, but also the failure of established firms to adapt successfully to the life cycles of their own industries.

Even if the pattern of industry evolution can be predicted, different stages of the life cycle require different resources and capabilities. The innovators that pioneer the creation of a new industry are typically different companies from the "consolidators" that develop it:

> The skills, mind-sets, and competences needed for discovery and invention are not only different from those needed for commercialization; they conflict with the needed characteristics. This means that the firms good at invention are unlikely to be good at commercialization and vice versa.[25]

The typical pattern is that technology-based start-ups that pioneer new areas of business are acquired by companies that are well established in closely related industries, and these established incumbents offer the financial resources and functional capabilities needed to grow start-ups. In plant biotechnology, the pioneers were start-ups such as Calgene, Cetus Corporation, DNA Plant Technologies, and Mycogen;

TABLE 8.2 World's biggest companies in terms of market capitalization, 1912 and 2018

1912	$billion	2018	$billion
US Steel	0.74	Apple	876
Standard Oil NJ (Exxon)	0.39	Alphabet	737
J&P Coates	0.29	Microsoft	658
Pullman	0.20	Amazon	567
Royal Dutch Shell	0.19	Facebook	511
Anaconda	0.18	Tencent	496
General Electric	0.17	Berkshire Hathaway	488
Singer	0.17	Alibaba	441
American Brands	0.17	Johnson & Johnson	376
Navistar	0.16	JP Morgan Chase	371
British American Tobacco	0.16		
De Beers	0.16		

Sources: L. Hannah "Marshall's 'Trees' and the Global 'Forest': Were 'Giant Redwoods' Different?" in N. Lamoreaux, D. Raff, and P. Temin (eds), *Learning by Doing in Markets, Firms and Nations*, Chicago: University of Chicago Press, 1999: 253–94; *Financial Times* (January 3, 2018).

by 2018, the leading suppliers of genetically modified seeds were Bayer (which acquired Monsanto), ChemChina (which acquired Syngenta), and DowDuPont—all long-established chemical firms. Of course, some start-ups do survive industry shake-outs and acquisition to become industry leaders: Google, Cisco Systems, and Facebook are examples. Geoffrey Moore describes the transition from a start-up serving early adopters to an established business serving mainstream customers as "crossing the chasm."[26]

In most new industries, we find a mixture of start-up companies (*de novo* entrants) and established companies that have diversified from other sectors (*de alio* entrants). Which is more successful depends upon whether the flexibility and entrepreneurial advantages of start-ups outweigh the superior resources and capabilities of established firms. This further depends upon whether the resources and capabilities required in the new industry are similar to those present in an existing industry. Where these linkages are close, *de alio* entrants are at an advantage: in automobiles, former bicycle, carriage, and engine manufacturers tended to be the best performers;[27] television production was dominated by former producers of radios.[28]

Many start-up ventures also draw resources and capabilities from established firms. A high proportion of new ventures are established by former employees of existing firms within that sector. In Silicon Valley, most of the leading semiconductor firms, including Intel, trace their origins to Shockley Semiconductor Laboratories, the pioneer of integrated circuits.[29] Established companies are often important investors in new ventures. Investors in Uber include the Chinese Internet giant Baidu and the founders of Amazon, Napster, and Yelp.

Coping with Technological Change

Competition between new start-ups and established firms is not restricted to the early phases of an industry's life cycle: it is ongoing. The threat that newcomers pose to established firms is greatest during periods of technological change—especially when the new technology is "competence destroying," "architectural," or "disruptive."

Competence Enhancing and Competence Destroying Technological Change

Some technological changes undermine the resources and capabilities of established firms—according to Tushman and Anderson, they are "competence destroying." Other changes are "competence enhancing"—they preserve, even strengthen, the resources and capabilities of incumbent firms.[30] The quartz watch radically undermined the competence base of mechanical watchmakers. Conversely, the turbofan, a major advance in jet engine technology, reinforced the capability base of existing aero engine manufacturers.

Architectural and Component Innovation The ease with which established firms adapt to technological change depends upon whether the innovation occurs at the *component* or the *architectural* level. Innovations that change the overall architecture of a product create great difficulties for established firms because an architectural innovation requires a major reconfiguration of a company's strategy and activity system.[31] In automobiles, the hybrid engine was an important innovation but did not require a major reconfiguration of car design and engineering. The battery-powered electric motor is an architectural innovation—it requires redesign of the entire car and involves carmakers in creating systems for recharging. In many sectors of e-commerce—online grocery purchases and online banking—the internet involved innovation at the component level (it provided a new channel of distribution for existing products). Hence, existing supermarket chains and established retail banks with their clicks and bricks business models have dominated online groceries and online financial services. The rise of Boeing during the 1960s to become the world's leading producer of passenger aircraft was primarily because of its recognition that the jet engine was an architectural innovation that necessitated a major redesign of airplanes.[32]

Disruptive Technologies Clay Christiansen distinguishes between new technology that is *sustaining*—it augments existing performance attributes—and new technology that is *disruptive*—it incorporates different performance attributes than the existing technology.[33]

Steam-powered ships were initially slower, more expensive, and less reliable than sailing ships. The leading shipbuilders failed to make the transition to steam power because their leading customers, the transoceanic shipping companies, remained loyal to sail until the closing decades of the 19th century. Steam power was used mainly for inland waters, which lacked constant winds. After several decades of gradual development for these niche markets, stream-powered ships were able to outperform sailing ships on ocean routes.

In the disk-drive industry, some technological innovations—such as thin-film heads and more finely dispersed ferrous oxide coatings—enhanced the dominant performance criterion—recording density—reinforcing the market positions of established industry leaders. Other disk-drive technologies, notably new product generations with smaller diameters, were disruptive: established companies lagged behind newcomers in launching the new disk sizes and typically lost their industry leadership.[34] They stored less data and were resisted by major customers. Thus, the 3.5-inch disk was introduced

by Connor Peripherals (mainly for use in laptop computers), but was initially rejected by industry leader, Seagate. Within three years, the rapid development of the 3.5-inch disk had rendered the 5.25-inch disk obsolete.[35]

Managing Strategic Change

Given the many barriers to organizational change and the difficulties that companies experience in coping with disruptive technologies and architectural innovation, how can companies adapt to changes in their environment?

Just as the sources of organizational inertia are many, so too are the theories and methods of organizational change. Until the 1980s, most approaches to organizational change were based upon the behavioral sciences and emphasized bottom-up, decentralized initiatives. Socio-technical systems emphasized the need for social systems to adapt to the requirements of new technologies,[36] while organizational development (OD) emphasized group dynamics and the role of "change agents."[37]

More recently, managing change has become a central topic within strategic management practice and research. In this section, we review four approaches to managing strategic change. We begin with the challenge of managing for today while preparing for tomorrow and discuss the potential for **organizational ambidexterity**. Second, we examine management tools for counteracting organizational inertia. Third, we explore the means by which companies develop new capabilities. Fourth, we address the role and nature of **dynamic capabilities**. Finally, we examine the contribution of knowledge management.

Dual Strategies and Organizational Ambidexterity

In Chapter 1, we learned that strategy has two major dimensions: positioning for the present and adapting to the future. Reconciling the two is difficult. Derek Abell argued that "managing with dual strategies"—in terms of "lavishing attention on those factors that are critical to short-term success" while "changing a business in anticipation of the future"—is the most challenging dilemma that senior managers face.[38]

Abell argues that dual strategies require dual planning systems: short-term planning that focuses on strategic fit and performance over a one- or two-year period; and longer-term planning to develop vision, reshape the corporate portfolio, redefine and reposition individual businesses, develop new capabilities, and redesign organizational structures over periods of five years or more. This challenge of reconciling "competing for today" with "preparing for tomorrow" is closely related to the tradeoff between exploitation and exploration that we discussed in relation to organizational inertia.

Charles O'Reilly and Michael Tushman use the term "organizational ambidexterity" to refer to the capacity to reconcile exploration with exploitation. The ambidextrous firm is "capable of simultaneously exploiting existing competences and exploring new opportunities."[39] There are two approaches to creating organizational ambidexterity: *structural* and *contextual*.

Structural Ambidexterity involves creating organizational units for exploration activities that are separate from the core operational activities of the company.[40] For example:

- IBM developed its PC in a separate unit in Florida—far from IBM's corporate headquarters in New York. Its leader, Bill Lowe, claimed that this separation was

critical to creating a business system that was radically different from IBM's vertically integrated mainframe business.[41]

- Shell's GameChanger program was established to develop new avenues for future growth by exploiting innovations and entrepreneurial initiatives that would otherwise be stifled by Shell's financial system and organizational structure.[42]

The key challenge is whether the initiatives fostered within the "exploration" unit will lead change within the organization as a whole. Xerox's Palo Alto Research Center developed many of the innovations that drove the microcomputer revolution of the 1980s and 1990s, but few of these innovations were exploited by Xerox itself. Similarly, the innovative business system established by General Motors' Saturn division did little to turn GM into "a new kind of car company."[43]

Contextual ambidexterity involves the same organizational units and the same organizational members pursuing both exploratory and exploitative activities. At Oticon, the Danish hearing aid company, employees were encouraged to sustain existing products while pursuing innovation and creativity.[44] Under the slogan "Innovation from Everyone, Everywhere," Whirlpool sought to embed innovation throughout its existing organization.[45] The problem of contextual ambidexterity is that the management systems and the individual behaviors required for exploitation are incompatible with those needed for exploration.

Combatting Organizational Inertia

If organizational change follows a process of punctuated equilibrium in which periods of stability are interspersed by periods of intense upheaval, what precipitates these episodes of transformational change? Corporate restructuring, involving simultaneous changes in strategy, structure, management systems, and top management personnel, typically follows declining performance. For example, the oil and gas majors underwent far-reaching restructuring during 1986–92 following the oil price decline of 1986.[46] During 2017, consumer goods giants Unilever, Procter & Gamble, and Nestle all initiated major restructuring programs in response to sluggish sales, declining profitability, and takeover threats. A challenge for top management is to undertake large-scale change before being pressured by declining performance. This may require managers to let go of the beliefs that wed them to the prevailing strategy. Polaroid's failure to adapt to digital imaging despite developing leading-edge digital-imaging capabilities can be attributed to top management's entrenched beliefs about the company and its strategy.[47]

Creating Perceptions of Crisis Crises create the conditions for strategic change by loosening the organization's attachment to the status quo. The problem is that by the time the organization is engulfed in crisis it may already be too late. Hence, leaders may foster the perception of impending crisis so that necessary changes can be implemented well before a real crisis emerges. At General Electric, even when the company was reporting record profits, Jack Welch was able to convince employees of the need for change in order to defend against emerging threats. Andy Grove's dictum "Only the paranoid survive" helped Intel to maintain a continual striving for improvement and development despite its dominance of the market for PC microprocessors.

Establishing Stretch Targets Another approach to counteracting organizational inertia is to continually pressure the organizations by setting ambitious performance targets. Stretch goals can motivate creativity and initiative while attacking complacency. Stretch goals are usually quantitative and short term; however, they also relate to long-term strategic goals. A key role of vision statements and ambitious strategic intent is to create a sustained sense of ambition and organizational purpose. These ideas are exemplified by Collins and Porras' notion of "Big Hairy Ambitious Goals" that I discussed in Chapter 1. Apple's success in introducing "insanely great" new products owes much to Steve Jobs imposing seemingly impossible goals on his product development teams. For the iPod he insisted that it should store thousands of songs, have a battery life exceeding four hours, and be smaller and thinner than any existing MP3 player.[48]

Corporate-Wide Initiatives as Catalysts of Change Chief executives are limited in their ability to initiate and implement organization-wide change. However, by a combination of authoritative and charismatic leadership, they may be able to pioneer specific initiatives with a surprisingly extensive impact. Corporate initiatives sponsored by the CEO are effective for disseminating strategic changes, best practices, and management innovations. At General Electric, Jack Welch was an especially effective exponent of using corporate initiatives to drive organizational change. These were built around communicable and compelling slogans such as "Be number 1 or number 2 in your industry," "GE's growth engine," "boundarylessness," "six-sigma quality," and "destroy-your-business-dot-com." Leaders can also have a profound impact through symbolic actions. A key incident in the transformation of the Qingdao Refrigerator Plant into Haier, one of the world's biggest appliance companies, was when the CEO, Zhang Ruimin, took a sledgehammer to defective refrigerators in front of the assembled workforce.[49]

Reorganizing Company Structure By reorganizing the structure, top management can redistribute power, reshuffle top management, and introduce new blood. One of the last major actions of CEO Steve Ballmer before retiring in August 2013 was to reorganize Microsoft's divisional structure in order to break down established power centers and facilitate the transition to a more integrated company. Activist investor, Nelson Peltz, has urged Procter & Gamble to reorganize around three operating units as a means of reducing corporate power and stimulating innovation and efficiency.[50] Periodic changes in organizational structure can stimulate decentralized search and local initiatives while encouraging more effective exploitation of the outcomes of such search.[51] Reconciling the benefits of integration and flexibility may require organizations to oscillate between periods of decentralization and periods of centralization.[52]

New Leadership If strategic change is hampered by management's adherence to outmoded beliefs or if the existing team lacks the diversity of opinion and outlook for new strategic thinking, then an outsider may be needed to lead change. Evidence of the relative performance of internal and external CEOs is mixed. However, if an organization is performing poorly, an external CEO tends to be more effective at leading change than an internal appointment.[53] Certainly, the crisis that engulfed Uber Technologies in 2017 made it essential to appoint a new CEO from outside the company.

Scenario Analysis Adapting to change requires anticipating change. Yet predicting the future is hazardous, if not impossible. "Only a fool would make predictions especially about the future," remarked movie mogul Samuel Goldwyn. But the inability to predict does not preclude preparing for change. **Scenario analysis** is a systematic way of thinking about how the future might unfold. Scenario analysis is not a forecasting

technique, but a process for thinking about and analyzing the future by drawing upon a broad range of information and expertise.

Herman Kahn, who pioneered their use first at the Rand Corporation, defined scenarios as "hypothetical sequences of events constructed for the purpose of focusing attention on causal process and decision points."[54] The multiple-scenario approach constructs several distinct, internally consistent views of how the future may look 5–50 years ahead. Its key value is in combining the interrelated impacts of a wide range of economic, technological, demographic, and political factors into a few distinct alternative stories of how the future might unfold. Scenario analysis can be either qualitative or quantitative or a combination of the two. Quantitative scenario analysis builds simulation models to identify likely outcomes. Qualitative scenarios typically take the form of narratives and can be particularly useful in engaging the insight and imagination of decision makers.

Scenario analysis is used to explore paths of industry evolution, the development of particular countries, and the impact of new technology. However, as with most strategy techniques, the value of scenario analysis is not in the results but in the process. Scenario analysis is a powerful tool for communicating different ideas and insights, surfacing deeply held beliefs and assumptions, identifying possible threats and opportunities, generating and evaluating alternative strategies, encouraging more flexible thinking, and building consensus. Evaluating different strategies under different scenarios can help identify which strategies are most robust and force managers to address "what if?" questions. Strategy Capsule 8.3 outlines the use of scenarios at Shell.

Developing New Capabilities

Ultimately, adapting to a changing world requires developing the capabilities needed to renew competitive advantage. In Chapter 6, we saw that developing organizational capability is an essential task for strategy implementation. Yet, for established organizations—both for-profit and not-for-profit—creating new capabilities represents a formidable challenge. To understand why, let us consider where do capabilities come from?

The Origins of Organizational Capability: Early Experiences and Path Dependency As Table 8.3 illustrates, a company's distinctive capabilities can often be traced back to the circumstances which prevailed during its founding and early development. They are subject to **path dependency**—a company's capabilities today are the result of its history.[55]

The examples in Table 8.3 are troubling for managers in established companies: if a firm's capabilities are determined during the early stages of its life, is it really possible to develop the new capabilities needed to adapt to changes? Established capabilities embedded within organizational structure and culture present formidable barriers to building new capabilities. Indeed, the more highly developed a firm's organizational capabilities, the greater the barrier they create. Because Dell Computer's direct sales model was so highly developed, Dell found it difficult to adapt to selling through retail outlets as well. Hence the argument that core capabilities are simultaneously core rigidities.[56]

Developing Capabilities Sequentially In Chapter 6, we saw that developing capabilities requires putting in place processes, organizational structure, and motivation. However, identifying the essential components of organizational capability provides limited guidance to managers seeking to create a new capability. The key challenge is

STRATEGY CAPSULE 8.3
Multiple-Scenario Development at Shell

Royal Dutch Shell has used scenarios as a basis for long-term strategic planning since 1967. Mike Pocock, Shell's former chairman, observed: "We believe in basing planning not on single forecasts, but on deep thought that identifies a coherent pattern of economic, political, and social development."

Shell's scenarios are critical to the transition of its planning function from producing plans to leading a process of dialogue and learning, the outcome of which is improved decision making by managers. This involves continually challenging current thinking within the group, encouraging a wider look at external influences on the business, and forging coordination among Shell's 200+ subsidiaries.

Shell's global scenarios are prepared every four or five years by a team comprising corporate planning staff, executives, and outside experts. Economic, political, technological, and demographic trends are analyzed up to 50 years into the future. In 2014, Shell identified two global scenarios for the period to 2060:

- *Mountains:* A world where current elites retain their power, manage for stability, and "unlock resources steadily and cautiously, not solely dictated by immediate market forces. The resulting rigidity within the system dampens economic dynamism and stifles social mobility."
- *Oceans:* A world of devolved power where "competing interests are accommodated and compromise is king. Economic productivity surges on a huge wave of reforms, yet social cohesion is sometimes eroded and politics destabilized . . . giving immediate market forces greater prominence."

Once approved by top management, the scenarios are disseminated by reports, presentations, and workshops, where they form the basis for long-term strategy discussion by business sectors and operating companies.

Shell is adamant that its scenarios are not forecasts. They represent carefully thought-out stories of how the various forces shaping the global energy environment of the future might play out. Their value is in stimulating the social and cognitive processes through which managers envisage the future: "They are designed to stretch management to consider even events that may be only remotely possible." According to former CEO Jeroen van der Veer: "the imperative is to use this tool to gain deeper insights into our global business environment and to achieve the cultural change that is at the heart of our group strategy."

Sources: A. de Geus, "Planning as Learning," *Harvard Business Review* (March/April 1988): 70–4; P. Schoemacher, "Multiple Scenario Development: Its Conceptual and Behavioral Foundation," *Strategic Management Journal* 14 (1993): 193–214; Royal Dutch Shell, *New Lens Scenarios: A Shift in Perspective for a World in Transition* (2014).

not obtaining the necessary resources: it is integrating them through establishing and developing processes through routinization and learning, building structure, motivating the people involved, and aligning the new capability with other aspects of the organization, the demands upon management are considerable. Hence, an organization must limit the number and scope of the capabilities that it is attempting to create at any point in time. This implies that capabilities need to be developed sequentially rather than all at once.

The task is further complicated by the fact that we have limited knowledge about how to manage capability development. Hence, it may be helpful to focus not on the organizational capabilities themselves but on developing and supplying the products that use those capabilities. A trajectory through time of related, increasingly

TABLE 8.3 Childhood experiences shape distinctive capabilities

Company	Distinctive capability	Early history
Walmart Stores Inc.	Supply chain management	Walmart stores were initially located in small towns in Arkansas and Oklahoma. With vendors unable to provide reliable distribution, Walmart built its own warehouses and designed its own hub-and-spoke distribution system
Exxon Mobil Inc.	Financial management (especially capital budgeting)	Exxon and Mobil were both members of Rockefeller's Standard Oil Trust. Exxon's predecessor was Standard Oil New Jersey, the holding company for the group with primary responsibility for financial management
Royal Dutch Shell	Adaptability to local conditions in over 120 countries	The original parents were established with headquarters in Europe to manage operations thousands of miles away: Royal Dutch Petroleum had oilfields in Indonesia; Shell Transport and Trading bought oil products in Russia for sale in the Far East. Both developed highly decentralized, locally adaptable organizations
Eni SpA	Host country relations	As a newcomer in the industry where the established majors controlled most of the world's known reserves, Eni's initial internationalization involved innovative partnership agreements with producer governments
Toyota Motor Corp.	Lean production	"Lean production"—a combination of *kaizen* (continuous improvement), just-in-time supply chain management, and total quality management developed in the aftermath of World War II when acute shortages of materials and finance forced Toyota to be fastidious in avoiding waste and minimizing work-in-progress

sophisticated products allows a firm to develop the "integrative knowledge" that is at the heart of organizational capability.[57] Consider Panasonic's approach to developing manufacturing capabilities in emerging markets:

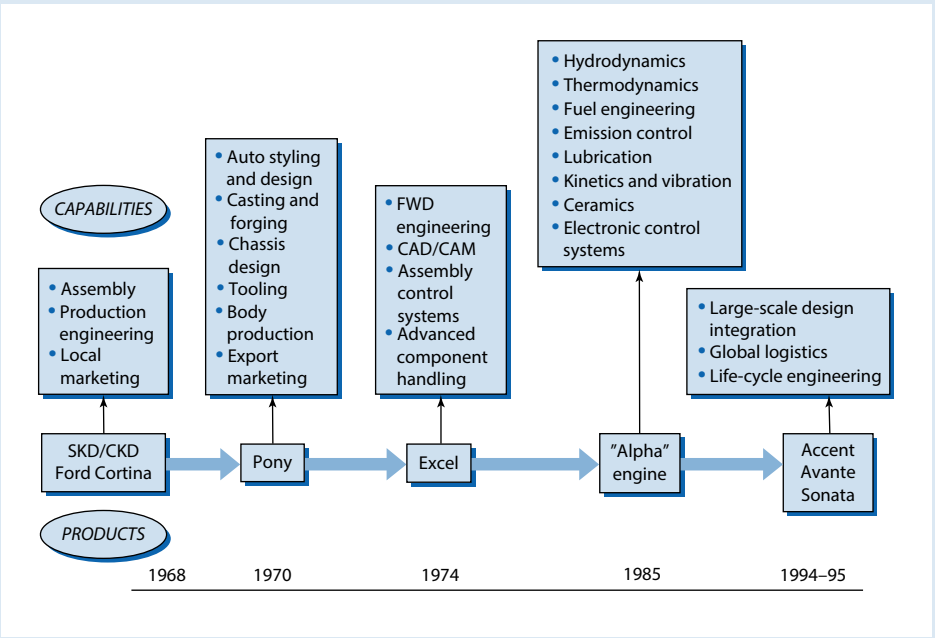
> In every country batteries are a necessity, so they sell well. As long as we bring a few advanced automated pieces of equipment for the processes vital to final product quality, even unskilled labor can produce good products. As they work on this rather simple product, the workers get trained, and this increased skill level then permits us to gradually expand production to items with increasingly higher technology levels, first radios, then televisions.[58]

STRATEGY CAPSULE 8.4

Hyundai Motor: Developing Capabilities through Product Sequencing

Hyundai's emergence as a world-class automobile producer is a remarkable example of capability development over a sequence of compressed phases (Figure 8.5). Each phase of the development process was characterized by a clear objective in terms of product outcome, a tight time deadline, an empowered development team, a clear recognition of the capabilities that needed to be developed in each phase, and an atmosphere of impending crisis should the project not succeed. The first phase was the construction of an assembly plant in the unprecedented time of 18 months in order to build Hyundai's first car—a Ford Cortina imported in semi-knocked down (SKD) form. Subsequent phases involved products of increasing sophistication and the development of more advanced capabilities.

FIGURE 8.5 Phased development at Hyundai Motor, 1968–95



Source: Draws upon L. Kim, "Crisis construction and organizational learning: Capability building and catching up at Hyundai Motor," *Organizational Science* 9 (1998): 506–521.

The key to such a sequential approach is for each stage of development to be linked not just to a specific product (or part of a product) but also to a clearly defined set of capabilities. Strategy Capsule 8.4 outlines Hyundai's sequential approach to capability development.

Dynamic Capabilities

The ability of some firms (e.g., IBM, General Electric, 3M, Toyota, and Tata Group) to repeatedly adapt to new circumstances while others stagnate and die, suggests that the capacity for change is itself an organizational capability. David Teece and his colleagues introduced the term *dynamic capabilities* to refer to a "firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments."[59]

Despite a lack of consensus over definition, common to most conceptions of dynamic capabilities is that they are "higher-order" capabilities that orchestrate change among lower-level "ordinary" or "operational" capabilities. Teece proposes that "dynamic capabilities can be disaggregated into the capacity (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets."[60] However, this does not help us much when trying to identify the dynamic capabilities a company possesses, or in distinguishing dynamic from ordinary capabilities. To facilitate the identification of dynamic capabilities, it is therefore useful to equate dynamic capabilities with "specific and identifiable processes"[61] and "patterned and routine"[62] behavior (as opposed to ad hoc problem solving).

IBM offers an example of how management processes can build higher-level dynamic capabilities. Under the leadership of three CEOs—Lou Gerstner, Sam Palmisano, and Ginni Rometty—IBM's Strategic Leadership Model comprised a number of processes designed to sense new business opportunities and then fund their development into new business initiatives. Strategy Capsule 14.3 in Chapter 14 outlines IBM's strategic management system.[63]

Using Knowledge Management to Develop Organizational Capability

Since the early 1990s, the development of capabilities by organizations has been profoundly influenced by a set of concepts and practices referred to as *knowledge management*. Knowledge management comprises a range of management organizational processes and practices whose common feature is their goal of generating value from knowledge.[64] Knowledge management includes many long-established organizational functions such as R&D, management information systems, employee training, and managing intellectual property, even strategic planning; however, at its core it comprises:

- The application of information technology to management processes—especially the use of databases, intranets, expert systems, and groupware for storing, analyzing, and disseminating information.
- The promotion of organizational learning—including best practices transfer, "lessons learned" from ongoing activities, and processes for sharing know-how.

These two areas of knowledge management correspond to the two principal types of knowledge—knowing *about* and knowing *how*[65]:

- *Knowing about* is explicit: it comprises facts, theories, and sets of instructions. *Explicit knowledge* can be communicated at negligible marginal cost between individuals and across space and time. This ability to disseminate knowledge such that any one person's use does not limit anyone else's access to the same knowledge means that explicit knowledge has the characteristic of a public good: once created, it can be replicated among innumerable users at low cost. Information and communication technologies play a major role in storing, analyzing, and disseminating explicit knowledge.
- *Know-how* is tacit in nature: it involves skills that are expressed through their performance (riding a bicycle, playing the piano). Such *tacit knowledge* cannot be directly articulated or codified. It can only be observed through its application and acquired through practice. Its management requires socially embedded person-to-person processes.

If explicit knowledge can be transferred so easily, it is seldom the foundation of sustainable competitive advantage. It is only secure from rivals when it is protected, either by intellectual property rights (patents, copyrights, trade secrets) or by secrecy ("The formula for Coca-Cola will be kept in a safe in the vault of our Atlanta headquarters guarded by heavily-armed Coca-Cola personnel."). The challenge of tacit knowledge is the opposite. The Roca brothers' Catalan restaurant, El Celler de Can Roca, has been declared the world's best restaurant. If their culinary skills have been acquired through intuition and learning-by-doing, how do they transfer this know-how to the chefs and managers of their new restaurant in Barcelona's Hotel Omm?

To build organizational capability, individual know-how must be shared within the organization. Replicating knowledge in a new location requires making know-how explicit. This systematization is the basis of McDonald's incredible growth, but is more difficult for a Michelin three-starred restaurant. For consulting companies, the distinction between tacit (personalized) and explicit (systematized) knowledge defines their business model and is a central determinant of their strategy.[66] Moreover, while systematization permits internal replication, it also facilitates imitation by rivals. The result is a "paradox of replication." In order to utilize knowledge to build organizational capability, we need to replicate it; and replication is much easier if the knowledge is in explicit form.[67]

Knowledge Management Activities That Contribute to Capability Development

Knowledge management can be represented as a series of activities that contribute to capability development by building, retaining, accessing, transferring, and integrating knowledge. Table 8.4 lists several knowledge management practices.

However, the contribution of knowledge management to capability development in organizations may be less about specific techniques and more about the

TABLE 8.4 Knowledge management practices

Knowledge process	Contributing activities	Explanation and examples
Knowledge identification	Intellectual property management	Firms are devoting increased effort to identifying and protecting their intellectual property, and patents especially
	Corporate yellow pages	BP's Connect comprises personnel data that allows each employee to identify the skills and experience of other employees in the organization
Knowledge measurement	Intellectual capital accounting	Skandia's intellectual capital accounting system pioneered the measurement and valuation of a firm's stock of knowledge. Dow Chemical uses intellectual capital metrics to link its patent portfolio to shareholder value
Knowledge retention	Lessons learned	The US Army's Center for Lessons Learned distils the results of maneuvers, simulated battles, and actual operations into tactical guidelines and recommended procedures. Most consulting firms have post project reviews to capture the knowledge gained from each project
Knowledge transfer and sharing	Databases	Project-based organizations typically store knowledge generated by client assignments in searchable databases
	Communities-of-practice	Communities of practice are informal, self-organizing networks for transferring experiential knowledge among employees who share the same professional interests
	Best practice transfer	Where operations are geographically dispersed, different units are likely to develop local innovations and improvements. Best practice methodology aims to identify then transfer superior practices
Data analysis	Big data	"Big data" refers to the collation and analysis of huge data sets such as Walmart's more than one million customer transactions each hour and UPS's tracking of its 16.3 million packages per day and telematic data for its 46,000 vehicles

insight that the **knowledge-based view of the firm** has given to organizational performance and the role of management. For example, Ikujiro Nonaka's model of knowledge creation offers penetrating insights into the organizational processes through which knowledge is created and value is created from knowledge (Strategy Capsule 8.5).

STRATEGY CAPSULE 8.5
Knowledge Conversion and Knowledge Replication

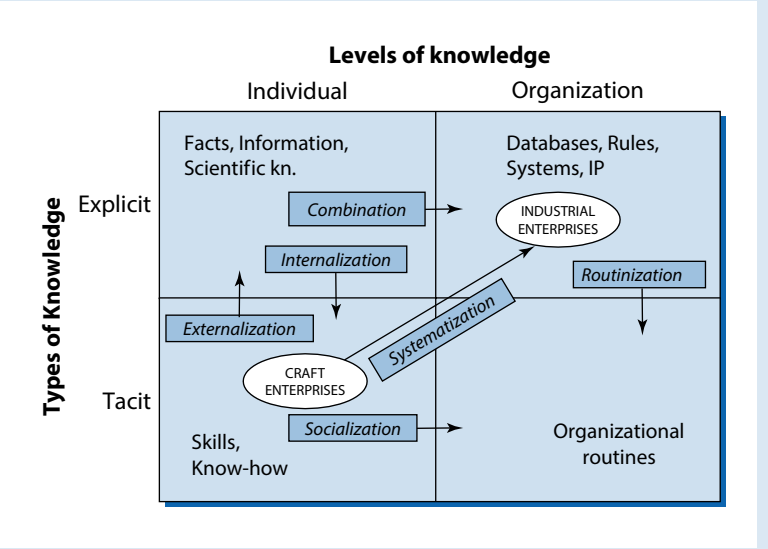
Ikujiro Nonaka's theory of knowledge creation argues that knowledge conversion between tacit and explicit forms and between individual and organizational levels produces a "knowledge spiral" in which the organization's stock of knowledge broadens and deepens. For example, explicit knowledge is internalized into tacit knowledge in the form of intuition, know-how, and routines, while tacit knowledge is externalized into explicit knowledge through articulation and codification. Knowledge also moves between levels: individual knowledge is combined into organizational knowledge; individual knowledge is socialized into organizational knowledge.

Knowledge conversion lies at the heart of a key stage of business development: the transition from the *craft enterprise* based upon individual, tacit knowledge, to the *industrial enterprise* based upon explicit, organizational knowledge. This transition is depicted in Figure 8.6 and is illustrated by the following examples:

- Henry Ford's Model T was initially produced on a small scale by skilled workers. Ford's assembly line mass-production technology systematized that individual, tacit knowledge and built it into machines and processes. Ford's industrial system was no longer dependent upon skilled craftsmen: the assembly lines could be operated by former farm workers and new immigrants.
- When Ray Kroc discovered the McDonald brothers' hamburger stand in Riversdale, California, he recognized the potential for systematizing and replicating their process. McDonald's business model was replicated through operating manuals and training programs. Now 400,000 employees, most of whom lack the most rudimentary culinary skills, serve 68 million customers daily. The relevant knowledge is embedded within McDonald's business system.

This systematization of knowledge offers massive potential for value creation through replication and deskilling. This systematization has transformed the service sector: with the replacement of individual proprietorships by international chains in hotels (Marriott), car rental (Hertz), coffee shops (Starbucks), and tax preparation (H&R Block).

FIGURE 8.6 Knowledge conversion



Source: Based upon I. Nonaka, "A Dynamic Theory of Organizational Knowledge Creation," *Organization Science* 5 (1994): 14–37.

Summary

A vital task of strategic management is to navigate the crosscurrents of change. But predicting and adapting to change are huge challenges for businesses and their leaders.

The life-cycle model allows us to understand the forces driving industry evolution and to anticipate their impact on industry structure and the basis of competitive advantage.

But, identifying regularities in the patterns of industry evolution is of little use if firms are unable to adapt to these changes. The challenge of adaptation is huge: the presence of organizational inertia means that industry evolution occurs more through the birth of new firms and the death of old ones rather than through adaptation by established firms. Even flexible, innovative companies experience problems in coping with new technologies—especially those that are "competence destroying," "disruptive," or embody "architectural innovation."

Managing change requires managers to operate in two time zones: they must optimize for today while preparing the organization for the future. The concept of the ambidextrous organization is an approach to resolving this dilemma. Other tools for managing strategic change include: creating perceptions of crisis, establishing stretch targets, corporate-wide initiatives, recruiting external managerial talent, dynamic capabilities, and scenario planning.

Whatever approach or tools are adopted to manage change, strategic change requires building new capabilities. To the extent that an organization's capabilities are a product of its entire history, building new capabilities is a formidable challenge. To understand how organizations build capability, we need to understand how resources are integrated into capability—in particular, the role of processes, structure, motivation, and alignment. The complexities of capability development and our limited understanding of how capabilities are built point to the advantages of sequential approaches to developing capabilities.

Ultimately, capability building is about harnessing the knowledge which exists within the organization. For this purpose, knowledge management offers considerable potential for increasing the effectiveness of capability development. In addition to specific techniques for identifying, retaining, sharing, and replicating knowledge, the knowledge-based view of the firm offers penetrating insights into the challenges of—and potential for—the creation and exploitation of knowledge by firms.

In the next two chapters, we discuss strategy formulation and strategy implementation in industries at different stages of their development: *emerging industries*, which are characterized by rapid change and technology-based competition, and *mature industries*.

Self-Study Questions

1. Consider the changes that have occurred in a comparatively new industry (e.g., wireless telecommunications, smartphones, video game consoles, online brokerage services, and fitness clubs). To what extent has the evolution of the industry followed the pattern predicted by the industry life-cycle model? What are the features of the industry that have influenced its pattern of evolution? At what stage of development is the industry today? How is the industry likely to evolve in the future?

2. Select a product that has become a *dominant design* for its industry (e.g., the IBM PC in personal computers, McDonald's in fast food, Harvard Business School in MBA education, and Southwest in budget airlines). What factors caused one firm's product architecture to become dominant? Why did other firms imitate this dominant design? How did the emergence of the dominant design influence the evolution of the industry?
3. The *resource partitioning* model argues that, as industries become dominated by a few major companies with similar strategies and products, so opportunities open for new entrants to build specialist niches. Identify an opportunity for establishing a specialist new business in an industry currently dominated by mass-market giants.
4. Choose an industry that faces significant change over the next 10 years. Identify the main drivers of change and construct two scenarios of how these changes might play out. In relation to one of the leading firms in the industry, what are the implications of the two scenarios, and what strategy options should the firm consider?
5. Identify two sports teams: one that is rich in resources (such as talented players) but whose capabilities (as indicated by performance) have been poor; one that is resource-poor but has displayed strong team capabilities. What clues can you offer as to the determinants of capabilities among sports teams?
6. The market leaders in video games for mobile devices during 2012–17 were start-up companies such as DeNA, GungHo Online, Supercell, King, and Rovio. Why have start-ups outperformed established video game giants such as Electronic Arts, Rock Star Games, and Activision Blizzard in this market?
7. The dean of your business school wishes to upgrade the school's educational capabilities in order to better equip its graduates for success in their careers and in their lives. Advise your dean on what tools and systems of knowledge management might be deployed in order to support these goals.

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9 Technology-Based Industries and the Management of Innovation

Whereas a calculator on the ENIAC is equipped with 18,000 vacuum tubes and weighs 30 tons, computers in the future may have only 1000 vacuum tubes and perhaps weigh only 1.5 tons.

—POPULAR MECHANICS, MARCH 1949

There's no chance that the iPhone is going to get any significant market share.

—STEVE BALLMER, CEO, MICROSOFT, APRIL 30, 2007

OUTLINE

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- **Competitive Advantage in Technology-Intensive Industries**
  - The Innovation Process
  - Capturing Value from Innovation
  - Which Mechanisms Are Effective at Protecting Innovation?
- **Strategies to Exploit Innovation: How and When to Enter**
  - Alternative Strategies to Exploit Innovation
  - Timing Innovation: To Lead or to Follow?
  - Managing Risks
- **Standards, Platforms, and Network Externalities**
  - Types of Standard
  - The Role of Network Externalities
  - Competing for Standards
- **Implementing Technology Strategies: Internal and External Sources of Innovation**
  - Internal Sources of Innovation: Fostering Creativity
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- **Implementing Technology Strategies: Organizing for Innovation**
  - Aligning Innovation with Business Strategy
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- **Summary**
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- **Notes**

Introduction and Objectives

In the previous chapter, we saw that technology is the primary force that creates new industries and transforms existing ones. New technology-based industries include: biotechnology, photovoltaic power, cloud computing, robotics, and social networking. Industries transformed by new technologies include photography, recorded music, telecommunications, and securities trading. New technology is a source of opportunity, especially for new businesses but, as we saw in the previous chapter, it presents major problems for many established companies.

This chapter focuses on businesses where technology is a key driver of change and an important source of competitive advantage. Technology-intensive industries include both emerging industries (those in the introductory and growth phases of their life cycle) and established industries where technology continues to drive competition. The issues we examine, however, are also relevant to all industries where technology has the potential to create competitive advantage including those which may be revolutionized by new technology, such as healthcare, banking services, automotive transportation, and education.

In the last chapter, we viewed technology as an external driver of industrial change. In this chapter, our primary concern will be the use of technology as a tool of competitive strategy. How can an enterprise best exploit technology to establish a competitive advantage?

The chapter is organized around four topics in technology management. First, we examine the potential for innovation to establish sustainable competitive advantage. Second, we discuss the design of innovation strategies, including alternative business models for exploiting an innovation, timing, and managing risk. Third, we discuss network externalities and setting industry standards. Fourth, we look at how firms are extending their innovation processes beyond their organizational boundaries. Finally, we examine how technology-based strategies can best be implemented.

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

- Identify the factors that determine the returns to innovation, and evaluate the potential for an innovation to establish competitive advantage.
- Formulate strategies for exploiting innovation including: assessing alternative approaches to commercializing innovation, comparing the relative merits of being a leader or a follower, and managing risk.
- Formulate strategies that exploit network effects, create successful platforms, and win standards wars.
- Understand that innovation may be generated internally and also sourced externally ("open innovation").
- Design organizational structures and systems that foster innovation and new product development.

Competitive Advantage in Technology-Intensive Industries

Innovation forms the key link between technology and competitive advantage. The quest for competitive advantage stimulates the search for innovation and successful innovations allow some firms to dominate their industries. To explore the conditions under which innovation creates competitive advantage, let us begin by examining the innovation process.

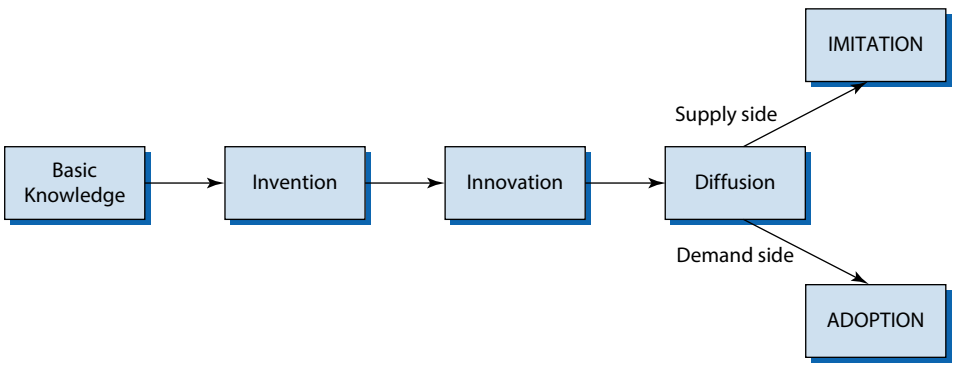
The Innovation Process

Invention is the creation of new products and processes through the development of new knowledge or from new combinations of existing knowledge. Most inventions are the result of novel applications of existing knowledge. Samuel Morse's telegraph, patented in 1840, was based on several decades of research into electromagnetism from Ben Franklin to Ørsted, Ampère, and Sturgeon. The compact disk embodies knowledge about lasers developed several decades previously.

Innovation is the initial commercialization of an invention or an idea in the form of a new product or process. Once introduced, innovation diffuses: on the demand side, through customers purchasing the product; on the supply side, through imitation by competitors. An innovation may be the result of a single invention (most product innovations in chemicals and pharmaceuticals involve discoveries of new chemical compounds) or it may combine many inventions. The first automobile, introduced by Karl Benz in 1885, embodied a multitude of inventions, from the wheel, invented some 5000 years previously, to the internal combustion engine, invented nine years earlier. Not all invention progresses into innovation: among the patent portfolios of most technology-intensive firms are inventions that have yet to find a viable commercial application. Conversely, innovations may involve little or no new technology: the personal computer was a new configuration of existing technologies; most new types of packaging, including the vast array of tamper-proof packages, involve novel designs but no new technology.

Figure 9.1 shows the pattern of development from knowledge creation to invention and innovation. Historically, the lags between knowledge creation and innovation have been long. For example, the jet engine, patented by Frank Whittle in 1930, uses Isaac

FIGURE 9.1 The development of technology: From knowledge creation to diffusion



Newton's laws of motion discovered in the 17th century. Its first commercial use was in the De Havilland Comet in 1957 and, two years later, the Boeing 707.

Recently, the innovation cycle has speeded up:

- The use of satellite radio signals for global positioning was developed by physicists at Johns Hopkins University in late 1950s. An experimental GPS satellite was launched by the US Air Force in 1978 and the GPS system was fully operational by 1995. Commercial applications began in the 1990s: Garmin launched its car sat-nav system in 1998 followed by TomTom in 2002.
- First developed at MIT in the 1980s, the first patent for instant messaging was issued to AOL in 2002. The world's most popular instant messaging applications, Whatsapp, Facebook Messenger, and WeChat, were introduced between 2008 and 2011.

The speed with which new research findings are applied commercially depends upon the motivation of the research. Research motivated by practical need, such as Louis Pasteur's study of micro-organisms, has more immediate application than research motivated by pure science, such as Neils Bohr's study of atomic physics.[1] The huge, and rapid, commercial impact of the research undertaken by the US Department of Defense's Advanced Research Projects Agency—GPS satellites, the internet, RISC computing, motion-sensing devices—underlines the potential of basic research inspired by practical needs.[2]

Capturing Value from Innovation

"If a man can … make a better mousetrap than his neighbor, though he build his house in the woods, the world will make a beaten path to his door," claimed Emerson. Yet the inventors of new mousetraps, and other gadgets too, are more likely to be found at the bankruptcy courts than in the millionaires' playgrounds of the Caribbean. The weak linkage between innovation and prosperity is also true for companies. There is no consistent evidence that either R&D intensity or frequency of new-product introductions is positively associated with profitability.[3]

The profitability of an innovation to the innovator depends on the value created by the innovation and the share of that value that the innovator is able to capture. As Strategy Capsule 9.1 shows, different innovations result in very different distributions of value.

The term **regime of appropriability** describes the conditions that influence the distribution of the value created by innovation. In a strong regime of appropriability, the innovator is able to capture a substantial share of that value: Pilkington's float glass process, Pfizer's Viagra, and Dyson's dual-cyclone vacuum cleaner—like Searle's NutraSweet—all generated huge profits for their owners. In a weak regime of appropriability, other parties derive most of the value. E-book readers, music streaming and online brokerage services are similar to personal computers: a lack of proprietary technology results in fierce price competition and most of the value created goes to consumers.

Four factors determine the innovator's ability to profit from innovation: property rights, the tacitness and complexity of the technology, lead time, and complementary resources.

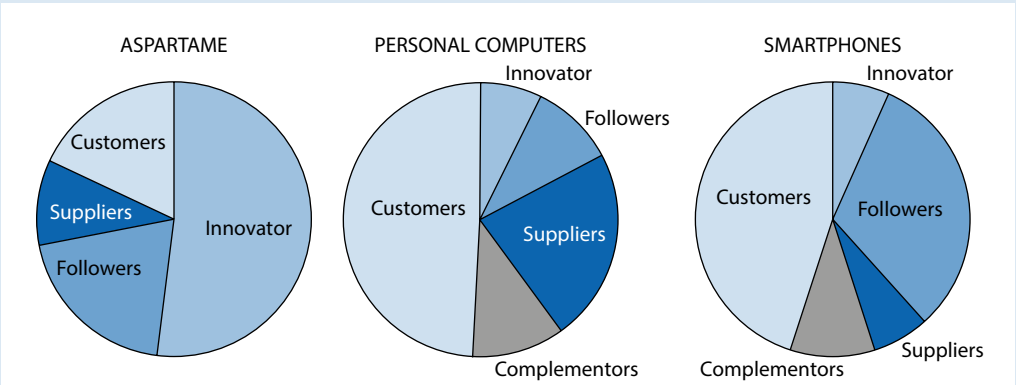
Property Rights in Innovation Capturing the returns to innovation depends, to a great extent, on the ability to establish property rights in the innovation. It was the desire to protect the returns to inventors that prompted the English Parliament to pass

STRATEGY CAPSULE 9.1
How the Returns on Innovation are Shared

The value created by an innovation is distributed among a number of different parties (Figure 9.2).

- *Aspartame:* Aspartame, the artificial sweetener, was discovered in 1965 by the drug company G. D. Searle & Co. (later acquired by Monsanto) and launched in 1981 as NutraSweet. The patent on aspartame expired in 1992, after which competition grew. However, Searle/Monsanto, successfully appropriated a major part of the value created.
- *Personal computers:* The innovators—MITS, Tandy, Apple, and Xerox—earned modest profits from their innovation. The followers—IBM, Dell, Compaq, Acer, Toshiba, and a host of later entrants—did somewhat better, but their returns were overshadowed by the huge profits earned by the suppliers to the industry, especially: Intel in microprocessors and Microsoft in operating systems. Complementors, notably the suppliers of applications software, also did well. However, intense price competition meant that the primary beneficiaries from the PC were consumers, who typically paid prices for their PCs that were a fraction of the value they derived.
- *Smartphones:* The first were the IBM Simon (1993) and the Nokia 9000 series (1996). Followers—notably RIM, Apple, and Samsung—have earned huge profits from smartphones. Several suppliers have also been big winners (e.g., microprocessor supplier, ARM); also complementors, notably app suppliers.

FIGURE 9.2 Appropriating of value: Who gets the benefits from innovation?



the 1623 Statute of Monopolies, which established the basis of patent law. Since then, the law has been extended to several areas of **intellectual property**, including:

- *Patents*: Exclusive rights to a new and useful product, process, substance, or design. Obtaining a patent requires that the invention is novel, useful, and not excessively obvious. Patent law varies from country to country. In the United States, a patent is valid for 17 years (14 for a design).

- *Copyrights*: Exclusive production, publication, or sales rights to the creators of artistic, literary, dramatic, or musical works. Examples include articles, books, drawings, maps, photographs, and musical compositions.
- *Trademarks*: Words, symbols, or other marks used to distinguish the goods or services supplied by a firm. In the United States and the United Kingdom, they are registered with the Patent Office. Trademarks provide the basis for brand identification.
- *Trade secrets*: Offer a modest degree of legal protection for recipes, formulae, industrial processes, customer lists, and other knowledge acquired in the course of business.

The effectiveness of intellectual property law depends on the type of innovation being protected. Where the invention is the new product—as in the case of a new drug or a new synthetic fiber—patents can provide effective protection. For products that reconfigure existing components, patents may fail to prevent rivals from innovating around them. The scope of the patent law has been extended to include computer software, business methods, and genetically engineered life forms. While patents and copyright establish property rights, their disadvantage (from the inventor's viewpoint) is that they make information public. Hence, companies often prefer secrecy to patenting as a means of protecting innovations.

In recent decades, companies have increasingly recognized the economic value of their intellectual property. This has involved monetizing patents through licensing and an upsurge in patenting to convert ideas and know-how into intellectual property. Between 2010 and 2017, the US Patent and Trademark Office issued an average of about 300,000 patents annually—three times as many as during the final two decades of the 20th century.

However, the management of intellectual property is not all about protecting one's proprietary technology. In certain circumstances, it may be advantageous for a firm to make its technology freely accessible to other firms. These circumstances include:

- Winning standards wars. In battling to set the standard for next-generation, high-definition DVDs, Sony and Toshiba both made their technology freely available to manufacturers and film studios.
- Growing the market. Telsa opened its patent portfolio to competitors in 2014 in the belief that any loss in competitive advantage was outweighed by the benefits of growing the market for electric vehicles.
- Counteracting the power of suppliers. In 2011, Facebook initiated the Open Compute Project, an open-source, collaborative effort to improve hardware design. The goal of the project was to lower the costs of servers purchased by Facebook and other project partners.[4]

Tacitness and Complexity of the Technology In the absence of effective legal protection, a competitor's ability to imitate an innovation depends on the ease with which the technology can be comprehended and replicated. The more an innovation is based upon tacit rather than codified knowledge, the more difficult it is to copy. Financial innovations such as mortgage-backed securities and credit default swaps embody readily codifiable knowledge that can be copied very quickly. Intel's designs for advanced microprocessors are codified and can be copied; however, manufacturing them requires deeply tacit knowledge.

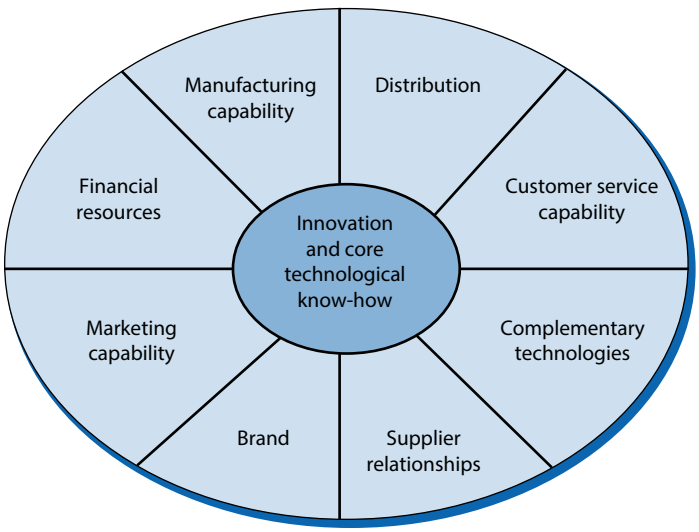
The second key factor is *complexity*. Every new fashion, from the Mary Quant miniskirt of 1962 to Gucci's 2017 Marmot bag, involves simple, easy-to-copy ideas. Conversely, Airbus's A380 and Intel's Core i9 microprocessor present entirely different challenges for the would-be imitator.

Lead Time Tacitness and complexity do not provide lasting barriers to imitation, but they do offer the innovator *time*. Innovation creates a temporary competitive advantage that offers a window of opportunity for the innovator to build on the initial advantage. The challenge for the innovator is to use initial lead-time advantages to build the capabilities and market position to entrench industry leadership. Intel in microprocessors, Cisco Systems in routers, and Nvidia in graphics chips were brilliant at exploiting lead time to build advantages in efficient manufacture, quality, and market presence.

Complementary Resources Bringing new products and processes to market requires not just invention; it also requires the diverse resources and capabilities needed to finance, produce, and market the innovation. These are referred to as *complementary resources* (Figure 9.3). Chester Carlson invented xerography but was unable for many years to bring his product to market because he lacked the complementary resources needed to develop, manufacture, market, distribute, and service his invention. Conversely, Searle (and its later parent, Monsanto) was able to provide almost all the development, manufacturing, marketing, and distribution resources needed to exploit its NutraSweet innovation. Carlson was able to appropriate only a tiny part of the value created by his Xerox copier; Searle/Monsanto was much more successful in profiting from its new artificial sweetener.

Complementary resources may be accessed through alliances with other firms, for example biotech firms ally with large pharmaceutical companies for clinical trials, manufacture, and marketing.[5] When an innovation and the complementary resources that support it are supplied by different firms, the division of value between them depends on their relative power. A key determinant of this is whether the complementary resources are *specialized* or *unspecialized*. Suppose that Alphabet's autonomous vehicle subsidiary, Waymo is first to market with a government-approved self-driving software platform. How much profit might Waymo earn? A key factor will be whether

FIGURE 9.3 Complementary resources



the complementary resources that the software requires are specialized or not. If developments in vehicle design allow Waymo's software to be installed in all new cars, the profit potential is likely to be considerable. If, on the other hand, using Waymo's software requires extensive adaptations by other firms—design changes by auto makers, specialized graphics processing units from Nvidia, radar sensors from Bosch—then Waymo's profit potential will be more limited.

Which Mechanisms are Effective at Protecting Innovation?

How effective are these different mechanisms in protecting innovations? Table 9.1 shows that, despite considerable variation across industries, patent protection is of limited effectiveness as compared with lead time, secrecy, and complementary manufacturing and sales/service resources. Indeed, since the late 1980s, the effectiveness of patents appeared to have declined despite the strengthening of patent law. Although patents are effective in increasing the lead time before competitors are able to bring imitative products to market, these gains tend to be small. The great majority of patented products and processes are duplicated within three years.[6]

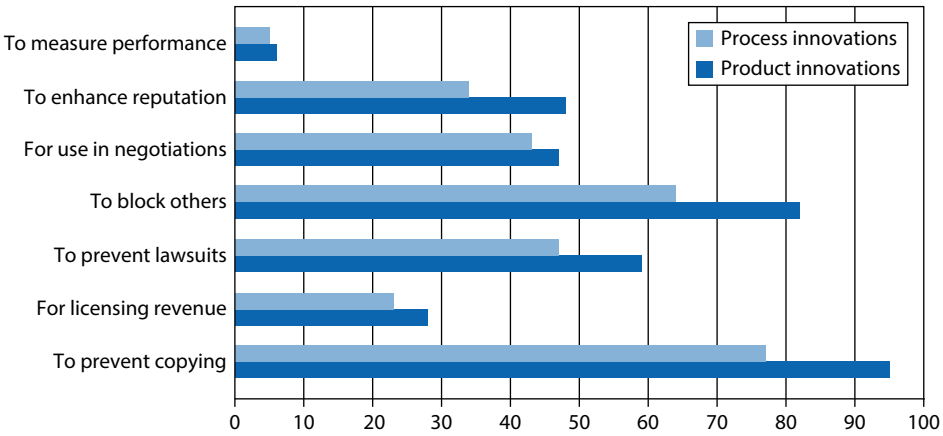
Given the limited effectiveness of patents, why do firms continue to engage in patenting? Figure 9.4 shows that, while protection from imitation is the principal motive, several others are also very important. In particular, much patenting activity appears to be strategic: it is directed toward blocking the innovation efforts of other companies and building patent portfolios that can be used to bargain with other companies for access to their patents. In microelectronics and software, such cross-licensing arrangements

TABLE 9.1 The effectiveness of different mechanisms for protecting innovation

	Secrecy (%)	Patents (%)	Lead-time (%)	Sales/service (%)	Manufacturing (%)
Product innovations					
Food	59	18	53	40	51
Drugs	54	50	50	33	49
Electronic components	34	21	46	50	51
Telecom equipment	47	26	66	42	41
Medical equipment	51	55	58	52	49
All industries	51	35	53	43	46
Process innovations					
Food	56	16	42	30	47
Drugs	68	36	36	25	44
Electronic components	47	15	43	42	56
Telecom equipment	35	15	43	34	41
Medical equipment	49	34	45	32	50
All industries	51	23	38	31	43

Note:
These data show the percentage of companies reporting that the particular mechanism, their sales and service, and their manufacturing capabilities were effective in protecting their innovations.
Source: W. M. Cohen, R. R. Nelson, and J. P. Walsh, "Protecting Their Intellectual Assets: Appropriability Conditions and Why US Manufacturing Firms Patent (Or Not)," NBER Working Paper No. W7552 (February 2000). © 2000. Reprinted by permission of the authors.

FIGURE 9.4 Why do companies patent? (Responses by 674 US companies)



Source: W. M. Cohen, R. R. Nelson, and J. P. Walsh, "Protecting Their Intellectual Assets: Appropriability Conditions and Why US Manufacturing Firms Patent (Or Not)," NBER Working Paper No. W7552 (February 2000). © 2000. Reprinted by permission of the authors.

are critical in permitting "freedom to design": the ability to design products that draw on technologies owned by different companies.[7]

Strategies to Exploit Innovation: How and When to Enter

Having established some of the key factors that determine the returns to innovation, let us consider some of the main questions concerning the formulation of strategies to manage technology and exploit innovation.

Alternative Strategies to Exploit Innovation

How should a firm maximize the returns to its innovation? A number of alternative strategies are available. Figure 9.5 orders them according to the size of the commitment of resources that each requires. Thus, licensing requires little involvement by the innovator in subsequent commercialization, hence is a limited investment. Internal commercialization, possibly through creating a new enterprise or business unit, involves a much greater investment of resources and capabilities. In between there are various opportunities for collaboration with other companies—joint ventures, strategic alliances, and outsourcing that allow resource sharing between companies.

A firm's choice of exploitation mode depends on two sets of factors: the characteristics of the innovation and the resources and capabilities of the firm.

Characteristics of the Innovation The extent to which a firm can establish clear property rights in an innovation is a critical determinant of its innovation strategy. Licensing is only viable where ownership in the innovation is protected by patent or copyrights. Thus, in pharmaceuticals, licensing is widespread because patents are clear and defensible. Many biotech companies engage only in R&D and license

FIGURE 9.5 Alternative strategies for exploiting innovation

	Licensing	Outsourcing certain functions	Strategic alliance	Joint venture	Internal commercialization
Risk and return	Little investment risk but returns also limited. Risk that the licensee either lacks motivation or steals the innovation	Limits capital investment, but may create dependence on suppliers/partners	Benefits of flexibility. Risks of informal structure	Shares investment and risk. Risk of partner disagreement and culture clash	Biggest investment requirement and corresponding risks. Benefits of control
Resource requirements	Legal protection	Capability in managing outsourced activities	Pooling of the resources and capabilities of multiple firms requires collaborative capability		Full set of complementary resources and capabilities
Examples	ARM licenses its microprocessor technology to over 200 semiconductor companies; Stanford University earns over $100m annually from licensing its inventions	Apple designs its iPhones and Nvidia designs its graphics processing units, but both outsource manufacturing	Spotify's data-sharing alliance with WPP, the world's largest advertising and marketing company, allows Spotify to better monetize its 160-million user base	Panasonic and Tesla Motors formed a joint venture in 2014 to develop a gigafactory to produce lithium ion batteries	Larry Page and Sergey Brin established Google Inc. to develop and market their internet search technology

their drug discoveries to large pharmaceutical companies that possess the necessary complementary resources. Royalties from licensing its sound-reduction technologies accounted for 90% of Dolby Laboratories' 2017 revenues. Conversely, when Mark Zuckerberg launched Facebook in his Harvard dorm, he had little option other than to develop the business himself: the absence of proprietary technology ruled out licensing as an option.

The advantages of licensing are relieving a company of the need to acquire complementary resources and capabilities and speed of commercialization: multiple licensing can allow for a fast global rollout. The problem, however, is that the success of the innovation is dependent on the commitment and effectiveness of the licensees. James Dyson, the British inventor of the dual cyclone vacuum cleaner, created his own company to manufacture and market his vacuum cleaners after failing to interest any major appliance company in licensing his technology.

Resources and Capabilities of the Firm As Figure 9.5 shows, different strategies require very different resources and capabilities. Hence, the choice of how to exploit an innovation depends critically upon the resources and capabilities that the innovator brings to the party. Start-up firms possess few of the complementary resources and capabilities needed to commercialize their innovations. Inevitably, they will be attracted to licensing or to accessing the resources of larger firms through outsourcing, alliances, or joint ventures. As we noted in the previous chapter, new industries often follow a two-stage evolution where "innovators" do the pioneering and "consolidators" with their complementary resources do the developing.

Certain large, established corporations such as DuPont, Corning, Siemens, Hitachi, and IBM have strong traditions of pursuing basic research, then internally developing the innovations that arise. However, even these companies have expanded their technological collaborations with other companies. Innovation increasingly requires

coordinated responses by multiple companies. Hence, innovating firms need to identify and map their *innovation ecosystem*, then manage the interdependencies within it. The delayed introduction of HDTV can be attributed to inadequate coordination among TV manufacturers, production studios, and broadcasters.[8] We shall return to the challenges of managing innovation ecosystems when we look more closely at platform-based competition.

Timing Innovation: To Lead or to Follow?

To gain competitive advantage in emerging and technologically intensive industries, is it better to be a leader or a follower in innovation? As Table 9.2 shows, the evidence is mixed: in some products the leader has been the first to grab the prize; in others, the leader has succumbed to the risks and costs of pioneering. Optimal timing of entry into an emerging industry and the introduction of new technology are complex issues. The advantage of being an early mover depends on the following factors:

- *The extent to which innovation can be protected by property rights or lead-time advantages*: If an innovation is appropriable through a patent, copyright, or lead-time advantage, there is advantage in being an early mover. This is especially the case where patent protection is important, as in pharmaceuticals. Notable patent races include that between Alexander Bell and Elisha Gray to patent the telephone (Bell got to the Patent Office a few hours before Gray),[9] and between Celera Inc. and the National Institutes of Health to sequence the human genome (although Celera won the race, President Clinton ruled that the human genome could not be patented).[10]

TABLE 9.2 Leaders, followers, and success in emerging industries

Product	Innovator	Follower	The winner
Jet airliner	De Havilland (Comet)	Boeing (707)	Follower
Float glass	Pilkington	Corning	Leader
X-ray scanner	EMI	General Electric	Follower
Airline reservation system	Sabre	Amadeus, Apollo	Leader
VCRs	Ampex/Sony	Matsushita	Follower
Instant camera	Polaroid	Kodak	Leader
Microwave oven	Raytheon	Samsung	Follower
Video games player	Atari	Nintendo/Sony	Followers
Disposable diaper	Procter & Gamble	Kimberley-Clark	Leader
Compact disk	Sony/Philips	Matsushita, Pioneer	Leader
Web browser	Netscape	Microsoft	Follower
Web search engine	Lycos	Google	Follower
MP3 music players	Diamond Multimedia	Apple (iPod)	Follower
Operating systems for mobile devices	Symbian, Palm OS	Apple, Google	Followers
Cryptocurrencies	Bitcoin	Etherium, Ripple	Leader
Flash memory	Toshiba	Samsung, Intel	Followers
E-book reader	Sony (Digital Reader)	Amazon (Kindle)	Follower
Social networking	SixDegrees.com	Facebook	Follower

- *The importance of complementary resources*: The more important complementary resources are in exploiting an innovation, the greater the costs and risks of pioneering. Tesla Motors' pioneering of the all-electric car reveals the huge development costs that arise from the need to orchestrate multiple technologies and create an entire infrastructure for distribution, service, and recharging. Where the need for complementary resources is great, followers are also favored by the fact that, as an industry develops, specialist firms emerge to supply complements.
- *The potential to establish a standard*: As we shall see later in this chapter, some markets converge toward a technical standard. The greater the importance of technical standards, the greater the advantages of being an early mover in order to influence those standards and gain the market momentum needed to establish leadership. Once a standard has been set, displacing it becomes exceptionally difficult. IBM was responsible for establishing Microsoft's MS-DOS as the dominant operating system for personal computers. However, when in 1987 IBM launched its OS/2 operating system, it had little success against the entrenched position of Microsoft. Only by offering their operating systems for free have Linux and Google's Chrome been able to take market share from Microsoft's Windows.

The implication is that optimal timing depends on the resources and capabilities that a firm has at its disposal. Hence, different firms have different *strategic windows*—periods in time when their resources and capabilities are aligned with the opportunities available in the market. A small, technology-based firm may have no choice but to pioneer innovation: its opportunity is to grab **first-mover advantage** and then develop the necessary complementary resources before more powerful rivals appear. For the large, established firm with financial resources and strong production, marketing, and distribution capabilities, the strategic window is likely to be both longer and later. The risks of pioneering are greater for an established firm with a reputation and brands to protect, while to exploit its complementary resources effectively typically requires a more developed market. Consider the following examples:

- In the early days of personal computers, Apple was a pioneer, IBM a follower. The timing of entry was probably optimal for each. Apple's resources comprised the vision of Steve Jobs and the technical genius of Steve Wozniak; only by pioneering could it hope to be successful. IBM had enormous strengths in manufacturing, distribution, and reputation. The key for IBM was to delay its entry until the time when the market had developed to the point where IBM's strengths could have their maximum impact.
- In the browser war between Netscape and Microsoft, Microsoft had the luxury of being able to follow the pioneer, Netscape. Microsoft's huge product development, marketing, and distribution capabilities, and, most important, its vast installed base of the Windows operating system allowed it to overhaul Netscape's initial lead.
- EMI, the British music and electronics company, introduced the world's first CT scanner in 1972. Despite a four-year lead, General Electric's vast technological and commercial capabilities within medical electronics allowed it to drive EMI out of the market.[11]

While first movers launch innovative new products that embody new technology and new functionality, fast followers are especially effective in initiating a new product's transition from niche market to mass market by lowering cost and increasing quality.[12] Timing is critical. Don Sull argues that a successful follower strategy requires "active waiting": a company needs to monitor market developments and assemble resources and capabilities while it prepares for large-scale market entry.[13]

Managing Risks

Emerging industries are risky. There are two main sources of uncertainty:

- *Technological uncertainty* arises from the unpredictability of technological evolution and the complex dynamics through which technical standards and dominant designs are selected. Hindsight is always 20/20, but *ex ante* it is difficult to predict how technologies and the industries that deploy them will evolve.
- *Market uncertainty* relates to the size and growth rates of the markets for new products. When Xerox introduced its first plain-paper copier in 1959, Apple its first personal computer in 1977, or Sony its Walkman in 1979, none had any idea of the size of the potential market. When Brian Chesky and Joe Gebbia began renting the use of an air mattress in their San Francisco apartment to help pay the rent, they had little idea that the outcome would be Airbnb (valued at $31 billion in 2017). Forecasting demand for new products is hazardous—most forecasting techniques are based on past data. Demand forecasts for new products tend to rely either on analogies[14] or expert opinion, for example, the *Delphi technique*.[15]

If managers are unable to forecast technology and demand, then to manage risk they must be alert to emerging trends while limiting their exposure to risk through avoiding large-scale commitments. Useful strategies for limiting risk include:

- *Cooperating with lead users*: During the early phases of industry development, careful monitoring of and response to market trends and customer requirements are essential in order to avoid major errors in technology and design. Von Hippel argues that lead users provide a source of leading market indicators, can assist in developing new products and processes, and offer an early cash flow to fund development expenditures.[16] In computer software, *beta versions* are released to computer enthusiasts for testing. Nike has two sets of lead users: professional athletes who are trendsetters for athletic footwear and hip-hop artists who are at the leading edge of urban fashion trends. In communications and aerospace, government defense contracts play a crucial role in developing new technologies.[17]
- *Limiting risk exposure*: The financial risks of emerging industries can be mitigated by financial and operational practices that minimize a firm's exposure to adversity. By avoiding debt and keeping fixed costs low, a firm can lower its financial and operational gearing. Outsourcing and strategic alliance can also hold down capital investment and fixed costs.
- *Flexibility*: Uncertainty necessitates rapid responses to unpredicted events. Achieving such flexibility means keeping options open and delaying commitment to a specific technology until its potential becomes clear. Twitter—originally Odeo—was founded to develop a podcasting platform. Once Apple

added a podcasting facility to iTunes, Odeo redirected itself toward a platform for internet-hosted text messages.

- *Multiple strategic options*: Faced with technological uncertainty, well-resourced companies—such as IBM, Microsoft, and Google—have the luxury of simultaneously investing in multiple technologies—what Eric Beinhocker refers to as "robust, adaptive strategies."[18] For Microsoft, this portfolio of options has included a number of prominent failures—MP3 players (Zune), smartphones (Nokia), and social networking (Yammer)—but also leadership positions in several new fields, including online gaming and cloud computing.

Standards, Platforms, and Network Externalities

In the previous chapter, we noted that the establishment of a standard can be a key event in an industry's development and growth. In the digital, networked economy, more and more markets are subject to standards which play a vital role in ensuring compatibility between users. For companies, owning a standard can be an important source of competitive advantage with the potential to offer returns that are unmatched by any other type of competitive advantage. Table 9.3 lists several companies which own key technical standards within a particular product category. A characteristic of most of these companies is the fact that these standards have generated considerable profits and shareholder value.

Types of Standard

A *standard* is a format, an interface, or a system that allows interoperability. Adhering to standards allows us to browse millions of different web pages, ensures the light

TABLE 9.3 Examples of companies that own de facto industry standards

Company	Product category	Standard
Microsoft	PC operating systems	Windows
Intel	PC microprocessors	x86 series
Sony/Philips	Compact disks	CD-ROM format
ARM (Holdings)	Microprocessors for mobile devices	ARM architecture
Oracle Corporation	Programming language for web apps	Java
Qualcomm	Digital cellular wireless communication	CDMA
Adobe Systems	Common file format for creating and viewing documents	Acrobat Portable Document Format
Adobe Systems	Web page animation	Adobe Flash
Adobe Systems	Page description language for document printing	Post Script
Bosch	Antilock braking systems	ABS and TCS (Traction Control System)
IMAX Corporation	Motion picture filming and projection system	IMAX
Apple	Music downloading system	iTunes/iPod
Sony	High definition DVD	Blu-ray
Nissan, Toyota, PSA	Electric vehicle charging	CHAdeMO

bulbs made by any manufacturer will fit any manufacturer's lamps, and keeps the traffic moving in Los Angeles (most of the time). Standards can be *public* or *private*.

- Public (or *open*) standards are those that are available to all users. They include *mandatory standards* set by government and backed by the force of law (these relate mainly to safety, environmental, and consumer protection standards) and *consensus standards* set by standards bodies such as the International Organization for Standardization (ISO) or by industry or professional associations such as Institute of Electrical and Electronics Engineers (IEEE).[19] Although most public standards are free, they may utilize privately owned intellectual property—3G wireless communication standards rely heavily on Qualcomm's CDMA patents (from which Qualcomm earns most of its profits).
- Private (*proprietary*) standards are owned by companies or individuals. If I own the technology that becomes a standard, I can embody the technology in a product that others buy or license the technology to others who wish to use it. Thus, in smartphones the major rival standards are Apple's iOS and Google's Android. Apple's iOS is used only in Apple's mobile devices; Android is licensed widely. Android also represents another variant on technical standards: it is *open source*; it is freely available; and it can be used, adapted, and developed by anyone. Most private standards are *de facto* standards: they emerge through voluntary adoption by producers and consumers. Table 9.3 gives examples.

A problem with *de facto* standards is that they may take a long time to emerge, resulting in a duplication of investments and delaying the development of the market. It was 40 years before a standard railroad gauge was agreed in the United States.[20] A mandated, public standard can avoid much of this uncertainty. Europe's mandating of standards for wireless telephony as compared with the United States' market-based approach resulted in Europe making the transition to 2G much quicker than the United States. In establishing 3G, 4G, and 5G wireless standards, the 3rd Generation Partnership Project (3GPP), a worldwide grouping of telecommunications associations, has played a lead role.

The Role of Network Externalities

Standards that permit connectivity tend to emerge in markets that are subject to **network externalities**. A network externality exists whenever the value of a product to an individual customer depends on the number of other users of that product. The classic example of network externality is the telephone. Since there is little satisfaction to be gained from talking to oneself, the value of a telephone to each user depends on the number of other users connected to the same network. This is different from most products. When I pour myself a glass of Glenlivet after a couple of exhausting MBA classes, my enjoyment is independent of how many other people in the world are drinking whiskey. Indeed, some products may have *negative* network externalities—the value of the product is less if many other people purchase the same product. If I spend $3000 on an Armani silver lamé tuxedo and find that half my colleagues at the faculty Christmas party are wearing the same jacket, my satisfaction is lessened.

Networks require technical standards to ensure connection to the network. This does not require everyone to use the same product or even the same technology, but rather that the different products are *compatible* with one another through a common interface. In the case of wireless telephone service, it doesn't matter (as far as network

access is concerned) whether I purchase service from AT&T, Verizon, or T-Mobile: technical standards ensure compatibility between each network which allows connectivity. Similarly with railroads: if I am transporting coal from Wyoming to Boston, my choice of railroad company is not critical. Unlike in the 1870s, every railroad company now uses a standard gauge and is required to give "common carrier" access to other companies' rolling stock.

Network externalities arise from several sources:

- *Products where users are linked to a network*: Telephones, railroad systems, and email instant messaging groups are networks where users are linked together. Applications software, whether spreadsheet programs or video games, also links users—they can share files and play games interactively. User-level externalities may also arise through social identification. I watch *Game of Thrones* and the Hollywood Oscar presentations on TV not because I enjoy them but so that I have something to talk to my colleagues about in the faculty common room.[21]
- *Availability of complementary products and services*: Where products are consumed as systems, the availability of complementary products and services depends on the number of customers for that system. By 2015, Microsoft and Blackberry were doomed as suppliers of smartphone operating systems. With less than 2% of the market, they could no longer attract support from third-party application developers. Similarly, I choose to own a Ford Focus rather than a Ferrari Testarossa, not only because I'm a lousy driver but also because I know that, should I break down in northern Saskatchewan, spare parts and a repair service will be more readily available.
- *Economizing on switching costs*: By purchasing the product or system that is most widely used, there is less chance that I shall have to bear the costs of switching. By using Microsoft PowerPoint rather than an alternative presentation software such as WPS Presentation or Prezi, it is more likely that I will avoid the costs of retraining and file conversion when I become a visiting professor at another university.

Network externalities create *positive feedback*. Once a technology or system gains market leadership, it attracts more and more users. Conversely, once market leadership is lost, a downward spiral is likely. This process is called *tipping*: once a certain threshold is reached, cumulative forces become unstoppable—the result is a *winner-takes-all* market, a phenomenon particularly associated with digital technologies.[22]

Once established, technical and design standards tend to be highly resilient. Standards are difficult to displace due to learning effects and collective lock-in. Learning effects cause the dominant technology and design to be continually improved and refined. Even where the existing standard is inherently inferior, switching to a superior technology may not occur because of collective lock-in. A classic case is the QWERTY typewriter layout. Its 1873 design was based on the need to *slow* the speed of typing to prevent typewriter keys from jamming. Although the jamming problem was soon solved, the QWERTY layout has persisted.[23] Technical standards are especially important in relation to digital technologies where connectivity and compatibility are vital. Strategy Capsule 9.2 discusses the strategic aspects of digital innovation—particularly the role of platforms and new business models.

STRATEGY CAPSULE 9.2

Digital Innovation: Platforms and Ecommerce Business Models

Innovation during the past four decades has been dominated by applications of digital technology. Digital innovation has distinctive characteristics to the extent that digital technology is generic: it reduces a vast range of artifacts—information, images, sounds—to binary code. It creates new products—websites, mobile communication, video games—and transforms existing ones—retailing, travel reservations, payments, and recorded music.

The wealth-creating potential of digital innovation is remarkable. McKinsey & Co. show that the "economic profit generated by TMT [technology, media, and telecom] companies grew 100-fold, or by $200 billion from 2000 to 2014." However, most of this value creation was concentrated among a few giant companies. As a result, by 2018, the world's seven most valuable companies—Apple, Alphabet, Microsoft, Amazon, Tencent, Facebook, and Alibaba—were all based on digital technologies.

Common to all seven of these companies—as well as other digital startups that have established multi billion dollar valuations, such as Netflix, Uber, Airbnb, and Pinterest—is their platform-based businesses.

Digital technologies, together with Internet or wireless connectivity, have created markets where network externalities arise both from user connections and from the availability of complements. These platform-based markets are also referred to as two-sided (or even multi-sided) markets because they form an interface between two groups of users: customers and the suppliers of complementary products.

Operating systems are the quintessential platforms: Microsoft's Windows, Apple's iOS, and Google's Android create network externalities among users (direct externalities) and among the suppliers of applications (indirect externalities). Each of these platforms is central to an ecosystem comprising thousands of interdependent companies that co-evolve. Thus, the Android ecosystem comprises over 100 smartphone manufacturers, thousands of app developers, suppliers of hardware components, accessory providers, and many other types of player. As Strategy Capsule 4.1 in Chapter 4 describes in relation to smartphones, competition between rival platforms for market dominance is often intense.

However, platforms are not restricted to digital markets, and nor do the networks necessarily require technical standards. A shopping mall is a platform: the mall developer creates a two-sided market comprising the retailers who lease the individual stores and the customers who do the shopping—network externalities operate on both sides.

Deciding whether to pursue a product strategy or a platform strategy is a key strategic issue. Google and Facebook both began with product strategies but soon recognized the potential for their products—Google's search engine and Facebook's social network—to become platforms. Many department stores have undertaken a similar transition: abandoning retailing in favor of managing an infrastructure that hosts multiple concession stores. The success of the Apple Macintosh between 1984 and 2004 was limited by Apple's pursuit of a product rather than a platform strategy. We look further at platform strategies in Strategy Capsule 9.3.

Competing for Standards

In markets subject to network externalities, control over standards is the primary basis for competitive advantage. Owning a proprietary standard—especially when it is incorporated into a platform—can be the basis for market domination and a source of massive profits. What do we know about designing winning strategies in markets subject to network externalities?

The first key issue is to determine whether we are competing in a market that will converge around a single technical standard. This requires a careful analysis of the presence and sources of network externalities.

The second strategic issue in standards setting is recognizing the role of positive feedback: the technology that can establish early leadership will rapidly gain momentum. Building a "bigger bandwagon" according to Shapiro and Varian[24] requires the following:

- *Before you go to war, assemble allies*: You'll need the support of consumers, suppliers of complements, even your competitors. Not even the strongest companies can afford to go it alone in a standards war.
- *Preempt the market*: Enter early, achieve fast-cycle product development, make early deals with key customers, and adopt penetration pricing.
- *Manage expectations*: The key to managing positive feedback is to convince customers, suppliers, and the producers of complementary goods that you will emerge as the victor. These expectations become a self-fulfilling prophecy. Sony's massive pre-launch promotion and publicity campaign prior to the

STRATEGY CAPSULE 9.3
Winning Standards Wars

Past competitive battles between rival platforms embodying different technical standards have exercised a powerful influence over current thinking about designing strategies for markets subject to network externalities. None has been more influential than the competitive battles of the late 1970 and 1980s in videocassette recorders (VCRs) and personal computers (PCs).

In neither case was technical superiority the key—indeed, in both instances it could be argued that the superior technology lost. The key factor was managing the dynamics of market penetration in order to build market leadership:

- In VCRs, Sony kept tight proprietary control of its Betamax system; JVC licensed its VHS system to Sharp, Philips, GE, RCA, and others, fueling market penetration.
- In computers, IBM's PC platform became dominant because access to its product specifications and the availability of the core technologies—notably Microsoft's operating system and Intel's microprocessors—allowed a multitude of "clone makers" to enter the market. The problem for IBM was that it established the dominant "Wintel" standard but Intel and Microsoft appropriated most of the value. For Apple, the situation was the reverse: by keeping tight control over its Macintosh operating system and product architecture, it earned high margins, but it forfeited the opportunity for market dominance.

This trade-off between penetrating the market and appropriating the returns to platform ownership is shown in Figure 9.6. Learning from these two epic contests, platform owners have relinquished more and more value to complementors, competitors, and customers in order to build a bigger bandwagon than their rivals. In some cases this has meant foregoing all possible profits. In the browser war of 1995–1998, both Netscape (Navigator) and Microsoft (Explorer) ended up giving away their products.

Finding a better balance between market penetration and value appropriation has resulted in new pricing

launch of PlayStation 4 in November 2013 was an effort to convince consumers, retailers, and game developers that the product would dominate the new generation of video game consoles, thereby stymieing efforts by Nintendo and Microsoft to establish their rival systems.[25]

A great deal has been learned from the past, especially two high-profile standards wars of the 1980s—see Strategy Capsule 9.3. If a company attempts to appropriate too great a share of the value created, it may well fail to build a big enough bandwagon to gain market leadership. Thus, recent standards battles have involved broad alliances, which comprise multiple ecosystem members. In the 2006–2008 struggle between Sony (Blu-ray) and Toshiba (HD-DVD), each camp recruited movie studios, software firms, and producers of computers and consumer electronics using various inducements, including direct cash payments. The defection of Warner Brothers to the Sony camp was critical to the market tipping suddenly in Sony's favor. However, it appears that all the financial gains from owning the winning standard were dissipated by the costs of the war.[26]

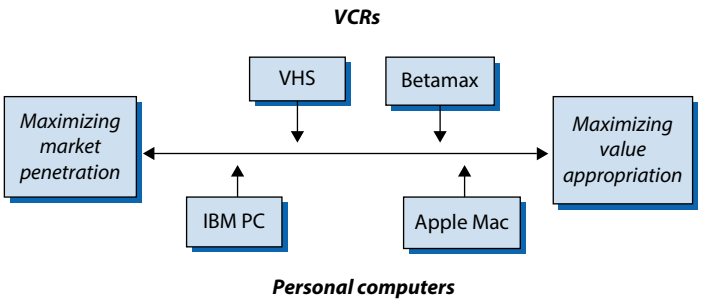
Achieving compatibility with existing products is a critical issue in standards battles. An *evolutionary strategy* (that offers backward compatibility) is usually superior to a *revolutionary strategy*.[27] Because the Apple Mac, launched in 1984, was incompatible with the Apple II, it was unable to take advantage of the Apple II's vast installed base.

models. Adobe (and many other software suppliers) follows a "freemium" model—Acrobat Reader is available free of charge, but to create or convert PDF files, the necessary Acrobat software must be purchased.

Other standards show that winning is not solely about building the biggest bandwagon of users and complementors. Users buy a system, not a platform, and their choices depend on the overall quality of the system. Apple's dominant share of the profits from the global smartphone industry, despite having a smaller market share than Google's Android, derives from the overall quality of the iPhone system, which depends to a great extent on Apple's exercise of tight control over application developers, including quality standards and overall system integration.

Sources: A. Gawer and M. A. Cusumano, "How Companies Become Platform Leaders," *MIT Sloan Management Review* 49 (2008): 28–35; C. Cennamo and J. Santal, "Platform Competition: Strategic Trade-offs in Platform Markets," *Strategic Management Journal* 34 (2013): 133–150.

FIGURE 9.6 Standards wars in videocassette recorders and personal computers



What are the key resources needed to win a standards war? Shapiro and Varian emphasize the following:

- control over an installed base of customers;
- owning intellectual property rights in the new technology;
- the ability to innovate in order to extend and adapt the initial technological advance;
- early-mover advantage;
- strength in complements (e.g., Intel has preserved its standard in microprocessors by promoting standards in buses, chipsets, graphics controllers, and interfaces between motherboards and CPUs);
- reputation and brand name.[28]

However, the dynamics of standards wars are complex and we are far from being able to propose general strategy principles. As Strategy Capsule 9.3 shows, it is not always the case that "the biggest bandwagon wins"—issues of quality and brand differentiation are also important. Nor does market leadership necessarily translate into a platform owner's ability to capture value. Finally, it is often unclear whether a market will converge around a single platform (e.g., eBay in online auctions) or multiple platforms (e.g., video game consoles and smartphones).[29]

Implementing Technology Strategies: Internal and External Sources of Innovation

As we have noted previously, strategy formulation cannot be separated from its implementation. Nowhere is this more evident than in technology-intensive businesses.

Our analysis so far has taught us about the potential for generating competitive advantage from innovation and about the design of technology-based strategies, but has said little about the conditions under which innovation is achieved. Incisive strategic analysis of how to make money out of innovation is of little use if we cannot generate innovation in the first place. We know that innovation requires certain resources—people, facilities, information, and time—but, like other capabilities, the relationship between R&D input and innovation output is weak—indeed lack of resources may act as a spur to innovation.[30] The productivity of R&D depends critically on the organizational conditions that foster innovation. What are these conditions and how do we create them?

Let's begin with the critical distinction between invention and innovation. While these activities are complementary, they require different resources and different organizational conditions. While invention depends on creativity, innovation requires collaboration and cross-functional integration.

Internal Sources of Innovation: Fostering Creativity

The Conditions for Creativity Invention is an act of creativity requiring knowledge and imagination. The creativity that drives invention is typically an individual act that establishes a meaningful relationship between concepts or objects that had not previously been related. This reconceptualization can be triggered by accidents: an apple falling on Isaac Newton's head or James Watt observing a kettle boiling. Creativity is associated with particular personality traits. Creative people tend to be curious, imaginative, adventurous, assertive, playful, self-confident, risk-taking, reflective, and uninhibited.[31]

Individuals' creativity also depends on the organizational environment in which they work—this is as true for the researchers and engineers at Amgen and Google as it was for the painters and sculptors of the Florentine and Venetian schools. Few great works of art or outstanding inventions are the products of solitary geniuses. Creativity is stimulated by human interaction: the productivity of R&D laboratories depends critically on the communication networks that the engineers and scientists establish.[32] An important catalyst of interaction is *play*, which creates an environment of inquiry, liberates thought from conventional constraints, and provides the opportunity to establish new relationships by rearranging ideas and structures at a safe distance from reality. The essence of play is that it permits unconstrained forms of experimentation.[33] The potential for low-cost experimentation has expanded vastly, thanks to advances in computer modeling and simulation that permit prototyping and market research to be undertaken speedily and virtually.[34]

Organizing for Creativity Creativity requires management systems that are quite different from those that are appropriate for efficiency. We observed in Chapter 8, when discussing the challenge of *ambidexterity,* that exploration needs to be managed very differently from exploitation. In particular, creatively oriented people tend to be responsive to distinctive types of incentive. They want to work in an egalitarian culture with enough space and resources to provide the opportunity to be spontaneous, experience freedom, and have fun in the performance of a task that, they feel, makes a difference to the performance of their organization (and, possibly, to the world as a whole). Praise, recognition, and opportunities for education and professional growth are also more important than assuming managerial responsibilities.[35] Evidence from open-source projects shows that people will devote time and effort to creative activities even in the absence of financial rewards.[36] Nurturing the drive to create may require a degree of freedom and flexibility that conflicts with conventional HR practices. At many technology-based companies, including Google and W. L. Gore & Associates, engineers choose which projects they wish to join.

Organizational environments conducive to creativity tend to be both nurturing and competitive. Creativity requires a work context that is secure but not cozy. Dorothy Leonard points to the merits of *creative abrasion* within innovative teams—fostering innovation through the interaction of different personalities and perspectives. Managers must resist the temptation to clone in favor of embracing diversity of cognitive and behavioral characteristics within work groups—creating *whole brain teams*.[37] Jeff and Staney DeGraff make a similar point: they extol the merits of combining different innovation archetypes: artists, engineers, athletes, and sages.[38] The *constructive conflict* they advocate is an established feature of new product development in Silicon Valley where development team meetings are renowned for open criticism and intense disagreement. Such conflict can spur progress toward better solutions.

Table 9.4 contrasts some characteristics of innovative organizations with those designed for operational efficiency.

Sourcing Innovation from Customers and Partners

Internal creativity is not the sole source of innovation: innovation can be accessed beyond an organization's boundaries. A major trend in innovation management has been a shift in focus away from firms' internal R&D toward accessing ideas and knowledge from the wider world. New tools of information and communications technology have reinforced this trend.

TABLE 9.4 The characteristics of "operating" and "innovating" organizations

	Operating organization	Innovating organization
Structure	Bureaucratic Specialization and division of labor Hierarchical control Defined organizational boundaries	Flat organization without hierarchical control Task-oriented project teams Fuzzy organizational boundaries
Processes	Emphasis on eliminating variation (e.g., six-sigma) Top-down control Tight financial controls	Emphasis on enhancing variation Loose controls to foster idea generation Flexible strategic planning and financial control
Reward systems	Financial compensation Promotion up the hierarchy Power and status symbols	Autonomy Recognition Equity participation in new ventures
People	Recruitment and selection based on the needs of the organization structure for specific skills: functional and staff specialists, general managers, and operatives	Key need is for idea generators who combine required technical knowledge with creative personality traits Managers must act as sponsors and orchestrators.

Source: Adapted from J. K. Galbraith and R. K. Kazanjian, *Strategy Implementation: Structure, Systems and Processes*, 2nd edn (St. Paul, MN: West, 1986).

Customers as Sources of Innovation We observed earlier in this chapter that research directed toward practical needs is more likely to lead to innovation than that motivated toward scientific discovery. Few important inventions have been spontaneous creations by scientists—most have resulted from grappling with practical problems. Chester Carlson was a patent attorney. His invention of the Xerox copying process was inspired by his frustration with the tedious task of making multiple copies of patent applications. Joseph Lister, a British surgeon, developed sterile surgery in response to the appalling fatality rate from surgery in the Victorian era.

The old adage that "necessity is the mother of invention" explains why customers are such fertile sources of innovation—they are most acutely involved with matching existing products and services to their needs. However, listening to customers is typically a weak inspiration and guide for innovation. As Henry Ford remarked: "If I had asked people what they wanted, they would have said faster horses!" Moreover, as studies of disruptive innovation have shown, customers tend not to embrace radical innovation.

According to management thinker, Adrian Slywotzky, the key is "Creating What People Love Before They Know They Want It." This requires focusing not on what customers want but on their sources of dissatisfaction. He advocates creating a "hassle map": a sequence of customers' frustrations and negative emotions that can guide new approaches to creating customer value.[39]

Eric von Hippel advocates making customers part of the innovation process.[40] Companies can induce and exploit customer-initiated innovation by identifying leading-edge customers, supplying them with easy-to-use design tools, and ensuring flexibility in production processes so that customers' innovations can be effectively exploited.[41] Lego has an online community, Lego Ideas, where members share creative ideas and submit their own designs for new Lego products. In February 2018, Lego released its 20th new customer-designed product: Ship-In-A-Bottle.[42]

STRATEGY CAPSULE 9.4
Open Innovation at IBM

IBM's *Innovation Jam* is one element of IBM's extensive collaborative innovation network. It is a massive online brainstorming process to generate, select, and develop new business ideas. The 2006 Jam was based upon an initial identification of 25 technology clusters grouped into six broad categories. Websites were built for each technology cluster and, for a 72-hour period, IBM employees, their families and friends, suppliers, customers, and individual scientists and engineers from all around the world were invited to contribute ideas for innovations based on these technologies. The 150,000 participants generated vast and diverse suggestions that were subject to text mining software and review by 50 senior executives and technical specialists who worked in nine separate teams to identify promising ideas. The next phase of the Jam subjected the selected innovation ideas to comments and review by the online community. This was followed by a further review process in which the ten best proposals were selected and a budget of $100 million was allocated to their development. The selected business ideas included a real-time foreign language translation service, smart healthcare payment systems, IT applications to environmental projects, and 3-D Internet. The new businesses were begun as incubator projects and were then transferred to one or other of IBM's business groups. As well as divisional links, the new ventures were also subject to monthly review by IBM's corporate top management. IBM has since extended its jam methodology to address a widening array of issues.

Sources: O. M. Bjelland and R. C. Wood, "An Inside View of IBM's Innovation Jam," *MIT Sloan Management Review* (Fall 2008): 32–43.

Open Innovation Involving customers in innovation is one step in opening the innovation processes. As innovation increasingly integrates multiple technologies and becomes pressured by time, so companies are forced to look outside their own boundaries for ideas and expertise. The evidence that boundary spanning stimulates innovation is overwhelming. This is true whether we are considering R&D teams within organizations, inter-firm alliances, interpersonal networks, or clusters of firms concentrated within industrial districts.[43] Building on the principle that the gains to collaborative knowledge sharing outweigh the risks of one's proprietary knowledge being expropriated, an increasing number of firms are adopting **open innovation**—an approach to innovation that seeks, exploits, and applies knowledge both from inside and outside the organization. According to Henry Chesbrough: "Open innovation is fundamentally about operating in a world of abundant knowledge, where not all the smart people work for you, so you'd better go find them, connect to them, and build upon what they can do."[44] Open innovation takes many forms. Most extensive are open-source software communities, such as Linux where thousands of independent developers contribute to the Linux operating system. Increasingly, open innovation has been embraced by large, established companies—see Strategy Capsule 9.4.

Buying Innovation Despite the success of the internal innovation efforts of large, established companies such as Samsung Electronics, Siemens, IBM, and Alphabet, the fact remains that small, technology-intensive start-ups have advantages over large corporations in the early stages of the innovation process. Hence, the major source of innovation for many large companies is to buy it. This may involve licensing or purchasing

patents, or acquiring young, technology-based companies. Between 2014 and 2017, the world's four biggest pharmaceutical companies (Johnson & Johnson, Pfizer, Roche, and Novartis) acquired 45 companies; the world's four biggest ecommerce companies (Amazon. Google, Facebook, and Tencent) acquired 94 companies. We shall look more closely at mergers, acquisitions, and alliances in Chapter 14.

Implementing Technology Strategies: Organizing for Innovation

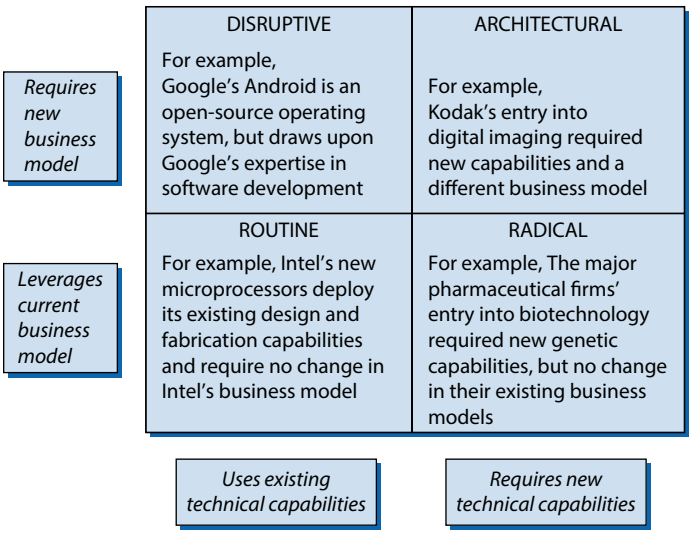
Aligning Innovation with Business Strategy

For a firm's innovation efforts to be effective, they must be aligned with its overall strategy. Gary Pisano of Harvard Business School observes that, for many firms, innovation strategy is no more than a grab-bag of best-practices: crowdsourcing, lead-customer collaboration, corporate ventures, rapid-prototyping, and so on.

Companies need an *innovation system*: "a coherent set of interdependent processes and structures that dictates how the company searches for novel problems and solutions, synthesizes ideas into a business concept and product designs, and selects which projects get funded."[45] Designing an innovation system that creates value for a firm requires a clear understanding of how innovation fits with business strategy. A firm needs to consider how its innovation can create value for its customers and how it will capture value from these innovations.

In assessing the implementation challenges of innovation, it is important to recognize the implications of innovation for a firm's capabilities and its business model. On these two dimensions, Pisano identifies four innovation archetypes (see Figure 9.7). Established companies are likely to require a combination of different innovation types—e.g. Alphabet uses all four innovation modes, including routine innovation in relation to its Google search engine, and architectural innovation in relation to its Waymo (autonomous driving) and Calico (extending human longevity) projects.

FIGURE 9.7 Innovation modes



Source: Adapted from Gary Pisano, "You Need an Innovation Strategy," *Harvard Business Review* (June 2015): 44–54.

Reconciling Creativity with Commercial Discipline

For innovation to create value, it must be directed to customer need and harnessed to commercial discipline. Reconciling creativity with financial performance is a challenge not just for technology-based companies but for all businesses whose products derive from the human imagination, including fashion and media companies: "The two cultures—of the ponytail and the suit—are a world apart, and combustible together."[46] Many innovative companies have been formed by frustrated inventors leaving established companies. The success of Google in Internet-based software, Apple in digital mobile devices, Disney in animated movies, and HBO with its succession of award-winning TV series reveals a remarkable ability to mesh creativity with commercial acuity.

Reconciling creativity with commercial effectiveness is a major challenge for organizational design—as Table 9.4 shows, the organizational requirements of the two are very different. This is a special case of the challenge of organizational ambidexterity that we encountered in the previous chapter. Innovation is concerned with exploring new opportunities, while the operational side of the business is all about exploiting existing capabilities. Yet, ultimately, the key to successful innovation is integrating creativity and technological expertise with operational capabilities in production, marketing, finance, distribution, and customer support. Achieving such integration is difficult. Tension between the operating and the innovating parts of organizations is inevitable. Innovation upsets established routines and threatens the status quo. The more stable the operating and administrative side of the organization, the greater its propensity to resist innovation.

As innovation has become an increasing priority for established corporations, so chief executives have sought to emulate the flexibility, creativity, and entrepreneurial spirit of technology-based start-ups. Organizational initiatives aimed at stimulating new product development and the exploitation of new technologies include the following:

- *Cross-functional product development teams*: These have proven highly effective mechanisms for integrating creativity with functional effectiveness. Conventional approaches to new product development involved a sequential process that began in the corporate research lab, then went "over the wall" to engineering, manufacturing, finance, and so on. Japanese companies pioneered autonomous product development teams staffed by specialists seconded from different departments with leadership from a "heavyweight" team manager who was able to protect the team from undue corporate influence.[47] Such teams have proven effective in deploying a broad range of specialist knowledge and, most importantly, integrating that knowledge flexibility and quickly—for example, through rapid prototyping and concurrent engineering.[48]
- *Product champions* allow individual creativity to be embedded within organizational processes and to link invention to its subsequent commercialization. The key is to permit the individuals who generate creative ideas to lead the teams, which develop those ideas—and to allow this leadership to continue into the commercialization phases. Companies that are consistently successful in innovation typically have organizational processes that capture and exploit individuals' drive for achievement and their commitment to their innovations. These committed individuals can overcome resistance to change within their organizations and infect others with their enthusiasm. A study of 15 major inventions of the 20th century concluded: "a new idea either finds a champion or dies."[49]

A British study of 43 matched pairs of successful and unsuccessful innovations found that successful innovations were distinguished by entrepreneurial leadership from a "business innovator."[50] 3M Corporation has a long tradition of using product champions to develop new product ideas and grow them into new businesses (Strategy Capsule 9.5).

- *Corporate incubators* are business development units that fund and nurture new businesses based upon technologies that have been developed internally but have limited applications within a company's established businesses. Despite their popularity as a means by which established companies could participate in the tech-boom of the late 1990s, few of these incubators have achieved sustained success.[51] Among the successful ones, many have been sold to venture capital firms. A key problem, according to Hamel and Prahalad, is that: "Many corporate incubators became orphanages for unloved ideas that had no internal support or in-house sponsorship."[52] Among the more successful

STRATEGY CAPSULE 9.5
The Role of the Product Champion at 3M: Scotchlite

We don't look to the president or the vice-president for R&D to say, all right, on Monday morning 3M is going to get into such-and-such a business. Rather, we prefer to see someone in one of our laboratories, or marketing, or manufacturing units bring forward a new idea that he's been thinking about. Then, when he can convince people around him, including his supervisor, that he's got something interesting, we'll make him what we call a "project manager" with a small budget of money and talent, and let him run with it.

Someone asked the question, "Why didn't 3M make glass beads, because glass beads were going to find increasing use on the highways?"…I had done a little work on trying to color glass beads and had learned a little about their reflecting properties. And, as a little extra-curricular activity, I'd been trying to make luminous house numbers.

From there, it was only natural for us to conclude that, since we were a coating company, and probably knew more than anyone else about putting particles onto a web, we ought to be able to coat glass beads very accurately on a piece of paper.

So, that's what we did. The first reflective tape we made was simply a double-coated tape—glass beads sprinkled on one side and an adhesive on the other. We took some out here in St. Paul and, with the cooperation of the highway department, put some down. After the first frost came, and then a thaw, we found we didn't know as much about adhesives under all weather conditions as we thought . . .

We looked around inside the company for skills in related areas. We tapped knowledge that existed in our sandpaper business on how to make waterproof sandpaper. We drew on the expertise of our roofing people who knew something about exposure. We reached into our adhesive and tape division to see how we could make the tape stick to the highway better.

The resulting product became known as "Scotchlite." Its principal application was in reflective signs; only later did 3M develop the market for highway marking. The originator of the product, Harry Heltzer, interested the head of the New Products Division in the product, and he encouraged Heltzer to go out and sell it. Scotchlite was a success and Heltzer became the general manager of the division set up to produce and market it.

Source: "The Technical Strategy of 3M: Start More Little Businesses," *Innovation* 5 (1969).

incubators, Cisco System' Emerging Markets Technology Group was established in 2006 to detect emerging market trends, conceive of opportunities to exploit them, and organically grow new ventures inside the company. Within the first two years, over 2,000 ideas for new businesses had been posted on the Cisco wiki and several were under development. A key feature of Cisco's incubator is its close linkage with the rest of the company—especially with senior management.[53]

Summary

In emerging and technology-based industries, nurturing and exploiting innovation is the fundamental source of competitive advantage and the focus of strategy formulation. Yet the fundamental strategic issues in these industries—the dynamics of competition, the role of the resources and capabilities in establishing competitive advantage, and the design of structures and systems to implement strategy—are ones we have already encountered and require us to apply our basic strategy toolkit.

However, the unpredictability and instability of these industries mean that strategic decisions in technology-driven industries have a very special character. The remarkable dynamics of these industries mean that the difference between massive value creation and total failure may be the result of small differences in timing or technological choices.

The speed and unpredictability of change in these markets means that sound strategic decision-making can never guarantee success. Yet, managing effectively amidst such uncertainty is only possible with a strategy based upon understanding technological change and its implications for competitive advantage.

In this chapter I have distilled what we have learned in recent decades—about strategies to successfully manage innovation and technological change. The key lessons learned relate to:

- how the value created by innovation is shared among the different players in a market, including the roles of intellectual property, tacitness and complexity of the technology, lead time, and complementary resources;
- the design of innovation strategies, including whether to be an early mover or a follower; whether to exploit an innovation through licensing, an alliance, a joint venture, or internal development; and how to manage risk;
- competing for standards and platform leadership in markets subject to network externalities;
- how to implement strategies for innovation, including organizing to stimulate creativity, access innovation from outside, and developing new products.

Many of the themes we have dealt with—such as appropriating value from innovation and reconciling creativity with commercial discipline—are general issues in the strategic management of technology. Ultimately, however, the design and implementation of strategies in industries where innovation is a key success factor requires strategy to be closely tailored to the characteristics of technology, market demand, and industry structure. BCG's list of the world's most innovative companies includes among its top ten Apple, Samsung, Amazon, Toyota, and Facebook. While all these companies have been highly successful in using innovation to build competitive advantage, the strategies each has deployed have been closely tailored to their individual circumstances.

Self-Study Questions

1. Trevor Baylis, a British inventor, submitted a patent application in November 1992 for a wind-up radio for use in Africa in areas where there was no electricity supply and people were too poor to afford batteries. He was excited by the prospects for radio broadcasts as a means of disseminating health education in areas of Africa devastated by AIDS. After appearances on British and South African TV, Baylis attracted a number of entrepreneurs and companies interested in manufacturing and marketing his clockwork radio. However, Baylis was concerned by the fact that his patent provided only limited protection for his invention: most of the main components—a clockwork generator and transistor radio—were long-established technologies. What advice would you offer Baylis as to how he can best exploit his invention?
2. Table 9.1 shows that:
   a. patents have been more effective in protecting product innovations in drugs and medical equipment than in food or electronic components;
   b. patents are more effective in protecting product innovations than process innovations.

   Can you suggest reasons why?
3. Page 228 refers to James Dyson's difficulties in licensing his innovative vacuum cleaner (see http://www.cdf.org/issue_journal/dyson_fills_a_vacuum.html for further information). What lessons would you draw from Dyson's experience concerning the use of licensing by small firms to exploit innovation?
4. From the evidence presented in Table 9.2, what conclusions can you draw regarding the factors that determine whether leaders or followers win out in the markets for new products?
5. In the market for ride sharing services, Uber is the market leader, followed by Lyft, Curb, and Sidecar. In each overseas country where Uber operates, it faces local competitors: UK rivals include BlaBlaCar, Carpooling.com, and Hailo. What are the sources of network externalities in this market? Do they operate at the city, national, or global level? Does the strength of these network effects mean that Uber's competitors are doomed to failure?

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IV

CORPORATE STRATEGY

10 **Vertical Integration and the Scope of the Firm**

11 **Global Strategy and the Multinational Corporation**

12 **Diversification Strategy**

13 **Implementing Corporate Strategy: Managing the Multi-business Firm**

14 **External Growth Strategies: Mergers, Acquisitions, and Alliances**

15 **Current Trends in Strategic Management**

10 Vertical Integration and the Scope of the Firm

Do what you do best and outsource the rest!

—PETER DRUCKER, MANAGEMENT GURU, 1909–2005

Bath Fitter has control of the product from raw material to installation. This control allows them to better guarantee the quality by knowing exactly how it is made, not outsourcing it to someone that could take shortcuts …. Also, they control the measuring, installation, and customer facing representative. By doing this, Bath Fitter would be able to get accurate and fast feedback about how the product is being used, quality issues, or the ease of installation.

—"BATH FITTER HAS VERTICAL INTEGRATION," HTTP://BEYONDLEAN.WORDPRESS.COM/2011/08/29/

OUTLINE

- **Introduction and Objectives**
- **Transaction Costs and the Scope of the Firm**
- **The Benefits and Costs of Vertical Integration**
  - The Benefits from Vertical Integration
  - The Costs of Vertical Integration
  - Applying the Criteria: Deciding Whether to Make or Buy
- **Designing Vertical Relationships**
  - Different Types of Vertical Relationship
  - Choosing Among Alternative Vertical Relationships
  - Recent Trends
- **Summary**
- **Self-Study Questions**
- **Notes**

Introduction and Objectives

Chapter 1 introduced the distinction between corporate strategy and business strategy. *Corporate strategy* is concerned with *where* a firm competes; *business strategy* is concerned with *how* a firm competes within a particular area of business.[1] So far, the primary focus of the book has been business strategy. In this final part, we shift our attention to corporate strategy: decisions that define the scope of the firm, including:

- *Product scope:* How specialized should the firm be in terms of the range of products it supplies? Coca-Cola (soft drinks) and H&M (fashion retailing) are engaged in a single industry sector; Amazon and Tata Group are diversified across multiple industries.
- *Geographical scope:* What is the optimal geographical spread of activities for the firm? In the chocolate industry, Hershey is heavily focused on North America; Nestlé operates globally.
- *Vertical scope:* What range of vertically linked activities should the firm encompass? In electric cars, Tesla is highly integrated—about 80% of the value of its cars are produced internally. Ford's Focus Electric is heavily outsourced—its entire drive train is supplied by Magna and its batteries by LG.

In this chapter, we begin by considering the overall scope of the firm. We then focus specifically on vertical integration. In the next two chapters, we shall consider geographical scope (*multinationality*) and product scope (*diversification*). However, as we shall discover, our analysis of all three dimensions of scope will draw upon several common concepts: economies of scope, transaction costs, and the costs of corporate complexity.

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

- Recognize the role of firms and markets in organizing economic activity and apply *transaction cost analysis* to explain the boundaries between the two.
- Understand the benefits and costs of vertical integration and make decisions over whether a particular activity should be undertaken internally or outsourced.
- Identify alternative ways of organizing vertical transactions and, given the characteristics and circumstances of a transaction, recommend the most suitable transaction mode.

Transaction Costs and the Scope of the Firm

Although the capitalist economy is frequently referred to as a "market economy," it actually comprises two forms of economic organization. One is the *market mechanism*, where individuals and firms, guided by market prices, make independent decisions to buy and sell goods and services. The other is the *administrative mechanism* of firms, where decisions concerning production and resource allocation are made by managers and carried out through hierarchies. The market mechanism was characterized by Adam Smith as the "invisible hand" because its coordinating role does not require

conscious planning. Alfred Chandler referred to the administrative mechanism of firms as the "visible hand" because it involves active planning and direction.[2]

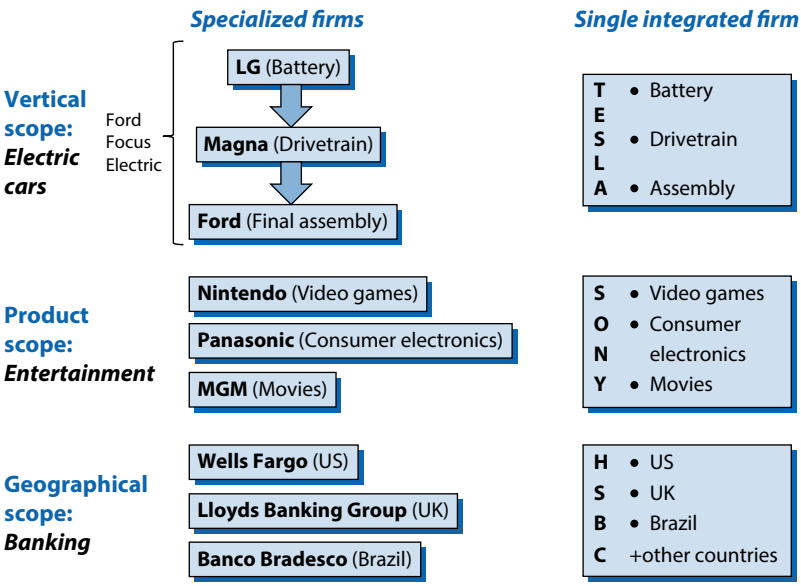
Firms and markets may be viewed as alternative institutions for organizing production. Firms are distinguished by the fact they comprise a number of individuals bound by employment contracts with a central contracting authority. However, production can also be organized through market transactions. When I remodeled my basement, I contracted a self-employed builder to undertake the work. He in turn subcontracted parts of the work to a plumber, an electrician, a joiner, a drywall installer, and a painter. Although the job involved the coordinated activity of several individuals, these self-employed specialists were not linked by employment relations but by market contracts ("$4,000 to install wiring, lights, and power outlets").

The relative roles of firms and markets vary between countries, industries, and segments within an industry. Some countries are dominated by a few diversified business groups: Samsung and LG in South Korea; Koc and Sabanci in Turkey. In the US computer industry, the production of mainframes is organized very differently from that of PCs. IBM's System z mainframe computers are assembled by IBM using IBM microprocessors and IBM's z/OS operating system, and run IBM applications software. IBM also undertakes distribution, marketing, and customer support. HP's laptop computers are manufactured by Flextronics, Quanta, and other companies using components produced by firms such as Intel, Seagate, Nvidia, and Samsung. Customer support is also outsourced.

What determines the relative roles of firms and markets? Ronald Coase's answer was the *relative cost* of organizing within firms as compared to organizing within markets.[3] Markets are not costless: the *transaction costs* of markets include the costs of search, negotiation, drawing up contracts, and monitoring and enforcing contracts (including the costs of litigation should a dispute arise). Conversely, if an activity is internalized within a firm, then the firm incurs certain *administrative costs*. If the transaction costs of organizing an activity through the market are more than the administrative costs of organizing it within a firm, we can expect that activity to be encompassed within a firm.

Consider the examples shown in Figure 10.1. With regard to vertical scope, which is a more efficient way to produce electric cars: three separate companies, one

FIGURE 10.1 The scope of the firm: Specialization versus integration



STRATEGY CAPSULE 10.1
The Rise of the Modern Corporation

ORIGINS OF THE MODERN CORPORATION

The large corporation, the dominant feature of advanced capitalist economies, is of recent origin. At the beginning of the 19th century, most production, even in Britain, the most industrially advanced economy of that time, was by individuals and families working in their own homes. Even by the mid-19th century, the biggest business organizations in the US were family-owned farms, notably the large plantations of the South. The business corporation resulted from two key developments during the 19th century:

1. Technology. Mechanization caused the shift of manufacturer from the home to the factory, while developments in transportation—canals and railways—expanded the size of markets.
2. Limited liability. A corporation is an enterprise that has a separate legal identity from its owners: it can own property, enter into contracts, sue, and be sued. The earliest business corporations were colonial trading companies created by royal decree: the British East India Company (1600), the Dutch East India Company (1602), and Hudson's Bay Company (1670). The introduction of limited liability during the mid-19th century, insulated the shareholders from the debts of the companies they owned, encouraging large-scale equity financing of railroad and manufacturing corporations.

Emergence of giant industrial companies was a feature of the "second industrial revolution," which occurred in the United States in the late 19th and early 20th centuries. Its drivers were technological innovations—electricity, the telephone, and the automobile—and organizational and management innovations. Management innovations included Winslow Taylor's scientific management—a systematic, empirically based approach to job design and production management; Ford's assembly line system of mass production; techniques of mass marketing; and systems of cost and management accounting.

Organizational innovations included:

- *Line-and-staff structure*: Most companies comprised a single establishment. The railroad companies were the first to create geographically separate operating units managed by an administrative headquarters. This structure—"line" employees in operating units coordinated by a head office "staff" of administrators and functional specialists—developed into more complex functional structures. Sears Roebuck & Co. and Shell Transport and Trading comprised numerous operating units and headquarters made up of specialized functional departments.
- *The holding company*: The biggest companies at the beginning of the 20th century were holding companies built through mergers and acquisitions (e.g., American Tobacco, US Steel, and Standard Oil). In a holding company, the parent company owns controlling equity stakes in a number of subsidiary companies allowing the parent to appoint the boards of the subsidiaries and receive dividends, but with limited managerial control.

THE 20TH CENTURY: EXPANDING SCALE AND SCOPE

Large holding companies and functionally organized companies increasingly adopted *multidivisional structures*. At DuPont, increasing size and a widening product range strained its functional structure and overloaded top management. Pierre Du Pont's solution was to decentralize: 10 product divisions were created, each with its own R&D, production, and sales; a corporate

supplying batteries, another producing drivetrains, a third undertaking assembly (as in the case of the Ford Focus Electric), or a single company undertaking all three stages (as in the case of Tesla)? In relation to product scope, is it more efficient for video games, consumer electronic products, and movies to be produced by a single firm (such as Sony), or for each product to be produced by a separate company?

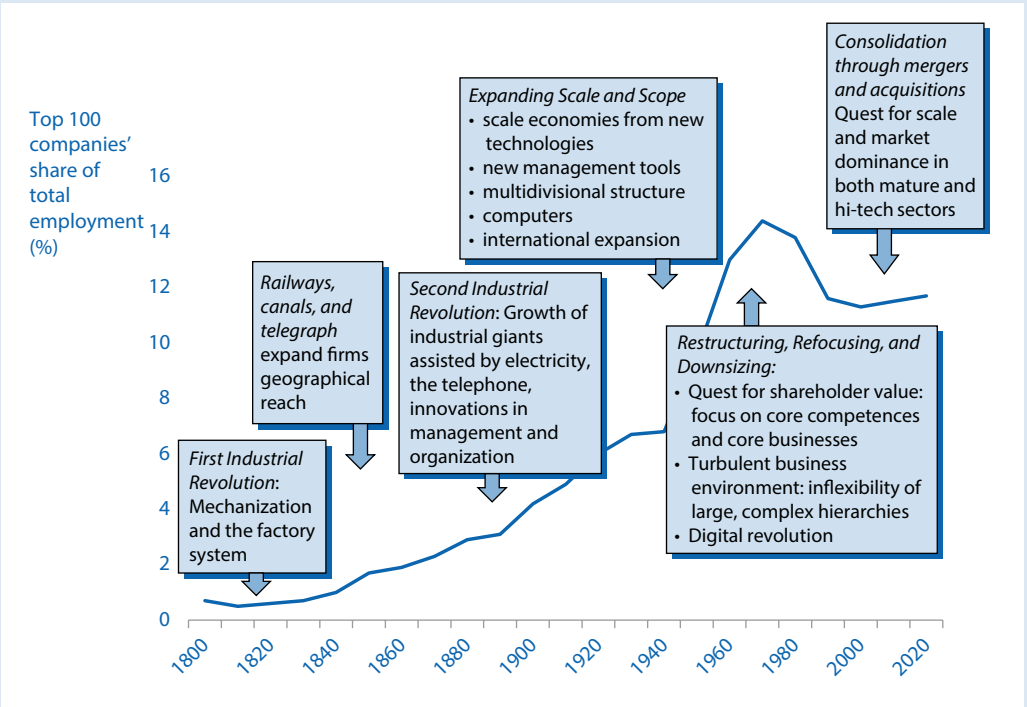
head office led by an executive committee undertook coordination, strategy, and resource allocation. Shortly after, in 1924, General Motors, a holding company built by acquisition, also adopted a multidivisional structure to solve its problems of weak financial control and a confused product line. During the next 50 years, the multidivisional structure became the dominant organizational form for large corporations.

During the first half of the 20th century, large companies grew mainly through vertical integration and horizontal integration (i.e., increasing market share within existing markets). After World War II, diversification and international expansion were the main sources of corporate growth. By the 1960s, the increasing dominance of giant corporations pointed to the replacement of market capitalism by a system of managerial capitalism.

However, by the 1980s, this trend went into reverse. Increasing emphasis on shareholder value and core competences resulted in a shift from vertical integration to outsourcing and from diversification to "core business focus." Increasingly, companies used collaborative relationships with other companies to achieve the benefits of vertical, horizontal, and cross-border integration. Figure 10.2 illustrates the trends.

Sources: A. D. Chandler, *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, MA: MIT Press, 1977). J. Micklethwait and A. Wooldridge, *The Company: A Short History of a Revolutionary Idea* (New York: Modern Library, 2005). A. D. Chandler, *Strategy and Structure* (Cambridge: MIT Press, 1962).

FIGURE 10.2 The widening scale and scope of large US companies



Sources: Author's estimates based upon various sources including: A. Chandler Jr., *The Visible Hand* (Cambridge, MA: MIT Press, 1977); L. J. White and J. Yang, "What Has Been Happening to Aggregate Concentration in the U.S. Economy in the 21st Century?"Stern School of Business, New York University, 2017. S. Kim "The Growth of Modern Business Enterprises in the Twentieth Century," *Research in Economic History* 19 (1999): 75–110.

In the case of geographical scope, is it better to have banking services provided by separate banks in each country, or by a single multinational bank (such as HSBC) that operates across multiple countries?

The answers to these question have changed over the past 200 years. As Strategy Capsule 10.1 explains, these shifts can be linked to the factors that have influenced the

relative efficiencies of firms relative to markets. For most of the 19th and 20th centuries, new technologies—including innovations in management and organization—have favored large firms. Around the mid-1970s, this trend went into reverse: a more turbulent business environment and new information and communications technologies favored more focused enterprises coordinated through markets.

The Benefits and Costs of Vertical Integration

So far, we have considered the overall scope of the firm. Let us focus now on just one dimension of corporate scope: vertical integration. The question we seek to answer is this: *Is it better to be vertically integrated or vertically specialized?* With regard to a specific activity, this translates into: *To make or to buy?* First, we must be clear what we mean by vertical integration.

Vertical integration is a firm's ownership and control of multiple vertical stages in the supply of a product. The extent of a firm's vertical integration is indicated by the number of stages of the industry's value chain that it spans, and can be measured by the ratio of its value added to sales revenue.[4]

Vertical integration can be either *backward* (or upstream) into its suppliers' activities or *forward* (or downstream) into its customers' activities. Vertical integration may also be *full* or *partial*. Some California wineries are fully integrated: they produce wine only from the grapes they grow, and sell it all through direct distribution. Most are partially integrated: their homegrown grapes are supplemented with purchased grapes; they sell some wine through their own tasting rooms but most through independent distributors.

Strategies toward vertical integration have been subject to shifting fashions. For most of the 20th century, the prevailing wisdom was that vertical integration was beneficial because it allowed superior coordination and reduced risk. Yet, by the 1990s, opinions had changed. In 1992, management guru Tom Peters observed: "The idea of vertical integration is anathema to an increasing number of companies."[5] Outsourcing could reduce cost, enhance flexibility and allow firms to concentrate on those activities that they performed best. Moreover, many of the benefits of vertical integration could be achieved through collaboration with suppliers and buyers.

Inevitably, the truth is more nuanced. Even within the same industry, companies make different choices over vertical integration and outsourcing. Strategy Capsule 10.2 compares Disney's vertical integration between content production and distribution with the system of licensing contracts with which J. K. Rowling's *Harry Potter* is commercialized through multiple channels.

Our task is to identify the factors that determine whether vertical integration or outsourcing is the better strategy for a particular company in a particular situation.

The Benefits from Vertical Integration

Technical Economies from the Physical Integration of Processes Proponents of vertical integration have often emphasized the *technical economies* it offers: cost savings that arise from the physical integration of processes. Thus, most steel sheet is produced by integrated producers in plants that first produce steel and then roll hot steel into sheet. Linking the two stages of production at a single location reduces transportation and energy costs. Similar technical economies arise in integrating pulp and paper production and from linking oil refining with petrochemical production.

STRATEGY CAPSULE 10.2

Vertical Integration in the Entertainment Industry: *Frozen* versus *Harry Potter*

Over the past two decades, integration between *content* producers (film studios, music publishing) and distribution companies (theaters, TV broadcasting, cable companies, satellite TV, digital streaming) has reshaped the entertainment industry.

Content producers such as Walt Disney Company, Time Warner, and News Corporation have forward integrated into distribution (TV broadcasting, cable, satellite TV, and movie distribution). Cable companies and broadcasters (such as Comcast and Viacom) have backward integrated into movie and TV production.

The mergers creating these integrated production and distribution companies have not all been successful: AOL's 2000 merger with Time Warner and the acquisition spree that transformed Compagnie Générale des Eaux into Vivendi Universal were disasters.

Yet, the urge for vertical integration continues: the leading providers of video streaming services, Netflix and Amazon, are both investing heavily in content production, while communications giant AT&T has acquired Time Warner.

To illustrate the relative merits of vertical integration and market-based contracts, consider the commercial exploitation of the fictional characters from *Harry Potter* with those of *Frozen*.

HARRY POTTER

- Seven *Harry Potter* novels written by J. K. Rowling were published by Bloomsbury in the United Kingdom and Scholastic Press in the United States between 1997 and 2007 with total sales of 400 million (to 2017).
- Film rights were acquired by Warner Bros., which produced eight movies generating $7.7 billion in box office receipts.
- 11 *Harry Potter* video games were produced by Electronic Arts.
- A *Harry Potter* attraction opened at Comcast's Universal Orlando Resort in 2010, while a Warner Bros. *Harry Potter* studio tour opened in the UK in 2012.
- *Harry Potter* copyrights and trademarks were licensed to Mattel, Coca-Cola, Lego, Hasbro, Johnson & Johnson, Lochaven of Scotland, and other companies for the production of toys, clothing, and other products.

FROZEN

Frozen is a computer-animated film inspired by Hans Christian Andersen's *The Snow Queen*, produced by Walt Disney Animation Studios, and released by Walt Disney Pictures in 2013. It generated $1.3 billion in worldwide box office revenue. Prior to release, *Frozen* was promoted heavily at Disney theme parks. Commercial spinoffs from the movie and its lead characters, Elsa and Anna, include:

- a range of merchandise including dolls, costumes and "home décor, bath, textile, footwear, sporting goods, consumer electronics, and pool and summer toys" developed by Disney Consumer Products and sold through Disney Stores and independent channels;
- DVD and Blu-ray releases by Walt Disney Studios Home Entertainment;
- a video game launched by Disney Mobile for handheld devices;
- a Disney-On-Ice touring *Frozen* show and a Broadway stage musical adaptation by Disney Theatrical;
- *Frozen Ever After* ride at Walt Disney World, Florida.

However, although these considerations explain the need for the co-location of plants, they do not explain why vertical integration in terms of *common ownership* is necessary. Why can't steel and steel strip production or pulp and paper production be undertaken by separate firms that own facilities which are physically integrated with one another? To answer this question, we must look beyond technical economies and consider the implications of linked processes for *transaction costs*.[6]

Avoiding Transaction Costs in Vertical Exchanges Consider the value chain for steel cans that extends from mining iron ore to the use of cans by food-processing companies (Figure 10.3). There is vertical integration between some stages; other stages are linked by market contracts between specialist firms. In the final linkage—between can producing and canning—most cans are produced by specialist packaging companies (such as Crown Holdings and Ball Corporation).[7] An analysis of transaction costs can explain these different arrangements.

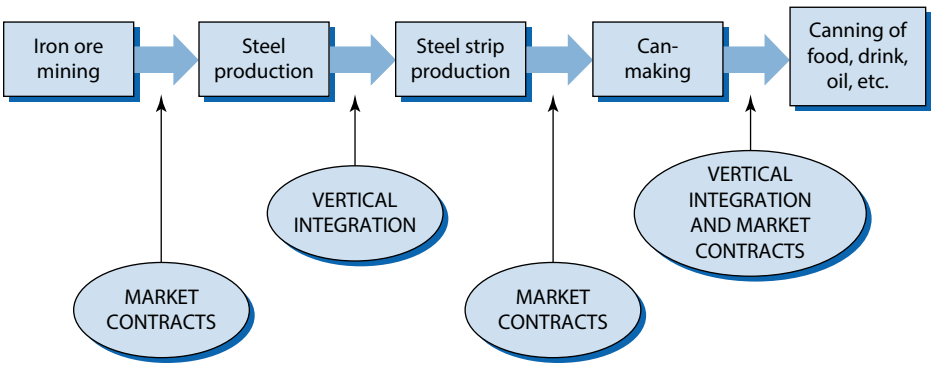
The predominance of market contracts between the producers of steel strip and the producers of cans reflects low transaction costs in the market for steel strip: there are many buyers and sellers, information is readily available, and the switching costs for buyers and suppliers are low. The same is true for many other commodity products: few jewelry companies own gold mines; flour-milling companies seldom own wheat farms.

To understand why vertical integration predominates across steel production and steel strip production, let us see what would happen if the two stages were owned by separate companies. Because there are technical economies from hot-rolling steel as soon as it is poured from the furnace, steel makers and strip producers must invest in integrated facilities. A competitive market between the two stages is impossible; each steel strip producer is tied to its adjacent steel producer. In other words, the market becomes a set of *bilateral monopolies*.

The reason these relationships between steel producers and strip producers are problematic is that each steel supplier must negotiate with a single buyer; there is no market price: it all depends on relative bargaining power. Such bargaining is costly: the mutual dependency of the two parties encourages *opportunism* and *strategic misrepresentation* as each company seeks to enhance and exploit its bargaining power at the expense of the other. Thus, once we move from a competitive market situation to one where individual buyers and sellers are locked together in close bilateral relationships, the efficiencies of competitive markets are lost.

The culprits in this situation are *transaction-specific investments*. When the steel producer and the strip producer build adjoining plants, each plant is totally dependent

FIGURE 10.3 The value chain for steel cans



on the continuing business of the other party—each party has the potential to *hold up* the other (i.e., each party can threaten the other with withholding business). Conversely, when a steel strip producer supplies a can maker, neither needs to invest in equipment nor technology that is specific to the needs of the other party.

If the future were predictable, these issues could be resolved in advance. However, in an uncertain world, it is impossible to write a complete contract that covers every possible eventuality over the entire life span of the capital investments being made.

Empirical research confirms the tendency for transaction-specific investments to encourage vertical integration.[8] Among automakers, specialized components are more likely to be manufactured in-house than commodity items such as tires and spark plugs.[9] Similarly, in aerospace, company-specific components are more likely to be produced in-house rather than purchased externally.[10]

Coordination Benefits The tendency for changing circumstances to impose transaction costs points to the coordination benefits of vertical integration, Consider Tesla's development and production of its electric cars. As noted in Figure 10.1, Tesla makes its own batteries and powertrains—indeed it produces in-house about 80% of its components and sub-assemblies (including seats). The reason is that Tesla cars are revolutionary designs that require specially-designed components. In-house production relieves Tesla's engineers and managers of the need for continuous, time-consuming communication and coordination with suppliers. Similar considerations explain relationships between semiconductor designers and fabricators. Companies that produce highly complex chips that require close technical collaboration between designer and fabricator tend to be vertically integrated (e.g., Intel and STMicroelectronics).[11]

The Costs of Vertical Integration

Market contracts incur transaction costs, but vertical integration imposes administrative costs. The extent of these costs depends on several factors.

Differences in Optimal Scale between Different Stages of Production UPS's delivery vans are manufactured to its own specifications by Morgan Olson (which also supplies walk-in vans to FedEx, Amazon, US Postal Service, and other customers). Should UPS build its own vans and trucks? Almost certainly not: the transaction costs avoided by UPS will be trivial compared with the inefficiencies incurred in manufacturing its own vans: the 20,000 vans UPS purchases each year are well below the minimum efficient scale of an assembly plant. Similarly, specialist brewers such as Anchor Brewing of San Francisco or Adnams of Suffolk, England do not make their own containers (as does Anheuser-Busch InBev). Small brewers lack the scale to manufacture cans and bottles efficiently.

The Need to Develop Distinctive Capabilities Another reason for UPS not making its own vans is that it is likely to be a poor vehicle manufacturer. A key advantage of a company specializing in a few activities is its ability to develop distinctive capabilities in those activities. Even large, technology-based companies such as Boeing, Intel, and Philips cannot maintain IT capabilities that match those of IT services specialists such as IBM, TCS, and Accenture. A major advantage of these IT specialists is the learning they gain from working with multiple clients. If Boeing's IT department only serves the in-house needs of Boeing, this limits the development of its IT capabilities.

However, this assumes that capabilities in different vertical activities are independent of one another and that the required capabilities are generic rather than highly customized. Where one capability is closely integrated with capabilities in adjacent activities, vertical integration may help develop these integrated, system-wide capabilities. Thus, Walmart keeps most of its IT in-house. The reason is that real-time information is central to Walmart's supply chain management, in-store operations, and upper-level managerial decision-making. Walmart's tightly integrated IT services are customized to meet the needs of its unique business system.

Problems of Managing Strategically Different Businesses These problems of differences in optimal scale and developing distinctive capabilities are part of a wider set of problems—that of managing vertically-related businesses that are strategically very different. A major disadvantage of UPS owning a truck-manufacturing company is that the management systems and organizational capabilities required for truck manufacturing are very different from those required for express delivery. These considerations explain the lack of vertical integration between manufacturing and retailing. Firms that are integrated across manufacturing, and retailing, such as Zara (Inditex S.A.) and Gucci (Kering S.A.), are unusual. Most of the world's leading retailers—Walmart, Gap, Carrefour—do not manufacture. Similarly, few manufacturing companies retail their own products. Not only do manufacturing and retailing require very different organizational capabilities, but they also require different strategic planning systems, different approaches to control and human resource management, and different top-management styles and skills.

These strategic dissimilarities are a key factor in the trend to vertically de-integrate. Marriott's split into two separate companies, Marriott International and Host Marriott, was influenced by the belief that *owning* hotels is a strategically different business from *operating* hotels. Similarly, the Coca-Cola Company spun off its bottling activities as Coca-Cola Enterprises Inc. partly because managing local bottling and distribution operations is very different from managing the global Coca-Cola brand and producing and distributing concentrates.

Incentive Problems Vertical integration changes the incentives between vertically-related businesses. Where a market interface exists between a buyer and a seller, profit incentives ensure that the buyer is motivated to secure the best possible deal and the seller is motivated to pursue efficiency and service in order to attract and retain the buyer—these are termed *high-powered incentives*. With vertical integration, internal supplier–customer relationships are subject to *low-powered incentives*. When my office computer malfunctions, I call the university's IT department. The incentives for the in-house technicians to respond promptly to my email and voice messages are weak. If I were free to use an outside IT specialist, that specialist would only get the business if they were able to offer same-day service and would only get paid once the problem was resolved.

One approach to creating stronger performance incentives within vertically-integrated companies is to open internal divisions to external competition. As we shall examine more fully in Chapter 13, many large corporations have created *shared-service organizations*, where internal suppliers of corporate services—such as IT, training, and engineering—compete with external suppliers of the same services to serve internal operating divisions.

Competitive Effects For a monopolist, one of the supposed benefits of vertical integration is to extend a monopoly position at one stage of an industry's value chain to adjacent stages. Classic cases of this are Standard Oil and Alcoa. However, economists

have shown that there is no additional monopoly profit to be extracted by extending a monopoly to adjacent stages of the value chain.[12]

For a firm that is not monopolist, vertical integration risks damaging its competitive position in its core business. If it forward integrates, it becomes a competitor of its customers (or, if it backwards integrates, a competitor of its suppliers), potentially damaging its attractiveness as a business partner. When Google acquired cell phone maker, Motorola, a major risk was that other handset makers that were customers for its Android operating system (Samsung in particular) might regard Google more as a competitor and less as a reliable supplier and be inclined to find an alternative operating system to Android.[13]

Flexibility Both vertical integration and market transactions can claim advantage with regard to different types of flexibility. Where the required flexibility is rapid responsiveness to uncertain demand, there may be advantages in market transactions. The lack of vertical integration in the construction industry allows flexibility in adjusting both to fluctuations of demand and to the different requirements of each project.[14] Vertical integration may also be disadvantageous in responding quickly to new product development opportunities that require new combinations of technical capabilities. Some of the most successful new electronic products of recent years—Apple's iPod, Microsoft's Xbox, Amazon's Echo—have been produced by contract manufacturers. Extensive outsourcing has been a key feature of fast-cycle product development throughout the electronics sector.

Yet, where system-wide flexibility is required, vertical integration may allow for speed and coordination in achieving simultaneous adjustment throughout the value chain. Inditex, owner of Zara, has pioneered the fast-fashion model of vertical integration to achieve unprecedented flexibility and speed to market. Zara feeds market information from its directly owned and managed retail stores to its designers, and in-house production and distribution to supply products twice-weekly to its retail stores. The time period from initial design to retail shelf is about three weeks, compared to four to six months for fashion clothing companies that outsource production.

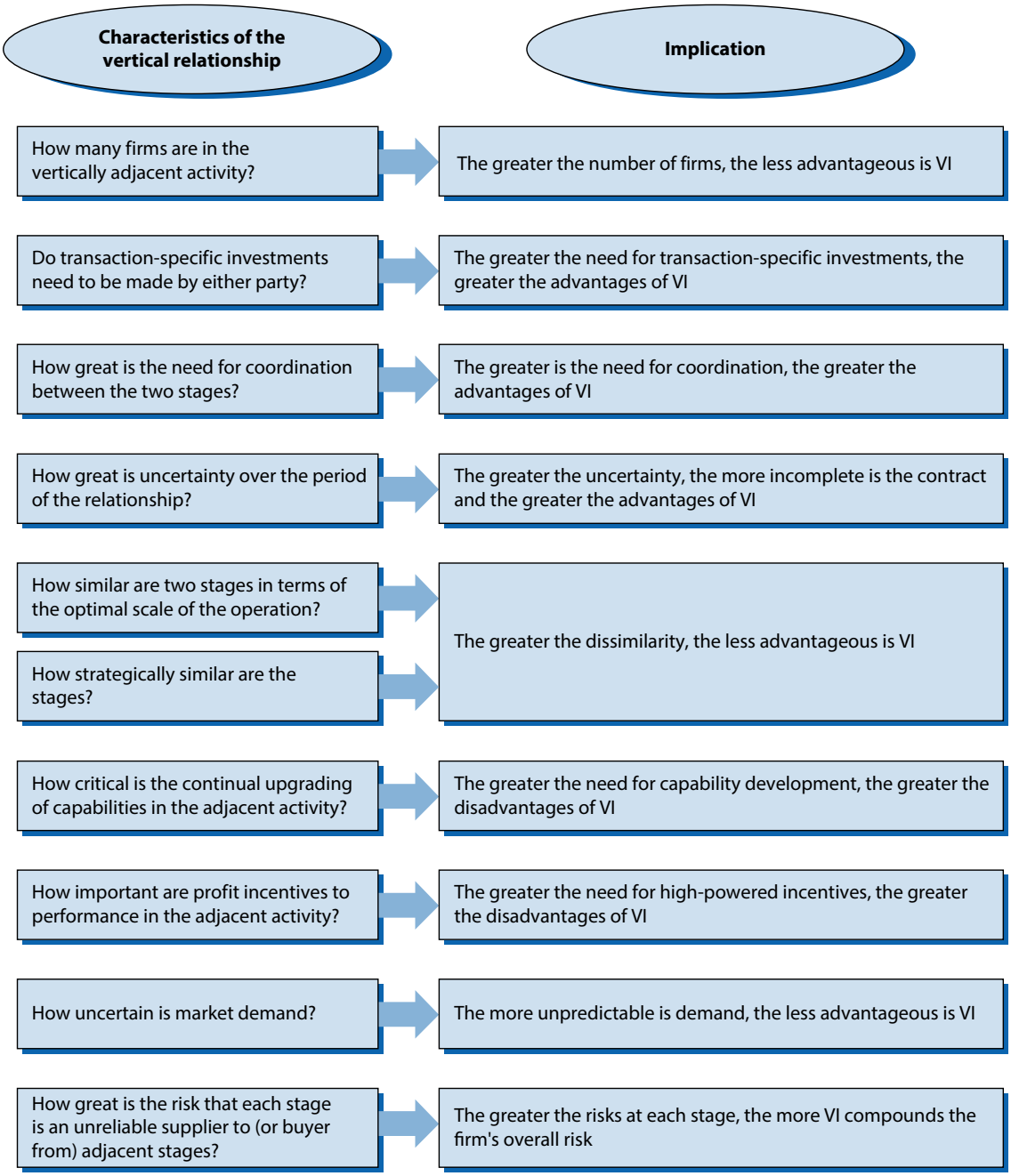
Investing in an Unattractive Business Finally, one of the biggest disadvantages of vertical integration is that it may involve investing in an inherently unattractive industry. Irrespective of transaction costs and coordination benefits, McDonald's chooses not to backward integrate into cattle ranching and potato growing, because agriculture is a low-margin industry.

Compounding Risk To the extent that it ties a company to its internal suppliers and internal customers, vertical integration represents a compounding of risk: problems at any one stage of production threaten production and profitability at all other stages. When union workers at a General Motors brake plant went on strike in 1998, GM's 24 US assembly plants were soon brought to a halt. Disney's animation studios produce blockbuster movies—*Lion King, Frozen, Cars*—that feed DVD sales, Disney Channel TV shows, live performances, theme park rides, and merchandise sales. If the studios produce a series of flops, the entire Disney system suffers.

Applying the Criteria: Deciding Whether to Make or Buy

Vertical integration is neither good nor bad. As with most questions of strategy, it all depends upon the specific context. The value of our analysis is that we can identify the factors that determine the relative advantages of the market transactions versus internalization. Figure 10.4 summarizes some of the key criteria.

FIGURE 10.4 Vertical integration (VI) versus outsourcing: Key considerations



However, our analysis is not yet complete; we must consider some additional factors that influence the choice of vertical strategy, and in particular the fact that vertical relationships are not limited to the binary choice of make or buy.

Designing Vertical Relationships

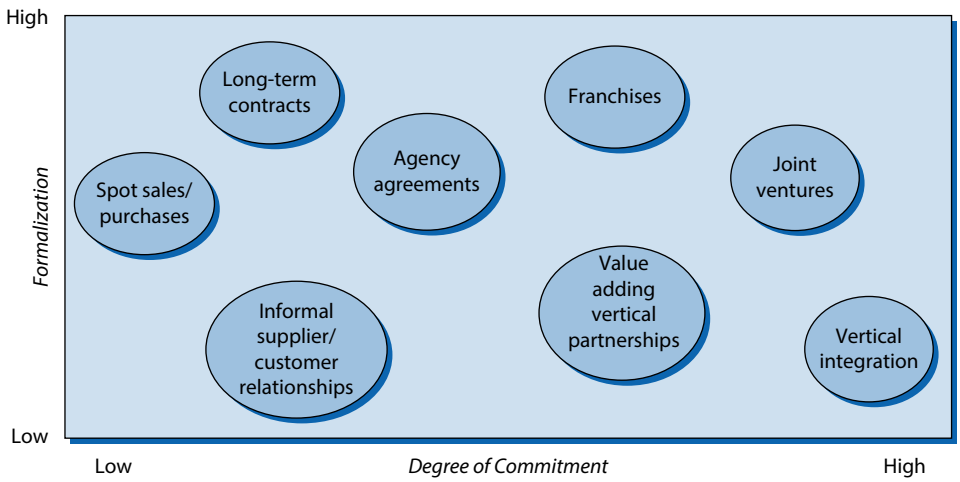
Our discussion so far has compared vertical integration with arm's-length market contracts. In practice, the adjacent stages in a value chain can be linked through a variety of relationships. Figure 10.5 shows a number of different types of relationship between buyers and sellers. These relationships may be classified in relation to two characteristics. First, the extent to which the buyer and seller commit resources to the relationship: arm's-length, spot contracts involve no resource commitment beyond the single deal; vertical integration typically involves a substantial investment. Second, the formality of the relationship: long-term contracts and franchises are formalized by the complex written agreements they entail; spot contracts typically involve little or no documentation and are governed by common law; collaborative agreements between buyers and sellers are usually informal—they are trust-based; vertical integration allows management discretion to replace legal formality.

Different Types of Vertical Relationship

Different vertical relationships offer different combinations of advantages and disadvantages. For example:

- *Long-term contracts:* Market transactions can be either *spot contracts*—Shell buying a cargo of crude oil on the Rotterdam petroleum market—or *long-term contracts*—Shell contracting to buy specific quantities of crude oil from Saudi Aramco over a five-year period. Spot transactions work well under competitive conditions (many buyers and sellers and a standard product) where there is no need for transaction-specific investments by either party. Where closer supplier–customer ties are needed, particularly when one or both parties need

FIGURE 10.5 Different types of vertical relationship



to make transaction-specific investments, a longer-term contract can help avoid opportunism and provide the security needed to make the necessary investment. However, long-term contracts face the problem of anticipating the circumstances that may arise during the life of the contract: either they are too restrictive or so loose that they give rise to opportunism and conflicting interpretation. Long-term contracts often include provisions for the arbitration of contract disputes.

- *Vertical partnerships:* The greater the difficulties of specifying complete contracts for long-term supplier–customer deals, the greater the advantage of vertical relationships based on trust and mutual understanding. Such relationships can provide the security needed to support transaction-specific investments, the flexibility to meet changing circumstances, and the incentives to avoid opportunism. Such arrangements may be entirely *relational contracts*, with no written contract at all. The model for vendor partnerships has been the close collaborative relationships that many Japanese companies have with their suppliers. Japanese automakers have been much less backward integrated than their US or European counterparts but have also achieved close collaboration with component makers in technology, design, quality, and production scheduling.[15]
- *Franchising:* A franchise is a contractual agreement between the owner of a business system and trademark (the franchiser) that permits the franchisee to produce and market the franchiser's product or service in a specified area. Franchising brings together the brand, marketing capabilities, and business systems of the large corporation with the entrepreneurship and local knowledge of small firms. The franchising systems of companies such as McDonald's, Century 21 real estate, Hilton Hotels, and 7-Eleven convenience stores combine the advantages of vertical integration in terms of coordination and investment in transaction-specific assets with advantages of market contracts in terms of high-powered incentives, flexibility, and separate ownership of strategically dissimilar businesses.

Choosing Among Alternative Vertical Relationships

The criteria listed in Figure 10.4 establish the basic features of the vertical relation that favor either market transactions or vertical integration. However, the availability of other types of vertical relationships, such as franchises and vendor partnerships, mean that vertical integration is not the sole solution to problems of transaction costs. Moreover, many of these relational contracts and hybrid arrangements can combine the advantages of both vertical integration and market contracts.

Choosing the optimal vertical relationships needs to take account of additional factors to those listed in Figure 10.4. In particular:

- *Resources, capabilities, and strategy:* Within the same industry, different companies will choose different vertical arrangements according to their relative resource and capability strengths and the strategies they pursue. Thus, in fashion clothing, Zara's high level of vertical integration compared to H&M's or Gap's reflects strategy based upon fast-cycle new-product development and tight integration between its retail stores, designers, and manufacturers. While most fast-food chains have expanded through franchising, Chipotle Mexican Grill and California-based In-N-Out Burger seek to maintain their unique

culture and distinctive business practices by directly owning and managing their restaurants. While most banks outsource IT to companies such as IBM and EDS, credit card group Capital One sees IT as a key source of competitive advantage: "IT is our central nervous system … if we outsourced tomorrow we might save a dollar or two on each account, but we would lose flexibility and value and service levels."[16]

- *Allocation of risk:* Any arrangement beyond a spot contract must cope with uncertainties over the course of the contract. A key feature of any contract is that its terms allocate (often implicitly) risks between the parties. How risk is shared is dependent partly on bargaining power and partly on efficiency considerations. In franchise agreements, the franchisee (as the weaker partner) bears most of the risk—it is the franchisee's capital that is at risk and the franchisee pays the franchiser a flat royalty based on sale revenues. In oil exploration, outsourcing agreements between the national oil companies (e.g., Kuwait Petroleum, Petronas, and Statoil) and drilling companies (e.g., Schlumberger and Halliburton) have moved from fee-for-service contracts to risk service contracts where the drilling company bears much more of the risk.
- *Incentive structures:* Incentives are central to the design of vertical relationships. Market contracts provide powerful motivations to the parties involved, but may also induce opportunistic behavior. Weak performance incentives are a key problem of vertical integration. Hence, hybrid and intermediate governance modes may offer the best solutions to the design of incentives. Toyota, Benetton, Boeing, and Starbucks have relationships with their vendors that may involve formal contracts, but their essence is that they are long-term and trust-based. The key to these relationships is that the promise of a long-term, mutually-beneficial relationship trumps short-term opportunism.

Recent Trends

The main feature of recent years has been a growing diversity of hybrid vertical relationships that have attempted to combine the flexibility and incentives of market transactions with the close collaboration provided by vertical integration. These collaborative vertical arrangements we have described as "vertical partnerships" have also been denoted "virtual vertical integration" and "value-adding partnerships." Leading models have included Toyota's supply chain with its three tiers of suppliers[17] and Dell's build-to-order, direct sales model involving close coordination among a small group of suppliers. In Apple's "ecosystem," Apple leads product development and tightly controls its intellectual property but integrates the capabilities and innovations of a broad network of firms that include component suppliers and contract assemblers and a developer community responsible for over one million applications for the macOS and iOS platforms.

Although these collaborative vertical relationships are viewed as a recent phenomenon—associated with microelectronics, biotechnology, and other hi-tech sectors—local clusters of vertically collaborating firms have long been a feature of European industries—in northern Italy, the localized firm networks in traditional industries such as clothing, footwear, and furniture are also apparent in newer sectors such as packaging equipment[18] and motorcycles.[19]

Collaborative vertical partnerships have allowed the scope of outsourcing to extend from raw materials and basic components to more complex products and business services that represent whole chunks of the value chain. In electronics, contract

manufacturers, such as Flextronics and Foxconn (a subsidiary of Hon Hai Precision Industry Co.), design and manufacture entire products. Business services and corporate functions such as payroll, IT, training, customer service and support, and external communications are often outsourced to specialist providers.

However, there seem to be limits to the extent to which a firm can outsource activities while still retaining the capabilities needed to develop and evolve. The *virtual corporation*, a firm whose sole function is to coordinate the activities of a network of partners, remains an abstract concept rather than a tangible reality.[20] Companies such as Boeing, Toyota, Amazon, Hewlett Packard, and McDonalds have the role of *systems integrators*—they orchestrate the activities and components of many suppliers and partners. However, empirical research shows that sustaining that role requires, not only that these companies continue to develop their systems know-how ("architectural capabilities"), but that they also need to keep abreast of the technologies being deployed by their suppliers and partners ("component capabilities").[21] The complexities of managing a network of suppliers during a period of rapid technological change is indicated by Boeing's difficulties in developing its 787 Dreamliner.[22]

Summary

The size and scope of firms reflects the relative efficiencies of markets and firms in organizing production. Over the past 200 years, the trend has been for firms to grow in size and scope as a result of technology and advances in management, causing the administrative costs of firms to fall relative to the transaction costs of markets.

In relation to vertical scope, there is no universal best solution. A firm must compare benefits of vertical integration in avoiding transaction costs and permitting superior coordination against the benefits of outsourcing in allowing the firm to focus on what it does best.

The dominant trend of the past three decades is for firms to concentrate on fewer stages of their value chains and outsource the rest. However, this involves replacing vertical integration, not with arm's-length market contracts but with collaborative arrangements which combine the specialization benefits of outsourcing with the coordination and knowledge-sharing benefits of vertical integration.

In subsequent chapters, we shall return to issues of vertical integration. In the next chapter, we shall consider offshoring firms locating different value chain activities in different countries. In Chapter 14, we shall look more closely at alliances—including the vertical partnering that characterizes modern supply chains.

Self-Study Questions

1. Can the expanding scale and scope of large companies between the late 19th century and the 1970s be explained by factors which reduced the administrative costs of firms relative to the transaction costs of markets?
2. Figure 10.2 shows that during 1980–2000 large US companies accounted for a smaller percentage of total employment—a development that is attributed to "a more turbulent business

environment and new information and communications technologies" (p. 256). Explain why these factors might cause large corporations to reduce their size and scope.

3. A large proportion of major corporations outsource their IT functions to specialist suppliers of IT services, such as IBM, HP, Accenture, and Capgemini. What benefits do corporations derive from outsourcing their IT requirements? What transaction costs might arise from these arrangements?

4. Strategy Capsule 10.2 compares alternative strategies for exploiting children's characters. Hello Kitty is owned by the Japanese company Sanrio Co. Ltd. and is exploited throughout the world through licensing contracts with toy makers, jewelry companies, fashion companies, restaurants, theme parks, retail stores, and many other types of businesses. Could Hello Kitty be exploited more effectively by a vertically-integrated entertainment company, such as Disney?

5. For its Zara brand, Inditex manufactures the majority of the garments it sells and undertakes all of its own distribution from manufacturing plants to its directly managed retail outlets. The Gap outsources its production and focuses upon design, marketing, and retail distribution. Applying the considerations listed in Figure 10.4, should Gap backward integrate into manufacture?

Notes

1. In practice, there is no clear boundary between business strategy and corporate strategy: it depends on where we draw the boundaries of industries and markets.
2. A. Chandler Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, MA: MIT Press, 1977).
3. R. H. Coase, "The Nature of the Firm," *Economica* 4 (1937): 386–405.
4. The more of its inputs a firm makes rather than buys, the greater is its value added relative to its sales revenue. See Ruth Maddigan, "The Measurement of Vertical Integration," *Review of Economics and Statistics* 63 (August, 1981).
5. Tom Peters, *Liberation Management* (New York: Knopf, 1992).
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11 Global Strategy and the Multinational Corporation

Shenzhen: World Hub for Electronics. When the Chinese government made Shenzhen a Special Economic Zone in 1980, it was a small town with 94,100 inhabitants located close to China's border with Hong Kong. By 2017, it was among the world's top 20 most populous cities with over 18 million inhabitants (including migrants) and the highest GDP per head of any city in China. Shenzhen's remarkable growth is a result of it becoming the world's leading hub for the manufacturing of electronic products and home to Huawei, Tencent, ZTE, BYD, Skyworth, TP-Link, and OnePlus. It makes 60% of the world's computer magnetic heads. 60% of its laser pickups, 45% of its clocks and watches, 38% of its shipping containers, and 10% of its hard drives.

OUTLINE

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- **Implementing International Strategy: Organizing the Multinational Corporation**
  - The Evolution of Multinational Strategies and Structures
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- **Notes**

Introduction and Objectives

Internationalization—the extension of business of across national borders—is a source of both opportunities and problems. International expansion permits companies to grow beyond the limits of their national markets. Embraer, once a struggling, state-owned Brazilian aircraft manufacturer, now generates 85% of its revenues outside of Brazil and is the world's third-biggest plane maker (after Boeing and Airbus) and market leader in 70- to 130-seater commercial jets.

Internationalization is also a potent destroyer. For centuries, Sheffield, England, was the world's leading center of cutlery manufacture. By 2015, the industry employed only a few hundred people there—production had shifted to China and other low-cost locations. Nor is it just the industries in the mature industrial nations that have been ravaged by imports. Bulk imports of second-hand clothing from Europe and North America (much of it from charities and churches) have been ruinous for East Africa's textile and apparel sector.

Internationalization occurs through two mechanisms: trade and direct investment. Both are driven by firms seeking to exploit either market opportunities or resources and capabilities beyond their own borders.

In this chapter, we shall consider the implications of internationalization for our strategic analysis. As we shall see, once firms are no longer limited by national boundaries, the analysis of competition and competitive advantage becomes much more complex. We shall examine two major aspects of firms' internationalization strategies—where to locate production and how to enter foreign markets. Finally, we shall consider the formulation and implementation of strategy within the multinational corporation.

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

- Use the tools of industry analysis to examine the impact of internationalization on industry structure and competition.
- Analyze the implications of a firm's geographical location for its competitive advantage.
- Select the optimal geographical location for a firm's productive activity.
- Formulate strategies for exploiting overseas market opportunities.
- Formulate international strategies that achieve an optimal balance between global integration and national differentiation.
- Design organizational structures and management systems appropriate to the pursuit of international strategies.

We begin by exploring the implications of international competition, first for industry analysis and then for the analysis of competitive advantage.

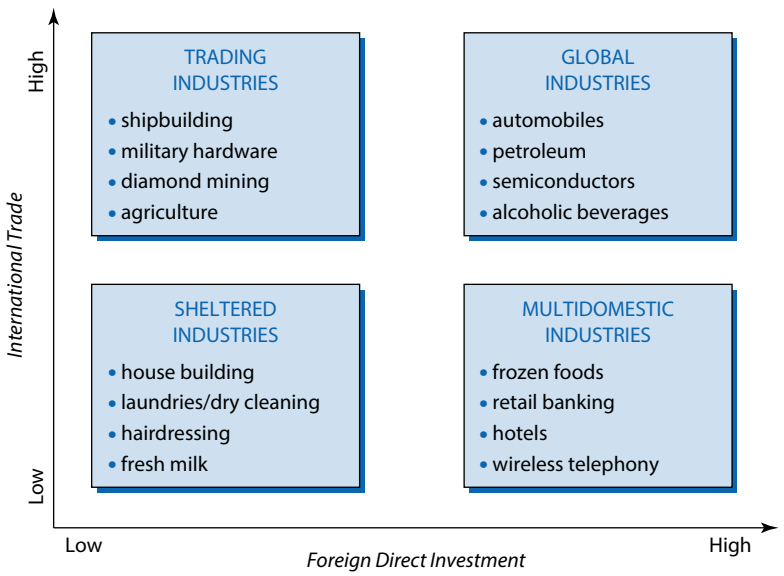
Implications of International Competition for Industry Analysis

Patterns of Internationalization

Internationalization occurs through trade—supplying goods and services from one country to another—and direct investment—building or acquiring productive assets in another country.[1] On this basis, we can classify industries according to the extent and mode of their internationalization (Figure 11.1):

- *Sheltered industries* are shielded from both imports and inward direct investment by regulation and trade barriers, or because of the localized nature of the goods and services they offer. Hence, they are served by indigenous firms. Growing internationalization has made this category progressively smaller over time. The remaining sheltered industries tend to be fragmented service industries (dry cleaning, hairdressing, auto repair), some small-scale production industries (handicrafts, residential construction), and industries producing products that are non-tradable because they are perishable (fresh milk, bread) or difficult to move (beds, garden sheds).
- *Trading industries* are those where internationalization occurs primarily through imports and exports. Exporting from a single location is the most efficient means to exploit overseas markets for products that are transportable, subject to substantial scale economies, and are not nationally differentiated. Examples include commercial aircraft, shipbuilding, and defense equipment. Trading industries also include products whose inputs are available only in a few locations (rare earths from China, caviar from Iran and Azerbaijan).
- *Multidomestic industries* are those that internationalize through direct investment—either because trade is not feasible (e.g., service industries such as banking, consulting, hotels) or because products are nationally differentiated (e.g., frozen ready-meals, book publishing).

FIGURE 11.1 Patterns of industry internationalization



- *Global industries* are those that feature high levels of both trade and direct investment. These include most major manufacturing and extractive industries that are populated by multinational corporations.

By which route does internationalization typically occur? The Uppsala Model predicts that firms internationalize in a sequential pattern, first exporting to countries with the least "psychic distance" from their home markets (i.e., geographically or culturally close), then broadening and deepening their engagement, and eventually establishing manufacturing subsidiaries in foreign markets.[2] However, different industries and different firms follow different patterns. In service industries, exporting is not usually feasible, hence internationalization involves either direct investment ("greenfield entry," acquisition, or joint venture) or licensing (including franchising). Firms based upon digital technologies are often "born global"—from the outset, PayPal, Spotify, and Dropbox viewed their markets as worldwide.

Implications for Competition

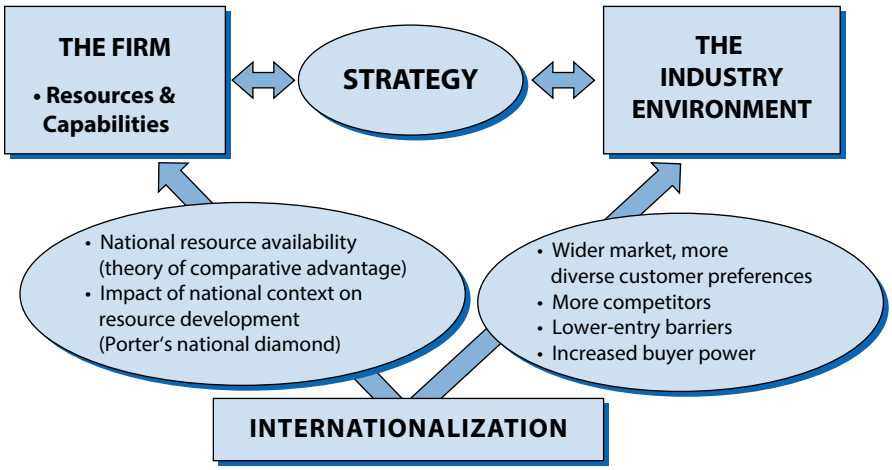
Internationalization widens the market available to firms, increasing both the number of potential customers and the diversity of their preferences. It also means more competition, usually leading to lower industry profit margins. In 1976, the US automobile market was dominated by GM, Ford, and Chrysler, with 84% of the market. By 2017, there were 13 companies with auto plants within the United States; of these, the sole indigenous producers were GM and Ford, with a combined market share of 32%.

Applying Porter's five forces of competition framework, internationalization intensifies competition from three sources:

- *Potential entrants:* Internationalization is both a cause and a consequence of falling barriers to entry. Trade liberalization, falling transportation costs, and converging customer preferences make it much easier for producers in one country to supply customers in another. Entry barriers that are effective against domestic entrants may be ineffective against established producers in other countries.
- *Rivalry among existing firms:* Internationalization increases the number of firms competing within each national market—it *lowers seller concentration*. The western European market for motor scooters was once dominated by Piaggio (Vespa) and Innocenti (Lambretta). There are now over 25 suppliers of scooters to the European market, including BMW from Germany; Honda, Yamaha, and Suzuki from Japan; Kwang Yang Motor Co (KYMCO) from Taiwan; Baotian, Qingqi, and Znen from China; Bajaj from India; and Tomos from Slovenia. Although internationalization typically triggers a wave of mergers and acquisitions that reduce the global population of firms in an industry, the number of competitors in each national market often increases.[3] In addition, internationalization stimulates competition by increasing investments in capacity and increasing the diversity of competitors within each national market.
- *Increasing the bargaining power of buyers:* The option of sourcing from overseas greatly enhances the power of industrial buyers. It also allows distributors to engage in international arbitrage: pharmaceutical distributors have become adept at searching the world for low-price pharmaceuticals for importation to their domestic markets.

Figure 11.2 shows how internationalization affects the basic strategy model (from Chapter 1). The right-hand arrow shows the impact on industry environment.

FIGURE 11.2 How internationalization affects the basic strategy framework



Analyzing Competitive Advantage in an International Context

Growing international competition has been associated with some stunning reversals in the competitive positions of different companies. In 1989, US Steel was the world's biggest steel company; in 2017, ArcelorMittal based in Luxemburg and India was the new leader. In 2000, four of the world's top five cell phone suppliers were US or European based (Nokia, Motorola, Ericsson, and Siemens). By 2017, four of the top five (Samsung, Huawei, Oppo, and Xiaomi) were based in East Asia, though a US firm (Apple) was still global market share leader (even though it did not manufacture any phones).

To understand how internationalization impacts a firm's competitive position, we need to extend our framework for analyzing competitive advantage to include the influence of firms' national environments. Competitive advantage, we have noted, is achieved when a firm matches its internal strengths in resources and capabilities to the key success factors within its industry. When competing firms are based in different countries, competitive advantage depends not just on their internal resources and capabilities but on the availability of resources within those countries. This impact of national resource availability on a firm's resources and capabilities is indicated by the left-hand arrow of Figure 11.2.

National Influences on Competitiveness: Comparative Advantage

The effect of national resource availability on international competitiveness is the subject of the *theory of comparative advantage*. The theory states that a country has a comparative advantage in those products which make intensive use of those resources available in abundance within that country. Thus, Bangladesh has an abundant supply of unskilled labor. Its comparative advantage lies in labor-intensive products such as clothing, handicrafts, leather goods, and assembly of consumer electronic products. The United States has an abundant supply of technological resources: trained scientists and engineers, research facilities, and universities. Its comparative advantage lies in technology-intensive products such as

microprocessors, computer software, pharmaceuticals, medical diagnostic equipment, and management consulting services.

The term **comparative advantage** refers to the *relative* efficiencies of producing different products. So long as exchange rates are well behaved (i.e., they do not deviate far from their purchasing power parity levels), then comparative advantage translates into competitive advantage. Comparative advantages are revealed in trade performance. Table 11.1 shows revealed comparative advantages for several product categories and several countries.[4]

Trade theory initially looked to natural resource endowments, labor supply, and capital stock as the main determinants of comparative advantage. Emphasis has shifted to the central role of knowledge (including technology, human skills, and management capability) and the resources needed to commercialize that knowledge (capital markets, communications facilities, and legal systems).[5] For industries where scale economies are important, a large home market is an additional source of comparative advantage (e.g., the United States in aerospace).[6]

Porter's National Diamond

Michael Porter has extended the traditional theory of comparative advantage by proposing that the key role of the national environment upon a firm's potential for international competitive advantage is its impact upon the dynamics through which resources and capabilities are developed.[7] Porter's *national diamond* framework identifies four key factors that determine whether firms from a particular country can establish competitive advantage within their industry sector (Figure 11.3).[8]

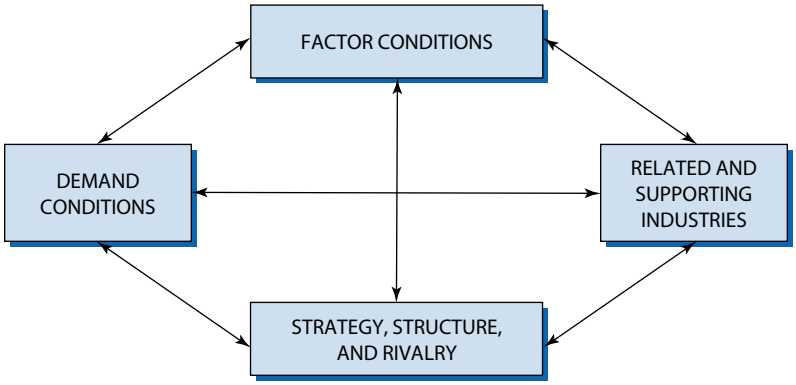
1 *Factor conditions:* Whereas the conventional analysis of comparative advantage focuses on endowments of broad categories of resource, Porter emphasizes the role of highly specialized resources, many of which are "home grown" rather

TABLE 11.1 Indexes of revealed comparative advantage for selected product categories, 2013

	US	UK	Japan	Switzerland	Germany	Australia	China	India
Cereals	2.1	0.4	0.0	0.0	0.3	4.3	0.3	3.5
Beverages	0.8	3.5	0.2	1.0	0.3	1.6	0.2	0.1
Mineral fuels	0.7	0.4	0.2	0.0	0.2	4.3	0.0	1.1
Pharmaceuticals	1.0	2.5	0.2	6.9	1.8	0.4	0.1	3.5
Vehicles	1.0	1.5	2.6	0.1	2.2	0.1	0.3	0.7
Aerospace	4.5	1.2	0.4	0.3	1.7	0.4	0.05	0.6
Electrical and electronic equipment	0.8	0.4	1.1	0.3	0.7	0.1	2.6	0.2
Optical, medical, and scientific equipment	1.7	1.2	1.7	1.5	1.5	0.4	0.9	0.2
Clocks and watches	0.3	0.8	0.6	21.1	0.5	0.2	2.2	0.2
Apparel (knitted)	0.1	0.6	0.1	0.1	0.4	0.1	2.8	2.3

Note:
Country X's revealed comparative advantage within product category A is measured as: Country X's share of world exports in product category A / Country X's share of world exports in all products. A number greater than 1 indicates a comparative advantage in that product category.
Source: International Trade Center.

FIGURE 11.3 Porter's national diamond framework



than "endowed." For example, the United States' pre-eminence in producing movies and TV shows is based upon the concentration in Los Angeles of highly skilled labor and supporting institutions including financiers and film schools.

2 *Related and supporting industries:* National competitive strengths tend to be associated with "clusters" of industries. Silicon Valley's cluster comprises semiconductor, computer, software, and venture capital firms. For each industry, closely related industries are sources of critical resources and capabilities. Denmark's global leadership in wind power is based upon a cluster comprising wind turbine manufacturers, offshore wind farm developers and operators, and utilities.

3 *Demand conditions:* In the domestic market these provide the primary driver of innovation and quality improvement. For example:

- Switzerland's pre-eminence in watches is supported by the obsessive punctuality of the Swiss.
- Japan's dominant share of the world market for cameras by companies owes much to the Japanese enthusiasm for amateur photography and customers' eager adoption of innovation in cameras.
- German dominance of high-performance automobiles (Daimler, BMW, Porsche, VW-Audi) reflects German motorists' love of quality engineering and their irrepressible urge to drive on autobahns at terrifying speeds.

4 *Strategy, structure, and rivalry:* International competitive advantage depends upon how firms within a particular sector interact within their domestic markets. Porter observes that intense competition within the domestic market drives innovation, quality, and efficiency. The global success of Japanese companies in cars, cameras, consumer electronics, and office equipment during the last two decades of the 20th century was based upon domestic industries where five or more major producers competed strongly with one another. Conversely, European failure in many hi-tech industries may be a result of European governments' propensity to kill domestic competition by creating national champions.

Consistency between Strategy and National Conditions

Establishing competitive advantage in global industries requires congruence between business strategy and the pattern of the country's comparative advantage. In

semiconductors, US companies such as Intel, Texas Instruments, Nvidia, and Qualcomm tend to focus upon sophisticated microprocessors, digital signal processing chips, graphics chips, and application-specific integrated circuits, and emphasize design rather than manufacture. Chinese semiconductor producers tend to focus upon less sophisticated memory and logic chips, on older generations of analog integrated circuits and microcontrollers, and emphasize fabrication rather than design.

Similarly in footwear. The world's three leading exporters, after China, are Italy, Vietnam, and Germany. Each country's shoe producers exploit the resource strengths of their home country. Italian shoe producers such as Tod's, Fratelli Rosetti, and Santoni emphasize style and craftsmanship; Germany's shoe companies such as Adidas, Puma, and Brütting emphasize technology; and Vietnam's shoe industry uses low-cost labor to produce vast numbers of cheap casual shoes.

Among national resources, national culture can be an especially potent source of a firm's international competitive advantage. The success of US companies in many areas of high technology, including computer software and biotechnology, owes much to a system of entrepreneurial capitalism that embodies a national culture that emphasizes individuality, opportunity, and wealth acquisition. The global success of Korean corporate giants such as Samsung and LG reflects organizational structures and management systems that embody Korean cultural characteristics such as loyalty, respect for authority, conformity to group norms, commitment to organizational goals, and a strong work ethic.[9]

Internationalization Decisions: Locating Production

To examine how national resource conditions influence company strategies, we will look at two types of strategic decision-making in international business: first, where to locate production activities and, second, how to enter a foreign market. Let us begin with the first of these.

Firms move beyond their national borders not only to seek foreign markets but also to access the resources and capabilities available in other countries. Traditionally, multinationals established plants to serve local markets. Increasingly, decisions concerning where to produce are being separated from decisions over where to sell. For example, ST Microelectronics, the world leader in application-specific integrated circuits (ASICs), is headquartered in Switzerland; production is mainly in France, Italy, and Singapore; R&D is conducted mainly in France, Italy, and the United States; and the biggest markets are the United States, Japan, the Netherlands, and Singapore.

Determinants of Geographical Location

Figure 11.2 shows that a firm's resources and capabilities may be located either within the firm, or may be available from the national environment(s) where it does business. The sources of a firm's resources and capabilities have important implications for where the firm locates its production:

- *Country-based resources:* If a firm's competitive advantage is based upon resources and capabilities available within the national environment, it needs to locate where these resources and capabilities can be accessed. For oil and gas companies, this means exploring where petroleum reserves are located. For software companies, it means locating where software engineers can be recruited.

- *Firm-based resources and capabilities:* For firms whose competitive advantage is based on internal resources and capabilities, optimal location depends on where those resources and capabilities are situated and how mobile they are. Walmart has experienced difficulty replicating its US-based logistics and merchandising capabilities outside of North America. Conversely, Toyota and IKEA have been highly successful in transferring their operational capabilities beyond their home bases.

However, these considerations presume that the firm has the flexibility to choose where it locates its production. Most services—hairdressing, restaurant meals, banking, and management consulting—are not tradable: they need to be produced in close proximity to where they are consumed.

Location and the Value Chain

The production of most goods and services comprises a vertical chain of activities where the input requirements of each stage vary considerably. Hence, different countries offer advantages at different stages of the value chain. Table 11.2 shows the pattern of international specialization for the different stages of production for knitted clothing (T-shirts, sweaters, etc.). Similarly with consumer electronics: component production is research- and capital-intensive, the main production centers are the United States, Japan, Korea, and Taiwan; assembly is labor-intensive and is concentrated in South-East Asia and Latin America. China is the world leader in both.

A key feature of internationalization has been the international fragmentation of value chains as firms seek to locate each activity where the resources required are cheapest and most available.[10] Table 11.3 shows the international composition of Apple's iPhone.

As the iPhone indicates, for technologically advanced goods and services, global sourcing is determined more by the location of sophisticated know-how than by accessing low cost labor. Increasingly Western companies look to China, Taiwan, Korea, Malaysia, and India for technical and engineering talent rather than for low cost production. Chinese companies are increasingly world leaders in advanced manufacturing processes while most leading Indian IT service companies operate at level 5 (the highest level of expertise) of the Capability Maturity Model.[11]

TABLE 11.2 Comparative advantages along the value chain for knitted apparel

	Raw cotton	Spun cotton yarn	Knitted fabric	Knitted apparel
United States	+0.68	+0.85	+0.03	−0.89
Germany	−1.00	−0.18	+0.30	−0.18
Korea	−1.00	−0.28	+0.94	−0.34
China	−0.99	−0.54	+0.70	+0.97
Bangladesh	−0.98	−0.95	−0.96	+0.98

Note:
A country's revealed comparative advantage in particular product is measured as (exports – imports)/(exports + imports). The scale ranges from −1 to +1. (Note: This is a different measure of revealed comparative advantage from that used in Table 11.1.)
Source: International Trade Commission.

TABLE 11.3 Where does the iPhone X come from?

Item	Supplier	Location
Design and operating system	Apple	US
Flash memory	Toshiba	Japan
DRAM memory	TSMC SK Hynix	Taiwan S. Korea
Chip sets and Processors	Apple Qualcomm	US US
Baseband	Qualcomm	US
Cameras	Sony Genius Electronic Optical	Japan Taiwan
Mixed signal chips	NXP	Neth.
Power management	Dialog Semiconductor	Germany/UK
Batteries	Sunwoda Electronics	China
Audio	Cirrus Logic	US
Touchscreen control	Nissha	Japan
Sensors	STMicroelectronics Bosch	Italy Germany
E-compass	Alps Electric	Japan
Assembly	Foxconn	China

Source: various websites.

The benefits from fragmenting the value chain must be traded off against the added costs of coordinating globally dispersed activities—the biggest of which is time. Just-in-time scheduling often requires production activities to be carried out in close proximity to one another. Companies that compete on speed and flexibility (e.g., Inditex) often forsake the cost advantages of a globally dispersed value chain in favor of co-located activities. The trend toward US corporations "reshoring" manufacturing activities is partly a result of the narrowing cost gap between the United States and China, but also because of the flexibility benefits of shorter supply chains.[12]

Figure 11.4 summarizes the relevant criteria in location decisions.

Internationalization Decisions: Entering a Foreign Market

Firms enter foreign markets in pursuit of revenue and, ultimately, profitability. A firm's success in generating sales and profits in a foreign market depends on its ability to establish a competitive advantage. How a firm can best establish a competitive advantage will determine how it enters a foreign market.

There are two basic modes of entry into a foreign market: *transactions* or *direct investment*. Figure 11.5 further divides these into a spectrum of market entry types

FIGURE 11.4 Determining the optimal location of value chain activities

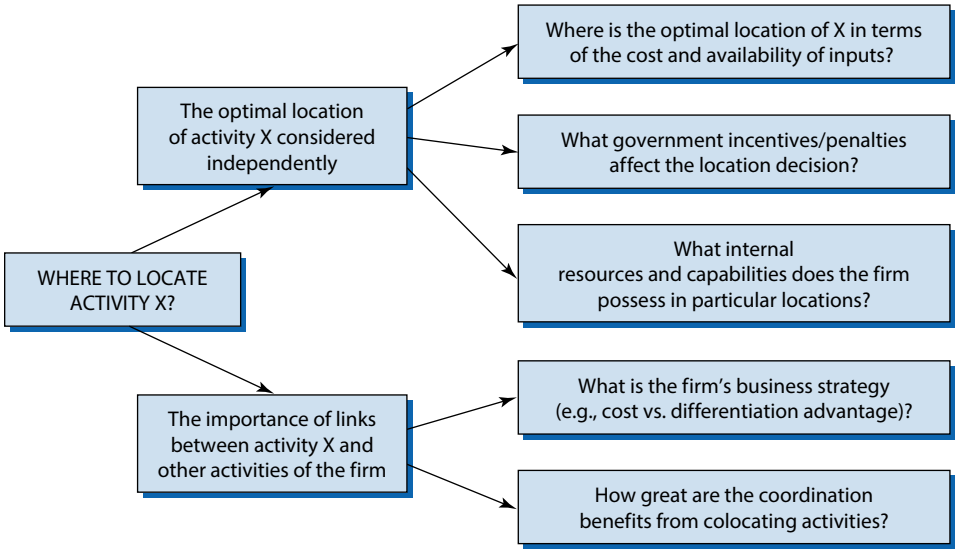
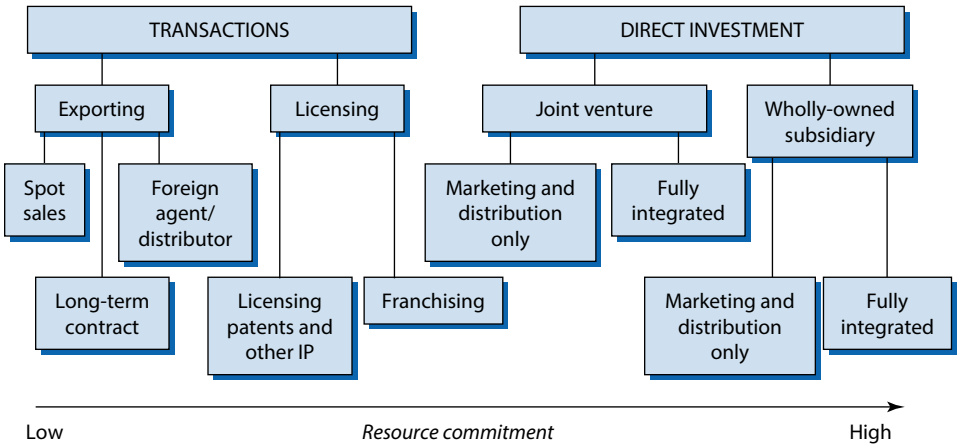


FIGURE 11.5 Alternative modes of overseas market entry



involving progressively higher degrees of resource commitment. Thus, at one extreme, a firm can export through individual sales transactions; at the other, it can establish a wholly owned, fully integrated subsidiary.

How does a firm weigh the merits of different market entry modes? Five key factors are relevant:

- *Is the firm's competitive advantage based on firm-specific or country-specific resources?* If the firm's competitive advantage is country-based, the firm must exploit an overseas market by exporting. If Shanghai Auto's competitive advantage in Western car markets is its low domestic cost base, it must produce

in China and export to foreign markets. If Toyota's competitive advantage is its production and management capabilities then, as long as it can transfer these capabilities, it can exploit foreign markets either by exports or by direct investment.[13]

- *Is the product tradable?* If the product cannot be exported because of transportation constraints or import restrictions, then accessing the foreign market requires either direct investment or licensing the use of key resources to a local company.
- *Does the firm possess the full range of resources and capabilities needed for success in the overseas market?* Competing in an overseas market is likely to require resources and capabilities that the firm does not possess, necessitating collaboration with a local firm. The form of the collaboration depends, in part, on the resources and capabilities required. If a firm needs marketing and distribution capabilities, it might appoint a distributor or agent with exclusive territorial rights. The Italian brewer, Menabrea, appoints exclusive distributors in each of the 36 countries to which it exports. If a wider range of capabilities is needed, the firm might license its product and/or its technology to a local manufacturer. Thailand's Boon Rawd Brewery licenses its Singha beer trademarks and recipes to Denmark's Carlsberg Group. Alternatively, a joint venture might be sought with a local manufacturing company. Cobra beer is brewed in the United Kingdom by a joint venture between Cobra India and Molson Coors.
- *Can the firm directly appropriate the returns to its resources?* The viability of licensing in exploiting a foreign market depends on appropriability considerations. In chemicals and pharmaceuticals, the patents protecting product innovations tend to offer strong legal protection; in which case, offering licenses to local producers can be an effective means of appropriating their returns. For electronic hardware and medical devices, the protection offered by patents and copyrights is looser, which encourages exporting rather than licensing as a means of exploiting overseas markets. With all licensing arrangements, the key considerations are the capabilities and reliability of the local licensee. This is particularly important in licensing brand names, where the licenser must carefully protect the brand's reputation. Starbucks' formation of a joint venture with Tata Group to develop Starbucks outlets in India, was facilitated by the two companies' shared commitment to ethics and corporate social responsibility.
- *What transaction costs are involved?* Transaction costs are fundamental to the choice between alternative market entry modes. Barriers to exports in the form of transport costs and tariffs constitute transaction costs that may encourage direct investment. The choice between licensing and direct investment also depends upon the transaction costs of negotiating, monitoring, and enforcing licensing agreements. In the United Kingdom, Starbucks owns and operates most of its coffee shops, while McDonald's franchises its burger restaurants. The McDonald's business system can be specified and enforced through a franchise agreement. The "Starbucks experience," by contrast, is as much about intangibles such as ambiance and values as it is about coffee. These are difficult to specify in a franchise contract. More generally, the presence of transaction costs both in product markets and in the markets for resources and capabilities, are a major reason why multinational enterprises predominate in many industries.[14]

Multinational Strategies: Global Integration versus National Differentiation

So far, we have looked only at individual international strategic decisions concerning locating production and entering foreign markets. However, international strategy involves managing a firm's overall geographical scope. What is the potential for such "global strategies" to create competitive advantage over nationally focused rivals? In what types of industry are they likely to be most effective? And how should they be designed and deployed in order to maximize their potential?

The Benefits of a Global Strategy[15]

A **global strategy** is one that views the world as a single, if segmented, market. There are five major sources of value from operating internationally.

Cost Benefits of Scale and Replication The primary advantage of companies that compete globally over their local rivals is their access to scale economies in purchasing, manufacturing, marketing, and new product development.[16] Pankaj Ghemawat refers to these as benefits from *cross-border aggregation*.[17] Exploiting these scale economies has been facilitated by the growing convergence of customer preferences: "Everywhere everything gets more and more like everything else as the world's preference structure is relentlessly homogenized," observed Ted Levitt.[18] In many industries—commercial aircraft, semiconductors, consumer electronics, video games—firms have no choice: they must market globally to amortize the huge costs of product development. In service industries, the cost efficiencies from multinational operation derive primarily from economies of replication. Once a company has created a knowledge-based asset or product—be it a recipe, a piece of software, or an organizational system—it can be replicated in additional national markets at a fraction of the cost of creating the original.[19] Disneyland theme parks in Tokyo, Paris, Hong Kong, and Shanghai replicate the rides and management systems that Disney develops for its parks in Anaheim and Orlando. This is the appeal of franchising: if I create a brilliantly innovative facial massage system that allows elderly people to maintain the complexion of a 20-year-old, why limit myself to a single outlet in Beverly Hills, California? Why not try to emulate Domino's Pizza with its 14,000 outlets across 71 countries of the world?

Serving Global Customers In several industries (e.g., investment banking, audit services, and advertising), the primary driver of globalization has been the need to service global customers.[20] Hence, auto-parts manufacturers have internationalized as they follow the global spread of the major automobile producers. Law firms such as Baker & McKenzie, Clifford Chance, and Linklaters have internationalized to better serve their multinational clients.

Exploiting National Resources: Arbitrage Benefits As we have already seen, firms internationalize not only to expand into new markets but also to access resources outside their home countries.

Traditionally, this has meant a quest for raw materials and low-cost labor. Standard Oil's initial internationalization during 1917–1923 followed its quest for crude

oil reserves in Mexico, Colombia, Venezuela, and the Dutch East Indies. Nike's pursuit of low-cost manufacturing facilities has taken it from Japan, to Taiwan and South Korea, to China, and, most recently, to Vietnam, Indonesia, and Bangladesh. Ghemawat refers to this exploitation of differences in resource availability between countries as *arbitrage*.[21] Arbitrage strategies are conventionally associated with exploiting wage differentials by offshoring production to low-wage locations; increasingly arbitrage is about exploiting the distinctive knowledge available in different locations. Most of the world's leading semiconductor firms have established R&D facilities in California's Silicon Valley.[22]

Arbitrage opportunities may arise not only from national resource conditions, but from any distinctive advantages that a country possesses. Apple, Google, Amazon, and Starbucks have been adept at ensuring that their profits accrue in countries which levy the lowest corporate tax rates.[23]

Learning Benefits The learning benefits of multinational companies are not simply accessing the knowledge available in different locations but also transferring and integrating that knowledge and using the exposure to different national environments to create new knowledge. IKEA's success is based, not only on replicating its unique business system, but also on its ability to learn from each country where it does business and then transfer that learning to its global network. In Japan, IKEA had to adjust to Japanese design preferences, modes of living, and consumers' acute quality-consciousness. IKEA was then able to transfer the quality and design capabilities it developed in Japan to its global activities. According to the CEO of IKEA Japan, "One reason for us to enter the Japanese market, apart from hopefully doing very good business, is to expose ourselves to the toughest competition in the world. By doing so, we feel that we are expanding the quality issues for IKEA all over the world."[24]

Recent contributions to the international business literature suggest that this ability of multinational corporations to develop knowledge in multiple locations, to synthesize that knowledge, and to transfer it across national borders may be their greatest advantage over nationally focused companies.[25] To exploit these learning benefits a company must possess global infrastructure for managing knowledge that permits new experiences, new ideas, and new practices to be integrated and diffused.

Competing Strategically A major advantage of Julius Caesar and the Romans over Asterix and the Gauls was the Romans' ability to draw upon the military and economic resources of the Roman Empire to suppress rebellious tribes. Similarly, multinational companies possess a key strategic advantage over their nationally-focused rivals when engaging in competitive battles in individual national markets: they can use resources from other national markets. In the battle for leadership of the Indian online retail market, a key advantage of Amazon over its local rival, Flipkart, was Amazon's ability to use its US cash flow to finance losses in India. By selling a majority stake to Walmart in 2018, Flipcart has leveled the field. *Cross-subsidization* of competitive initiatives in one market using profits from other markets may involve *predatory pricing*—cutting prices to a level that drives competitors out of business. More usually, cross-subsidization involves using cash flows from other markets to finance aggressive sales and marketing campaigns.[26] Strategic competition between multinational corporations can result in complex patterns of attack, retaliation, and containment.[27]

As the US and Chinese ecommerce giants, Amazon and Alibaba, internationalize each is making forays into the other's home market as well as battling in third countries such as India.[28]

The Need for National Differentiation

For all the advantages of global strategy, national differences still frustrate firms' attempts to design "global products" to meet the needs of the "global customer." Even globally standardized products such as the iPhoneX and the Big Mac vary from country to country.[29]

In some industries, efforts toward globalization have met with little success. In domestic appliances, national preferences have shown remarkable resilience. The design and features of washing machines and cookers vary between the regions of the world.[30] Similarly in retail banking, despite some examples of successful internationalization (Banco Santander, HSBC), customer preferences and regulations vary between countries and there are few economies from cross-border integration. As a result, Citibank, HSBC, Barclays, and Deutsche Bank radically reduced their international presence during 2010 to 2018.[31]

To identify and assess the extent of strategic differences between countries, Ghemawat's "CAGE' framework identifies four dimensions of distance between countries: *cultural*, *administrative and political*, *geographical*, and *economic* (see Table 11.4).

These broad categories are only a starting point for navigating the national idiosyncrasies that make international expansion such a minefield. Consumer product firms must, not only adapt to differences in consumer preferences between

TABLE 11.4 Ghemawat's CAGE framework for assessing country differences

	Cultural distance	Administrative and political distance	Geographical distance	Economic differences
Distance between two countries increases with:	Different languages, ethnicities, religions, social norms Lack of connective ethnic or social networks	Absence of shared political or monetary association Political hostility. Weak legal and financial institutions	Lack of common border, water-way access, adequate transportation or communication links Physical remoteness	Different consumer incomes Different costs and quality of natural, financial, and human resources Different information or knowledge
Industries most affected by source of distance:	Industries with high linguistic content (TV, publishing) and cultural content (food, wine, music)	Industries viewed by government as strategically important (e.g., energy, defense, telecoms)	Products with low value-to-weight (cement), are fragile or perishable (glass, milk), or dependent upon communications (financial services)	Products whose demand is sensitive to consumer income levels (luxury goods) Labor-intensive products (clothing)

Sources: Based upon: P. Ghemawat, "Distance Still Matters: The Hard Reality of Global Expansion," September 2001, pp. 137–47 and P. Ghemawat, "Differences and the CAGE Distance Framework." https://www.ghemawat.com/wordpress/wp-content/uploads/2016/10/DifferencesAndTheCAGEFramework.pdf.

countries, they must also adapt to differences in distribution channels. Procter & Gamble adapts its marketing and distribution of its toiletries and household products to take account of the fact that, in the United States, a few chains account for a major share of its US sales; in southern Europe, most sales are through small, independent retailers, while in Japan, it must sell through a multi-tiered hierarchy of distributors. The closer an industry is to the final consumer, the more important cultural factors are likely to be. Strategy Capsule 11.1 considers some dimensions of national culture. These cultural differences explain why so few retailers have been successful outside their home markets. Walmart, IKEA, H&M, and Gap are among the few retailers that are truly global.

Reconciling Global Integration with National Differentiation

Formulating an international strategy involves trading off the benefits of global integration with those of national adaptation. Figure 11.6 shows that this trade-off

STRATEGY CAPSULE 11.1
How do National Cultures Differ?

How people differ between countries with regard to beliefs, norms, and value systems has been the subject of a number of research studies.

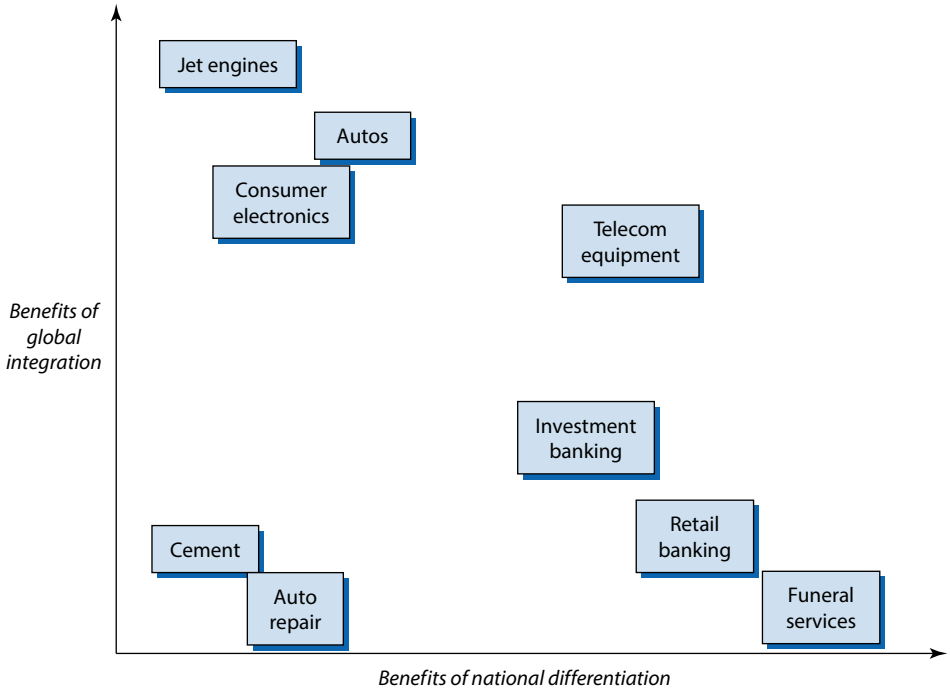
The best-known study of national cultural differences is by Geert Hofstede. The principal dimensions of national values he identified were:

- *Power distance:* The extent to which inequality, and decision-making power in particular, is accepted within organizations and within society was high in Malaysia, and most Latin American and Arab countries; low in Austria and Scandinavia.
- *Uncertainty avoidance:* Preference for certainty and established norms was high in most southern European and Latin American countries; tolerance for uncertainty and ambiguity was high in Singapore, Sweden, the United Kingdom, the United States, and India.
- *Individualism:* Concern for individual over group interests was highest in the United States, the United Kingdom, Canada, and Australia. Identification with groups and the collective interest was strongest in Latin America and Asia (especially Indonesia, Pakistan, Taiwan, and South Korea).
- *Masculinity/femininity:* Hofstede identifies emphasis on work and material goals and demarcation of gender roles as *masculine;* emphasis on personal relationships rather than efficiency and belief in gender equality he viewed as *feminine*. Japan, Austria, Venezuela, and Italy scored high on masculinity; Scandinavia and the Netherlands scored very low.

Other scholars emphasize different dimensions of national cultures. Fons Trompenaars (another Dutchman) identifies the United States, Australia, Germany, Sweden and the United Kingdom as *universalist societies*—relationships are governed by standard rules; Brazil, Italy, Japan, and Mexico are *particularist societies*—social relationships are strongly influenced by contextual and personal factors. In *affective cultures*, such as Mexico and the Netherlands, people display their emotions; in *neutral cultures*, such as Japan and the United Kingdom, people hide their emotions.

Sources: G. Hofstede, *Culture's Consequences: International Differences in Work-related Values* (Thousand Oaks, CA: SAGE Publications, 1984); F. Trompenaars, *Riding the Waves of Culture* (London: Economist Books, 1993).

FIGURE 11.6 Benefits of global integration versus national differentiation



varies greatly between industries. Jet engines and semiconductors are industries where scale economies are huge and customer preferences vary little from country to country. Firms in these industries can view the world as a single, global market. Conversely, in industries such as retail banking and frozen foods, national preferences are pronounced and meeting them does not impose prohibitive costs. This favors *multidomestic* strategies involving distinct strategies for each national market. Indeed, in industries where there are few benefits from global integration, multinational firms may be absent (as in funeral services and laundries). Some of the most interesting and complex industries from an international strategy viewpoint are those that combine substantial benefits from operating globally with the need to adapt to the requirements of individual national markets, such industries include domestic appliances, military hardware, cosmetics, and insurance.

Reconciling conflicting forces for global efficiency and national differentiation represents one of the greatest strategic challenges facing multinational corporations. The typical solution is to globally standardize product features and company activities where scale economies are substantial, and locally differentiate where national preferences are strongest and where achieving them is not overly costly. The world's leading automobile companies design their cars around a few global platforms and common components, then differentiate to meet national safety and environmental standards and also local preferences for legroom, seat specifications, accessories, color, and trim. McDonald's, too, standardizes its core business system, then adapts to local cultural and culinary preferences (Strategy Capsule 11.2).

Reconciling global efficiency with national adaptation requires disaggregating the company by product and function. In retail banking, different products and services have different potential for globalization. Credit cards and basic savings products

STRATEGY CAPSULE 11.2
McDonald's Goes "Glocal"

McDonald's has long been demonized by anti-globalization activists. They allege that it crushes national cuisines and independent, family-run restaurants with the juggernaut of US fast-food, corporate imperialism. In reality, its global strategy is a careful blend of global standardization and local adaptation.

McDonald's menus feature an increasing number of locally-developed items. These include:

- Australia: Gourmet Angus Truffle & Cheese, English Brekkie Wrap, and Frozen Coke;
- France: Croque McDo, Le Blue Cheese and Bacon Burger;
- Hong Kong: Mixed Veggies & Egg, Mini Twisty Pasta, Mango Layer Cake;
- India: McSpicy Paneer and McAloo Wrap;
- Saudi Arabia: McArabia Kofta, McArabia Chicken;
- Switzerland: Quinoa Curry, Ovomaltine;
- UK: So Simple Apple and Cherry Porridge, Fish Fingers, Peri Peri Snack Wrap, Cadbury Crunchie McFlurry;
- US: Sausage Burrito, Maple Bacon Dijon with Artisan Grilled Chicken, Fruit and Yogurt Parfait.

There are differences too in restaurant decor, service offerings (e.g., home delivery in India), and market positioning (outside the United States McDonald's is more upmarket). In Israel, most McDonald's are kosher: there are no dairy products and it is closed on Saturdays. In India, neither beef nor pork is served. In Germany, France, and Spain, McDonald's serves beer. A key reason that most non-US outlets are franchised is to facilitate adaptation to national environments and access to local know-how.

Yet, the core features of the McDonald's strategy are identical throughout the world. McDonald's values and business principles are seen as universal and invariant. Its emphasis on families and children is intended to identify McDonald's with fun and family life wherever it does business. Community involvement and the Ronald McDonald children's charity are also worldwide. Corporate trademarks and brands are mostly globally uniform, including the golden arches logo and "I'm lovin' it" tag line. The business system itself—franchising arrangements, training, restaurant operations, and supplier relations—is also highly standardized.

McDonald's international strategy has changed from adapting its US model to local conditions to seeking and encouraging local innovation everywhere, then using its global network to transfer promising concepts more widely. McCafés, gourmet coffeehouses within McDonald's restaurants, were first developed in Australia in 1993. By 2013, McCafés were operating in 30 countries. Growing concern over nutrition and obesity has accelerated McDonalds' reliance upon country initiatives to drive global learning.

Has McDonald's got the balance right between global standardization and local adaptation? Simon Anholt, a British marketing expert, argues: "By putting local food on the menu, all you are doing is removing the logic of the brand, because this is an American brand. If McDonald's serves what you think is a poor imitation of your local cuisine, it's going to be an insult." But according to McDonald's CEO Jim Skinner: "We don't run our business from Oak Brook. We are a local business with a local face in each country we operate in." Chief marketing officer, Mary Dillon, adds: "Globally we think of ourselves as the custodian of the brand, but it's all about local relevance."

Source: www.mcdonalds.com.

such as certificates of deposit tend to be globally standardized; checking accounts and mortgage lending are much more nationally differentiated. Similarly with business functions: R&D, purchasing, IT, and manufacturing have strong globalization potential; sales, marketing, customer service, and human resource management need to be much more nationally differentiated. These differences have important implications for how the multinational corporation is organized.

Implementing International Strategy: Organizing the Multinational Corporation

These same forces that determine international strategies—exploiting global integration while adapting to national conditions—also have critical implications for the design of organizational structures and management systems to implement these strategies. As we shall see, one of the greatest challenges facing the senior managers of multinational corporations is aligning organizational structures and management systems to fit with the strategies being pursued.

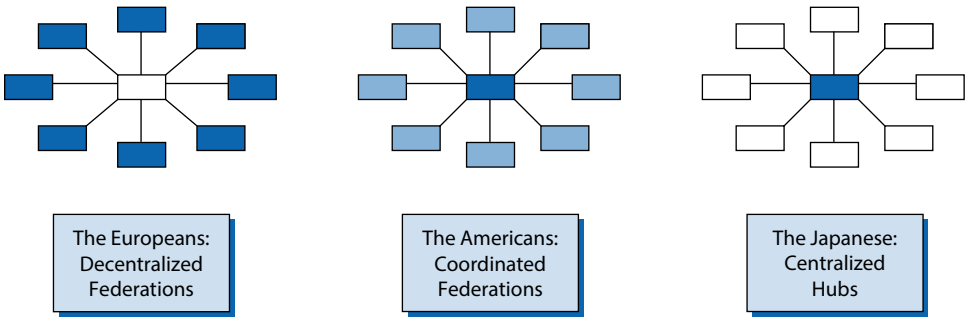
The Evolution of Multinational Strategies and Structures

Choices over international strategy have implications for firms' organizational structures. Christopher Bartlett and Sumantra Ghoshal describe the strategy-structure configurations of multinational corporations as their *administrative heritage* and, once established, this heritage creates a barrier to strategic and organizational change.[32]

They identify three eras in the development of the multinational corporation (Figure 11.7):

- *The early 20th century: era of the European multinationals.* Companies such as Unilever, Shell, ICI, and Philips were pioneers of multinational expansion. Because of the conditions at the time of internationalization—poor

FIGURE 11.7 The development of the multinational corporation: Alternative parent–subsidiaries relations



Note:

The density of shading indicates the concentration of decision making.

Source: C. A. Bartlett and S. Ghoshal, *Managing across Borders: The Transnational Solution* (Boston: Harvard Business School Press, 1998). Copyright © 1989 by the Harvard Business School Publishing Corporation, all rights reserved.

transportation and communications, highly differentiated national markets—the companies created *multinational federations*: each national subsidiary was operationally autonomous and undertook the full range of functions, including product development, manufacturing, and marketing.

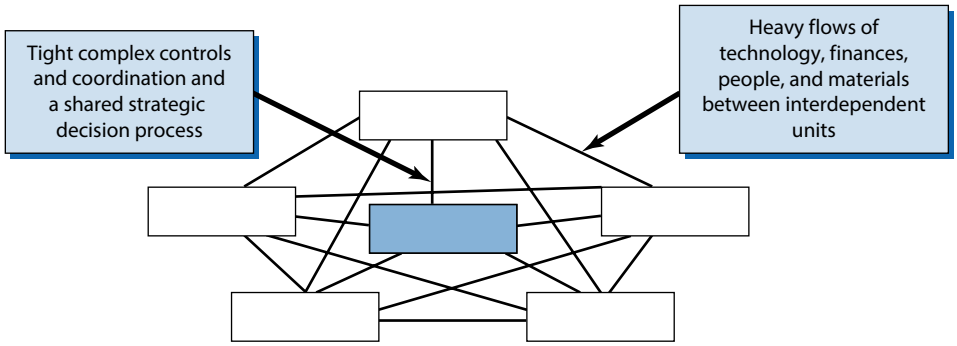
- *Post-Second World War: era of the American multinationals.* US dominance of the world economy was reflected in the pre-eminence of US multinationals, such as GM, Ford, IBM, Coca-Cola, Caterpillar, and Procter & Gamble. While their overseas subsidiaries were allowed considerable autonomy, this was within the context of the dominant position of their US parent in terms of finance, technology, and management. These US-based resources and capabilities provided the foundation for their international competitive advantages.
- *The 1970s and 1980s: the Japanese challenge.* Honda, Toyota, Matsushita, NEC, and YKK pursued global strategies from centralized domestic bases. R&D and manufacturing were concentrated in Japan; overseas subsidiaries undertook sales and distribution. Globally standardized products manufactured in large-scale plants provided the basis for unrivalled cost and quality advantages. Over time, manufacturing and R&D were dispersed, initially because of trade protection by consumer countries and the rising value of the yen against other currencies.

These different administrative heritages have continued to set the strategic agendas of these different groups of multinational corporations. The strength of European multinationals is their ability to adapt to the requirements of individual national markets. Their challenge has been to achieve greater integration of their sprawling international empires. For Shell and Philips this has involved periodic reorganization over the past three decades. The strength of the US multinationals is their ability to transfer technology and proven new products from their domestic strongholds to their national subsidiaries. The challenge for companies such as Ford, IBM, and Procter & Gamble has been dispersing technology, design, and product development while achieving a high level of global integration. During the 1980s, Japanese multinational corporations exemplified the efficiency benefits of global standardization. Since then, Japanese multinational corporations such as Sony, Panasonic, Nomura, Hitachi, and NEC have taken major strides to becoming true insiders in the many countries where they do business, yet have struggled to sustain leadership in product and process innovation.

Recent Trends in Multinational Management

Despite the different heritages of the different groups of multinationals, all have faced the same strategic and organizational challenge during recent decades: reconciling global integration with national differentiation. Escalating costs of research and new product development have made global strategies with global product platforms essential. At the same time, meeting consumer needs in each national market and responding swiftly to changing local circumstances requires greater decentralization. Accelerating technological change further exacerbates these contradictory forces: innovation needs to take place at multiple locations rather than at a centralized R&D facility.

FIGURE 11.8 Bartlett and Ghoshal's transnational corporation



Bartlett and Ghoshal argue that reconciling these conflicting performance goals has caused multinationals to adopt a new configuration of strategy and structure: the **transnational corporation**. In the transnational corporation, the corporate center is responsible for coordinating a global network where each national unit is responsible for managing local affairs but also fulfils a global role based upon its own distinctive capabilities (see Figure 11.8). Bartlett notes that the transnational requires "a very different kind of internal management process than existed in simpler multinational organizations… it's the corporate equivalent of being able to walk, chew gum, and whistle at the same time."[33] Ford Motor Company's global strategy and organization corresponds closely to this transnational model (see Strategy Capsule 11.3).

Ghemawat recognizes that the challenge for multinationals in reconciling the conflicting strategic goals is even more complex. He makes an important extension to the Bartlett-Ghoshal framework.[34] In addition to exploiting scale economies from global integration through *aggregation* and meeting local demands through *adaptation*, multinationals also need to exploit country-based advantages through *arbitrage*. As we discussed earlier (pp. 281–282), opportunities for arbitrage arise not only from the availability of different resources and capabilities in different countries, but also from other national characteristics—including taxation systems, environmental policies, and financial regulations. Strategy Capsule 11.4 outlines Ghemawat's "Triple-A" framework.

Over recent decades, the pressure of competition has required multinational corporations to exploit multiple sources of value. For North American and European multinational corporations, this has required a shift from a multidomestic approach organized around national subsidiaries and regional groupings to increased global integration involving the creation of worldwide product divisions. However, designing organizational structures and management systems that can achieve an optimal balance between the three dimensions of Ghemawat's AAA triangle is complex. Aggregation favors global product divisions, adaptation is best achieved through semi-autonomous national subsidiaries, while arbitrage requires the concentration of particular functions and activities in specific locations. Moreover, the trade-offs among these factors varies between products, functions, and geographical markets.

For example, Procter & Gamble adopts global standardization for some of its products (e.g., Gillette razor blades and high-end fragrances); for others (e.g., hair care

STRATEGY CAPSULE 11.3

Ford Motor Company: A Transnational Corporation

Between 1970 and 2017, the Ford Motor Company evolved from a "coordinated federation" with a dominant US core and fairly autonomous overseas subsidiaries into a globally integrated network. In the early 1970s, the US parent exercised financial control over the overseas subsidiaries and appointed their chief executives—but product policy, operations, and marketing were mostly in the hands of the country managers. In the United Kingdom, the leading Ford models were the Cortina and the Escort—both designed and manufactured by Ford of Britain. Ford Germany's leading model was the Ford Taunus—again, designed and manufactured in Germany. Ford Brazil's leading models were the Concel and the Aero.

Global integration began with the creation of Ford of Europe in 1969 and continued with Ford's efforts to introduce global models. The 1992 Mondeo (Contour in North America) was the first global model. Under Alan Mullaly (CEO 2006–2014), Ford intensified its quest for global integration. Mullaly's "One Ford" strategy involved standardizing components, reducing the number of platforms from 27 in 2007 to 8 in 2017, and developing global models for manufacture at multiple plants throughout the world. For example, the 2017 (4th generation) Ford Focus was developed by Ford's design studios and technical centers in Europe and the United States and manufactured at plants in Mexico, Germany, China, Thailand, Russia, and Argentina.

At the same time, individual national subsidiaries continue to introduce variations on these global models. The Ford Mustang and its F-series pick-up trucks are designed and manufactured in the United States for sale primarily to North American customers. Ford's Chinese joint venture with Changan Auto manufactures the Ford Escort, a long wheelbase version of the 3rd generation Focus. The Ford Ka, sold mainly in Europe, was originally manufactured by Fiat. It is now built by Ford Brazil for sale in Latin America and Europe.

This globally integrated strategy encouraged Ford to reorganize around global functions—such as Global Product Development, Global Manufacturing, Quality and New Model Launch and Global Marketing—together with regional divisions (The Americas; Europe, Middle East, and Africa; and Asia Pacific). However, the key to the One Ford strategy was for people to collaborate, share, and innovate across organizational and geographical boundaries.

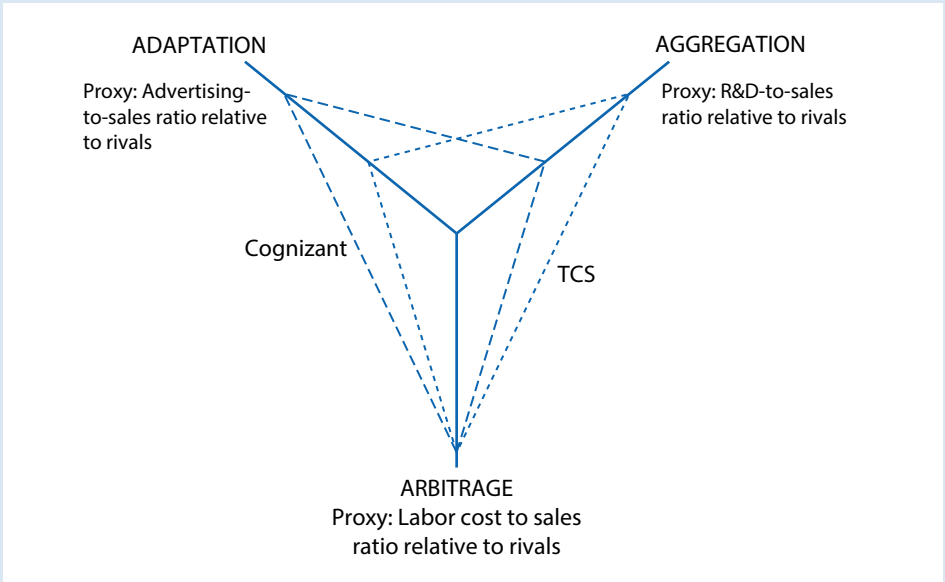
Within this structure, Ford's national units have both local and global responsibility. Ford of Britain no longer assembles Ford cars, but is responsible for marketing, distribution, and customer support within the United Kingdom, as well having global responsibilities for the manufacture of 1.6-liter gasoline engines (at Bridgend) and EcoBlue diesel engines (at Dagenham), transmissions (at Halewood), and engine design (at Dunton Technical Center).

products and laundry detergent), it allows significant national differentiation. Across countries, P&G organizes global product divisions to serve most of the industrialized world because of the similarities between their markets, while for emerging-market countries (such as China and India) it operates through country subsidiaries in order to adapt to the distinctive features of these markets. Among functions, R&D is globally integrated, while sales are organized by national units that are differentiated to meet local market characteristics.

STRATEGY CAPSULE 11.4
Ghemawat's "AAA Triangle"

Ghemawat proposes that a multinational corporation's strategy may be represented by its positioning along the three dimensions of *aggregation*, *adaptation*, and *arbitrage*—his "AAA triangle" (Figure 11.9). A firm can be positioned by using proxy variables. Each strategic direction has different organizational implications: aggregation requires strong cross-border integration, for example, global product divisions and global functions; adaptation requires country-based units with high levels of autonomy; arbitrage requires activities to be located according to the availability of resources and capabilities. However, the managerial challenge of reconciling these different organizational requirements means that most firms are able to able to pursue two out the three As.[35] For example, among Indian IT service companies, Tata Consultancy Services (TCS) has emphasized arbitrage and aggregation, while Cognizant is oriented toward arbitrage and adaptation. In medical diagnostics, General Electric Healthcare is unusual in terms of its ability to achieve high levels along all three dimensions: it achieves aggregation economies through the highest R&D budget in the industry, arbitrage through locating global production centers in low cost countries, and adaptation by developing country-focused marketing units and offering customer-focused solutions that combine hardware with a range of services.

FIGURE 11.9 Ghemawat's AAA Triangle



Source: P. Ghemawat, "Managing Differences: The Central Challenge of Global Strategy," *Harvard Business Review* 85 (March 2007).

The quest to exploit arbitrage opportunities has resulted in MNCs reallocating activities outside their home countries. When Philips adopted a product division structure, it located responsibility for medical electronics in its US subsidiary and leadership in consumer electronics in Japan. During 2017, Nomura, Morgan Stanley, and Goldman

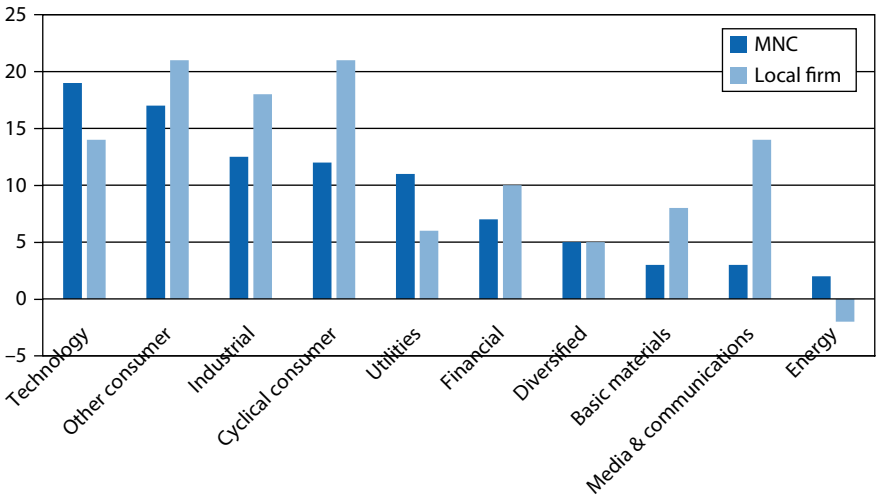
Sachs shifted staff and activities from London to Frankfurt in anticipation of Brexit, while other banks chose Dublin or Paris for their European Union bases. Exploiting arbitrage opportunities of particular national locations may even require shifting corporate domicile.[36] Burger King's $11 billion acquisition of the Canadian chain Tim Hortons was motivated in part by the tax advantages of shifting Burger King's headquarters to Canada.[37]

The tendency for MNCs to disperse previously centralized functions is particularly evident in R&D. P&G operates 26 innovation centers throughout the world. In Japan, it seeks to capitalize on Japanese obsessiveness over cleanliness, through developing new household cleaning products such as Swiffer. Its Singapore innovation center emphasizes biomedical research, while Cincinnati is its base for developing new beauty products. A survey by McKinsey & Company found that 80% of executives believed that R&D goals were best served by establishing satellite units that collaborated as a network.[38]

To what extent are the benefits that MNCs derive from aggregation, adaptation, and arbitrage outweighed by the administrative costs imposed by administrative complexity? McKinsey found that successful MNCs underperformed successful "national champions." They pointed to a "globalization penalty" that reflected difficulties in gaining consensus around a shared vision, encouraging innovation, and building government and community relationships. Reconciling national differentiation with local differentiation was an ongoing challenge:

> Almost everyone we interviewed seemed to struggle with this tension, which often plays out in heated internal debates. Which organizational elements should be standardized? To what extent does managing high-potential emerging markets on a country-by-country basis make sense? When is it better, in those markets, to leverage scale and synergies across business units in managing governments, regulators, partners, and talent?[39]

FIGURE 11.10 The return on equity of MNCs and their local competitors, 2016



Source: Bloomberg; *The Economist*

Further evidence of deteriorating profitability of MNCs is indicated by a decline in the rate of return on foreign direct investment by US and UK companies during 1988 to 2016 and the tendency for MNCs to be outperformed by their local rivals in most sectors (see Figure 11.10).[40]

Sectors where scale economies mandate global scale—jet engines, semiconductors, and telecom equipment—will inevitably be dominated by MNCs. Elsewhere the trend is for MNCs to reduce their global scope—this is particularly evident in sectors where the aggregation benefits of cross-border operation are small: banking, retailing, telecom services.

Summary

Moving from a national to an international business environment represents a quantum leap in complexity. In an international environment, a firm's potential for competitive advantage is determined not just by its own resources and capabilities, but also by the conditions of the national environments in which it operates: including input prices, exchange rates, and institutional and cultural factors.

International strategic decisions utilize the same basic tools of strategy analysis that we developed in earlier chapters. For example, to determine whether a firm should enter an overseas market, we must examine the profit implications of such an entry. This requires an analysis of (a) the attractiveness of the overseas market using the familiar tools of industry analysis and (b) the potential of the firm to establish competitive advantage in that overseas market.

However, establishing the potential for a firm to create value from internationalization is only a beginning. Subsequent analysis needs to design an international strategy: do we enter an overseas market by exporting, licensing, or direct investment? If the latter, should we set up a wholly owned subsidiary or a joint venture? Once the strategy has been established, a suitable organizational structure needs to be designed.

That so many companies that have been outstandingly successful in their home market have failed so miserably in their overseas expansion demonstrates the complexity of international management. In some cases, companies have failed to recognize that the resources and capabilities that underpinned their competitive advantage in their home market could not be readily transferred or replicated in overseas markets. In others, the problems were in designing the structures and systems that could effectively implement the international strategy.

As the lessons of success and failure from international business become recognized and distilled into better theories and analytical frameworks, so we advance our understanding of how to design and implement strategies for competing globally. We are at the stage where we recognize the issues and the key determinants of competitive advantage in an international environment. However, there is much that we do not fully understand. Designing strategies and organizational structures that can reconcile critical trade-offs between global scale economies versus local differentiation, decentralized learning and innovation versus worldwide diffusion and replication, and localized flexibilities versus international standardization remains a key challenge for senior managers.

Self-Study Questions

1. With reference to Figure 11.1, choose a *sheltered industry*—one that has been subject to little penetration either by imports or foreign direct investment. Explain why the industry has escaped internationalization. Are there opportunities for profitable internationalization for firms within the industry? If so, what strategy would offer the best chance of success?
2. With reference to Table 11.1, what characteristics of national resources explain the different patterns of comparative advantage for the United States and Japan?
3. According to Michael Porter's *Competitive Advantage of Nations*, some of the industries where British companies have an international advantage are: advertising, auctioneering of antiques and artwork, distilled alcoholic beverages, hand tools, and chemical preparations for gardening and horticulture. Some of the industries where US companies have an international competitive advantage are: aircraft and helicopters, computer software, oilfield services, management consulting, cinema films and TV programs, healthcare products and services, and financial services. For either the United Kingdom or the United States, use Porter's national diamond framework (Figure 11.3) to explain the observed pattern of international competitive advantage.
4. When Porsche decided to enter the SUV market with its luxury Cayenne model, it surprised the auto industry by locating its new assembly plant in Leipzig in eastern Germany. Many observers believed that Porsche should have located the plant either in central or eastern Europe where labor costs were very low or (like Mercedes and BMW) in the United States where it would be close to its major market. Using the criteria outlined in Figure 11.4, can you explain Porsche's decision?
5. British expatriates living in the United States frequently ask friends and relatives visiting from the United Kingdom to bring with them bars of Cadbury chocolate on the basis that the Cadbury chocolate available in the United States (manufactured under license by Hershey's) is inferior to "the real thing." Should Mondelēz International (formerly Kraft Foods, which acquired Cadbury in 2010) continue Cadbury's licensing agreement with Hershey or should it seek to supply the US market itself, either by export from the United Kingdom or by establishing manufacturing facilities in the United States?
6. Since 2013, McDonald's sales have been falling. Has it got the balance right between global standardization and national differentiation (Strategy Capsule 11.2)? How much flexibility should it offer its overseas franchisees with regard to new menu items, store layout, operating practices, and marketing? Which aspects of the McDonald's system should McDonald's top management insist on keeping globally standardized?

Notes

1. For the OECD countries (the developed, industrialized nations) the ratio of total trade (imports + exports) to GDP grew from 11% in 1960 to 58% in 2014 (*OECD Factbook*, 2017).
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4. As Tables 11.1 and 11.3 show, revealed comparative advantage can be measured in different ways.
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6. P. Krugman, "Increasing Returns, Monopolistic Competition, and International Trade," *Journal of International Economics* (November 1979): 469–79.
7. M. E. Porter, *The Competitive Advantage of Nations* (New York: Free Press, 1990).
8. For a review of the Porter analysis, see R. M. Grant, "Porter's Competitive Advantage of Nations: An Assessment," *Strategic Management Journal* 12 (1991): 535–548.
9. Korean business culture has been described as "dynamic collectivism." See: Y.-H. Cho and J. Yoon, "The Origin and Function of Dynamic Collectivism: An Analysis of Korean Corporate Culture," *Asia Pacific Business Review* 7 (2001): 70–88.
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12. Willy C. Shih, "What It Takes to Reshore Manufacturing Successfully," *MIT Sloan Management Review* 56 (Fall 2014): 55–62.
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14. D. J. Teece, "Transactions Cost Economics and Multinational Enterprise," *Journal of Economic Behavior and Organization* 7 (1986): 21–45.
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17. P. Ghemawat, *Redefining Global Strategy: Crossing Borders in a World Where Differences Still Matter* (Boston: Harvard Business School, 2007).
18. Levitt, op. cit., 94.
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12 Diversification Strategy

Telephones, hotels, insurance—it's all the same. If you know the numbers inside out, you know the company inside out.

—HAROLD SYDNEY GENEEN, CHAIRMAN OF ITT, 1959–1978, AND INSTIGATOR OF 275 CORPORATE ACQUISITIONS

Creating three independent, public companies is the next logical step for Tyco … the new standalone companies will have greater flexibility to pursue their own focused strategies for growth than they would under Tyco's current corporate structure. This will allow all three companies to create significant value for shareholders.

—ED BREEN, CHAIRMAN AND CEO, TYCO INTERNATIONAL LTD, ANNOUNCING THE COMPANY'S BREAKUP, SEPTEMBER 19, 2011

OUTLINE

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- **Motives for Diversification**
  - Growth
  - Risk Reduction
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- **Competitive Advantage from Diversification**
  - Economies of Scope
  - Economies from Internalizing Transactions
  - Parenting Advantage
  - The Diversified Firm as an Internal Market
- **Diversification and Performance**
  - The Findings of Empirical Research
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- **Summary**
- **Self-Study Questions**
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Introduction and Objectives

Answering *What business are we in?* is the starting point of strategy. Some companies define their businesses broadly: Nestle's objective is "to be the leader in Nutrition, Health and Wellness." Other companies define themselves in terms of a particular sector or product: McDonald's vision is "to be the world's best quick-service restaurant chain."

Firms' choices over their product scope change over time. The dominant trend of the past two decades has been "refocusing on core businesses." In 2000, Philips (based in the Netherlands) was engaged in lighting, domestic appliances, consumer electronics, cell phones, semiconductors, and medical systems. By 2018, Philips was specialized in medical systems. Similar refocusing had taken place at other highly diversified companies such as Siemens, British American Tobacco, and General Mills. Other diversified companies have split into multiple specialist companies. Hanson the UK–US conglomerate split into five separate companies; Tyco International split into three companies; during 2018, General Electric was in the process of spinning off four of its seven divisions.

Yet, diversification continues among leading technology companies, such as Amazon, Alphabet, and Tencent, while the economies of several Asian and Latin America countries are dominated by highly-diversified business groups.

Diversification remains a conundrum. It liberates firms from the constraints of a single industry, yet it has caused more value destruction than almost any other type of strategic initiative.

Our goal in this chapter is to resolve this conundrum. Is it better to be specialized or diversified? Under what conditions does diversification create rather than destroy value? Is there an optimal degree of diversification? What types of diversification are most likely to create value?

We make diversification decisions every day in our personal lives. If my car doesn't start in the morning, should I try to fix it myself or have it towed directly to the garage? There are two considerations. First, is repairing a car an attractive activity to undertake? If the garage charges $85 an hour but I can earn $500 an hour consulting, then car repair is not attractive to me. Second, am I any good at car repair? If I am likely to take twice as long as a skilled mechanic then I possess no competitive advantage in car repair.

Diversification decisions by firms involve the same two issues:

- How attractive is the industry to be entered?
- Can the firm establish a competitive advantage?

These are the very same factors we identified in Chapter 1 (Figure 1.5) as determining a firm's profit potential. Hence, no new analytic framework is needed for appraising diversification decisions: we can draw upon the industry analysis developed in Chapter 3 and the analysis of competitive advantage developed in Chapters 5 and 7.

Our primary focus will be the latter question: under what conditions does operating multiple businesses assist a firm in gaining a competitive advantage in each? This leads into exploring linkages between different businesses within the diversified firm—a phenomenon often referred to as *synergy*.

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

- Recognize the corporate goals that have motivated diversification and their impact on diversification trends since the late 20th century.
- Assess the potential for diversification to create value for shareholders from economies of scope, internalizing transactions, and corporate parenting.
- Comprehend the empirical evidence on the performance outcomes of diversification.
- Identify the implications of different types of business relatedness for the success of diversification and the management of diversification.

Motives for Diversification

Changing corporate goals has been the primary driver of trends in diversification. Strategy Capsule 12.1 provides a brief summary of the history of diversification. Diversification by large companies during most of the 20th century was driven by two objectives: *growth* and *risk reduction*. The shift from diversification to refocusing during the last two decades of the 20th century was an outcome of the growing commitment of corporate managers to the goal of *creating shareholder value*.

Growth

In the absence of diversification, firms are prisoners of their industry. For firms in stagnant or declining industries this is a daunting prospect. The urge to achieve corporate growth that outstrips that of a firm's primary industry is especially appealing to senior executives. Companies in low-growth, cash flow-rich industries such as tobacco and oil have been especially susceptible to the temptations of diversification. During the 1980s, Exxon diversified into copper and coal mining, electric motors, and computers and office equipment; RJR Nabisco transformed itself from a tobacco company into a diversified consumer products company. In both cases diversification destroyed shareholder value. Exxon returned to its core oil and gas businesses, while the leveraged buyout of RJR Nabisco by Kohlberg Kravis Roberts was followed by its breakup. Reynolds American, Inc. is now a specialist tobacco company.

Diversification is typically very successful in generating revenue growth—especially when it is achieved through acquisition. But what about profitability? If diversification efforts become a cash drain for companies in declining industries—as they did for Eastman Kodak and Blockbuster—then diversification may well hasten rather than stave off bankruptcy.

Risk Reduction

The notion that risk spreading is a legitimate goal for the value-creating firm has become a casualty of modern financial theory. If the cash flows of two different businesses are imperfectly correlated then bringing them together under common ownership certainly reduces the variance of the combined cash flow. But, does a more stable cash flow benefit shareholders? Shareholders can diversify risk by holding diversified portfolios. Hence, what advantage can there be in companies diversifying for them? The only possible advantage could be if firms can diversify at a lower cost than individual investors. In fact, the reverse is true: the transaction costs to shareholders of diversifying their portfolios are far less than the transaction costs to firms diversifying through acquisition. Not only do acquiring firms incur the heavy costs of using investment banks and legal advisers, they must also pay an acquisition premium to gain control of an independent company.

The *capital asset pricing model* (CAPM) formalizes this argument. The theory states that the risk that is relevant to determining the price of a security is not the overall risk (variance) of the security's return but the *systematic risk*—that part of the variance of the return that is correlated with overall stock market returns. This is measured by the security's *beta coefficient*. Corporate diversification does not reduce systematic risk: if two separate companies are brought under common ownership, and their individual cash flow streams are unchanged—the beta coefficient of the combined company is simply the weighted average of the beta coefficients of the constituent companies. Hence, the simple act of bringing different businesses under common ownership does not create shareholder value through risk reduction.[1]

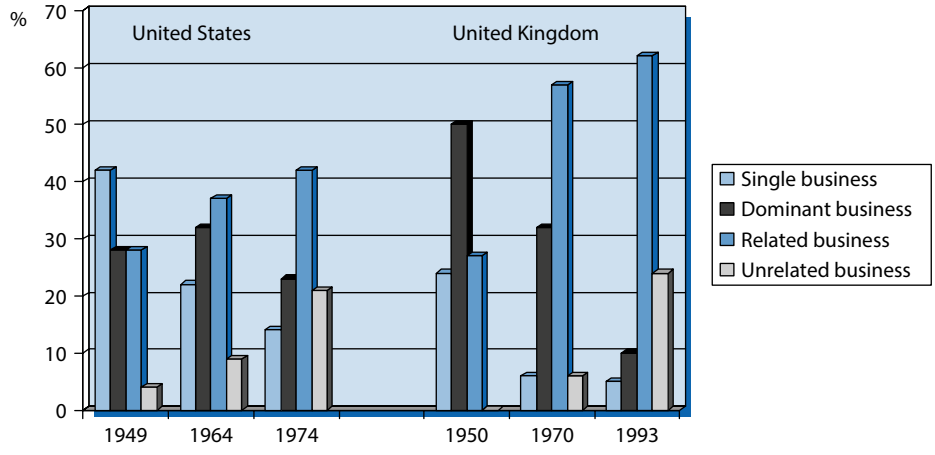
STRATEGY CAPSULE 12.1
Trends in Corporate Diversification Over Time

Diversification has followed the same trend as that of corporate scope more generally (see Chapter 10, Strategy Capsule 10.1). For most of the 20th century—and especially during the 1960s and 1970s—large companies in all the advanced industrial nations diversified beyond their core business.[2] The 1960s also saw the emergence of a new type of company—the *conglomerate*: a highly diversified company assembled from multiple, unrelated acquisitions. These included ITT, Textron, and Allied Signal in the United States and Hanson, Slater Walker, and BTR in the United Kingdom. Their existence reflected the belief that top management no longer needed industry-specific experience: the new techniques of financial and strategic management could be applied to any business.[3] Figure 12.1 shows the growing number of highly diversified US and UK firms (both "related business" and "unrelated business") during the latter part of the 20th century.

After 1980, the diversification trend went into reverse as companies divested their "noncore" businesses. Between 1980 and 1990, the average index of diversification for Fortune 500 companies declined from 1.00 to 0.67.[4]

The main driver of this trend was a shift of corporate goals from growth to profitability—typically companies' diversified businesses were less profitable than their core businesses. Evidence of a "conglomerate discount"—that the stock market was valuing diversified companies at less than the sum of their parts—resulted in diversification in general becoming viewed as the enemy of shareholder interests.[5] CEOs came under increasing pressure from both institutional shareholders, including pension funds such as California's Public Employees' Retirement System, and hostile takeovers launched by private equity groups. Kohlberg Kravis Roberts' $31 billion takeover of the tobacco and food giant RJR Nabisco in 1989

FIGURE 12.1 Diversification strategies of large US and UK companies during the late 20th century



Sources: R. P. Rumelt, "Diversification strategy and profitability," *Strategic Management Journal* 3 (1982): 359–370; R. Whittington, M. Mayer, and F. Curto, "Chandlerism in Post-war Europe: Strategic and Structural Change in France, Germany and the United Kingdom, 1950–1993," *Industrial and Corporate Change* 8 (1999): 519–550; D. Channon, *The Strategy and Structure of British Enterprise* (Cambridge: Harvard University Press, 1973).

demonstrated that even the largest US companies were vulnerable to attack from corporate raiders.[6]

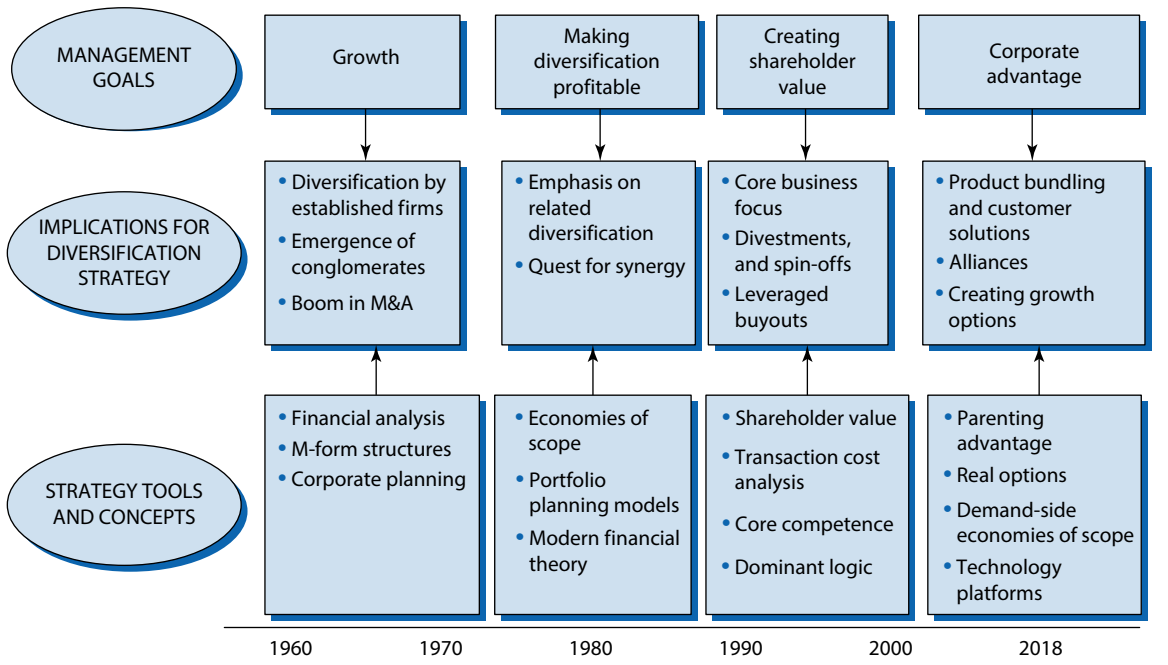
In Chapter 10, we observed that volatile, uncertain conditions increase the decision-making burden on top management, making large, complex companies less agile than specialized companies. At the same time, the growing availability of private capital encouraged many diversified companies to spin off their growth businesses in order to tap funding from external capital markets.

However, many companies still view diversification as an opportunity for value creation. The tendency for digital technologies to erode market boundaries and create hardware/software complementarities has encouraged technology leaders such as Alphabet, Amazon, Alibaba, Baidu, and Rocket Internet to continuously expand their product ranges. In more mature sectors, an emphasis on providing "customer solutions" is similarly encouraging firms to offer bundles of complementary products and services. In many instances, these diversification initiatives are occurring through collaboration with other companies rather than through conventional diversification.

In the emerging markets of Asia and Latin America, the leading companies tend to be highly diversified—and often family controlled. These include Tata and Reliance in India, Charoen Pokphand (CP) in Thailand, Astra International in Indonesia, Sime Darby in Malaysia, and Grupo Alfa and Grupo Carso in Mexico.[7] We shall consider the reasons for these differences in diversification patterns between mature and emerging countries later in the chapter.

Figure 12.2 summarizes the trends in diversification strategy since the middle of the last century and points to the influence of corporate goals and developments in strategic management concepts and tools on these trends.

FIGURE 12.2 The evolution of diversification strategies, 1960–2018



Empirical studies are generally supportive of the absence of shareholder benefit from diversification that simply combines independent businesses under a single corporate umbrella.[8] Diversification may even fail to lower unsystematic risk (risk that is specific to a company and is uncorrelated with overall stock market fluctuations).[9]

Special issues arise once we consider credit risk. Diversification that reduces cyclical fluctuations in cash flows reduces the risk of default on the firm's debt. This may permit the firm to carry a higher level of debt which can create shareholder value because of the tax advantages of debt (i.e., interest is paid before tax; dividends are paid out of post-tax profit).[10]

Are there other circumstances in which reductions in unsystematic risk can create shareholder value? If it is cheaper to finance investments internally rather than resort to external capital markets, the stability in the firm's cash flow that results from diversification may reinforce independence from external capital markets. During the financial crisis of 2008–2009, when access to capital markets became highly restricted for many firms, diversified companies benefitted from their ability to rely on funding from their internally generated funds.[11]

Value Creation: Porter's "Essential Tests"

If corporate strategy is to be directed toward value creation, what are the implications for diversification strategy? At the beginning of the chapter, we revisited our two sources of superior profitability: industry attractiveness and competitive advantage. In establishing the conditions for profitable diversification, Michael Porter refines these into "three essential tests" that determine whether diversification will truly create shareholder value:

- *The attractiveness test:* The industries chosen for diversification must be structurally attractive or capable of being made attractive.
- *The cost-of-entry test:* The cost of entry must not capitalize all the future profits.
- *The better-off test:* Either the new unit must gain competitive advantage from its link with the corporation or vice versa.[12]

The Attractiveness and Cost-of-Entry Tests A critical realization in Porter's "essential tests" is that *industry attractiveness* on its own is insufficient to justify diversification. Diversification may allow a firm access to more attractive investment opportunities than are available in its own industry, yet it faces the challenge of entering a new industry. The second test, *cost of entry*, recognizes that, for outsiders, the cost of entry may counteract the attractiveness of the industry. Pharmaceuticals, corporate legal services, and defense contracting offer above-average profitability precisely because they are protected by barriers to entry. Firms seeking to enter these industries may either acquire an established player—in which case the acquisition cost is likely to fully capitalize the target firm's profit prospects (not to mention the need to pay an acquisition premium)[13]—or establish a new corporate venture—in which case the diversifying firm must directly confront the barriers to entry to that industry.[14]

Hewlett-Packard offers a salutary example. It diversified into IT services because of its greater attractiveness than IT hardware. However, its $13.9 billion acquisition of EDS in 2008 was at a 30% premium over EDS's market value and its $10.3 billion acquisition of Autonomy in 2011 involved a 60% premium. HP subsequently took write-offs of $16 billion against the balance sheet values of these two companies.

The Better-Off Test Porter's third criterion for value creation from diversification—*the better-off test*—addresses the issue of competitive advantage. If two different businesses are brought together under the ownership and control of a single enterprise, is there any reason why they should become any more profitable? The issue here is one of *synergy*: what is the potential for interactions between the two businesses that can enhance the competitive advantage of either business?

In most diversification decisions, it is the better-off test that takes center stage. In the first place, industry attractiveness is rarely a source of value from diversification—in most cases, cost-of-entry cancels out the advantages of industry attractiveness. Second, the better-off test can often counteract the disadvantages is an unattractive industry. If a diversifying company can establish a strong competitive advantage in an industry, the low profitability of the industry as a whole may be immaterial. Most of Virgin Group's diversification has been into industries where average profitability has been low (or non-existent): airlines, wireless telecommunications, gym clubs, passenger rail services and retail banking. Yet, Virgin has created competitive advantage through transferring its brand and customer service capabilities. Sony's acquisition of CBS Records, BMG, and EMI Records took it into the spectacularly unattractive recorded music industry—however, for Sony, music forms an integral component of its home entertainment business.

Let us now explore how the better-off test can be applied through analyzing the relationship between diversification and competitive advantage.

Competitive Advantage from Diversification

If the primary source of value creation from diversification is exploiting linkages between different businesses, what are these linkages and how are they exploited? The key linkages are those that permit the sharing of resources and capabilities across different businesses.

Economies of Scope

The most general argument concerning the benefits of diversification focuses on the presence of **economies of scope** in common resources: "Economies of scope exist when using a resource across multiple activities uses less of that resource than when the activities are carried out independently."[15]

Economies of scope exist for similar reasons as economies of scale. The key difference is that economies of scale relate to cost economies from increasing output of a *single product*; economies of scope are cost economies from increasing the output of *multiple products*. The nature of economies of scope varies between different types of resources and capabilities.

Tangible Resources Tangible resources—such as distribution networks, information technology systems, sales forces, and research laboratories—confer economies of scope by eliminating duplication—a single facility can be shared among several businesses. The greater the fixed costs of these items, the greater the associated economies of scope are likely to be. Diversification by cable TV companies into telecoms and broadband and by telephone companies into TV, broadband, and music streaming are motivated by the desire to spread the costs of networks and billing systems over as many services as possible. Common resources such as customer databases, customer service centers, and billing systems have encouraged Centrica, Britain's biggest gas utility, to

diversify into supplying electricity, fixed-line and mobile telephony, broadband access, home security, insurance, and home-appliance repair.

Economies of scope also arise from the centralized provision of administrative and support services to the different businesses of the corporation. Accounting, legal services, government relations, and information technology tend to be centralized at the corporate headquarters (or through a *shared service organization*).

Intangible Resources Intangible resources—such as brands, corporate reputation, and technology—offer economies of scope from the ability to extend them to additional businesses at a low marginal cost. Exploiting a strong brand across additional products is called *brand extension*. Starbucks has extended its brand to ice cream, packaged cold drinks, home espresso machines, audio CDs, and books. Similarly with technology: Fujifilm has extended its proprietary coatings technology from photographic film to cosmetics, pharmaceuticals, and industrial coatings.

Organizational Capabilities Organizational capabilities can also be transferred within a diversified company. For example:

- LVMH is the world's biggest and most diversified supplier of branded luxury goods. Its capabilities in design, market analysis, advertising and promotion, retail management, and craftsmanship are deployed across Louis Vuitton (accessories and leather goods); Hennessey (cognac); Moët & Chandon, Dom Pérignon, Veuve Clicquot, and Krug (champagne); Céline, Givenchy, Kenzo, Christian Dior, Guerlain, and Donna Karan (designer clothing); TAG Heuer and Chaumet (watches); Sephora (retailing); Bulgari (jewelry); and some 25 other branded businesses.
- Apple's distinctive capability is in new product development where it combines its expertise in microelectronics, software engineering, and design aesthetics to create products of outstanding functionality, ease of use, and consumer appeal. This capability has taken Apple from laptop computers, to MP3 players, smartphones, tablet computers, TV set-top boxes, and watches and other wearable technology.

Some of the most important capabilities in influencing the performance of diversified corporations are *general management capabilities*. For over a century, General Electric was one of the world's most diversified and successful companies. Its core capabilities were its ability to motivate and develop its managers; its strategic and financial management, which reconciles decentralized decision making with strong centralized control; and its international management.[16] GE's dismal performance since 2001 raised doubts over the effectiveness of these corporate-level capabilities to the extent that, in June 2018, the company announced a far-reaching divestment plan.

The success of Danaher Corporation, the technology-based conglomerate headquartered in Washington, DC, also rests upon its general management capabilities. Its effectiveness in selecting acquisition targets then applying its system of performance management and human resource development have allowed it to triple its market valuation between 2008 and 2018.[17]

Demand-side Economies of Scope So far, we have looked only at supply-side economies of scope: cost savings that supplying firms derive from sharing resources and capabilities across different businesses. Economies of scope also arise for customers when they buy multiple products. Walmart's vast array of products offers consumers

the convenience of one-stop shopping. Similarly with online shopping: consumers gravitate toward Amazon because of the ease and time saving of funneling their online purchases through a single website. Suppliers of products and services to business have also diversified in order to provide "integrated solutions." ISS, based in Demark, is the world's biggest supplier of facilities management services with half a million employees in 47 countries. It offers its industrial and commercial clients cleaning, maintenance, security, air conditioning, and catering services.[18]

Economies from Internalizing Transactions

Economies of scope provide cost savings from sharing and transferring resources and capabilities among different businesses, but does a firm have to own these businesses to exploit economies of scope? The answer is *no*. Economies of scope in resources and capabilities can be exploited simply by selling or licensing the use of the resource or capability to another company. In Chapter 9, we observed that a firm can exploit proprietary technology by licensing it to other firms. In Chapter 12, we noted how technology and trademarks are licensed across national frontiers as an alternative to direct investment. Similarly across industries: Starbucks' diversification into the grocery trade was initially through licensing: Unilever and PepsiCo produced Tazo tea beverages, Nestlé produced Starbucks' ice cream, and Kraft distributed Starbucks' packaged coffee. Walt Disney exploits its trademarks, copyrights, and characters directly through diversification into theme parks, live theater, cruise ships, and hotels; but it also earned $2.4 billion in 2013 from licensing its intellectual property to producers of clothing, toys, music, comics, food and drink, and other products.

In industries based upon digital technologies, the owners of digital platforms can reap the benefits of diversification simply by charging third-party suppliers for access to their platforms. Thus, Apple earns substantial revenues from the suppliers of games, rideshare services, air travel, fitness services, and thousands of other goods and services who sell through its app stores.

Even tangible resources can be shared across different businesses through market transactions. Airport and railroad station operators exploit economies of scope in their facilities not by diversifying into catering and retailing but by leasing space to specialist retailers and restaurants.

Is it better to exploit economies of scope in resources and capabilities internally within the firm through diversification or externally through contracts with independent companies? There are two major issues here:

- Can licensing exploit the full value of the resource or capability? This depends, to a great extent, on the transaction costs involved. The transaction costs of licensing include the costs incurred in drafting, negotiating, monitoring, and enforcing a contract. Where property rights are clearly defined—as with trademarks and many types of patents—licensing may be highly effective; for organizational capabilities and know-how more generally, writing and enforcing licensing contracts is problematic. Fujifilm's diversification into cosmetics, pharmaceuticals, and industrial coatings reflects the fact that, despite owning patents, the commercial exploitation of its coatings technology depends critically upon the capabilities of Fujifilm in applying this technology.[19]
- Does the firm have the other resources and capabilities required for successful diversification? For fragrances, Dolce & Gabbana, the Italian fashion house, licenses its brand to Procter & Gamble, which produces and markets Dolce &

Gabbana fragrances (along with other licensed brands such as Gucci, Hugo Boss, Rochas, and Dunhill). Dolce & Gabbana lacks the resources and capabilities needed to design, produce, and globally distribute fragrances. Conversely, Starbucks' decision to terminate its licensing agreement with Kraft reflected Starbucks' belief that it could build the resources and capabilities needed to market and distribute packaged coffee to supermarkets.

Parenting Advantage

So far, our case for diversification has rested upon its potential to create value for the firm.[20] Michael Goold, Andrew Campbell, and colleagues argue that this is an insufficient justification for diversification. If a parent company is to own a particular business, not only must it be able to add value to that business but also it should be capable of *adding more value than any other potential parent*. Otherwise, it would be better off selling the business to the company that can add the most value. Consider General Electric's sale of NBC Universal to Comcast in 2011. Irrespective of GE's capacity to add value to NBC Universal, the sale was justified because Comcast (as a result of its other media interests) could add more value to NBC Universal than could GE.

The concept of *parenting value* offers a different perspective on diversification from Porter's better-off test. Parenting value comes from applying the management capabilities of the parent company to a business. While Porter's better-off test focuses on the potential to share resources across businesses, parenting advantage emphasizes on the value-adding role of the corporate center. Successful diversification is more about the relationship between corporate management and the new business rather than about the fit between the different businesses within the diversified firm. We shall return to this concept of the parenting advantage in the next chapter.

The Diversified Firm as an Internal Market

We have seen that economies of scope on their own do not provide an adequate rationale for diversification: there needs to be transaction costs which make diversification preferable to licensing contracts. Indeed, the presence of transaction costs in the markets for resources offers a rationale for diversification even when no economies of scope are present.

Internal Capital Markets Consider the case of financial capital. The diversified firm possesses an internal capital market in which the different businesses compete for investment funds. Which is more efficient, the internal capital market of diversified companies or the external capital market? Diversified companies have two key advantages:

- By maintaining a balanced portfolio of cash-generating and cash-using businesses, diversified firms can avoid the costs of using the external capital market, including the margin between borrowing and lending rates and the heavy costs of issuing new debt and equity.
- Diversified companies have better access to information on the financial prospects of their different businesses than that typically available to external financiers.[21]

Against these advantages is the critical disadvantage that investment allocation within the diversified company is a politicized process in which strategic and financial considerations are subordinated to turf battles and ego building. Evidence suggests that diversified firms' internal capital markets tend to cross-subsidize poorly performing

divisions and are reluctant to transfer cash flows to the divisions with the best prospects.[22] According to McKinsey & Company, high-performing conglomerates—including Berkshire Hathaway and Danaher of the United States, Hutchison Whampoa of Hong Kong, Bouygues and Lagardère of France, Wesfarmers of Australia, ITC of India, and Grupo Carso of Mexico—are those with strict financial discipline, a refusal to overpay for acquisitions, rigorous and flexible capital allocation, lean corporate centers, and a willingness to close or sell underperforming businesses.[23]

Private equity firms also operate efficient internal capital markets that avoid the transaction costs of external capital markets. Firms such as the Blackstone Group, Carlyle Group, and Kohlberg Kravis Roberts each manage multiple funds. Each fund is created with finance from individual and institutional investors and is then used to acquire equity in companies. Funds typically have lives of 10–15 years. Acquisitions by private equity companies include both private and public companies and typically involve creating value through increasing financial leverage, cost cutting, divesting poorly performing assets, and replacing and incentivizing top management.[24]

Internal Labor Markets Efficiencies also arise from the ability of diversified companies to transfer employees, especially managers and technical specialists, between their businesses, and to rely less on hiring and firing. The costs associated with hiring include advertising, time spent in interviewing and selection, and the costs of head-hunting agencies. The costs of dismissing employees can be very high where severance payments must be offered. A diversified corporation has a pool of employees and can respond to the specific needs of any one business through transfer from elsewhere within the corporation.

The broader set of career opportunities available in the diversified corporation may also attract a higher caliber of employee. Graduating students compete intensely for entry-level positions in diversified corporations such as Alphabet, Samsung Electronics, Unilever, and Nestlé in the belief that these companies can offer richer career development than more specialized companies.

Most important are informational advantages of diversified firms in relation to internal labor markets. A key problem of hiring from the external labor market is limited information. A résumé, references, and a day of interviews are poor indicators of how a new hire will perform in a particular job. The diversified firm that is engaged in transferring employees between different positions and different internal units can build detailed information on the competencies and characteristics of its employees.

These advantages of internal markets for capital and labor may explain the continued success of highly diversified business groups in emerging economies (Strategy Capsule 12.2).

Diversification and Performance

Where diversification exploits economies of scope in resources and capabilities in the presence of transaction costs, it has the potential to create value for shareholders. Diversification that seeks only growth or risk reduction is likely to destroy value. How do these predictions work in practice?

The Findings of Empirical Research

Empirical research into diversification has concentrated on two major issues: first, how do diversified firms perform relative to specialized firms and, second, does related diversification outperform unrelated diversification?

STRATEGY CAPSULE 12.2
Emerging-market Conglomerates

Highly diversified groups of closely connected companies—*chaebols* in South Korea, *business houses* in India, *holding companies* in Turkey, *grupos económicos* in Latin America, the Hong Kong trading companies that developed from the original British *hongs*—dominate the economies of many Asian and Latin American countries.

The conventional argument for the success of these conglomerates—in contrast to the near disappearance of US and European conglomerates—has been the advantages of this corporate form in countries with poorly developed capital and labor markets. Inefficient capital markets offer a huge advantage to groups, such as Tata of India and Koç of Turkey, in using internally generated cash flows to fund growing businesses and establish new ventures. Similarly with managerial resources, where managerial talent is rare, companies such as Koç or LG of Korea are able to attract exceptionally talented graduates then develop them into highly capable managers.

However, the performance advantages of emerging market conglomerates show no sign of abating, despite increasingly efficient capital and labor markets in their home countries. South Korean conglomerates have been growing their revenues by 11% a year; Indian business groups by 23% a year.

It seems likely that, especially in growing economies, the management model of the emerging market business groups may offer some advantages over the more integrated multidivisional corporations typical of North America, Europe, and Japan. Business groups such as Tata, Sabancı Holding (Turkey), and SK (Korea) are able to combine high levels of autonomy for their member companies with strong parental leadership that emphasizes identity and values, and also provides strategic guidance.

Sources: "From Dodo to Phoenix," *The Economist* (January 11, 2014): 58; C. Stadler, "3 Reasons Why Conglomerates Are Back In Fashion," https://www.forbes.com/sites/christianstadler/2015/11/05/three-reasons-why-conglomerates-are-back-in-fashion/#4390e0693be6, Accessed July 28, 2017.

The Performance of Diversified and Specialized Firms Hundreds of empirical studies over the past 50 years have failed to establish a systematic relationship between diversification and either accounting-based or stock market-based measures of performance. Even the widely observed "conglomerate discount"—the stock market's undervaluation of diversified firms—appears to be the result of measurement and sampling errors.[25]

Several studies have detected an inverted-U relationship between diversification and profitability: diversification enhances profitability up to a point, after which further diversification reduces profitability due to increasing costs of complexity.[26] McKinsey & Company also point to the benefits of moderate diversification—"a strategic sweet spot between focus and broader diversification"—which is beneficial when a company has exhausted growth opportunities in its existing markets and can match its existing capabilities to emerging external opportunities.[27]

More consistent evidence concerns the performance results of refocusing initiatives by North American and European companies: when companies divest diversified businesses and concentrate more on their core businesses, the result is, typically, increased profitability and higher stock-market valuation.[28]

Related and Unrelated Diversification Given the importance of economies of scope in shared resources and capabilities, it seems likely that diversification into

related industries should be more profitable than diversification into *unrelated* industries. Empirical research initially supported this prediction. By 1982, Tom Peters and Robert Waterman were able to conclude: "virtually every academic study has concluded that unchanneled diversification is a losing proposition."[29] This observation supported one of their "golden rules of excellence":

> *Stick to the Knitting*. Our principal finding is clear and simple. Organizations that do branch out but stick very close to their knitting outperform the others. The most successful are those diversified around a single skill, the coating and bonding technology at 3M for example. The second group in descending order, comprise those companies that branch out into related fields, the leap from electric power generation turbines to jet engines from GE for example. Least successful are those companies that diversify into a wide variety of fields. Acquisitions especially among this group tend to wither on the vine.[30]

Subsequent studies have clouded the picture: once risk and industry influences are taken into account, the superiority of related diversification is less apparent[31]; some studies even point to unrelated diversification outperforming related diversification.[32]

This confusing body of evidence points to the complex relationship between diversification and firm performance. Diversification is motivated by different goals; there are different sources of benefit from diversification, each of which depends upon the context in which the diversification takes place; and diversification is managed with different degrees of effectiveness. Also, the performance outcomes of diversification depend not only on the benefits of diversification but also on the management costs that diversification imposes. These costs arise from the greater complexity and coordination needs of diversified companies and are likely to be especially great for related diversification—especially when resources are shared across businesses.[33] Even if a relationship between diversification and performance is observed, there is the problem of distinguishing *association* from *causation*. Not only does diversification impact profitability, but profitability also influences diversification: for example, highly profitable firms may seek to channel their cash flows into diversification.

Given this complexity, Gautam Ahuja and Elena Novelli argue that the relationship between diversification and performance needs to be studied at a much more micro-level. This should focus, first, on the individual sources of synergy and (and "antisynergy") and, second, upon specific contexts in terms of industries, countries, and time periods. With regard to time they note that, during the 20th century, supply-side economies of scope were principal driver of diversification. During the 21st century, demand-side economies of scope ("consumption synergies"), such as those exploited by Amazon, have become more important.[34]

The Meaning of Relatedness in Diversification

The most surprising feature of empirical research into the impact of diversification on performance is the failure to find clear support for the superiority of related over unrelated diversification. This points to the difficulty in distinguishing between the two. Related businesses are those with the potential for sharing resources and capabilities—but this depends on the company undertaking the diversification. Empirical studies have defined relatedness in terms of similarities between industries in technologies and markets. These similarities emphasize relatedness at the *operational* level—in

manufacturing, marketing, and distribution—typically activities where economies from resource sharing are small and achieving them is costly in management terms. Conversely, one of the most important sources of value creation within the diversified firm is the ability to apply common general management capabilities, strategic management systems, and resource allocation processes to different businesses. Such economies depend on the existence of *strategic* rather than *operational* similarities among different businesses within the diversified corporation.[35]

- Berkshire Hathaway is involved in insurance, candy stores, furniture, kitchen knives, jewelry, and footwear. Despite this diversity, all these businesses have been selected on the basis of their ability to benefit from the unique style of corporate management established by its chairman and CEO, Warren Buffett, and vice-chairman, Charles Munger.
- Clothing, leather products, wine, watches, and cosmetics are not obviously related products, but LVMH applies similar design and brand management capabilities to them all.
- Richard Branson's Virgin Group covers a huge array of businesses from airlines to health clubs. Yet, they share certain strategic similarities: almost all are start-up companies that benefit from Branson's entrepreneurial zeal and expertise; almost all sell to final consumers and are in sectors that offer the potential for innovative approaches to differentiation.

The essence of such strategic-level linkages is the ability to apply similar strategies and management systems across the different businesses within the corporate portfolio.[36] Table 12.1 lists some of the strategic factors that determine similarities among businesses in relation to corporate management activities.

Unlike operational relatedness, where the opportunities for exploiting economies of scope in joint inputs are comparatively easy to identify—even to quantify—strategic relatedness is more elusive. It necessitates an understanding of the overall strategic approach of the company and recognition of its corporate-level management capabilities.

TABLE 12.1 The determinants of strategic relatedness between businesses

Corporate Management Tasks	Determinants of Strategic Similarity
Resource allocation	Similar sizes of capital investment projects Similar time spans of investment projects Similar sources of risk Similar general management skills required for business unit managers
Strategy formulation	Similar key success factors Similar stages of the industry life cycle Similar competitive positions occupied by each business within its industry
Performance management and control variables	Similar indicators for performance targets Similar time horizons for performance targets

Source: R. M. Grant, "On Dominant Logic, Relatedness, and the Link between Diversity and Performance," *Strategic Management Journal* 9 (1988): 641. Reused by permission of John Wiley & Sons, Ltd.

Ultimately, the linkage between the different businesses within a company may depend upon the strategic rationale of the company—what Prahalad and Bettis refer to as the *dominant logic* of the company.[37] Such a common view of a company's identity and raison d'être is a critical precondition for effective integration across its different businesses. For example, Richard Branson's Virgin group of companies is based upon a logic that asserts that start-up companies in mature, consumer industries can provide innovative differentiation and a commitment to enthusiasm, fun, and fairness the allows them to establish competitive advantage over bigger, established rivals.[38]

Summary

Diversification: it's attractions are obvious, yet the experience is often disappointing. For top management, it is a minefield. The diversification experiences of large corporations are littered with expensive mistakes: Exxon's attempt to build Exxon Office Systems as a rival to Xerox and IBM; Vivendi's diversification from water and environmental services into media, entertainment, and telecoms; Royal Bank of Scotland's quest to transform itself from a retail bank into a financial services giant. Despite so many costly failures, the urge to diversify continues to captivate senior managers. Part of the problem is the divergence between managerial and shareholder goals. While diversification has offered meager rewards to shareholders, it is the fastest route to building vast corporate empires. A further problem is hubris. A company's success in one line of business tends to result in the top management team becoming overly confident of its ability to achieve similar success in other businesses.

Nevertheless, for companies to survive and prosper over the long term, they must change; inevitably, this involves redefining the businesses in which they operate. Without diversification, BMW would still be a manufacturer of aircraft engines and Du Pont a bleach producer. For most companies that have survived for more than half a century, diversification has played a key role in their evolution. In most cases, this diversification was not a major discontinuity but an initial incremental step in which existing resources and capabilities were deployed to exploit a perceived opportunity.

If companies are to use diversification as part of their long-term adaptation and avoid the many errors that corporate executives have made in the past then better strategic analysis of diversification decisions is essential. The objectives of diversification need to be clear and explicit. Value creation provides a demanding and illuminating criterion with which to appraise investment in new business opportunities. Rigorous analysis also counters the tendency for diversification to be a diversion—corporate escapism resulting from the unwillingness of top management to come to terms with difficult conditions within the core business.

Our tools for evaluating diversification decisions have developed greatly in recent years. Vague notions of synergy that have been displaced by more precise analysis of the sources of economies of scope both on the supply side and demand side, the role of transaction costs, and the administrative costs that can offset diversification synergies. The inconclusive empirical research into the impact of diversification on performance has illuminated the basic truth about diversification strategy. There are no generally valid rights or wrongs; decisions about diversification need to take careful account of the characteristics of the firm, the specific diversification opportunity being considered, and the overall business context.

Self-Study Questions

1. An ice-cream manufacturer is proposing to acquire a soup manufacturer on the basis that, first, its sales and profits will be more seasonally balanced and, second, from year to year, sales and profits will be less affected by variations in weather. Will this risk spreading create value for shareholders? Under what circumstances could this acquisition create value for shareholders?
2. Tata Group is one of the India's largest companies, employing 424,000 people in many different industries, including steel, motor vehicles, watches and jewelry, telecommunications, financial services, management consulting, food products, tea, chemicals and fertilizers, satellite TV, hotels, motor vehicles, energy, IT, and construction. Such diversity far exceeds that of any North American or Western European company. What are the conditions in India that might make such broad-based diversification both feasible and profitable?
3. Giorgio Armani SpA is an Italian private company owned mainly by the Armani family. Most of its clothing and accessories are produced and marketed by the company (some are manufactured by outside contractors). For other products, notably fragrances, cosmetics, and eyewear, Armani licenses its brand names to other companies. Armani is considering expanding into athletic clothing, hotels, and bridal shops. Advise Armani on whether these new businesses should be developed in-house, by joint ventures, or by licensing the Armani brands to specialist companies already within these fields.
4. General Electric, Berkshire Hathaway, and Richard Branson's Virgin Group each comprise a wide range of different businesses that appear to have few close technical or customer linkages? Are these examples of unrelated diversification? For each of the three companies, can you identify linkages among their businesses such that bringing them under common ownership creates value?
5. Amazon has diversified from online retailing into cloud computing services (Amazon Web Services), tablet computers (Amazon Fire), and the production of movies and TV shows (Amazon Studios). What synergies might justify these diversifications?

Notes

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13 Implementing Corporate Strategy: Managing the Multibusiness Firm

> Some have argued that single-product businesses have a focus that gives them an advantage over multibusiness companies like our own—and perhaps they would have, but only if we neglect our own overriding advantage: the ability to share the ideas that are the result of wide and rich input from a multitude of global sources. GE businesses share technology, design, compensation and personnel evaluation systems, manufacturing practices, and customer and country knowledge.
>
> —JACK WELCH, CHAIRMAN AND CEO, GENERAL ELECTRIC COMPANY, 1981–2001

OUTLINE

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- **Managing Linkages Across Businesses**
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- **Managing Change in the Multibusiness Corporation**
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Introduction and Objectives

The key feature of the multibusiness firm is that—whether organized as business units, divisions, or subsidiaries—they comprise a number of separate businesses that are coordinated and controlled by a corporate headquarters. These businesses may be organized around different products (e.g., Samsung Electronics), different geographical markets (e.g., McDonald's), or different vertical stages (e.g., Royal Dutch Shell). While the individual businesses are responsible for most business-level decisions, both strategic and operational, the headquarters is responsible for corporate strategy and issues that affect the company as a whole.

The three previous chapters have addressed the three key dimensions of corporate scope: vertical integration, international expansion, and diversification. In relation to all three, the critical issue has been whether the diversified company can create value by operating across multiple businesses. However, value is only realized if the benefits from exploiting these linkages are not outweighed by the additional costs of managing the multibusiness company. This raises several issues. How should corporate strategy be formulated and linked to resource allocation? How should the corporate headquarters coordinate and control the businesses? What roles and leadership styles should corporate managers adopt? Under what kind of governance structure should corporate managers operate? To answer these questions, we must look closely at the activities of the corporate headquarters and its relationships with the businesses.

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

- Comprehend the primary strategic role of corporate managers: creating value within the businesses owned by the company.
- Apply the techniques of portfolio analysis to corporate strategy decisions.
- Understand how the corporate headquarters manages the linkages among the different business units within the company.
- Appreciate the tools and processes by which the corporate headquarters influences the performance of its individual businesses.
- Understand how corporate managers can stimulate and guide strategic change.
- Recognize the governance issues that impact the work of managers within the multibusiness corporation.

The Role of Corporate Management

Common to decisions over vertical integration, international expansion, and diversification is the basic condition that the benefits from extending the scope of the firm should exceed the administrative costs of a larger, more complex corporate entity. This

implies that the formulation and implementation of corporate strategy are inseparable: decisions over corporate scope must take account of both the benefits and the costs that arise from extending (or reducing) corporate scope which depend upon how corporate strategy is implemented. To investigate these benefits and cost, we need to direct our attention to the mechanisms through which multibusiness corporations create value for the businesses they own.

In this chapter we shall focus on four activities through which corporate management adds value to its businesses:

- managing the corporate portfolio
- managing linkages across businesses
- managing individual businesses
- managing change in the multibusiness corporation.

The four sections that follow consider each of these activities, establish the conditions under which they create value, and specify what this implies for the role of the corporate headquarters.

Managing the Corporate Portfolio

The simplest form of multibusiness company is one that assembles independent businesses under common ownership and neither intervenes in their management nor exploits linkages between them. The corporate executives in this type of company are engaged in portfolio management: buying and selling businesses and managing the allocation of capital among them. Can such portfolio management add value to a set of businesses in excess of the cost of the corporate headquarters and transaction costs of acquiring and disposing of businesses? Ask Warren Buffett, the foremost exponent of portfolio management who has built Berkshire Hathaway out of 65 mostly unrelated acquisitions (see Strategy Capsule 13.1).

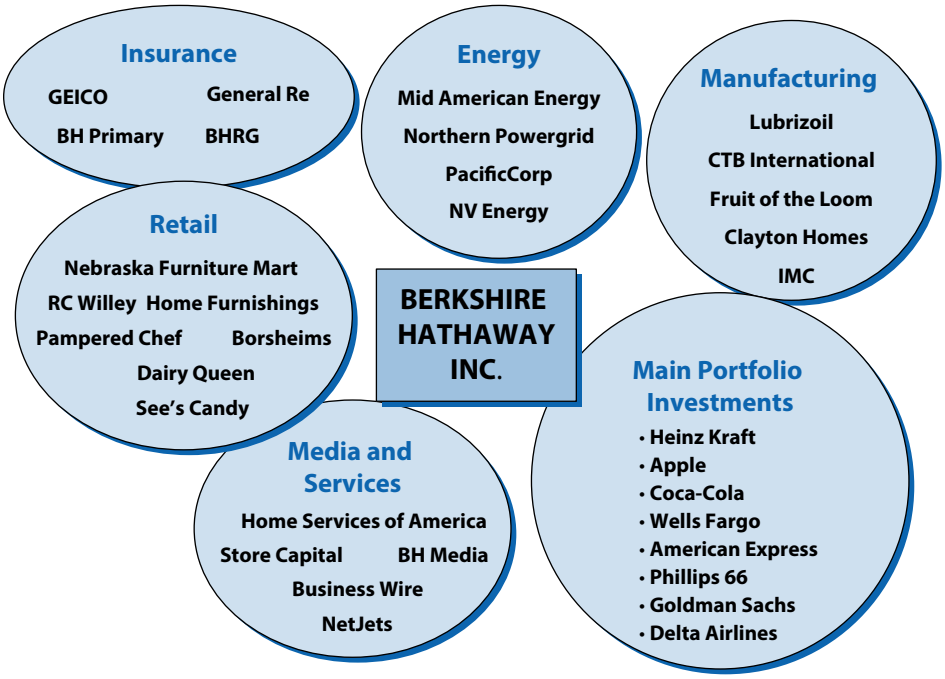
For portfolio planning to create value, the essential requirement is for corporate management to be adept at spotting undervalued companies (that is, to be better than the stock market in recognizing the long-term profit potential of certain companies) and to be better than capital markets at allocating capital among different businesses. The more efficient are the financial markets, the less scope there is for portfolio management wizards such as Warren Buffett.

Even if it is not their primary source of value creation, portfolio management—determining which businesses the company should be in and managing resource allocation among them—is an important corporate management function for all multibusiness companies. For this purpose, *portfolio planning matrices* are a widely used strategy tool among multibusiness firms. By showing the strategic positioning of a firm's different businesses, they can be used to analyze their value-creating prospects (see Strategy Capsule 13.2).

STRATEGY CAPSULE 13.1
Berkshire Hathaway, Inc.

Berkshire Hathaway comprises 63 operating subsidiaries (some of which are shown in Figure 13.1) and a headquarters in Omaha, NE, that comprises 25 employees. It is America's third biggest company by revenue with profits second only to Apple. It follows a simple portfolio management strategy that has been executed since 1970 by its 86-year-old chairman and CEO, Warren Buffett. That strategy involves selecting companies that possess a "wide moat" (=sustainable competitive advantages), that compete in industries with sound long-term prospects, and whose stock market valuation is sufficiently low to permit a sizable upside potential. Buffett's stock picking ability is reinforced by rigorous capital allocation: "We move huge sums from businesses that have limited opportunities for incremental investment to other sectors with greater promise. Moreover, we are free of historical biases created by lifelong association with a given industry and are not subject to pressures from colleagues having a vested interest in maintaining the status quo."

FIGURE 13.1 The Warren Buffett portfolio: Some of Berkshire Hathaway's businesses



Managing Linkages Across Businesses

In relation to vertical integration, international strategy, and diversification (Chapters 10, 11, and 12), we established that the main opportunities to create value arise from exploiting the linkages between businesses. These include the benefits from sharing and transferring resources and capabilities and avoiding the transaction costs of markets. Most multibusiness firms are organized to exploit resource and capability linkages in two areas: first, through the centralization of common services at the corporate level and, second, through managing direct linkages among the businesses.

Common Corporate Services

The simplest form of resource sharing in the multidivisional company is the centralized provision of corporate functions and common services. These include corporate management functions such as strategic planning, financial control, treasury, risk management, internal audit, taxation, government relations, and shareholder relations. They also include business services that are more efficiently provided on a centralized basis, such as research, engineering, human resources management, legal services, management development, purchasing, and any other administrative services subject to economies of scale or learning.[4]

In practice, the benefits of the centralized provision of common services and functions may be disappointingly small. Cost savings from eliminating duplications may be offset, first, by the propensity for corporate staffs to grow under their own momentum and, second, by the weak incentives for corporate staffs to meet the needs of the businesses. Part of the problem is that the corporate headquarters serves two distinct purposes: providing the businesses with leadership and control and providing them with support services. Hence, a growing trend has been for companies to separate their corporate headquarters into a *corporate management unit*—responsible for supporting top management in strategic planning, finance, and communication—and a *shared services organization*—responsible for supplying common services such as research, recruitment, training, and information technology to the businesses.

By 2017, the majority of large multibusiness corporations in North America and Europe had established shared service organizations. Most of these comprised three or more functions the most common of which were information technology, human resource management, real estate and facilities management, and legal services. Increasingly, shared service organizations offer services that span national borders. The location of these global shared service centers is influenced by the cost and skills of local human resources.[5]

Procter & Gamble's Global Business Services organization employs 7,000 people in six "global hubs": Cincinnati (US), San Jose (Puerto Rico), Newcastle (UK), Brussels (Belgium), Singapore, and Manila (Philippines). Through scale economies and standardizing systems, it has reduced the cost of business services by over $800 million. In addition to traditional support services, Global Business Services improves decision making in P&G's businesses through innovations such as virtualization (e.g., replacing physical product mock-ups with virtual reality applications), internal collaboration and decision support tools, and real-time digital capabilities.[6]

STRATEGY CAPSULE 13.2
Portfolio Planning Matrices

Portfolio planning techniques were developed by Boston Consulting Group, McKinsey & Company, and Arthur D. Little when addressing the challenges faced by General Electric at the end of the 1960s in managing its 46 divisions and 190 businesses.

The basic idea of a portfolio planning matrix is to position graphically the different businesses of a multibusiness company in relation to the key strategic variables that determine their profit potential.

The GE/McKinsey Matrix uses the two primary drivers of profitability that we identified in Chapter 1 (see Figure 1.5): market attractiveness and competitive advantage. The GE/McKinsey matrix measures industry attractiveness by combining market size, market growth rate, return on sales, potential for margin growth, and international potential. A business unit's competitive advantage combines market share, return on sales relative to competitors, and relative position in terms of quality, technology, manufacturing, distribution, marketing, and cost.[1] Figure 13.2 shows the basic strategy implications concerning the allocation of capital to each business.

The Boston Consulting Group Growth–Share Matrix is a simplified version of the GE/McKinsey matrix. It uses rate of market growth as proxy for industry attractiveness and relative market share (the business unit's market share relative to that of its largest competitor) as an indicator of competitive advantage. The four quadrants of the BCG matrix predict patterns of profits and cash flow and indicate strategies to be adopted (Figure 13.3).[2]

The Ashridge Portfolio Display is based upon the concept of parenting advantage.[3] It recognizes that the value-creating potential of a business not just dependent upon the characteristics of the business, but also on the characteristics of the parent. Hence, the focus is on the fit between a business and its parent company. The positioning of a business along the horizontal axis of Figure 13.4 depends upon the parent's potential to create profit for the business by, for example, applying its corporate-level management capabilities, sharing resources and capabilities with other businesses, or economizing on transaction costs. The vertical axis measures the parent's potential for value destruction by the costs of corporate overhead or a mismatch between the management needs of the business and the management systems and style of the parent.

These different portfolio planning matrices each have their advantages and disadvantages as well as generic limitations:

- The McKinsey and BCG matrices are both intended to indicate the future profit potential for the business, yet they utilize data drawn from the past.
- The McKinsey and BCG matrices ignore linkages between businesses, yet such synergies between businesses tend to be major sources of multibusiness companies' value creation.

FIGURE 13.2 The GE/McKinsey portfolio planning matrix

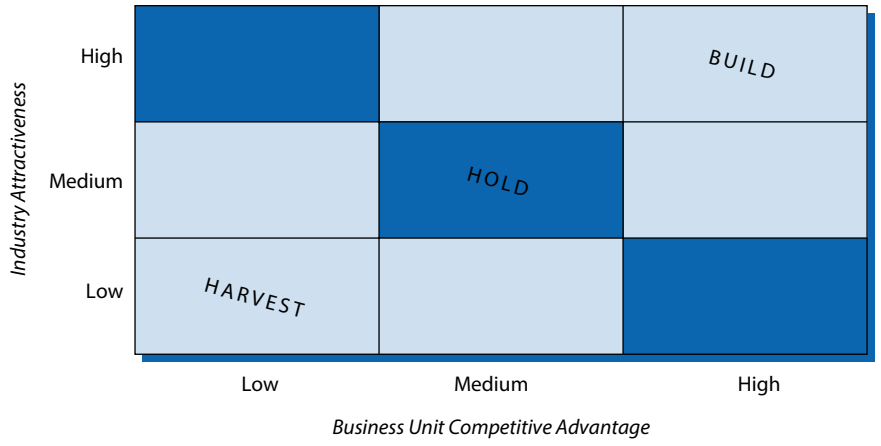


FIGURE 13.3 The BCG growth–share matrix

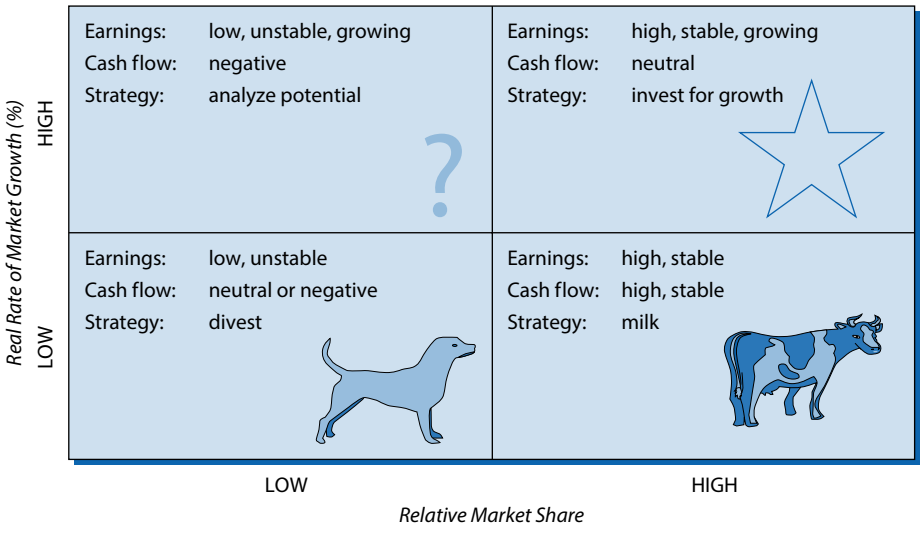
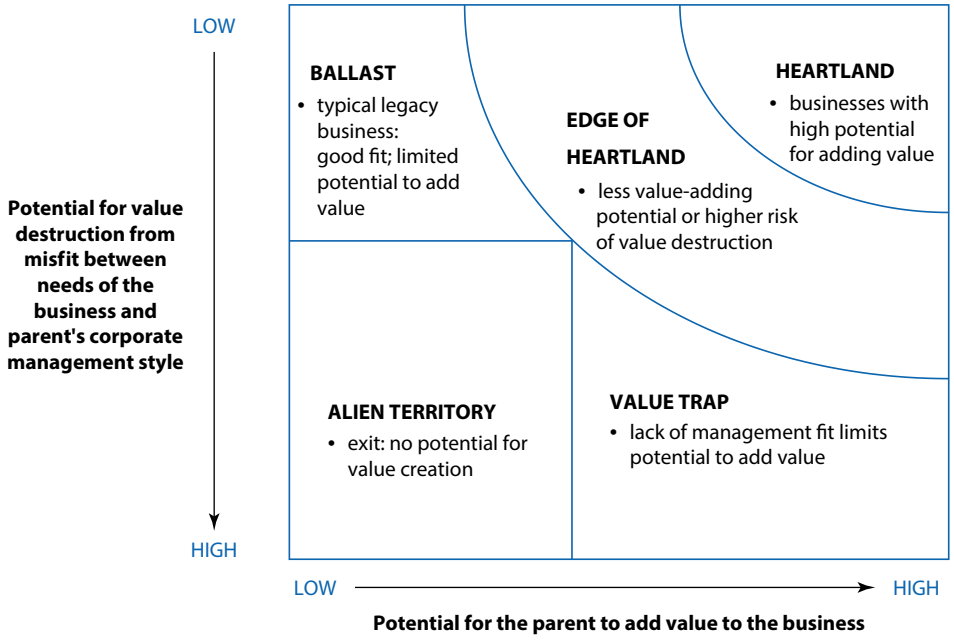


FIGURE 13.4 Ashridge portfolio display: The potential for parenting advantage



Source: Ashridge Strategic Management Centre.

- All the matrices encounter problems of market definition—for example, in the BCG matrix, is BMW's auto business a "dog" because it holds less than 2% of the world auto market or a "cash cow" because it is the market leader in the luxury car segment?
- The Ashridge matrix recognizes the role of strategic fit and synergy, but encounters problems of complexity and subjectivity—neither of the dimensions lend themselves to quantification.

Transferring and Sharing Resources and Capabilities among Businesses

Exploiting economies of scope doesn't necessarily mean centralizing resources and capabilities at the corporate level. In most multibusiness companies, the major source of synergy is from sharing resources and transferring capabilities between businesses. To identify the potential for sharing and resources and capabilities, Michael Porter advocates comparing the value chains for different businesses to see where there are similarities both between individual activities or in the overall configuration of the different value chains.[7] Such similarities can be exploited in two ways:

- *Transferring resources and capabilities*: In the previous chapter we observed that organizational capabilities can be transferred between businesses: LVMH transfers its design and brand management capabilities among its luxury businesses, General Electric transfers its turbine expertise between jet engines and electrical generators. Similarly with intangible resources: Virgin transfers the use of its brand name among its many businesses; W.L. Gore transfers its proprietary technology relating to expanded PTFE polymer across its business units. Michael Porter notes that sharing skills and know-how is "an active process … that does not happen by accident or by osmosis … support of high-level management is essential."[8] The main impediments to the transfer of best-practices within companies appear to lie in deficiencies in the relationships across intra-organizational boundaries.[9]
- *Sharing activities*: When different business units have activities that use similar tangible and human resources, there may be major economies from combining them. Samsung Electronics has global design centers in Seoul, Tokyo, Beijing, Delhi, London, San Francisco, and Sao Paulo which serve all Samsung's business units.[10] Ford Motor Company's transition from a geographical to a more functional organizational structure (see Chapter 11, Strategy Capsule 11.3) reflects its desire for cost savings through consolidating design, purchasing and manufacturing.

Implications for the Corporate Headquarters

The more closely related are a company's businesses, the greater are potential gains from managing the linkages among those businesses and the greater the need for an active role by the corporate center. Thus, in vertically integrated petroleum companies (such as Royal Dutch Shell or Eni) or companies with close market or technological links (such as IBM, Procter & Gamble, and Sony), corporate staffs tend to be much larger than at companies with few linkages among their businesses. Berkshire Hathaway, which has almost no linkages among its businesses, has a corporate staff of about 25. Prior to its 2015 split, Hewlett-Packard, with about the same sales but much closer linkages between its divisions, had over 2000 employees at its Palo Alto head office. When business units share common resources or capabilities, the corporate headquarters is likely to be closely involved in developing and deploying those resources and capabilities. For example, both Pfizer and Corning each have strong corporate R&D departments, while Virgin Group's corporate team is heavily involved in managing the Virgin brand.

Developing and sharing organizational capabilities implies an important role for knowledge management. In industries such as beer, cement, food processing, and telecommunication services, internationalization offers few economies of scope in

shared resources, but does offer important opportunities for transferring innovation and know-how among national subsidiaries.

Exploiting linkages between businesses imposes costs which can easily outweigh the benefits generated. Even straightforward collaborations, such as cross-selling between different businesses, have yielded disappointing results, especially in financial services.[11] A comparison between conglomerate companies and vertically-integrated paper companies found that the heavier coordination requirements of the paper companies resulted in greater involvement of head office staff in divisional operations, larger head office staffs, more complex planning and control devices, and a lower responsiveness to change in the external environment. By contrast, conglomerate companies made little attempt to exploit operating synergies, even if they were present.[12]

Managing Individual Businesses

In the portfolio management approach to corporate strategy, the corporate headquarters' primary role is as an *investor*: making acquisitions and divestments and allocating investment funds among the different businesses. In managing linkages among the businesses the essential role of the corporate headquarters is as a *coordinator and orchestrator of synergies* between businesses. However, the corporate headquarters may be involved more directly in adding value to its individual businesses by *improving their management*. Andrew Campbell and his associates refer to this direct influence of corporate headquarters on the individual businesses as "vertical value-added" achieved through "stand-alone influence" (i.e., it is not dependent upon exploiting synergies among the businesses). There are many types of intervention through which corporate management can improve the performance of the businesses they own: replacing business-level managers, controlling budgets, guiding strategy, setting performance targets, facilitating external relationships (e.g., with governments and investors), providing advice and guidance, and managing the corporate culture.[13]

We focus upon just three of these mechanisms: direct corporate involvement in business level management, strategic planning, and performance management and financial control.

Direct Corporate Involvement in Business-level Management

There is overwhelming evidence that performance differences between companies are vast and are caused primarily by differences in the quality of management.[14] Hence, there is scope to create value by improving the management practices of poorly managed companies. A *restructuring strategy* is one in which a parent company intervenes to install new managers, change strategy, sell off surplus assets, and possibly make further acquisitions in order to achieve scale and market presence. For the strategy to create value requires that management is able to spot companies that are undervalued or offer turnaround potential to then make strategic and operational interventions to boost their performance. A further requirement, observes Michael Porter, is the willingness to recognize when the work has been done and then dispose of the restructured business.[15]

Restructuring was once associated with the strategies of conglomerate companies, most of which have disappeared from the corporate sectors of North America and Europe. Their role as restructurers has passed to private equity groups. Firms such as Carlyle Group, Kohlberg Kravis Roberts, Blackstone, and Apollo Global Management

in the United States and CVC Capital Partners and BC Partners in the United Kingdom create investment funds organized as limited partnerships that acquire full or partial ownership of private and public companies. Value is created through financial restructuring (primarily increasing leverage), management changes, and making strategic and operational changes. Private equity firms have also been involved in acquiring very large public companies. 3G Capital's acquisitions of Heinz and Kraft points to the potential for restructuring interventions to radically boost profit margins (see Strategy Capsule 13.3). On average, private equity funds have generated returns that exceed those of the stock market, although the gap has narrowed.[16] Whether private equity firms create value on a more broadly defined basis is less clear; it is likely that the gains to investors have been financed by employees, taxpayers, and communities.

Restructuring may also involve not just individual companies, but entire industries. The merging of Heinz and Kraft by 3G Capital and its subsequent attempt to acquire Unilever, suggests intent to consolidate the entire processed foods sector. 3G's role in consolidating the global beer industry around Anheuser-Busch InBev—with its 21% share of the world beer market—offers a precedent.

For most multibusiness companies, involvement by corporate-level management in the strategic and operational decisions at the business level is less intrusive than that implied by a restructuring approach. Multibusiness companies with superior financial performance over the long term tend to have close communication and collaboration between the business and corporate management. For example:

- Exxon Mobil Corporation has been the most profitable of the world's petroleum majors for the past 50 years. At the core of ExxonMobil's renowned financial

STRATEGY CAPSULE 13.3

3G Capital's Restructuring of Heinz-Kraft

3G Capital is a Brazil-based private equity firm founded in 2004. In 2013, it partnered with Berkshire Hathaway to acquire the US food processing company. Heinz, then two years later merged Heinz into Kraft Foods. Between 2013 and 2017, Heinz-Kraft has undergone massive organizational and operational changes.

3G's initial interventions were replacements of management. At Heinz, 3G fired 11 of the top 12 executives in a single day; at Kraft, 10 top executives were quickly dismissed. Cost cutting measures at Kraft ranged from the symbolic—eliminating office refrigerators, selling corporate jets, requiring all employees to fly coach—to the substantial—closing seven plants in North America, eliminating some 2,600 jobs, and selling the Chicago corporate campus. Plant closures and layoffs induced favors from governments and unions: cities and states offering Heinz-Kraft incentives to keep plants open and unions offering concessions on pay and conditions. 3G's management processes include "zero-based budgeting," every expense item must be justified in each accounting period; measurable, transparent annual goals for each employee; and rapid advancement for high-performing young talent.

The impact on profitability has been remarkable: in 2017, Heinz-Kraft's operating margin was 30%—double what it was in 2012—and far ahead of rivals General Mills, Campbell Soup, Kellogg, Unilever, and Nestle.

3G's attempt to acquire Unilever in 2017 has made Heinz-Kraft's rivals increasingly wary of their vulnerability—most boosting their cost cutting efforts to support their share prices.

Sources: "The Lean and Mean Approach of 3G Capital," *Financial Times*, May 7, 2017; "Kraft's Heinz Recipe – Buy, Squeeze, Repeat," *Fortune* (February 1, 2017).

discipline, strategic acuity, and operational effectiveness is a management system that combines rigorous implementation of company-wide financial and operational procedures, a close relationship between the president of each of the 10 global businesses and a member of the five-person management committee, and a powerful corporate culture that has been described as "relentless," "ruthless," "Texan," and "cult-like."[17]

- Danaher Corporation adds value to its 27 companies in life sciences, dental care, and environmental systems through applying its Danaher Business System which "guides what we do, measures how well we execute, and creates options for doing even better" and "drives every aspect of our culture and performance."[18] The system comprises Toyota's principles of lean production and continuous improvement, the extensive use of closely-monitored performance metrics, and a company-wide commitment to using innovation to solve customers problems.[19]
- Kering, the Paris-based luxury and lifestyle group that includes Gucci, Bottega Veneto, Yves St. Laurent, Puma, and other fashion brands, has a corporate center that nurtures creativity, diffuses corporate values such as environmental sustainability, women's empowerment, and developing diverse talent, while closely monitoring performance and replacing subsidiary CEOs and creative directors when it deems necessary.[20]

The downside of direct corporate involvement in business-level decisions is its potential to undermine the autonomy and motivation of the general managers of those businesses. Authoritarian, highly-interventionist CEOs can be very successful (as in the case of Steve Jobs at Apple) or very unsuccessful (as in the case of Carly Fiorina at Hewlett-Packard). Universally true, however, is that centralization of initiative and decision-making authority adversely affects the responsiveness and adaptability of the organization as a whole. A key challenge of managing the multibusiness firm is to design a management system that allows business-level managers to benefit from the expertise and perspective of corporate managers while sustaining their initiative and motivation and exploiting their superior knowledge of their own businesses. Two management systems can assist in this task: strategic planning systems and performance management systems.

The Strategic Planning System

In most multibusiness companies, the corporate center establishes overall corporate goals and priorities, then within this framework, the business units develop their business strategies. It is then the role of corporate managers to appraise, amend, approve, and then integrate these business-level strategies. The challenge is to design a strategy-making process that reconciles the decentralized decision making that is essential to fostering flexibility, responsiveness, and a sense of ownership at the business level with corporate management's ability to apply its knowledge, perspective, and responsibility for the interests of shareholders and other stakeholders. Common to the success of ExxonMobil, Siemens, and Unilever is a strategic planning system that supports a high level of decision-making autonomy at the business level, motivates business leaders toward high performance, shares knowledge between corporate and business levels, and reconciles business initiative with overall corporate control. The typical strategic planning cycle is outlined in Chapter 6 ("The Strategic Planning System: Linking Strategy to Action").

Criticisms of Strategic Planning Since the early 1980s, the strategic planning systems of large firms have been bombarded by criticism. We observed in Chapter 1 that Henry Mintzberg claimed top-down, formalized strategic planning to be ineffective since it separated strategy formulation from strategy implementation and failed to take account of uncertainty or the need for flexibility and creativity. These deficiencies may explain the observation that, for many large companies, strategy is formulated outside the strategic planning system. Marakon consultants Mankins and Steele observe that the rigidities of formal planning cycles mean that "senior executives … make the decisions that really shape their companies' strategies … outside the planning process typically in an ad hoc fashion without rigorous analysis or productive debate."[21] Mintzberg's criticism of the divorce of strategy formulation from strategy implementation is reinforced by surveys that show that deficiencies in strategy execution processes are the biggest challenge that senior executives face.[22]

Improving Strategic Planning Systems Proposals to increase the effectiveness of the strategic planning processes of large, multibusiness companies have focused on three types of initiative.

Emphasize critical strategic issues. Richard Rumelt observes that:

> "A strategy is a way through a difficulty, an approach to overcoming an obstacle, a response to a challenge. If the challenge is not defined, it is difficult or impossible to assess the quality of the strategy… if you fail to identify and analyze the obstacles, you don't have a strategy. Instead, you have a stretch goal or a budget or a list of things you wish would happen."[23]

McKinsey consultants point to the need to begin the strategy process by "deliberately, thoughtfully identifying the strategy issues that will have the biggest impact on future business performance."[24] A key problem, according to a study by Bain & Company, is that strategic issues are obscured by an emphasis placed on financial targets. Companies that separated strategy development from budgetary planning reported bolder, more inspiring ambitions and clearer choices over where to play and how to win.[25]

Adapt strategic planning to meet a company's specific needs. Different companies face different strategic decisions and decision contexts which require different strategic planning processes. Companies in slow moving, mature industries such as processed foods, earth-moving equipment, and airlines can utilize traditional strategic planning systems that emphasize incremental change and utilize performance targets. Companies in e-commerce and information technology need strategic planning systems that foster alertness to technologies and business models that may disrupt their businesses. Companies' strategic planning cycles should match the needs of their businesses. According to McKinsey & Company, business units whose performance is satisfactory and face a stable business environment do not need to undertake a full-blown strategy review each year. Conversely, businesses in fast moving sectors need to review their strategies continuously.[26]

Systematize strategy execution. Effectiveness in executing strategy must go beyond budget setting. To link strategic planning more closely to operational management, Larry Bossidy and Ram Charan recommend using *milestones*—specific actions or intermediate performance goals to be achieved at specified dates. These can "bring reality to a strategic plan."[27] As we noted in Chapter 2, the *balanced scorecard* offers a means of cascading high-level strategic plans into specific functional and operational targets for different organizational units. Building this approach, Kaplan and Norton propose the use of *strategy maps* to plot the linkages between strategic actions and overall goals.[28] To be effective, performance targets must be embedded into human

resource management so that appraisal metrics and compensation incentives reflect strategic goals. Connecting strategic planning to its implementation may require a broader role for strategic planning units. Kaplan and Norton recommend upgrading strategic planning units into *offices of strategy management* that, not only manage the annual strategic planning cycle, but also oversee the execution of strategic plans.[29]

Performance Management and Financial Control

Most multibusiness companies have a dual planning process: strategic planning is concerned with the medium and long term; financial planning and control typically concentrate upon a two-year horizon. The first year of the strategic plan normally includes the performance plan for the upcoming year comprising an operating budget and strategy targets that relate to market share, output growth, new product introductions, and employment levels which are often expressed as specific strategic milestones. Annual performance plans are agreed between senior business-level managers and corporate-level managers. Targets are monitored on a monthly and quarterly basis to provide early detection of deviations from targeted performance. At the end of each financial year, they are probed and evaluated in performance review meetings held between business and corporate management. Capital expenditure budgets tend to be longer term—usually extending over the entire three to five year strategic planning period.

Companies whose management systems are heavily orientated towards demanding financial and operating targets typically use powerful individual incentives to create an intensely motivating environment for divisional managers. Creating a performance-driven culture requires unremitting focus on a few quantitative performance targets that can be monitored on a short-term basis. PepsiCo CEO Indra Nooyi observed: "We are a very objective-driven company. We spend a lot of time up front setting objectives and our guys rise to the challenge of meeting those objectives. When they don't meet the objectives, we don't have to flog them because they do it themselves."[30]

In industries in which investment horizons and the lag between strategic decisions and their outcomes are longer, the challenges of reconciling short- and medium-term targets with longer-term company performance is more difficult. The performance management system of BP, the UK-based petroleum company, was identified as a contributory factor in the tragic accidents at its Texas City refinery and Deepwater Horizon drilling platform (see Strategy Capsule 13.4).

Strategic Planning and Performance Control: Alternative Approaches to Corporate Management

Although many companies implement their strategic plans through setting performance targets, ultimately, strategic plans and performance targets represent alternative mechanisms of corporate control. Strategic planning involves exerting corporate control over the strategic decisions made by the businesses. Performance management, on the other hand, involves establishing performance targets for the businesses, then allowing the managers of the business the freedom to make the decisions needed to attain the required performance.

The distinction between these two approaches is between *input* and *output* control. A company can control the inputs into strategy (the decisions) or the output from strategy (the performance). Although most companies use a combination of input and output controls, there is a tradeoff between the two: more of one implies less of the other. If the corporate HQ micromanages divisional decisions, it must accept

STRATEGY CAPSULE 13.4
Performance Management at BP

Under the leadership of John Browne (CEO 1995–2007), BP became the most decentralized, entrepreneurial, and performance focused of the petroleum majors. Brown's management philosophy emphasized three principles:

- BP operates in a decentralized manner, with individual business unit leaders (such as refinery managers) given broad latitude for running the business and direct responsibility for delivering performance.
- The corporate organization provides support and assistance to the business units through a variety of functions, networks, and peer groups.
- BP relies upon individual performance contracts to motivate people.

The CEO was responsible for presenting the five-year and annual corporate plans to the board for approval. The goals, metrics, and milestones in corporate plans were cascaded down in the plans for each segment, function, and region. These same goals and metrics were reflected in individual performance contracts. A performance contract outlined the key results and milestones an employee was expected to achieve that year. Progress against targets and milestones in an employee's performance contract were a key determinant of annual bonuses. Performance contracts were the key mechanism for delegating annual plans into commitments by individual leaders. The performance contracts set goals for financial, operational, strategic, and HSSE (health, safety, security, and environmental) performance that were high, but not so high that they couldn't be achieved.

Source: Adapted from *The Report of the BP US Refineries Independent Safety Review Panel*, January 2007, with permission from BP International.

the performance outcomes that will result from this. Conversely, if the corporate HQ imposes rigorous performance targets, it must give divisional managers the decision-making freedom for their attainment.

This implies that, in designing their corporate control systems, companies must emphasize either strategic planning or financial control. This distinction was observed by Goold and Campbell in their study of the corporate management systems of British multibusiness companies.[31] *Strategic planning companies* emphasized the longer-term development of their businesses and had corporate HQs that were heavily involved in business-level planning. *Financial control companies* had corporate HQs that emphasized short-term budgetary control and rigorously monitored financial performance against ambitious targets, but had limited involvement in business strategy formulation—this was left to divisional and business unit managers. Table 13.1 summarizes the key features of the two styles.

Over time, the trend has been for companies to make increasing use of financial control in managing their businesses. This has occurred even in capital-intensive sectors with long time horizons, such as petroleum, where strategic planning has become increasingly oriented toward short- and medium-term financial targets.[32] However, since the financial crisis of 2008–2009, increasing criticism has been levied against short-term shareholder value maximization. Whether this will lead to an increasing emphasis on longer-term strategic planning remains to be seen.

TABLE 13.1 Characteristics of different corporate management styles

	Strategic planning	Financial control
Business strategy formulation	Businesses and corporate HQ jointly formulate strategy The HQ coordinates strategies of businesses	Strategy formulated at business unit level Corporate HQ largely reactive, offering little coordination
Controlling performance	Primarily strategic goals with medium- to long-term horizons	Financial budgets set annual targets for ROI and other financial variables with monthly and quarterly monitoring
Advantages	Effective for exploiting (a) linkages among businesses, (b) innovation, (c) long-term competitive positioning	Business unit autonomy supports initiative, responsiveness, efficiency, and development of business leaders
Disadvantages	Loss of divisional autonomy and initiative Conducive to unitary strategic view Tendency to persist with failing strategies	Short-term focus discourages innovation and long-term development Limited sharing of resources and capabilities among businesses
Style suited to	Companies with few closely related businesses Works best in highly competitive, technology-intensive sectors where investment projects are large and long term	Highly diversified companies with low relatedness among businesses Works best in mature, low-tech sectors where investment projects are relatively small and short term

Source: Based on M. Goold and A. Campbell, *Strategies and Styles* (Oxford: Blackwell Publishing, 1987) with permission of John Wiley & Sons, Ltd.

Managing Change in the Multibusiness Corporation

The shifting priorities of corporate managers have had important implications for the strategic management of multibusiness companies. During the last two decades of the 20th century, the priority shifted from growth to the creation of shareholder value. This resulted in the restructuring of diversified corporate empires through outsourcing and refocusing. During the present century, especially since the financial crisis of 2008–2009, the greatest challenge has been enhancing responsiveness to external change and accelerating the pace of organizational evolution.

Disillusion with the shareholder value maximization model, diminishing returns to cost cutting, and the need to create new sources of value have resulted in profound shifts in the corporate strategies of multibusiness companies. Increasingly, large multibusiness companies have sought to identify opportunities for innovation, for new product development, and for exploiting linkages—both internally between their businesses and externally with other companies. Corporate headquarters are concerned less with the problem of control and more with the challenges of creating value within and between their individual businesses. The *parenting* concept reflects this growing emphasis on business development and the quest for new sources of value. One of the greatest challenges for the corporate management is to facilitate adaptation to change

STRATEGY CAPSULE 13.5
Reformulating Strategic Planning at IBM

IBM is an evolutionary wonder. It has successfully transitioned from tabulating machines to mainframe computers, to personal computers, to networked information technology, to cloud computing. During the past two decades, it has also changed from a hardware to a software and services company. Under its past three CEOs, IBM's pace of evolution accelerated, assisted by IBM's processes for making and implementing strategy.

Under transformational CEO's Lou Gerstner and Sam Palmisano, IBM recreated its strategic planning system around processes for identifying and responding to emerging opportunities and threats. This IBM Strategic Leadership Model includes systems for sensing new opportunities:

- The technology team meets monthly to assess emerging technologies and their market potential.
- The strategy team comprising a cross section of general managers, strategy executives, and functional managers meets monthly to review business unit strategies and recommend new initiatives.
- The integration and values team comprises 300 key leaders selected by top management. The team is responsible for companywide initiatives called "winning plays" that cut across IBM's divisional boundaries.
- "Deep dives" are conducted by ad hoc teams to explore specific opportunities or issues and may result in recommendations to enter a new area of business or to exit from a particular technology or product market.

The initiatives arising from these processes are then acted on by the three main executing vehicles:

- *Emerging business opportunities (EBOs)* are business development processes that protect new business initiatives from the financial rigor applied to more conventional projects. EBOs were established to develop Linux applications, autonomic computing, blade servers, digital media, network processing, and life sciences.
- *Strategic leadership forums* are three- to five-day workshops facilitated by IBM's Global Executive and Organizational Capability Group. Their purpose is to transform strategic initiatives into action plans and to address pressing strategic issues, such as poor performance, in specific business areas. They are initiated by a senior manager and overseen by the strategy team.
- *The Corporate Investment Fund* finances new initiatives identified by the integration and values team or by EBOs.

Source: J. B. Harreld, C. A. O'Reilly, and M. L. Tushman, "Dynamic Capabilities at IBM: Driving Strategy into Action," *California Management Review* 49 (Summer 2007): 21–43.

by large, multibusiness companies. (Strategy Capsules 13.5 and 13.6 illustrate how the corporate centers of IBM and Samsung Electronics have built adaptive capability. These companies, together with other exemplars of responsiveness to changing business conditions—such as Microsoft Siemens, Philips, Haier, and Johnson & Johnson—point to three ways of facilitating corporate adaptation:

- *Counteracting inertia:* As we noted in Chapter 8 ("The Challenge of Organizational Adaptation and Strategic Change"), organizations resist change. Multibusiness corporations, because of their greater complexity, are especially subject to

STRATEGY CAPSULE 13.6

Samsung Electronics: Top-down Initiatives that Drive Corporate Development

Samsung is the biggest of South Korea's *chaebols*—groups of companies linked by cross-shareholdings and controlled by a founding family. The Samsung group comprises 83 companies. The biggest company is Samsung Electronics, the world's largest electronics company in terms of sales. The head of the Samsung group, and chairman of Samsung Electronics, is Lee Kun-hee, son of the founder Lee Byung-chull and father of Jay Y. Lee, president of Samsung Electronics.

The rise of Samsung Electronics is the result of a series of corporate initiatives that were ambitious, focused, long-term, and driven by intense top-down commitment—and capital investment. In 1982, Samsung Electronics resolved to become world leader in memory devices—it achieved this in DRAM chips in 1992. In 2004, its semiconductor investments began focusing on flash memories, where it also established global leadership. Between 2000 and 2009, it established itself as the world's biggest producer of batteries for mobile digital devices, similarly with flat-panel televisions.

These successes involved massive commitments of resources to technology (Samsung receives more US patents than any other company except IBM), manufacturing (for semiconductor production Samsung built the world's biggest fabrication complex), design (design centers in five cities of the world), and the Samsung brand. Its resource deployments have been supported by a culture and working practices that support high levels of coordination and commitment. Samsung's culture is nourished by tales of outstanding endeavor, including constructing a four-kilometer paved road in a single day to ensure that Samsung's first integrated circuit plant could open on time.

Central to Samsung's success is a new product development process supported by a knowledge management process that allows development teams to exploit the expertise of the entire company. In April 2009, the Visual Display Division of Samsung Electronics' Digital Media Business had just completed work on a high-resolution LED TV when it was required to roll out a high-definition, 3-D television within a year. Within a week, the two task forces assigned to the project scoured Samsung Electronics' Test and Error Management System (TEMS) of information on every product development project undertaken at the company to identify know-how within Samsung that might assist the new project.

Samsung Electronics' top-down drive contines. In 2010–2011, CEO Lee Kun-hee announced 10-year plans to build major new businesses in solar panels, LED lighting, electric vehicle batteries, biotechnology, and medical devices. During 2014 to 2018, the strategic priorities were to transition Samsung from hardware to software and services and build strength in automotive systems, digital health, and industrial automation. By acquiring Harman International in December 2017, Samsung indicated its willingness to use acquisitions to build new areas of business.

Sources: "Samsung: The Next Big Bet," *Economist* (October 1, 2011); *Samsung Electronics*, HBS Case 9–705–508 (revised 2009); "Samsung Electronics' Knowledge Management System," *Korea Times* (October 6, 2010).

organizational inertia. One aspect of this is the difficulty that companies experience in reallocating resources among their existing businesses in response to external change and internal performance differences. Not only do multibusiness companies tend to maintain the same allocation of capital expenditures to their individual businesses from year to year, but there is also a bias toward equalizing capital expenditures to each business.[33] This is despite the fact that

those companies that did achieve higher levels of capital reallocation outperformed those which did not.[34]

- *Adaptive tension:* At General Electric, Jack Welch, CEO from 1981 until 2001, created a corporate management system that decentralized decision making to business-level managers but created a level of internal stress that counteracted complacency and fostered responsiveness to external change and a constant striving for performance improvement. The role of the CEO as a catalyst for change and driver of outstanding performance is also evident in the leadership styles of Steve Jobs at Apple and Jeff Bezos at Amazon.
- *Institutionalizing strategic change:* As we have already noted, companies' strategic planning systems are seldom sources of major strategic initiatives: the impetus for major strategy redirection usually comes from outside formal strategy processes. The IBM case example shows that strategic planning systems can be redesigned as systems for sensing external changes and responding to the opportunities these changes offer—in other words, building *dynamic capability* at the corporate level.
- *New business development:* The compression of industry lifecycles means that multibusiness companies are under increasing pressure to revamp their business portfolios. The barriers to releasing mature and declining businesses lie principally in management psychological and organizational politics: once a company has decided to exit a sector, the divestment is typically applauded by the stock market (e.g., GE's sale of its domestic appliance business or HP's decision to spin off its PC and printer business). Developing new businesses represents a bigger challenge. A few companies are able to build whole new businesses on internally developed new products (e.g., 3M), new technology (e.g., Google, Amazon), or new entrepreneurial initiatives (e.g., the Virgin Group). Some companies have established *corporate incubators* for nurturing new startups: Royal Dutch Shell's GameChanger and Google's Area 120 are examples.[35]
- *Top-down, large-scale development initiatives:* Throughout this book, we have pointed to the key role of strategic intent—top-down strategic goals—in unifying and motivating organizational members. In some companies, linking such strategic intent to specific projects and programs has been an especially powerful vehicle for corporate development. The rise of Samsung Electronics to become the world's largest electronics company has been on the basis of a small number of hugely ambitious development projects that have involved massive commitments of finance, human ingenuity, and effort.

Adaptation to changing circumstances also requires timing. Intel's former CEO, Andy Grove, emphasizes the importance of CEOs identifying *strategic inflection points*—instances where seismic shifts in a firm's competitive environment require a fundamental redirection of strategy. For Intel, key inflection points included: transition from DRAM chips to microprocessors as its core business, its choice of its x86 microprocessor architecture, and its 1994 decision to replace its faulty Pentium chips at a cost of $475m.[36]

Finally, managing change in large organizations also requires providing people with the security and certainty to allow them to leap into the unknown. Some of the companies that have been most effective in adapting to change—IBM, Philips, 3, and HSBC—have done so while emphasizing the continuity of their heritage and identity. Creating a sense of identity is more challenging for a company that spans several businesses than for one whose identity is determined by the products it offers

(e.g., McDonald's or De Beers). It goes beyond "strategic relatedness" and "dominant logic" and embraces vision, mission, values, and principles. For example, the French-based multinational Danone has undergone multiple transformations before emerging as a dairy products and baby foods company, yet has provided continuity through its commitment to a set of enduring business principles that have emphasized employee welfare and corporate social responsibility.[37]

Governance of Multibusiness Corporations

So far, our discussion of the multibusiness corporation has focused on the means by which the corporate headquarters can create value. What we have not discussed is: value for whom? This takes us to the issue of *corporate governance*—the system by which companies are directed and controlled—or more formally:

> Procedures and processes according to which an organization is directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the organization—such as the board, managers, shareholders and other stakeholders—and lays down the rules and procedures for decision-making.[38]

The reason corporate governance is an important issue is because of the separation of ownership from control in large companies, which gives rise to the *agency problem*: the propensity for managers (the agents) to operate companies in their own interests rather than in the interests of the owners (see the discussion of "The Cooperation Problem" in Chapter 6). Although corporate governance is an issue for all companies whose owners are not directly engaged in managing the company, it is especially acute in large public corporations, almost all of which comprise multiple businesses. Indeed, in the multibusiness company the problem of agency is compounded by the separation not only of the shareholders from corporate management but also of corporate management from business-level management.

Let us examine three key issues of corporate governance in relation to large, multibusiness firms: the rights of shareholders, the responsibilities of boards of directors, and the role of corporate management.

The Rights of Shareholders

The tendency for companies to be operating in the interests of their senior managers—whose personal goals tend to be the aggrandizement of their wealth, power, influence, and status—rather than in the interests of their owners is primarily a problem for public companies where, typically, ownership is dispersed among thousands of shareholders. Hence, in most countries company law seeks to protect shareholders' interests through establishing their rights to elect and remove members of the board of directors, to share in the profits of the company, to receive company information (including audited financial statements), and to sell their shares.

However, even with these protections, shareholders' incentives to exercise their governance rights are weak: if each shareholder owns only a small fraction of a company and these shares only account for a small fraction of the shareholder's total wealth then the costs of active engagement are high relative to the likely returns. Disgruntled shareholders typically sell their shares rather than oppose the incumbent management team.

The short-term orientation of most shareholders further discourages activism: over the past 40 years the average holding period for US equities has fallen from seven years to seven months.[39] At the time of Kraft's highly contentious takeover of British chocolate maker Cadbury, about 30% of Cadbury's shares were owned by hedge funds.[40]

Mechanisms to limit shareholder power include issuing shares with differential voting rights. This allows the founders of companies and their families to exercise effective control despite owning a minority of shares. At News International, Rupert Murdoch and family owned 12% of the company but controlled 40% of the votes. After Facebook's IPO, Mark Zuckerberg owned 18% of the company but controlled 57% of the votes. Shares with differential voting rights are primarily a defense against hostile takeover. Managers as well as founders tend to oppose takeovers, since they are likely to lose their jobs. Hence the use of "poison pill" defenses that penalize hostile takeovers.

The Responsibilities of Boards of Directors

The board of directors, according to *OECD Principles of Corporate Governance*, has the responsibility to "ensure the strategic guidance of the company, the effective monitoring of management by the board, and the board's accountability to the company and the shareholders."[41] This requires that:

- board members act in good faith, with due diligence and care, in the best interest of the company and its shareholders;
- board members review and guide corporate strategy, major plans of action, risk policy, annual budgets, and business plans; set and monitor performance objectives; oversee major capital expenditures; select, monitor, and compensate key executives; ensure the integrity of the corporation's accounting and financial reporting systems; and oversee the process of disclosure and communication.

However, there are several impediments to the effectiveness of boards of directors in exercising oversight and strategic guidance:

- The dominance of the board by executive directors. Among many companies (including many US and UK corporations), the top management team are also board members, hence limiting the board's role in providing independent oversight of management. Such overlap also occurs when the roles of board chair and CEO are held by a single person—a feature of one-half of Fortune 500 corporations in the United States, though less common in Europe. The weight of evidence points to the advantages of splitting the roles; however, in general it is the competence of the individuals who do the job that is more important than the structural arrangements.[42]
- Boards have become increasingly preoccupied with compliance issues with the result that their role in guiding corporate strategy has shrunk.

Dominic Barton, global managing director of McKinsey & Company, argues that, if boards are to become effective agents of long-term value creation, they must devote much more time to their roles, need to have relevant industry experience, and should have a small analytical staff to support their work.[43]

The harshest criticisms of board oversight have been in relation to management compensation. From 1978 to 2013, the compensation of US CEOs, inflation-adjusted,

increased 937% compared to 10.2% for the average worker compensation over the same period.[44] The paradox is that the massive payouts to CEOs have been the result of compensation systems designed to align management goals with those of shareholders', especially through the grant of stock options and emphasis on performance-related bonuses. As Table 13.2 shows, the highest-paid CEOs were not always those who delivered exceptional returns to their shareholders. Poor alignment between executive compensation and shareholder value is often the result of linking bonuses to short-term performance, failing to correct for overall stock market movements, and incentives for creating shareholder value not being matched by penalties for its destruction.[45]

Governance Implications of Multibusiness Structures

In the multibusiness corporation, decision-making responsibilities are divided between a corporate headquarters and the individual businesses—typically through a multidivisional structure. As we saw in Chapter 6 (Strategy Capsule 6.1), the multidivisional form was a key development in the emergence of the modern corporation. What are the implications of this structure for corporate governance?

For organizational economist Oliver Williamson, the widespread adoption of the multidivisional structure (or "M-form") was a result of its advantages both in combining centralized direction and localized adaptation and in overcoming the problems of corporate governance that affect large public companies.[46] The multidivisional form facilitates corporate governance in two ways:

- *Allocation of resources:* Resource allocation within any administrative structure is a political process in which power, status, and influence can triumph over purely commercial considerations.[47] To the extent that the multidivisional company can create a competitive internal capital market in which capital is allocated according to past and projected divisional profitability and projects are subjected to a standardized appraisal process, it can avoid much of this politicization.

TABLE 13.2 The highest-paid CEOs of 2016

Rank	CEO	Company	Direct compensation 2016 ($m)
1	Thomas Rutledge	Charter Communications	98
2	Leslie Moonves	CBS	69
3	Robert A. Iger	Walt Disney	41
4	David Zaslav	Discovery Communications	37
5	Robert Kotick	Activision Blizzard	33
6	Brian Roberts	Comcast Corp.	33
7	Jeffrey L. Bewkes	Time Warner	33
8	Virginia Rometty	IBM	32
9	Leonard Schleifer	Regeneron Pharmaceuticals	28
10	Stephen Wynn	Wynn Resorts Ltd.	28

Source: Equilar

- *Agency problems:* Given the limited power of shareholders to discipline and replace managers and the weakness of boards to control management, the corporate head office of a multidivisional firm can act as an interface between shareholders and the divisional managers and enforce adherence to profit goals. With divisions designated as profit centers, financial performance can readily be monitored by the head office and divisional managers can be held responsible for performance failures. Hence, multibusiness companies can be more effective profit maximizers than specialist companies.

STRATEGY CAPSULE 13.7
Governance in Holding Companies

A holding company owns a controlling interest in a number of subsidiary companies. The term *holding company* is used to refer both to the parent company and to the group as a whole. Holding companies are common in Japan (notably the traditional *zaibatsu* such as Mitsubishi and Mitsui), in Korea (*chaebols* such as LG, Hyundai, and SK) and the Hong Kong trading houses (Swire, Jardine Matheson, and Hutchison Whampoa). In the United States, holding companies own the majority of US banking assets.

Within holding companies, the parent exercises control over the subsidiary through appointing its board of directors. The individual subsidiaries typically retain high levels of strategic and operational autonomy. Unlike the multidivisional corporation, the holding company lacks financial integration: there is no centralized treasury, profits accrue to the individual operating companies, and there is no centralized budgeting function—each subsidiary is a separate financial entity. The parent company provides equity and debt capital and receives dividends from the subsidiary.

Although the potential for exploiting synergies between businesses is more limited in the holding company than in the divisionalized corporation, the holding company structure has important advantages for large family-owned companies. The attractiveness of holding companies is that they allow family dynasties to retain ownership and control of business empires that diversify family wealth across multiple sectors. At the same time, their decentralization allows effective management of the group without the need for the parent company to develop a tremendous depth of management capability.

Thus, the Tata Group, India's biggest business concern with over $60 billion in revenue and 424,000 employees, is controlled by the Tata family through Tata Sons Ltd, parent company of the group. Among the many hundreds of subsidiaries, several are leading companies within their industries, including Tata Steel, Tata Motors (owner of Jaguar and Land Rover), Tata Tea (owner of the Tetley brand), and Tata Consulting Services. Twenty-seven Tata companies are publicly listed.

In contrast to the public corporations where the key governance problem is the conflicting interests of owners and managers, the governance problems of holding companies relate to the conflicting interests of different shareholders: especially between the founding family and other shareholders. Through its investment company Exor, the Agnelli family controls a business empire that comprises Fiat Chrysler, Ferrari, CNH Industrial, and Juventus Football Club, despite minority ownership of these enterprises. Similarly with the Tata family: cross-shareholdings and shares with differential voting rights allow family control despite minority ownership.

Sources: M. Granovetter, "Business Groups and Social Organization," in N. J. Smelser and R. Swedberg, *Handbook of Economic Sociology* (Princeton: Princeton University Press, 2005): 429–450; F. Amatori and A. Colli, "Corporate Governance: The Italian Story," Bocconi University, Milan (December 2000).

There is not much support for Williamson's "theory of the M-form." At some multibusiness companies—such as ExxonMobil, Danaher, Berkshire Hathaway—corporate management is highly effective at pursuing long-term shareholder value maximization. Other multibusiness companies—Enron, WorldCom, Royal Bank of Scotland, and Kaupthing Bank of Iceland—have become vehicles for CEO ambition resulting in the destruction of shareholder value on a massive scale.

Multidivisional companies may also lack the flexibility and responsiveness that their modular structures should, in principle, be capable of. Henry Mintzberg points to two key rigidities: first, highly centralized decision making within each division as a result of divisional presidents' personal accountability to the corporate head office; second, standardization of management systems and styles across the different businesses of the multidivisional corporation.[48] As already noted, the rigidities of multidivisional companies' allocation of their capital expenditures is indicative of a lack of performance orientation.[49]

The governance issues that multibusiness companies face are highly dependent upon their structures and ownership patterns. As Strategy Capsule 13.7 shows, the other major type of multibusiness company—the holding company—gives rise to different governance issues from the multidivisional corporation.

Summary

While corporate strategies in the form of vertical integration, multinational expansion, and diversification have the potential to create value, ultimately, their success in doing so depends upon the effectiveness with which corporate strategy is implemented. This in turn depends upon the role of the corporate headquarters in managing companies that comprise multiple business units. We have identified four principal types of activity through which corporate management creates value within these companies:

- *Managing the business portfolio*: deciding which businesses and geographical markets the company should serve and allocating resources among these different businesses and markets.
- *Managing linkages among businesses*: exploiting opportunities for sharing resources and transferring capabilities comprises multiple activities ranging from the centralized provision of functions to best practices transfer. The key is to ensure that the potential gains from exploiting such economies of scope are not outweighed by the costs of managing the added complexity.
- *Managing individual businesses*: increasing the performance of individual businesses by enhancing the quality of their decision making, installing better managers, and creating incentives that drive superior performance.
- *Managing change and development*: although multibusinesses have the key advantage of not being captives of a single industry, exploiting this advantage means the processes, structures, and attitudes that foster new initiatives and create a willingness to let go of the past.

Finally, there is the contentious and perplexing issue of corporate governance. While broad agreement exists over the goal of corporate governance—ensuring that companies pursue long-term value maximization while taking account of the interest of multiple stakeholders—putting in place a system that achieves this goal remains elusive. Establishing corporate systems that are invulnerable to self-serving managers, short-term orientated shareholders, human greed and stupidity, and bureaucratic inertia represents a design challenge that is unlikely to be realized.

Self-Study Questions

1. Unilever—one of the world's leading consumer goods companies—is reviewing its business portfolio in order to address the problems of unsatisfactory growth and profitability. The head of group planning has asked for your advice on the use of portfolio matrices as an initial screen of Unilever's portfolio of businesses. Should Unilever use portfolio analysis and, if so, which portfolio matrix would you recommend: the McKinsey, BCG, or Ashridge matrix?
2. Apply the BCG matrix to the different programs that your institution offers. (You will need to make some informed guesses about market growth rates and relative market share.) Does this analysis offer useful implications for strategy and resource allocation?
3. The discussion of "performance management and financial control" identified two companies where the corporate HQ imposes a strong performance management system on its business units, PepsiCo and BP. To which company do you think a performance management system using financial targets is better suited?
4. Amazon.com, Inc. is under pressure to improve its profitability (between 2015 and 2017 it earned a net margin of 1.4%). Amazon is a highly diversified company engaged in online retailing in 14 different countries, audio and video streaming, the production and sale of mobile electronic devices, web hosting and other cloud computing services, and numerous other activities. Of the four main corporate management roles discussed in this chapter—managing the corporate portfolio, managing linkages among businesses, managing individual businesses, and managing change and development—which offers the greatest opportunities for Amazon's corporate headquarters to create value?
5. Would holding companies (such as Tata Group, Samsung Group, the Virgin Group, and Berkshire Hathaway) be more successful if they were converted into multidivisional corporations (such as General Electric, Philips, and Unilever)?

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14 External Growth Strategies: Mergers, Acquisitions, and Alliances

When it comes to mergers, hope triumphs over experience.

—IRWIN STELZER, US ECONOMIST AND COLUMNIST

OUTLINE

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Introduction and Objectives

Mergers, acquisitions, and alliances are important instruments of corporate strategy. They are the principal means by which firms achieve major extensions in the size and scope of their activities—often within a remarkably short period of time. Mergers and acquisitions have created many of the world's leading enterprises:

- In 1993, Interbrew was a Belgian brewer with annual sales of $1.4 million. A sequence of acquisitions that included Labatt (Canada), Bass (UK), Beck's (Germany), AmBev (Brazil), Anheuser-Busch (US), Modelo (Mexico), and SAB Miller (UK) created Anheuser-Busch Inbev—the world's largest beer company with 319 breweries and annual sales of $46 billion.
- Cable provider Comcast became the biggest US media company through acquiring Metromedia (1992), QVC (1995), AT&T Broadband (2002), Adelphia Communication and MGM (2005), NBC Universal (2011), and DreamWorks Animation (2016). In 2018 it was vying with Walt Disney to acquire Twentyfirst Century Fox.
- EssilorLuxottica has grown to be the world's dominant eyewear company as a result of Luxottica's acquisitions of Ray-Ban, Lenscrafters, PearleVision, Sunglass Hut and Oakley, and, finally, its 2017 merger with Essilor.

Mergers and acquisitions can also have disastrous consequences:

- Royal Bank of Scotland's 2007 acquisition of ABN AMRO was a key factor in the bank's near collapse and subsequent rescue by the British government the following year.
- The 2006 merger of Alcatel-Lucent created a telecom hardware giant with sales of $25 billion and a market capitalization of $36 billion. By 2016, it had accumulated losses of $5 billion, sales had fallen by 40%, and the company was acquired by Nokia for $17 billion.
- Daimler-Benz's merger with Chrysler is widely regarded as one of the most disastrous merger of all time. The losses arising from Daimler's ownership Chrysler from 1998 to 2007 amounted to about $48 billion.

Alliances provide a means to access the resources and capabilities of other firms without the costs and risks of a full merger. However, they do bear risks: Danone's disastrous relationship with its Chinese partner Wahaha and VW's failed alliance with Suzuki dented both companies' Asian strategies.

If mergers, acquisitions, and alliances are to contribute to firms' strategic objectives, we must recognize that they are not strategies in themselves: they are tools of strategy—the means by which a firm implements its strategy. Hence, in previous chapters, we have already considered the role of acquisitions and alliances in relation to capability building, technology strategy, international expansion, and diversification. In this chapter we draw together these separate strands and consider what we know about managing these modes of external growth.

Given the diversity in their motives, contexts, and outcomes, decisions concerning mergers, acquisitions, and alliances need to be take account of their specific strategic goals, the characteristics of the partner firms, and their industry and national environments. We shall develop a structured approach to analyzing the value-creating potential and risks of these arrangements and consider how they can be managed to best achieve a positive outcome.

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

- Understand the factors that motivate mergers and acquisitions and assess their potential to create value in the light of the challenges of post-merger integration.
- Recognize the different motives for strategic alliances and the circumstances in which they can create value for the partners.

Mergers and Acquisitions

The Pattern of M&A Activity

An **acquisition** (or *takeover*) is the purchase of one company by another. This involves the acquiring company (the *acquirer*) making an offer for the common stock of the other company (the *acquiree* or *target* company). Acquisitions can be "friendly," that is when they are supported by the board of the target company, or "unfriendly," when they are opposed. In the latter case they are known as *hostile takeovers*.

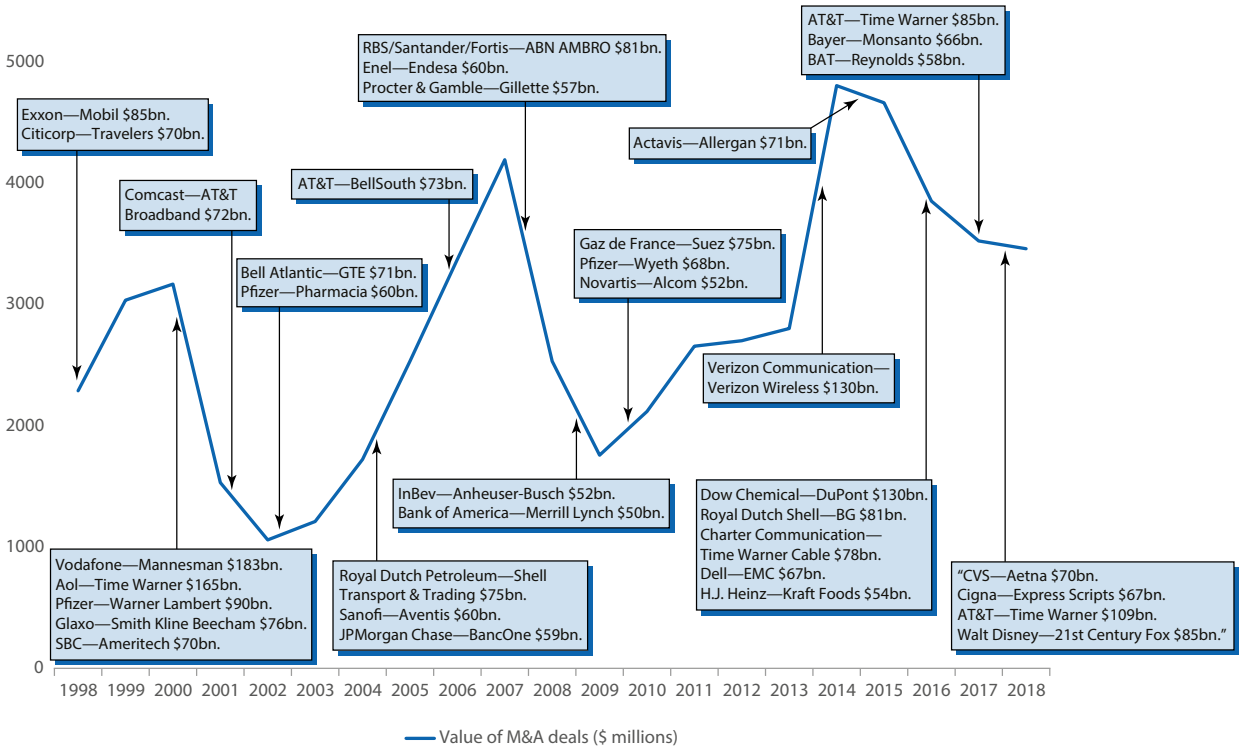
A **merger** is the amalgamation of two companies to form a new company. This requires agreement by the shareholders of the two companies, who then exchange their shares for shares in the new company. Mergers typically involve companies of similar size (Daimler and Chrysler; Exxon and Mobil), although, as in these two examples, one firm is usually the dominant partner. Although are less frequent than acquisitions, mergers are often preferred because of their tax advantages and (for the dominant partner) they avoid having to pay an acquisition premium. For cross-border combinations, mergers may be more politically acceptable than acquisitions because they avoid "foreign domination" (e.g., Alcatel and Lucent, Mittal Steel and Arcelor).

The term *merger* is sometimes used to denote both mergers and acquisitions—I shall follow this popular convention.

Mergers first became prominent in the United States during the late 19th century. To avoid competition, rival companies assigned their shares to a board of trustees which determined their prices and marketing policies. John D. Rockefeller's Standard Oil was the most prominent of these trusts. Following the Sherman Antitrust Act of 1890, holding companies displaced trusts as the preferred means of consolidating industries. Thus, in 1899, Standard Oil of New Jersey became the owner of controlling stakes in the 40 member companies of the Standard Oil Trust, while General Motors became the holding company for 23 automotive companies acquired between 1908 and 1918.[1]

Since the mid-20th century, mergers and acquisitions (M&A) have increased in frequency and have become a generally accepted mode of corporate development—even in Japan, South Korea, and China. M&A activity follows a cyclical pattern, usually correlated with stock market cycles. However, the types of mergers and acquisitions have changed over time. During the 1960s and 1970s, most mergers and acquisitions were directed toward diversification—with conglomerate companies especially active. During 1998–2000, TMT (technology, media, and telecoms) accounted for one-half of all

FIGURE 14.1 Worldwide mergers and acquisitions 1998–2018



Sources: Dealogic; Reuters; media reports.

M&A. During 2000–2008, the boom in financial services and natural resources stimulated a surge of M&A activity in these sectors. Since the financial crisis of 2008, the biggest M&A deals have been horizontal mergers consolidating sectors such as chemicals, beer, food, media and communications, and pharmaceuticals. Figure 14.1 shows the cycles in M&A activity since 1998 and some of the biggest deals.

Are Mergers Successful?

The chief attraction of mergers and acquisitions is the speed at which they can achieve major strategic transformations. We have seen how M&A has allowed Anheuser-Busch InBev and EssilorLuxottica to dominate their industries. For other companies, acquisitions have allowed them to redefine their businesses. For Nokia, the sale of its handset division to Microsoft and takeover of Alcatel-Lucent transformed it from a supplier of mobile devices into a network infrastructure provider. The Chinese car producer, Geely, has used its acquisitions of Volvo, Proton/Lotus, and London taxi maker, Manganese Bronze to launch it on to the world stage.

Yet, these strategic attractions can obscure the risks inherent in mergers and acquisitions. Research into the performance consequences of mergers and acquisitions points to their generally disappointing outcomes. Empirical studies focus upon two main performance measures: shareholder returns and accounting profits.

Evidence from Shareholder Returns Studies of the impact of M&A announcements on the share prices of bidding and acquired companies have found that:

- The overall effect is a small gain in stock market value: typically around 2% of the combined market value of the merging companies.[2] The trend over time has been for the returns from mergers and acquisitions improve. Mergers and acquisitions occurring during 2000–2009 reduced the combined value of the companies involved by about 2%; those occurring during 2010–2014 generated average returns of 12%.[3]
- The gains from acquisition accrue almost exclusively to the shareholders of the acquired firms. This reflects the acquisition premium paid by acquiring firms. Between 2000 and 2014 the average acquisition premium was 27%. As a result, the overall returns to the shareholders of acquiring firms averaged −4% between 2000 and 2014.[4]

However, these findings relate only to short-term stock market responses to merger announcements and reflect investors' expectations rather than actual outcomes—which inevitably require several years to materialize.

Evidence from Accounting Profits To trace the actual outcomes of mergers and acquisitions we need to observe post-merger performance over several years and compare it to the companies' performance prior to merging. The problem here is separating the effects of the merger from the multitude of other factors that influence companies' performance over time. Hence, it is hardly surprising that the many studies that use accounting data to compare post-merger profitability with pre-merger profitability show little consistency in their findings: "the results from these accounting-based studies are all over the map."[5]

The Diversity of Mergers and Acquisitions The lack of consistent findings regarding the outcomes of mergers and acquisitions is hardly surprising given their diversity. They are motivated by different goals, take place under different circumstances, involve highly complex interactions between the companies involved, and are conducted by management teams of differing competencies. Yet, even when mergers and acquisitions are grouped into different categories, the performance outcomes remain unclear. For example, one might expect that horizontal mergers (which increase market share and offer gains from scale economies) would be more successful than diversifying mergers; among diversifying mergers, it would be expected that the acquisition of firms in related businesses would outperform unrelated acquisitions. Yet both these highly plausible predictions fail to find robust empirical support.

Even in the case of individual mergers and acquisitions, the outcomes are seldom predictable. Table 14.1 lists mergers and acquisitions from recent decades that the financial press has identified as either successes or failures. Yet, in few cases were the predictions—either of the stock market or by expert commentators—accurate about the consequences. The disastrous mergers between Daimler and Chrysler and between AOL and Time Warner were much lauded initially. Conversely, the highly successful Exxon–Mobil and Tata–Jaguar Land Rover combinations were greeted with widespread skepticism at the time.

In the absence of clear general findings about the outcomes of mergers, we need to recognize that each combination of companies is a unique event that must be

TABLE 14.1 Success and failure among prominent mergers and acquisitions

Successes	Failures
Exxon–Mobil	Daimler–Chrysler
Procter & Gamble–Gillette	AOL–Time Warner
Walt Disney Co.–Pixar	Royal Bank of Scotland–ABN AMRO
Tata Motor–Jaguar Land Rover	Hewlett Packard–Autonomy
Sirius–XM Radio	Bank of America–Countrywide
Cemex–RMC	Alcatel–Lucent
Bank of America–Merrill Lynch	Sprint–Nextel
Heinz–Kraft Foods	Sears–K Mart
Geely–Volvo	Microsoft–Nokia
Dell–EMC	News Corp.–MySpace

Sources: Based upon lists of "best" and "worst" mergers published by *Forbes*, *Fortune*, CNBC, and Bloomberg.

considered on its own merits. This means we must subject M&A decisions to careful strategic appraisal. Let us start by considering the different goals that motivate mergers and acquisitions.

Motives for Mergers and Acquisitions

Managerial motives A major reason why shareholders should view acquisitions with extreme skepticism is because they are so appealing to CEOs. Managerial incentives, both financial and psychological, tend to be associated more with a company's size than with its profitability. Acquisition offers the fastest route to corporate growth. Even more dangerous is CEOs' quest for celebrity status; again, large-scale acquisitions are the surest way a CEO can gain media coverage while projecting an image of power and influence.

The tendency for acquisitions to be led by male business leaders points to the role of biological and psychological forces. Corporate empire builders may be subject to the same sexual urges that drive bulls and stags to amass herds of females.[6] Once they have embarked on acquisitive growth, business leaders such as Jean-Marie Messier at Vivendi Universal, Fred Goodwin at Royal Bank of Scotland, and Bernie Ebbers at WorldCom appear to be victims of *hubris*: exaggerated self-confidence that leads to distorted judgment and an ever-growing gap between perception and reality.[7]

The stock market may collude with such behavior. Overvalued equity encourages companies to make equity-financed acquisitions that can help support their share price.[8] AOL's merger with Time Warner was motivated, in part, by AOL's inflated stock market valuation.

A further factor encouraging imprudent mergers and acquisitions is imitation among companies. We have seen that M&A activity is highly cyclical, with a heavy clustering in specific sectors: the petroleum mergers of 1998–2002; the telecoms merger waves of 1998–2005 and 2013–2015; and the global consolidation in beer, pharmaceuticals, and media since 2010.[9] This sectoral clustering reflects firms' propensity to follow the leader: if firms resist the urge to merge, they risk being left at the fringes of the dance floor with only unattractive dancing partners left.

Let us ignore for the moment the interests of managers and consider the interests of shareholders. If mergers and acquisitions are directed toward creating shareholder value, we can distinguish two sources of value creation: *financial* and *strategic*.

Financially Motivated Mergers Mergers and acquisitions can generate shareholder value simply as a result of stock market inefficiencies or through tax benefits or financial engineering.

- Stock market valuations are determined by expectations of future profit streams and risks which are conditioned by psychological factors. As a result, privileged information, or superior analysis of generally available information, can provide the basis for identifying and acquiring under-valued companies. Warren Buffett's genius for spotting well-managed, strategically well-positioned companies whose potential the stock market has not fully recognized, is the basis for Berkshire Hathaway's history of successful acquisition.
- Acquisitions can allow a company to reduce its tax bill. For example, a poorly performing company may be an attractive takeover target simply because of the value of its tax credits to the acquirer. Acquisition also provides a mechanism for a company to relocate to a lower-tax jurisdiction. In 2016, Pfizer abandoned its $150 billion tax-inversion merger with Irish-domiciled Allergen when the US government amended its tax regulations to eliminate the tax savings from "tax-inversion takeovers."[10]
- By changing the capital structure of an acquired company an acquirer may reduce its cost of capital, thereby creating value. Leveraged buyouts (LBOs) are acquisitions of companies (or divisions of companies) that are financed mainly by debt. Such acquisitions can create value as a result of debt being cheaper than equity. A study of 701 private equity deals is completed between 1990 and 2013 found that 31% of the value created resulted from increasing financial leverage.[11]

Strategically Motivated Mergers For the most part, value creation from mergers and acquisitions is the result of their potential to increase the underlying profits of the firms involved. On the basis of the major sources of such value creation, we can identify several categories of mergers and acquisitions:

- *Horizontal mergers* can increase profitability by means of cost economies and enhanced market power resulting from combining firms that compete within the same market. US airline mergers—including United and Continental Airlines, American and US Airways, and Delta and Northwest—have played a major role in eliminating excess capacity, exploiting scale economies, and moderating price competition in the industry. Similarly, the $145 billion merger between Dow Chemical and Du Pont was motivated by the potential both for cost savings and increased pricing power.[12]
- *Geographical extension mergers* are the principal means through which companies enter foreign markets. Between 1980 and 2003, HSBC transformed itself from a local Hong Kong bank into one of the world's leading global banks through acquiring 17 different banks across 12 different countries. For many Chinese companies—Lenovo, ChemChina, Haier, and Tencent, to mention but a few—foreign acquisitions offer the quickest route to build global presence and

to overcome the "liabilities of foreignness"—especially lack of brand recognition, lack of local knowledge, and barriers to distribution. Spurred by the trend toward globalization, cross-border mergers as a proportion of all mergers grew from 19% in 1996 to 31% in 2016.[13]

- *Vertical mergers* involve the acquisition of either a supplier or a customer. In 2013, the world's fourth-biggest mining company, Xstrata, merged with the world's biggest commodities trader, Glencore International, to form a vertically integrated metals supplier. As discussed in Chapter 10 (see Strategy Capsule 10.2), mergers between content producers and distributors have been a major theme in the restructuring of the media sector in recent years.
- *Diversifying mergers*. Acquisition is the predominant mode of diversification for firms. The alternative—diversification by means of a new business start-up—is too slow for most companies. While internal "business incubators" can successfully develop new business ventures, such start-ups seldom provide the basis for major diversifications. Established technology giants may diversify through one or two major acquisitions—Dell's takeover of EMC or Nokia's purchase of Alcatel-Lucent—or through multiple smaller acquisitions. IBM's transition from a hardware to a software and services company involved the acquisition of 115 companies between 2000 and 2011. Microsoft's entry into video games with the launch of Xbox in November 2001 was preceded by the acquisition of several small companies that supplied 3D graphics hardware, video game controllers, and video games.

Among all these M&A categories, the primary goal may be less to acquire the *business* of the target company than to acquire its *resources and capabilities*. We discovered in Chapter 5 that the most valuable resources and capabilities are those that are not transferable and not easily replicated. Obtaining such resources and capabilities may require acquisition. UK-based Reckitt Benckiser has used acquisition to build a large portfolio of brands: Clearasil skin products, Dettol disinfectant, Durex contraceptives, Finish dishwashing products, Nurofen analgesics, Scholl footcare products, Woolite laundry products, French's mustard, and many more. US-based Fortune Brands has followed a similar strategy.

In technology-based industries, established companies regularly acquire small, start-up firms in order to access their technology. During 2010–2017, Google acquired 166 companies to grow its technical capabilities in robotics, imaging, internet security, artificial intelligence, facial recognition, virtual reality, and cloud computing. Each year, Microsoft hosts its VC Summit, where venture capitalists from all over the world are invited to market their companies. Walt Disney's 2006 acquisition of Pixar, the animated movie studio founded by John Lasseter and Steve Jobs, is a classic example of a large established company acquiring a small start-up in order to obtain technical and creative capabilities.

Acquisition can short circuit the tortuous process of developing internally a new organizational capability, but it poses major risks. To begin with, acquisitions are expensive. In addition to the acquisition premium that must be paid, the targeted capability comes with a mass of additional resources and capabilities that are surplus to requirements. Most importantly, once the acquisition has been made, the acquiring company must find a way to integrate the acquiree's capabilities with its own. All too often, culture clashes, personal frictions between senior managers, or incompatible management systems can result in the degradation or destruction of the very capabilities the acquiring company was seeking.

Managing Mergers and Acquisitions: Pre-merger Planning

The unsatisfactory performance outcomes of most mergers and acquisitions suggest that M&A decisions need to be based upon a clear understanding by the companies involved of what their strategies are and how the proposed merger or acquisition will contribute to that strategy. This needs to be followed by a detailed and realistic assessment of the likely outcomes of the merger or acquisition. This is easier with some types of mergers and acquisitions than it is with others. In the case of horizontal acquisitions, it is usually possible, not just to identify the sources of cost savings from integrating the companies, but also to quantify those savings. Other sources of synergy—in particular benefits from revenue enhancement and innovation—are more elusive. In general, acquiring companies overestimate the gains from mergers.

In relation to costs, McKinsey & Company found that 60% of mergers achieved their cost targets, but a quarter of mergers overestimated cost savings by at least 25%. Forecasts of revenue synergies tended to be widely inaccurate: 70% of mergers overestimated revenue synergies. McKinsey suggests that acquiring companies are especially blind to revenue dis-synergies—a major source of which is the tendency for the customers of the acquired firm to defect.[14] In mergers between retail banks, the cost savings from closing overlapping branches can easily be offset by the consequent loss of customers. In the case of many diversifying mergers within financial services, the potential for cross-selling and customers' desire for one-stop shopping have been wildly optimistic. The risk is that acquirers fall victim to their own propaganda: in seeking to persuade the stock market about the benefits of an acquisition, they believe their own inflated estimates of potential synergies.

Sound M&A decisions require objective, quantitative analysis. One approach uses a discounted cash flow approach to determine the value of a potential acquisition of to the buyer, and hence the maximum bid price:

1. Start with the target company's current market capitalization. Given the target company's cost of equity capital, what does this imply about the future net cash flows that the market expects?
2. How reasonable are these cash flow expectations? Is there any reason to believe that the stock market may be underestimating these future cash flows? For example, the market may be undervaluing either the profit prospects for the industry or the target company's potential for competitive advantage.
3. What is restructuring potential? First, can the net cash flows of the target company be improved by increasing profit margins (by reducing costs, raising prices, or disposing of unprofitable lines of business) or by reducing capital investment? Second, can the cost of capital be lowered by increasing financial leverage? The excess of the restructured NPV over the as-is NPV (calculated above) shows the potential for adding value through restructuring.
4. What is the potential for synergy? If the target company is merged into the acquiring company, what sources of synergy can be exploited? In the short-term, these will include cost savings from combining headquarters services, consolidating plants, and merging operations. Longer term, they will include the more speculative benefits of transferring capabilities and exploiting new business opportunities. Synergies may accrue both to the acquiring and the acquired companies. As we have already observed, it is important to recognize the costs of exploiting synergies and not just their benefits.

A key impediment to assessing the potential for a merger or acquisition to add value, is what Carliss Baldwin refers to as "fragility risk": the risk that the implementation phase will go awry such that the potential benefits of the merger are never realized and the underlying businesses of the partnering firms are damaged.[15] Evaluating fragility risk is very difficult, however it is likely to be correlated with the number of changes that the acquirer will need to make in the target company's business operations (and in its own operations) following the deal. A further problem in estimating the potential value added from acquisition is the acquirer's limited knowledge of the target company. Even friendly takeovers are still prone to information asymmetry—the seller knows much more about the acquisition target than the buyer, so the acquirer can be hoodwinked into overpaying (the so-called *lemons problem*). Hewlett-Packard's disastrous $11 billion takeover of British software firm Autonomy in 2011 is exemplifies this problem.[16]

Better pre-merger planning requires not only improved information, but also better analysis. Concerns over confidentiality can result in an M&A team being too small to provide the expertise needed to adequately appraise a potential acquisition.[17]

Managing Mergers and Acquisitions: Post-merger Integration

The risks inherent in mergers and acquisitions is revealed by the numbers that fail—including some which were meticulously planned. The combination of Daimler-Benz and Chrysler was exemplary in its pre-merger planning; yet, the outcome was disappointing. Not only did Chrysler's problems appear to be intractable but also Chrysler's demands on the group's top management negatively impacted Daimler-Benz's core business.[18]

Consistent with the observation that M&A risks depend upon the number of post-merger changes that must be managed, it appears that, where the potential benefits of mergers and acquisitions are great, so too are the costs and risks of integration. Thus, Capron and Anand argue that cross-border acquisitions typically have the strongest strategic logic.[19] Yet the evidence of DaimlerChrysler, BMW-Rover, and Alcatel-Lucent suggests that the complexities of cross-border integration—accentuated by differences in both corporate and national cultures—makes post-merger assimilation especially fraught.

It is increasingly being recognized that managing acquisition is a rare and complex organizational capability that needs to be developed through explicit, experience-based learning. Acquisition performance improves with experience—though not at first. There appears to be a learning threshold, after which subsequent acquisitions add value.[20] However, the learning from acquisitions needs to be explicitly managed, for example, the codifying of acquisition processes appears to be conducive to acquisition success.[21]

Ultimately, successful mergers and acquisition require combining pre-acquisition planning with post-acquisition integration. Most case studies of failed mergers identify poor post-acquisition management as the key problem. Yet, in many instances, these integration problems could have been anticipated. Hence, the critical failure was going ahead with the acquisition without adequate assessment of the challenges of post-merger management. In Quaker Oats' acquisition of Snapple ("the billion-dollar blunder"), the critical problem—the impediments to integrating Snapple's distribution system with that of Quaker's Gatorade—was evident to the marketing managers and the franchised distributors of the two companies prior to the takeover.[22] Conversely, Walt Disney's acquisition of Pixar was preceded by an anticipation of the problems that

STRATEGY CAPSULE 14.1
Walt Disney Company and Pixar

Most industry observers were pessimistic about Disney's $7.4 billion acquisition of rival animated movie producer Pixar in 2006. Most acquisitions of movie studios had experienced major difficulties: General Electric's NBC acquisition of Universal Studios and Viacom's of DreamWorks. The worries were that Disney's corporate systems would suppress Pixar's creativity and that Pixar's animators would leave. Although the two companies had allied for several years (Disney distributed Pixar movies), the relationship had not been a smoothone.

Yet the acquisition is generally regarded as being highly successful. Since the acquisition, several Disney/Pixar animated movies, including *Toy Story 3* and *Frozen*, have been massive box office successes and have generated huge revenues from DVDs, video streaming, and licensing. Disney's CEO, Bob Iger, claims that, compared with the earlier alliance between the two companies, ownership of Pixar has facilitated the closer coordination needed to exploit the synergies between the two companies.

Factors contributing to the success of the merger included:

- A high level of personal and professional respect among the key personnel at Pixar and Disney. In announcing the acquisition, CEO Iger commented: "We also fully recognize that Pixar's extraordinary record of achievement is in large measure due to its vibrant creative culture, which is something we respect and admire and are committed to supporting and fostering in every way possible."
- Rapid and honest communication to Pixar employees about the merger and its implications.
- Careful pre-acquisition planning specifying which elements of Pixar would remain unchanged and which would be adapted to and integrated with Disney's existing activities and practices.
- Appointing Pixar's president, Edwin Catmull, as head of Walt Disney Animation Studios.
- Bob Iger's personal experience of working for companies that were the subject of takeovers.
- Explicit guidelines designed to protect Pixar's creative culture, including a continuation of Pixar employees' generous fringe benefits and loosely defined employment conditions.
- Honoring commitments: according to Edwin Catmull: "Everything they've said they would do, they have lived up to."

In one respect, the Disney–Pixar merger flouted conventional wisdom. According to Bob Iger: "There is an assumption in the corporate world that you need to integrate swiftly. My philosophy is exactly the opposite. You need to be respectful and patient."

Sources: The Walt Disney Company Press Release, "Disney Completes Pixar Acquisition," (Burbank, CA, May 5, 2006); "Disney: Magic Restored," *The Economist* (April 17, 2008); "Disney and Pixar: The Power of the Prenup," www.nytimes.com/2008/06/01/business/media/01pixar.html?pagewanted+all.

might arise, followed by a careful and sensitive approach to planning, and then implementing, the integration of Pixar (Strategy Capsule 14.1).

Clay Christensen and colleagues argue that acquisition targets need to be carefully selected to match the strategic objective of the acquisition.[23] They distinguish between acquisitions which *leverage a firm's existing business model* from those

intended to *re-invent its business model*. Acquisitions that leverage the existing model need to carefully specify how the proposed acquisition will augment the existing business model. For example, if the goal is to reduce cost, basic questions need to be asked:

- Will the acquisition's products fit into our product catalogue?
- Do its customers buy products like ours, and vice versa?
- Will the acquired company's products fit into our existing supply chain, production facilities, and distribution?
- Can our people readily service the customers of the acquired company?

The answers to these questions will indicate what needs to be done when integrating the acquisition within the acquirer's existing business. However, if the purpose of the acquisition is to re-invent the firm through acquiring a disruptive business model, integration should be avoided to allow the acquired business model to flourish. Thus, when EMC acquired VMware—with its disruptive business model that allowed customers to substitute software for hardware in their server businesses—EMC chose to operate VMware as a separate company (as did Dell when it acquired EMC.)[24]

Strategic Alliances

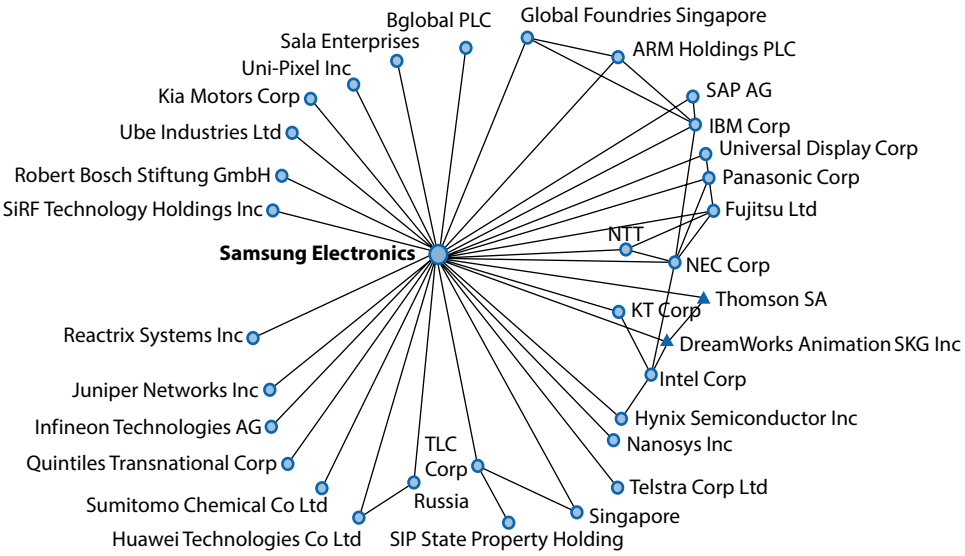
A **strategic alliance** is a collaborative arrangement between two or more firms to pursue agreed common goals. Strategic alliances take many different forms:

- A strategic alliance may or may not involve equity participation. Most alliances are agreements to pursue particular activities and do not involve any ownership links. The alliance between IBM and Apple announced in July 2014 involves the two companies jointly developing enterprise apps and IBM distributing Apple products to its corporate customers. The idea behind the tie-up is to combine Apple's hardware expertise and leadership in mobile devices with IBM's big data, analytics, and cloud computing capabilities to develop enterprise mobility applications.[25] In other strategic alliances, equity stakes can reinforce the alliance agreement. General Motors' alliance with ride-share provider, Lyft, to develop self-driving cars involved GM taking a $500m equity stake in Lyft.[26]
- A *joint venture* is a particular form of equity alliance where the partners form a new company that they jointly own. CFM International, one of the world's leading suppliers of jet engines, is a 50/50 joint venture between General Electric of the US and Snecma of France. Volkswagen is China's leading automobile brand through its joint ventures with SAIC Motor and FAW Group.
- Alliances are created to fulfill a wide variety of purposes:
  - Star Alliance is an agreement among 25 airlines (including United, Lufthansa, and Air Canada) to code share flights and link frequent-flier programs.

- Automobili Lamborghini and Callaway Golf Company formed an R&D alliance in 2010 to develop advanced composite materials.
- GlaxoSmithKline and Dr Reddy's Laboratories (a leading Indian pharma company) formed an alliance in 2009 to market Dr Reddy's products in emerging-market countries through GSK's sales and marketing network.
- The Rumaila Field Operating Organization is a joint venture comprising China National Petroleum Company, BP, and South Oil Company to operate Iraq's biggest oilfield.

- Alliances may be purely bilateral arrangements or they may be a part of a network of inter-firm relationships. Most companies that assemble complex manufactured products are supported by a supplier network comprising hundreds of enterprises. Toyota's supplier network comprises first-level, second-level, and tertiary suppliers bound by long-term relationships with Toyota and supported by a set of routines that permit knowledge sharing and continuous improvement.[27] Another type of alliance network is the localized industry cluster that characterizes the industrial districts of Italy (e.g., Prato woolen knitwear cluster, Carrara stonecutting cluster, and Sassuolo ceramic tile cluster). The Hollywood film industry represents another such cluster. Relationships within these localized networks are based upon history and proximity; they are informal rather than formal; and they involve both cooperation and intense rivalry.[28] In sectors affected by technological changes from multiple sources, alliances can play a vital role in innovation and adaptability. Figure 14.2 shows Samsung Electronics' extensive network of alliances.

FIGURE 14.2 The strategic alliances of Samsung Electronics, 2014



Source: Professor Andrew Shipilov, Insead.

Motives for Alliances

Most inter-firm alliances are created to exploit complementarities between the resources and capabilities owned by different companies:

- Bulgari Hotels and Resorts is a joint venture that combines Bulgari's reputation for luxury and quality with Marriott International's capabilities in developing and operating hotels.
- Uber and Volvo Cars established a project to develop fully-autonomous cars using Uber's software capability with Volvo's vehicle design and manufacturing capability.
- The Oneworld airline alliance—comprising American Airlines, British Airways, Cathay Pacific, Japan Airlines, Qantas, Qatar Airways, and nine other airlines—allows member airlines to offer through-ticketing on one-anothers' routes, coordinate their schedules, and link their frequent flier schemes.
- The alliance between Panasonic and Tesla combines Panasonic's battery capabilities with Tesla's automotive and photovoltaic capabilities. The main activity of the alliance is the two companies' joint production of battery packs within Tesla's Gigafactory in Nevada.

There has been a debate in the literature as to whether the primary aim of strategic alliances is to *access* the partner's resources and capabilities or to *acquire* them through learning.[29] The strategic alliance between Marriott International and Alibaba announced in August 2017 allows Marriott to access the millions of Chinese tourists who make hotel reservations through Alibaba and payments through Alipay, while expanding Alibaba's presence outside of China.[30] Conversely, the South China Locomotive & Rolling Stock Corp.'s alliances with Bombadier and Siemens were motivated primarily by the desire to acquire their technology.[31] In most instances alliances are about accessing rather than acquiring capabilities: for most firms the basic rationale of alliances is that they allow the firm to specialize in a limited range of capabilities while enabling the exploitation of specific opportunities that require a wider range of capabilities.[32]

A major advantage of such alliances is the flexibility they offer: they can be created and dissolved fairly easily, their scope and purpose can change according to the changing requirements of the parties, and (for non-equity alliances) they typically involve modest investments. This flexibility and low cost is especially advantageous for making option-type investments.[33] Alphabet's technology-based new ventures make extensive use of alliances. Its Waymo autonomous driving unit has alliances with Robert Bosch, Nvidia, FiatChrysler, and Lyft. Google's Calico subsidiary, whose goal is to extend human life, has alliances with AbbVie, The Broad Institute, and C4 Therapeutics.

Alliances also permit risk sharing. In petroleum, most upstream projects are joint ventures. Kazakhstan's Kashagan field, the world's biggest oil discovery of the past 40 years, has required investment of $105 billion, which is spread among a consortium of seven companies including Eni, Shell, and ExxonMobil.

Managing Strategic Alliances

It is tempting to view a strategic alliance as a quick and low-cost means to extend the resources and capabilities available to a firm. However, managing alliance relationships is itself a critically important organizational capability. *Relational capability* comprises building trust, developing inter-firm knowledge sharing routines, and establishing mechanisms for coordination.[34] The more a company outsources its value chain activities to a network of alliance partners, the more it needs to develop the systems integration capability to coordinate and integrate the dispersed activities.[35] The delays that plagued the launch of the Boeing 787 Dreamliner are one indicator of the challenges of managing a network of alliances in developing a complex, technologically-advanced product.[36]

There is a lack of comprehensive evidence relating to the overall success of strategic alliances. Alliance formations tend to be met with favorable stock market responses,[37] but longer-term data on alliance performance is conspicuously absent. McKinsey observes that even alliance participants lack knowledge of the costs and benefits of their alliances. McKinsey recommends establishing a system to track alliance performance as a vital component of effective alliance management.[38]

Cross-border alliances play a particularly important role in internationalization strategy, where they can also pose acute management problems. When entering an overseas market, the internationalizing firm will typically lack the local knowledge, political connections, and access to distribution channels that a local firm will possess. At the same time, acquiring a local firm may not be an attractive option, either because local regulations or ownership patterns make acquisition difficult or because of the large and irreversible financial commitment involved. In such circumstances, alliances—either with or without equity—can be an attractive entry mode. By sharing resources and capabilities, alliances economize on the investment needed for major international initiatives. The FreeMove Alliance formed by Telefonica (Spain), TIM (Italy), T-Mobile (Germany), and Orange (France) created a seamless third-generation, wireless communication network across Europe at a fraction of the cost incurred by Vodafone, allowing each firm access to the mobile network of the leading operator in at least five major European markets.[39]

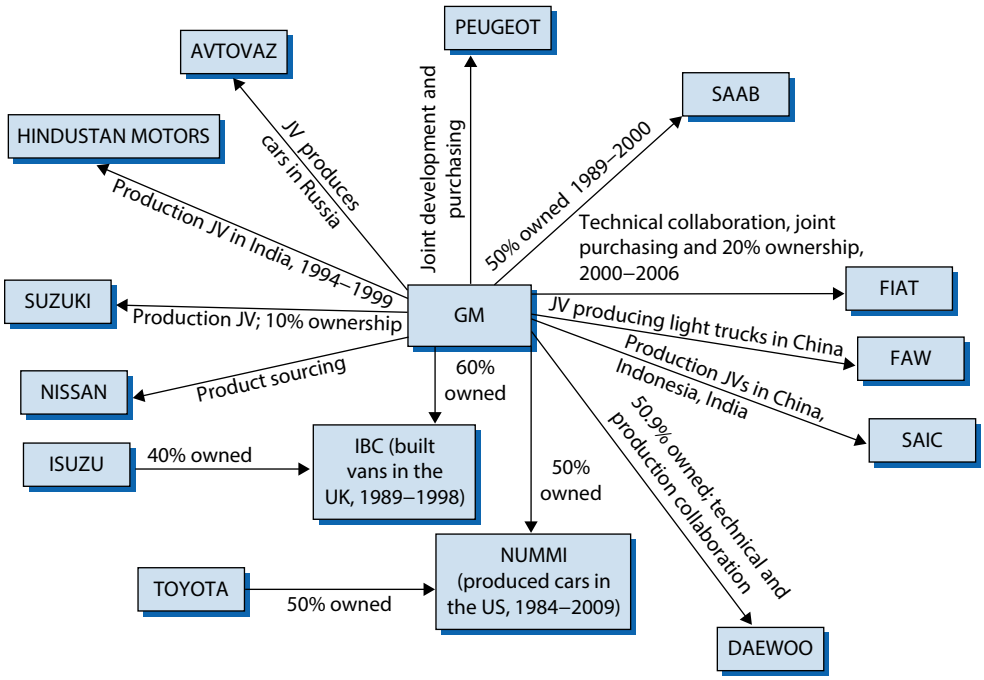
Some firms have made extensive use of strategic alliances to build their international presence. Figure 14.3 shows General Motors' network of strategic alliances. Some of these generated few benefits for GM (e.g., the alliances with Fiat, Isuzu, and Suzuki); others led to full acquisition of the alliance partner (Daewoo, Saab).

For the local partner, an alliance with a foreign firm can also be an attractive means of accessing resources and capabilities. In many emerging-market countries—notably China and India before their accession to the World Trade Organization—governments often oblige foreign companies to take a local partner in order to encourage the flow of technology and management capabilities to the host country.

However, for all their attractions, international alliances are difficult to manage: the usual problems that alliances present—those of communication, agreement, and trust—are exacerbated by differences in language, culture, and greater geographical distance. Danone's joint venture with Wahaha created the largest beverage company in China; however, misunderstanding and misaligned incentives resulted in the joint venture collapsing in 2011.[40]

It is tempting to conclude that international alliances are most difficult where national cultural differences are wide (e.g., between Western and Asian companies).

FIGURE 14.3 General Motors' network of international alliances



However, some alliances between Western and Asian companies have been highly successful (e.g., Fuji/Xerox and Renault/Nissan). Conversely, many alliances between Western companies have been failures: BT and AT&T's Concert alliance, the GM/Fiat alliance, and Swissair's network of airline alliances. Disagreements over the sharing of the contributions to and returns from an alliance are a frequent source of friction, particularly in alliances between firms that are also competitors. When each partner seeks to access the other's capabilities, "competition for competence" results.[41] During the 1980s, Western companies fretted about losing their technological know-how to Japanese alliance partners. In recent years, Western companies have been dismayed by the speed at which their Chinese partners have absorbed their technology and emerged as international competitors. In rail infrastructure, China's state-owned companies have used their partnerships with Germany's Siemens, France's Alstom, Japan's Kawasaki Heavy Industries, and Canada's Bombardier to build homegrown capabilities that are now being exported.[42] The complaints made by Western companies against their Chinese joint-venture partners in 2012 are almost identical to those made against Japanese joint-venture partners in the 1980s.[43]

Firms must also choose which growth mode to follow. Typically, companies have a bias toward either internal or external growth and between either acquisition or alliance without considering fully the relative merits of each. Within the telecom sector, firms that used a combination of growth modes—internal development, alliances, and acquisitions—were more successful than those that stuck to a single mode.[44] Strategy Capsule 14.2 considers the issues involved.

STRATEGY CAPSULE 14.2

Choosing the Right Growth Path: Internal Development *vs.* Contracts, *vs.* Alliances, *vs.* Acquisitions

Choosing the best way to grow requires a careful consideration of a firm's *resource gap*: the resources needed for its strategy relative to the resources it already possesses.

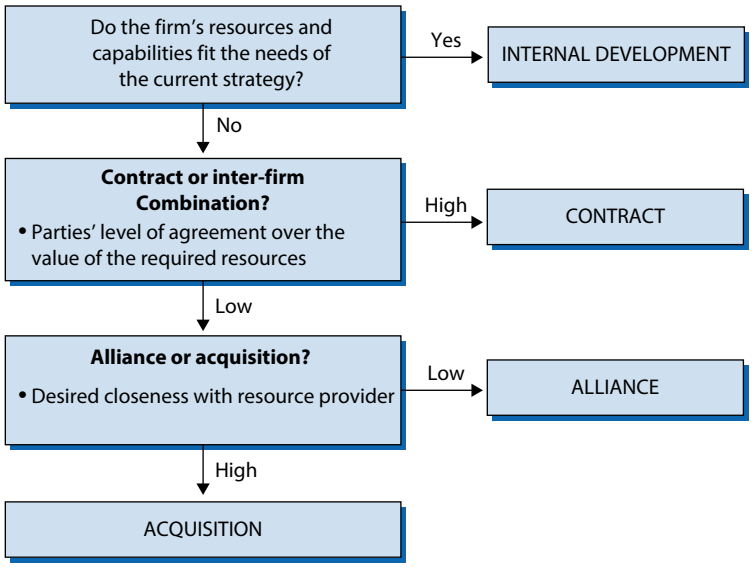
Capron and Mitchell outline a three-step approach to deciding a firm's growth mode (Figure 14.4).

1 The resources a firm needs for its future development are usually different from those it currently possesses. But how different? The greater the gap, the greater the likelihood it will need to seek these externally rather than develop them internally.

2 If resources are needed from outside the firm, typically the easiest way to obtain them is through a contractual agreement (e.g., licensing a specific technology). But such contracts require agreement over the value of the resources concerned; in the absence of such consensus, a contractual agreement may be impossible.

3 How deeply involved does the firm need to be with its partner in order to effectively transfer and integrate the resources required? If the depth and complexity of involvement is low then an alliance will suffice. However, if closer involvement is needed, then the fuller integration potential offered by acquisition is preferable. Researchers at the Wharton School reached a similar conclusion: systemic linkages between the firms—"reciprocal synergies"—favor acquisition; "modular" and "sequential" linkages are better managed through alliances. They also note that choosing whether to ally or acquire depends upon the type of resources involved. Tangible resources such as manufacturing plants or mineral resources are better integrated through mergers and acquisitions; "soft resources" such as people and knowledge can be linked via alliances.

FIGURE 14.4 Choosing the right growth path



Sources: L. Capron and W. Mitchell, "Finding the Right Path," *Harvard Business Review*, (September–October 2010): 102–110; J. Dyer, P. Kale, and H. Singh, "When to Ally and When to Acquire?" *Harvard Business Review* (July–Aug 2004): 109–115.

Summary

Mergers and acquisitions can be useful tools of several types of strategy: for acquiring particular resources and capabilities, for reinforcing a firm's position within an industry, and for achieving diversification or horizontal expansion.

However, despite the plausibility of most of the stated goals that underlie mergers and acquisitions, most fail to achieve these goals. Empirical research shows that the gains flow primarily to the shareholders of the acquired companies.

These disappointing outcomes may reflect the tendency for mergers and acquisitions to be motivated by the desire for growth rather than for profitability. The pursuit of growth through merger is sometimes reinforced by CEO hubris, producing a succession of acquisitions that will ultimately lead to the company failing or restructuring.

A second factor in the poor performance consequences of many mergers are the unforeseen difficulties of post-merger integration. However, the diversity of mergers and their outcomes makes it very difficult to generalize about the types of merger or the approaches to integration that are associated with success.

Strategic alliances take many forms. In common is the desire to exploit complementarities between the resources and capabilities of different companies. Like mergers and acquisitions, and like relationships between individuals, they have varying degrees of success. Unlike mergers and acquisitions, the consequences of failure are usually less costly. As the business environment becomes more complex and more turbulent, the advantages of strategic alliances both in offering flexibility and in reconciling specialization with the ability to integrate a broad array of resources and capabilities become increasingly apparent.

Self-Study Questions

1. Most of the mergers and acquisitions shown in Figure 14.1 are horizontal (i.e., they are between companies within the same sector). Some of these horizontal mergers and acquisitions are between companies in the same country; some cross national borders. Are there any reasons why horizontal mergers and acquisitions are likely to be more beneficial than other types of mergers and acquisitions (diversifying and vertical) and involve less risk? Among these horizontal mergers and acquisitions, which do you think will be more successful: those between companies in the same country or those that cross borders?
2. A large number of studies examining the success of M&A have examined their impact on shareholder returns. Most of these studies measure changes in the market value of the merging companies from before the merger announcement to several months after. What do these studies tell us about the effects of mergers and acquisitions?
3. Commenting on the Pixar acquisition (Strategy Capsule 14.1), Disney's CEO stated: "You can accomplish a lot more as one company than you can as part of a joint venture." Do you agree?

Illustrate your answer by referring to some of the joint ventures (or alliances) referred to in this chapter. Would these have been more successful as mergers?

4. In the motor industry, companies have followed different internationalization paths. Toyota expanded organically, establishing subsidiaries in overseas markets. Ford went on an acquisition spree, buying Volvo, Jaguar, Land Rover, and Mazda. General Motors has made extensive use of strategic alliances (Figure 14.3). Which strategy is best? Which strategy would you recommend to Chinese automobile manufacturers such as SAIC and Dongfeng?

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15 Current Trends in Strategic Management

In any field of human endeavor you reach a point where you can't solve new problems using the old principles. We've reached that point in the evolution of management. When you go back to the principles upon which our modern companies are built—standardization, specialization, hierarchy, and so on—you realize that they are not bad principles, but they are inadequate for the challenges that lie ahead.[1]

—GARY HAMEL, MANAGEMENT THINKER

The truth is you don't know what is going to happen tomorrow. Life is a crazy ride, and nothing is guaranteed.

—EMINEM, MUSICIAN AND SONGWRITER

The future ain't what it used to be.

—YOGI BERRA, BASEBALL PLAYER AND COACH

OUTLINE

- **Introduction**
- **The New Environment of Business**
  - Technology
  - Competition
  - Systemic Risk
  - Social Forces and the Crisis of Capitalism
- **New Directions in Strategic Thinking**
  - Reorienting Corporate Objectives
  - Seeking More Complex Sources of Competitive Advantage
  - Strategy in a Digital World
  - Managing Options
  - Understanding Strategic Fit
- **Redesigning Organizations**
  - MultiDimensional Structures
  - Coping with Complexity: Making Organizations Informal, Self-Organizing, and Permeable
- **The Changing Role of Managers**
- **Summary**
- **Notes**

Introduction

In 2018, the business world was being reshaped by unpredictable forces: the widespread adoption of artificial intelligence, the rise of nationalism and decline of international institutions, and challenges to social and political norms. Our challenge in this chapter is to identify the forces that are reshaping the business environment, to assess their implications for strategic management, and to consider what new ideas and tools managers can draw upon to meet the challenges ahead.

We are in poorly charted waters and, unlike the other chapters of this book, this chapter will not equip you with proven tools and frameworks that you can deploy directly in case analysis or in your own companies. Our approach is exploratory. We begin by reviewing the forces that are reshaping the environment of business. We will then draw upon concepts and ideas that are influencing current thinking about strategy and the lessons offered from leading-edge companies about strategies, organizational forms, and management styles that can help us to meet the challenges of this demanding era.

The New Environment of Business

In terms of the forces reshaping business, the first two decades of the 21st century are similar to the first two decades of the 20th century. During both periods, the developed world was transformed by technological innovation. In the 20th century, it was electricity, the automobile and the telephone; in the 21st century, digital technologies are transforming production, commerce, and social interaction. Both periods also saw massive political changes: in the early 20th century it was the rise of the nation state, the collapse of colonial empires, and the birth of Marxist-Leninism; in the early 21st century, the rise of religious extremism, the decline of liberalism, and disillusion with political leaders and political systems. During both periods popular disaffection with big business was a common theme. Let us focus upon four key drivers of change in the 21st century.

Technology

The invention of the integrated circuit in 1958 marked the beginning of the digital era. However, it was not until the advent of the microprocessor (1971), RFID and the subsequent "Internet of Things" (1989), and wireless broadband (2001) that the digital revolution became a truly disruptive force.

In the US, "FAANG" companies (Facebook, Amazon, Apple, Netscape, and Google) accounted for 14% of the market capitalization of the S&P 500 at the end of July 2018. The most valuable Chinese companies were Tencent Holdings and Alibaba Group. Yet, according to Brian Arthur, a pioneer of complexity economics, the full impact of the digital revolution has yet to be felt. The combination of sensors, big data, and artificial intelligence (AI) produces an "external intelligence in business—one not housed internally in human workers but externally in the virtual economy's algorithms and machines. Business and engineering and financial processes can now draw on huge libraries of intelligent functions and bit by bit render human activities obsolete."[2] For instance, the advent of autonomous vehicles will likely eliminate not only millions of jobs in commercial and personal transportation but also the need for individuals to own

cars. In retailing, check-out-free Amazon Go stores, together with the development of shelf-filling robots, point the potential for fully-automated retail stores.[3]

Technology is also shifting the boundaries between firms and markets in fundamental ways. Wireless technologies have slashed transaction costs, facilitating the growth of the "sharing economy" involving both peer-to-peer sharing (Airbnb, Blablacar, Lending Club) and "gig economy" freelance services (Uber, freelancer.com, TaskRabbit).[4] By the end of 2017, Airbnb's listings exceeded the hotel rooms offered by the world's five biggest hotel chains, while Uber, with 16,000 employees, had 1.6m drivers worldwide.

Competition

As we observed in Chapter 11 ("Implications of International Competition for Industry Analysis"), the entry into world markets by companies from emerging-market countries has added considerably to competitive pressures in many manufacturing industries. In wireless hand-sets, 67 new companies entered the industry between 2000 and 2009, 34 of them from China and Taiwan. Many of these new suppliers began as OEM suppliers and then went on to develop their own brands, thereby competing with their former customers.[5]

The wave of digital innovation described in the previous section is also a source of new competition. Across a broad range of industries, established market leaders are threatened by digital upstarts deploying disruptive technologies: TV broadcasting and cable companies by video streaming companies such as Netflix, banks by fintech companies offering new payment systems such as Ant Financial and Adyen, home security companies such as ADT by Nest Labs (owned by Alphabet).

Increased competition from low-cost, emerging-market competitors, or from new entrants with innovative business models, means that competitive advantage has become increasingly fleeting. As we shall see later, one consequence of this is that firms must develop multiple sources of competitive advantage.

However, these sources of new competition have been counteracted by the efforts of established companies to consolidate their positions of market leadership. The merger wave of 2014–18 was dominated horizontal mergers among market leaders, which turned more and more of the world's industries into concentrated oligopolies. For example: Anheuser-Busch's acquisition of SAB Miller created a global giant with 25% of the world's beer market; in metals mining mergers have resulted in five leading global players—Glencore, Rio Tinto, BHP-Billiton, and Vale; four companies dominate the world tobacco industry—Philip Morris, Japan Tobacco, BAT, and Imperial Tobacco.

These monopolistic tendencies are not just a feature of mature industries. The most startling feature of the digital revolution has been the growing dominance of a few diversified digital giants, of which Apple, Alphabet, Amazon, Facebook, Alibaba and Tencent are the most prominent. Each of these companies has quasi-monopoly positions in one or more markets (e.g., Alphabet has a 70% share of web search and 84% share of smartphone operating systems; Amazon has a 48% share of all book sales). Of greater concern is these companies' ability to extend dominance from one market to another and accumulate vast stores of data on individuals.[6]

Systemic Risk

The financial crisis of 2008–09 demonstrated the vulnerability of the global financial system to turbulence arising from a single source (in this instance, US real estate

financing). However, the decade since has been one of low volatility in most of the world's financial markets.

This apparent tranquility may be a delusion. As Nicholas Taleb observes, most of the key turning points in world history are "black swan events": rare occurrences with extreme impact that are unpredictable.[7] Yet, we can also point to the types of systems that give rise to such events.

A feature of the global economy, and human society in general, is increasing interconnectedness through trade, financial flows, markets, and communication. Systems theory predicts that increasing levels of interconnectedness within a complex, nonlinear system increase the tendency for small initial movements to be amplified in unpredictable ways. Regional and global political and social phenomena—such as the "Arab Spring" the rise of radical populism in the US and Europe, and the "me too" movement—point to the role of systematic forces.

In 2018, the World Economic Forum pointed to three "complex risks in the interconnected systems that underpin our world": environmental risks (caused by climate change), cybersecurity risks (caused by the vulnerability of computer systems and electronic data), and geopolitical risks (caused by the erosion of multilateral rules-based approaches to international relations).[8] In all three areas, the transition from a unipolar world led by the US and international organizations (such as the United Nations, World Bank, IMF, and OECD) to a multipolar world where China, Russia, and Iran challenge prevailing orthodoxies has increased the vulnerability of the global system.[9]

Social Forces and the Crisis of Capitalism

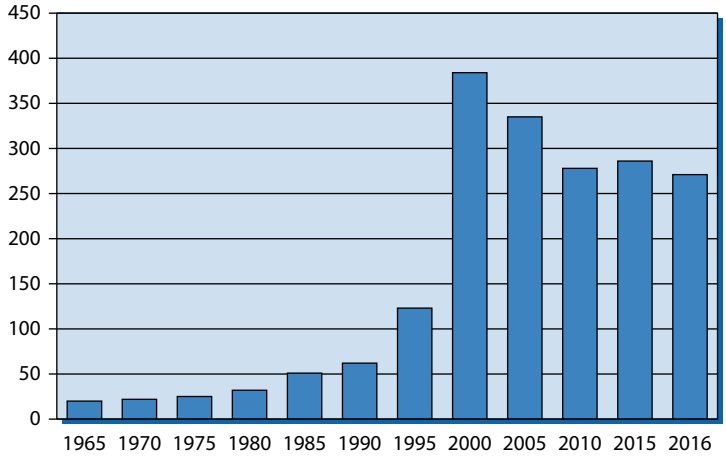
For organizations to survive and prosper requires that they adapt to the values and expectations of society—what organizational sociologists refer to as *legitimacy*.[10] One fall-out from the 2008–09 financial crisis was the loss of legitimacy that many businesses suffered—banks in particular. This negatively affected their reputations among consumers, the morale of their employees, the willingness of investors and financiers to provide funding, and the government policies toward them. The 2017 allegations of sexual abuse against Hollywood mogul, Harvey Weinstein, led to the bankruptcy of his movie production company in March 2018.

The notion that the business enterprise is a social institution that must identify with the goals and aspirations of society has been endorsed by many management thinkers, including Peter Drucker, Charles Handy, and Sumantra Ghoshal.[11] The implication is that, when the values and attitudes of society are changing, so must the strategies and behaviors of companies. During the past two decades antibusiness sentiment has moved from the fringes of the political spectrum—neo-Marxists, environmentalists, and antiglobalization activists—into mainstream public opinion.

The fraying legitimacy of market capitalism can be traced to the 2008–09 financial crisis; the corporate scandals that have engulfed Volkswagen (diesel emmissions fraud), Kobe Steel (bogus quality data), and BP (safety violations); and the rising tide of inequality.[12] Figure 15.1 offers one indication of the growing income disparities generated by the modern economy.

The rise of China has reinforced doubts about the efficacy of market capitalism. Between 2000 and 2017, the number of Chinese companies among the Global Fortune 500 grew from 10 to 109—most of them state-owned enterprises. By 2017, the Chinese economy was about 25% bigger than the US economy (on the basis of GDP measured at purchasing power parity exchange rates).

FIGURE 15.1 Ratio of average CEO compensation to that of average worker, USA, 1965–2016



Source: Institute for Economic Policy.

State-owned enterprises are one alternative to traditional shareholder-owned companies; other alternative forms of business enterprise have also attracted interest in recent years.

- *Cooperatives*—businesses that are mutually owned by consumers (e.g., credit unions), employees (e.g., the British retailing giant John Lewis Partnership), or by independent producers (e.g., agricultural marketing cooperatives)—have captured particular attention. Cooperatives account for 21% of total production in Finland, 17.5% in New Zealand, and 16.4% in Switzerland. In most East African countries, cooperatives are the dominant organizational form in agriculture.[13]
- *Social enterprises* are business enterprises that pursue social goals. Social enterprises may be for-profit or not-for-profit companies (and may include both charities and cooperatives). Muhammad Yunus' Grameeen Bank is a for-profit company that encourages business development among poor people through microcredit. Most US states have amended their corporate laws to permit *benefit corporations*: companies with explicit goals to pursue social and environmental goals as well as profit.[14]

Adapting to society's growing demands for fairness, ethics, and sustainability presents challenges for business leaders that extend beyond the problems of reconciling societal demands with shareholder interests. Should a company determine unilaterally the values that will govern its behavior or does it seek to reflect those of the society in which it operates? Companies that embrace the values espoused by their founders are secure in their own sense of mission and can ensure a long-term consistency in their strategy and corporate identity (e.g., Walt Disney Company and Walmart with respect to founders Walt Disney and Sam Walton). However, being continually responsive to stakeholder interests and views and staying alert to social issues, can also be diversion of time and effort for senior managers. In 1989, Michael Jensen of Harvard Business School predicted that the advantages of private companies over public companies would cause the "Eclipse of the Public Corporation."[15] Thirty years later, his prediction

is being realized: between 1997 and 2017 the number of companies listed on US stock markets has halved.[16] More and more companies are avoiding the scrutiny to which public corporations are subject, either by going private, or—as in the case of ecommerce startups such as Airbnb, Uber, and Didi Chuxing—by avoiding IPOs.

New Directions in Strategic Thinking

These features of the 21st century business environment have created challenging conditions under which to formulate and implement business strategy. The result has been a reconsideration of corporate objectives, new approaches to competitive advantage and the management of uncertainty, and new thinking about strategic fit.

Reorienting Corporate Objectives

The issue of whether companies should be operated in the interests of their owners, in the interests of their stake-holders, or in the interests of society as a whole remains unresolved. Recent efforts to reconcile a broader societal role for firms with shareholder value maximization have emphasized either the need for companies to maintain social legitimacy or the potential for such a broadening of goals to open up new avenues for value creation—the central theme of Porter and Kramer's *shared value* concept.[17]

The doctrine of shareholder value creation has also evolved away from its 1990s preoccupation with stock market valuation toward a refocusing of top management priorities upon the fundamental drivers of enterprise value. This reflects a recognition that management cannot create stock market value: its focus should be the strategic factors that drive profits: operational efficiency, customer satisfaction, innovation, and new product development.

There is a danger that we get sidetracked by the debate over the appropriate goals for a company. Richard Rumelt views strategy as a response to a problem—whether it is President Cyril Ramaphosa's challenge of reviving the South African economy or Coca-Cola's challenge of maintaining its revenues and profits as worldwide sales of soda drinks decline. Hence, for Rumelt the kernel of a good strategy begins with "an explanation of the nature of the challenge."[18]

Seeking More Complex Sources of Competitive Advantage

Addressing such strategy fundamentals does not necessarily lead to simple strategies. As we have already observed, both in this chapter and in Chapter 7, in today's dynamic business environment competitive advantages are difficult to sustain. According to Rita McGrath, firms need to "constantly start new strategic initiatives, building and exploiting many transient competitive advantages at once."[19] Complex competitive advantages are more sustainable than simple advantages. A key feature of companies that have maintained both profitability and market share over many years—for example, Toyota, Walmart, 3M, Robert Bosch, and Samsung Electronics—is their development of multiple layers of competitive advantage, including cost efficiency, differentiation, innovation, responsiveness, and adaptability. As we shall see, reconciling the different requirements of different performance dimensions imposes complex organizational challenges that are pushing companies to fundamentally rethink their structures and management systems.

This pursuit of multiple capabilities in contrast to building a single core capability recalls Isaiah Berlin's classification of intellectuals into foxes and hedgehogs: "The fox knows many things; the hedgehog knows one big thing."[20] Despite Jim Collins' praise for companies that exploit a single penetrating insight into the sources of value in their chosen sectors, the fate of companies such as Toys "R" Us with big-box retailing, Dell with its direct sales model, and Nokia's consumer-oriented market segmentation, points to the weakness of a single dominant logic in a complex, changing world.[21]

The quest for more complex sources of competitive advantage also involves strategies that look beyond industry boundaries to exploit linkages across sectors. As we shall explore below, the competitive advantages built by Apple, Google, and Amazon are the result of business models that exploit sources of value across entire ecosystems of linked businesses.[22]

Strategy in a Digital World

Of all the forces that have transformed the business sector over the past three decades, digital technologies have been the most potent and the most ubiquitous. What does this mean for strategy—both for the types of strategies appropriate to digital sectors and the types of analytical tools we apply in order to formulate digital strategies?

In the course of this book, we have seen identified some of the major features of firms and industries that are based upon digital technologies. Beginning with industry structures, we noted in Chapter 4 that industries supplying goods and services tend to be complex ecosystems comprising different suppliers of complementary products. For example, the smartphone industry comprises the suppliers of handsets, operating systems, applications, components, and contact manufacturing services. Such industries offer potential for complex business models—especially for platform owners. Although, as we observed in Chapter 7 (pp. 158 and 170), despite the emphasis given to business model innovation, most digital business models are variants of more traditional models.

Among industries based upon digital technologies, a key differentiator is whether the industry is subject to network externalities—a critical factor that explains the massive value appropriation of companies that dominate one or more digital market such as Apple, Alphabet, Amazon, Facebook, Microsoft, eBay, and Baidu. In the absence of network externalities, digital industries are subject to fragmentation and intense price competition—for example, the markets for Android smartphones, digital cameras, and cloud storage.

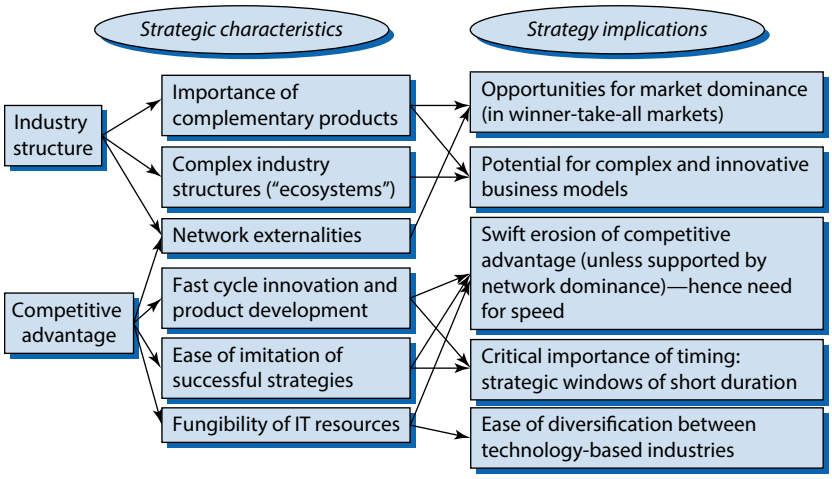
Because digital technologies are ultimately based upon binary codes, digital resources tend to be fungible: a software development team can develop software for a wide variety of applications. For Alphabet, the different businesses providing web search (Google), autonomous vehicles (Waymo), home automation (Nest), and human longevity (Calico) are all engaged in developing algorithms. Fungibility also characterizes digital process technology: 3D printing is a generic technology with the potential to transform much of manufacturing industry.

These strategic characteristics of digital industries are summarized in Figure 15.2. As digital technologies continue to transform more and more established industries, so these features will become increasingly general.

Managing Options

As we observed in the last section of Chapter 2 ("Strategy as Options Management"), the value of the firm derives not only from the present value of its profit stream (cash

FIGURE 15.2 The strategic characteristics of digital industries



flows) but also from the value of its options. During turbulent times, real options—growth options, abandonment options, and flexibility options—become increasingly important as sources of value.

Viewing strategy as the management of a portfolio of options shifts the emphasis of strategy formulation from making resource commitments to the creation of opportunities. Strategic alliances are especially useful in creating growth options while allowing firms to focus on a narrow set of capabilities.

The adoption of options thinking also has far-reaching implications for our tools and frameworks of strategy analysis. For example:

- Industry analysis has taken the view that decisions about industry attractiveness depend on profit potential. However, as industry structure become less stable, industry attractiveness will depend more on option value. From this perspective, an industry that is rich in options is one that produces different products, comprises multiple segments, has many strategic groups, and utilizes different technologies—such as computer software, packaging, and investment banking. These offer more strategic options than airlines or steel or car rental.
- Similarly with the analysis of resources and capabilities. In terms of option value, an attractive resource is one that has multiple applications. A technological breakthrough in nanotechnology is likely to offer greater option value than a new process that increases the energy efficiency of blast furnaces. A relationship with a rising politician is a resource that has more option value than a coalmine. Similarly with capabilities: a highly specialized capability, such as expertise in the design of petrochemical plants, offers fewer options than expertise in the marketing of fast-moving consumer goods. Dynamic capabilities are especially important because they "are the organizational and strategic routines by which firms achieve new resource combinations as markets emerge, collide, split, evolve, and die."[23]

However, applying real options thinking goes beyond making modest adaptations to our strategic analysis. Lenos Trigeorgis and Jeff Reuer view real options theory as

a comprehensive approach to analyzing the firm's strategic decision-making under uncertainty whose potential has yet to be realized.[24]

Understanding Strategic Fit

A central theme throughout this book is the notion of *strategic fit*. The basic framework for strategy analysis presented in Chapter 1 (Figure 1.2) emphasized how strategy must *fit* with the business environment and with the firm's resources and capabilities. We subsequently viewed the firm as an *activity system* where all the activities of the firm fit together (Figure 1.3). In Chapter 6, we introduced *contingency approaches* to organizational design: the idea that the structure and management systems of the firm must fit with its strategy and its business environment. In Chapter 8, we saw how this fit between strategy, structure, and management systems can act as a barrier to change. In recent years our understanding of fit (or contingency) has progressed substantially as a result of two major concepts: complementarity and complexity. These concepts offer new insights into linkages within organizations.

Complementarity Complementarity among management practices implies that management must be viewed as a system: the successful adoption of lean manufacturing requires that human resource practices are adapted to meet the needs of new production processes.[25] Similarly, the effectiveness of six-sigma quality programs are dependent upon changes in incentives, recruitment policies, product strategy, and capital budgeting practices.

This complementarity makes it difficult to generalize about the effectiveness of particular strategies every firm is unique and must create a unique configuration of strategic variables and management practices. However, strategic choices tend to converge around a limited number of *configurations*. Thus, successful adaptation among large European companies was associated with a few configurations of organizational structure, processes, and boundaries.[26]

Complexity Theory Organizations—like the weather, flocks of birds, and human crowds—are *complex systems* whose behavioral characteristics have important implications for their management:

- *Unpredictability*: agents interact to produce unpredictable outcomes; small disturbances typically have minor consequences but may also trigger major movements.[27]
- *Self-organization*: is a feature of most biological and social systems. If bee colonies and shoals of fish display sophisticated coordination without anyone giving orders, presumably human organizations have the same capacity.[28]
- *Inertia, chaos, and evolutionary adaptation*: Complex systems can stagnate into inertia (stasis) or become disorderly (chaos). In between is an intermediate region where the most rapid evolutionary adaptation occurs. Positioning at this *edge of chaos* results in both small, localized adaptations and occasional evolutionary leaps that allow the system to attain a higher *fitness peak*.[29] Kaufman's *NK model*, which allows the behavior of complex systems to be simulated, has been widely applied to the study of organizations.[30]

The Contextuality of Linkages within the Firm The implications of complementarity and complexity for management depend upon *contextuality* of the linkages among activities.[31] There are two dimensions to this contextuality. First, the

contextuality of activities: whether the performance effects of an activity are dependent or independent of the other activities that a firm undertakes. Second, *contextuality of interactions:* whether the interactions between activities are the same for all firms, or whether they are specific to individual contexts.[32] Understanding contextuality can help us to understand whether or not it is desirable to transfer a "best practice" from another firm or even from another part of the same firm and the extent to which change in any activity will have wider repercussions.

Redesigning Organizations

A more complex, more competitive business environment requires that companies perform at higher levels with broader repertoires of capabilities. Building multiple capabilities and pursuing multiple performance dimensions presents dilemmas: producing at low cost while also innovating, deploying the massed resources of a large corporation while showing the entrepreneurial flair of a small start-up, achieving reliability and consistency while also adapting to individual circumstances. In Chapter 8, we addressed one of these dilemmas: the challenge of *ambidexterity*—optimizing efficiency and effectiveness for today while adapting to the needs of tomorrow. In reality, the problem of reconciling incompatible strategic goals is much broader: reconciling *multiple* dilemmas requires *multidexterity*.

Implementing complex strategies with conflicting performance objectives takes us to the frontiers of organizational design. We know how to devise structures and systems that drive cost efficiency; we know the organizational conditions conducive to innovation; we can recognize the characteristics of *high-reliability organizations*; we are familiar with the sources of entrepreneurship. But how on earth do we achieve all of these simultaneously?

Multidimensional Structures

Organizational capabilities, we have learned (Chapter 5), need to be embodied in processes and housed within organizational units that provide the basis for coordination between the individuals involved. The traditional matrix organization allows capabilities to be developed in relation to products, geographical markets, and functions. And the more capabilities an organization develops, the more complex its organizational structure becomes.

Coping with Complexity: Making Organizations Informal, Self-Organizing, and Permeable

How can firms avoid the costs, rigidities, and loss of dynamism that result from increasing organizational complexity? In Chapter 6, we observed that traditional matrix structures which combined product, geographical, and functional organizations proved unwieldy for many corporations. Yet, developing additional capabilities has involved adding further organizational dimensions!

Informal Organization The key to increasing organizational complexity while maintaining agility and efficiency is to shift from formal to informal structures and systems. The organizational requirements for coordination are different from those required for compliance and control. Traditional hierarchies with bureaucratic systems are based upon the need for control. Coordination requires modular structures. But

each module can be organized as an informal, team-based structure, while coordination between modules does not necessarily need to be managed in a directive sense—it can be achieved by means of standardized interfaces, mutual adjustment, and horizontal collaboration (see discussion of "The Coordination Problem" in Chapter 6).

The scope for team-based structures to reconcile complex patterns of coordination with flexibility and responsiveness is enhanced by the move toward project-based organizations. While construction companies and consulting firms have always been structured around projects, a wide range of companies are finding that project-based structures featuring cross-functional teams charged with clear objectives and a specified time horizon are more able to achieve innovation, adaptability, and rapid learning than more traditional structures. W. L. Gore, the supplier of Gore-tex and other hi-tech fabric products, is an example of a team-based, project-focused structure that integrates a broad range of highly sophisticated capabilities despite an organizational structure that is almost wholly informal: there are no formal job titles and leaders are selected by peers. Employees ("associates") may apply to join particular teams, and it is up to the team members to choose new members. The teams are self-managed and team goals are self-determined.[33]

Reducing complexity at the formal level can foster greater variety and sophisticated coordination at the informal level. In general, the greater the potential for reordering existing resources and capabilities in complex new combinations, the greater the advantages of *consensus-based hierarchies*, which emphasize horizontal communication, over *authority-based hierarchies*, which emphasize vertical communication.[34]

Self-Organization The above-mentioned attributes of complex systems that are conducive to self-organization—identity, information, and relationships—can substitute for formal management processes.

- *Organizational identity*: A collective view of what is distinctive and enduring about the character of an organization can offer organizational members a stable bearing in navigating the cross-currents of the 21st century business environment.[35] Coherence at the core allows an organization to face the world with greater confidence.[36] Of course, organizational identity, because of its permanence, can impede rather than facilitate change. The challenge for organizational leaders is to reinterpret organizational identity in a way that can support and legitimate change. Michael Eisner at Disney, Lou Gerstner at IBM, and Franck Riboud at Danone all initiated major strategic changes, but within the constancy of their companies' identities.
- *Information*: The information and communication revolution of the past two decades has transformed society's capacity for self-organization, as evident from the role of social media in political movements ranging from the "Arab Spring" to "MeToo" of 2017–18. Within companies, information and communication networks support spontaneous patterns of complex coordination with little or no hierarchical direction.
- *Relationships*: According to Wheatley and Kellner-Rogers: "Relationships are the pathways to the intelligence of the system. Through relationships, information is created and transformed, the organization's identity expands to include more stakeholders, and the enterprise becomes wiser. The more access people have to one another, the more possibilities there are. Without connections, nothing happens… In self-organizing systems, people need access to everyone; they need to be free to reach anywhere in the organization to accomplish work."[37] There is increasing evidence that a major part of the work of organizations is achieved through informal social networks.[38]

For organizations to respond spontaneously to the changes occurring around them, they require mechanisms that facilitate automated, real-time organizational responses to new data—without requiring human decisions. BCG consultants, Martin Reeves and colleagues, envisage a "self-tuning enterprise" where adaptation is guided by organizational algorithms. They view the Chinese ecommerce giant, Alibaba, as exemplifying many of these self-tuning characteristics.[39]

Permeable Corporate Boundaries Even with informal coordination mechanisms, modular structures, and sophisticated knowledge management systems, there are limits to the range of capabilities that any company can develop internally. Hence, in order to expand the range of capabilities that they can deploy, firms collaborate in order to access the capabilities of other firms. This implies less distinction between what happens within the firm and what happens outside it. Strategic alliances, as we have already seen, permit stable yet flexible patterns for integrating the capabilities of different firms while also sharing risks. While localized networks of firms—such as those that characterize Italy's clothing, furniture, and industrial machinery industries—offer potential for building trust and interfirm routines, web-based technologies permit much wider networks of collaboration. The open innovation efforts, such as IBM's "Innovation Jam," and open-source product development communities, such as Linux and Wikipedia, illustrate the power of technologies to support the accessing and integration of knowledge from across the globe.[40]

The Changing Role of Managers

Changing external conditions, new strategic priorities, and different types of organization call for new approaches to management and leadership. In the emerging 21st century organization, the traditional role of the CEO as peak decision-maker may no longer be feasible, let alone desirable. As organizations and their environments become increasingly complex, the CEO is no longer able to access or synthesize the information necessary to be effective as a peak decision-maker. Recent contributions to the literature on leadership have placed less emphasis on the role of executives as decision-makers and more on their role in guiding organizational evolution. Gary Hamel is emphatic about the need to redefine the work of leadership:

> The notion of the leader as a heroic decision maker is untenable. Leaders must be recast as social-systems architects who enable innovation… In Management 2.0, leaders will no longer be seen as grand visionaries, all-wise decision-makers, and iron-fisted disciplinarians. Instead, they will need to become social architects, constitution writers, and entrepreneurs of meaning. In this new model, the leader's job is to create an environment where every employee has the chance to collaborate, innovate, and excel.[41]

Jim Collins and Jerry Porras also emphasize that leadership is less about decision-making and more about cultivating identity and purpose:

> If strategy is founded in organizational identity and common purpose, and if organizational culture is the bedrock of capability, then a key role of top management is to clarify, nurture and communicate the company's purpose, heritage, personality,

values, and norms. To unify and inspire the efforts of organizational members, leadership requires providing meaning to people's own aspirations. Ultimately this requires attention to the emotional climate of the organization.[42]

These views are supported by empirical research by McKinsey & Company into the characteristics of effective leaders. They identify four attributes that "explained 89 percent of the variance between strong and weak organizations in terms of leadership effectiveness": solving problems effectively, operating with a strong results orientation, seeking different perspectives, and supporting others.[43]

This changing role also implies that senior managers require different knowledge and skills. Research into the psychological and demographic characteristics of successful leaders has identified few consistent or robust relationships—successful leaders come in all shapes, sizes, and personality types. However, research using *competency modeling* methodology points to the key role of personality attributes that have been referred to by Daniel Goleman as *emotional intelligence*.[44] These attributes comprise: *self-awareness*, the ability to understand oneself and one's emotions; *self-management*, control, integrity, conscientiousness, and initiative; *social awareness*, particularly the capacity to sense others' emotions (empathy); and *social skills*, communication, collaboration, and relationship building. Personal qualities are also the focus of Jim Collins' concept of "Level 5 Leadership," which combines personal humility with an intense resolve.[45]

A similar transformation is likely to be required throughout the hierarchy. Informal structures and self-organization have also transformed the role of middle managers from being administrators and controllers into entrepreneurs, coaches, and team leaders.

Summary

The dynamism and unpredictability of today's business environment presents difficult challenges for business leaders responsible for formulating and implementing their companies' strategies. Not least, because businesses need to compete at a higher level along a broader front.

In responding to these challenges, business leaders are supported by two developments. The first comprises emerging concepts and theories that offer both insight and the basis for new management tools. Key developments include complexity theory, the principles of self-organization, real option analysis, organizational identity, network analysis, and new thinking concerning innovation, knowledge management, and leadership.

A second area is the innovation and learning that results from adaptation and experimentation by companies. Long-established companies such as IBM and P&G have embraced open innovation; technology-based companies such as Google, W. L. Gore, Microsoft, and Facebook have introduced radically new approaches to project management, human resource management, and strategy formulation. In emerging-market countries we observe novel approaches to government involvement in business (China), new initiatives in managing integration in multibusiness corporations (Samsung), new approaches to managing ambidexterity (Infosys), and new forms of employee engagement (Haier).

At the same time, it is important not to overemphasize either the obsolescence of existing principles or the need for radically new approaches to strategic management. Many of the features of today's

business environment are extensions of well-established trends rather than fundamental discontinuities. Certainly, our strategy analysis will need to be adapted and augmented in order to take account of new circumstances; however, the basic tools of analysis—industry analysis, resource and capability analysis, the applications of economies of scope to corporate strategy decisions—remain relevant and robust. One of the most important lessons to draw from the major corporate failures that have scarred the 21st century—from Enron and WorldCom to Royal Bank of Scotland and Eastman Kodak—has been the realization that the rigorous application of the tools of strategy analysis outlined in this book might have helped these firms to avoid their misdirected odysseys.

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Case 1 Tough Mudder Inc.: Building Leadership in Mud Runs

Really tough. But really fun. When I got back to the office on Monday morning, I looked at my colleagues and thought: "And what did you do over the weekend?"

—Tough Mudder participant

Tough Mudder has its origins in a business plan written by Harvard MBA student, Will Dean, for entry in the school's annual business plan competition. The business concept was inspired by Tough Guy, an annual obstacle course race based on British special forces training.

On graduating from Harvard, Dean and his friend, Guy Livingstone, launched their first Tough Mudder event. On May 21, 2010, at Bear Creek ski resort, Pennsylvania, 4500 participants battled through a grueling 10-mile course.

By 2018, Tough Mudder Inc. had hosted about 200 events involving over two million participants, it employed over 200 people, and had revenues of about $100 million a year. During 2018, Tough Mudder would host 55 two-day events involving up to half a million participants. The challenges include wading through a dumpster filled with ice (the "Arctic Enema"), climbing a vertical tube through a cascade of water ("Augustus Gloop"), and dashing through live wires carrying up to 10,000 volts ("Electroshock Therapy"). Tough Mudder's website described the experience as follows:

> Tough Mudder events are team-based obstacle course challenges designed to test your all-around strength, stamina and mental grit, while encouraging teamwork and camaraderie. With the most innovative courses and obstacles, over two million inspiring participants worldwide to date, and more than $8.7 million raised for the Wounded Warrior Project by US participants, Tough Mudder is the premier adventure challenge series in the world. But Tough Mudder is more than an event; it's a way of thinking. By running a Tough Mudder challenge, you'll unlock a true sense of accomplishment, have a great time and discover a camaraderie with your fellow participants that's experienced all too rarely these days.[1]

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The Market for Endurance Sports

The origins of endurance sports can be traced to the introduction of the modern marathon race in 1896, the triathlon in the 1920s, orienteering in the 1930s, and the first Ironman triathlon in 1974. In recent years, a number of new endurance sports have appeared, including

- adventure races—off-road, triathlon-based events, which typically include trekking/orienteering, mountain biking, and paddling;
- obstacle course races (OCRs)—cross-country running events with a variety of challenging obstacles;
- novelty events—fun events such as 5K races in which competitors are doused in paint (Color Run), running with real bulls (Great Bull Run), and food fights (Tomato Royale).

Obstacle mud runs were initiated in the UK in 1987 with the annual Tough Guy race organized by ex-British soldier Billy Wilson ("Mr. Mouse") on his farm in Staffordshire, England. In the US, Warrior Dash launched in July 2009, followed by Tough Mudder and Spartan Races in May 2010. A flood of new entrants followed, many of which survived for only a short time. In January 2018, Mud Run Guide listed 881 "active race series and organizers of mud runs, obstacle races, and adventure runs" and 204 inactive raced series and organizers. A large number of these were charity events organized by not-for-profit organizations. By 2013, there were 3.4 million participants in US OCRs paying a total of $290.1 million.[2] By comparison, triathlons attracted about two million participants in 2013. However, by 2014, participation appears to have peaked. Running USA pointed to a decline in the numbers of participants in OCRs and other "nontraditional" running sports during 2015 and 2016.[3] Despite this fading of the initial boom, efforts were afoot to establish OCRs as a legitimate sport. The developing infrastructure of the industry included specialist magazines and websites and national and international associations (e.g., United States Obstacle Course Racing and International Obstacle Sports Federation). During 2017, the possibility of making obstacle course racing an Olympic sport was being discussed.

The psychology of mud runs (and other endurance sports) is complex. The satisfaction participants derive from overcoming their perceived physical and mental limits combines with identification with warrior role models and the nourishing of camaraderie. The *New York Times* referred to the "Walter Mitty weekend-warrior complex," noting that, while the events draw endurance athletes and military veterans, "the muddiest, most avid, most agro participants hail from Wall Street."[4] A psychologist pointed to the potential for "misattributed arousal": the tendency among couples participating in endurance events to attribute increased blood pressure, heart rate, and sensory alertness to their emotional relationship with their partner. Bottom line: "Want your boyfriend or girlfriend to feel intense feelings of love and desire for you? Put yourselves through a grueling, 12-mile obstacle course!"[5]

During 2013–17, the mud run industry experienced a shake-out as many smaller organizers were unable to attract sufficient participants to cover the high fixed costs of producing and publicizing their events. Among the casualties was BattleFrog, which closed down two-thirds of the way through its 30-event program for 2016. By 2017, the industry leaders were Tough Mudder, Spartan Races, and Warrior Dash (Table 1).

TABLE 1 The big three of obstacle course events

	Spartan Races	Warrior Dash	Tough Mudder
Founding:	Started by Joe De Sena in 2010 Expanded overseas through franchising	Red Frog Events LLC launched Great Urban Race in 2007 and Warrior Dash in 2009	First mud run in May 2010. 14 weekend events in 2011. 2012 first international events in Australia and UK
2018 events:	Mostly 1-day events, 55 in US, 9 in Canada, 41 in 19 other countries	US: 27 one-day events	55 two-day events: 31 in the US, 2 in Canada, 15 in the UK, 1 in Ireland, 5 in Germany, and 1 in Australia
The product:	3 types of race: Sprint (3 miles, 20+ obstacles); Super (8 miles, 25+ obstacles); Beast (12 miles, 30+ obstacles); Ultra Beast (26 miles, 60+ obstacles). Also: Spartan Stadium Series (3+ miles, 18+ obstacles, held in baseball stadiums, prize pool of $20,000); Hurricane Heat (endurance event over 4, 12, or 24 hours); and Spartan World Championship (annual event)	3- to 4-mile race with 12 obstacles followed by postrace party (beer, bbq, live music)	*Challenge Series:* Tough Mudder 5K (5 km, 10 obstacles); Tough Mudder Half (5 miles; 13 obstacles); Tough Mudder Full (10 miles; 20+ obstacles). *Competitive series*: Tougher Mudder (10 miles, 20+ obstacles); Toughest Mudder (8 hours from midnight on Saturday); World's Toughest Mudder (24-hours, prizes for the man, woman, and team that complete the most course laps). *Elite sport series:* Tough Mudder X Open and Tough Mudder X World Championship.
Sponsors:	Reebok (2013–17), Clif Bar, Yokohama tires, GTS (organic health drinks), Eat the Bear	Dogfish Head (beer), Core power (protein drinks), Grunt Style (fitness programs), Tomer Kosher (beef sticks). Vibram, Anytime Fitness, Gold Bond, Rockin' Refuel	Merrell (shoes), Trek (health foods), P&G Head & Shoulders, Guinness, Aflac (insurance), Kill Cliff (endurance drinks), Amazon, Celsius (fitness drinks)
Entry fees:	$114–$194	$65–$104	$55–$204

Growing the Company, Building the Brand

After a successful inaugural event at Bear Creek ski resort in Pennsylvania in June 2010 and subsequent events that year in California and New Jersey, Tough Mudder's strategic priority was to establish leadership within the emerging market for obstacle course races. How to position Tough Mudder in relation both to other endurance sports and to other obstacle runs was the critical strategic issue for CEO Will Dean. Dean believed that compared to traditional endurance sports—such as marathons and triathlons—the key attributes of obstacle course races were: first, their opportunities for personal fulfillment through confronting the risks of injury, hypothermia,

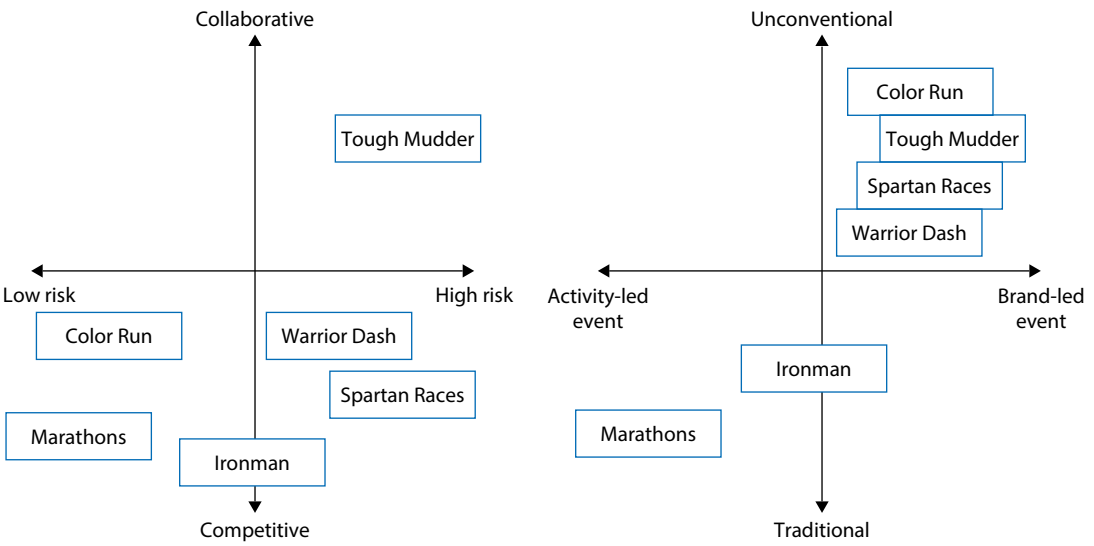
and extreme exhaustion; second, they could be collaborative rather than competitive events; and third, they were more engaging by allowing a variety of experiences and challenges. Figure 1 outlines Tough Mudder's conceptualization of the market and its positioning within it.

However, combining the various attributes of the mud run experience—exhaustion, camaraderie, fun, and fear—was challenging in terms of product design. In trading off individual achievement against collaboration, Dean emphasized the collaborative dimension—Tough Mudder would be untimed and team-based; the individual challenge would be to complete the course. A more complex challenge was the need for Tough Mudder to present itself as formidable ("Probably the Toughest Event on the Planet") while attracting a wide range of participants. Making it a team-based event and giving participants the option to bypass individual obstacles helped reconcile these conflicting objectives. Appealing to military-style principles of esprit de corps ("No Mudder left behind") also helped reconcile this dilemma. This combination of personal challenge and team-based collaboration also encouraged participation from business enterprises and other organizations seeking to build trust, morale, and motivation among teams of employees. To encourage corporate participation, Tough Mudder offered customized corporate packages that could include a private tent, catering, and other services.

The principle of collaboration was not only within teams but extended across all participants. Before each Tough Mudder event, participants gather at the start line to recite the Tough Mudder pledge:

- I understand that Tough Mudder is not a race but a challenge.
- I put teamwork and camaraderie before my course time.
- I do not whine—kids whine.
- I help my fellow Mudders complete the course.
- And I overcome all my fears.

FIGURE 1 The market for endurance sports



Source: Adapted from a presentation by Nick Horbaczewski to Strategic Planning Innovation Summit, New York, December 2013.

As psychologist Melanie Tannenbaum observes: "this pledge is setting a very powerful descriptive norm . . . there's a little part of our brains that hasn't quite left the 'Peer Pressure' halls of high school. We want to fit in, and we want to do what others are doing."[6]

The spirit of unity and collaboration provides a central element of Tough Mudder's marketing strategy. Tough Mudder has relied almost exclusively on Facebook for building its profile, encouraging participation, and building community among its participants. Its Facebook ads target specific locations, demographics, and "likes" such as ice hockey and other physical sports. Tough Mudder also makes heavy use of "sponsored stories," which appear on users' Facebook "news feeds" when their friends "like" Tough Mudder. Most important, Facebook is the ideal media for Tough Mudder to exploit its greatest appeal to participants: the ability for them to proclaim their courage, endurance, and fighting spirit. As the *New York* magazine observes: "the experience is perfect for bragging about on social media, and from the outset Tough Mudder has marketed to the boastful."[7] By March 2015, Tough Mudder had four million Facebook "likes." Will Dean observed that: "We spend a lot of money on Facebook advertising, but these platforms are amplified many times over by this network of users themselves." This amplification includes: ". . . uploading photographs to Facebook, posting statuses about events, linking YouTube videos, Snapchatting, Instagramming, Tweeting, blogging, and all the rest."[8]

By 2018, Tough Mudder's marketing efforts had become strongly orientated toward video. Most Tough Mudder events are video streamed on Facebook and the Tough Mudder website. In addition, Tough Mudder made increased use of training videos and video interviews. In 2016, CBS began televising Tough Mudder competitive events.

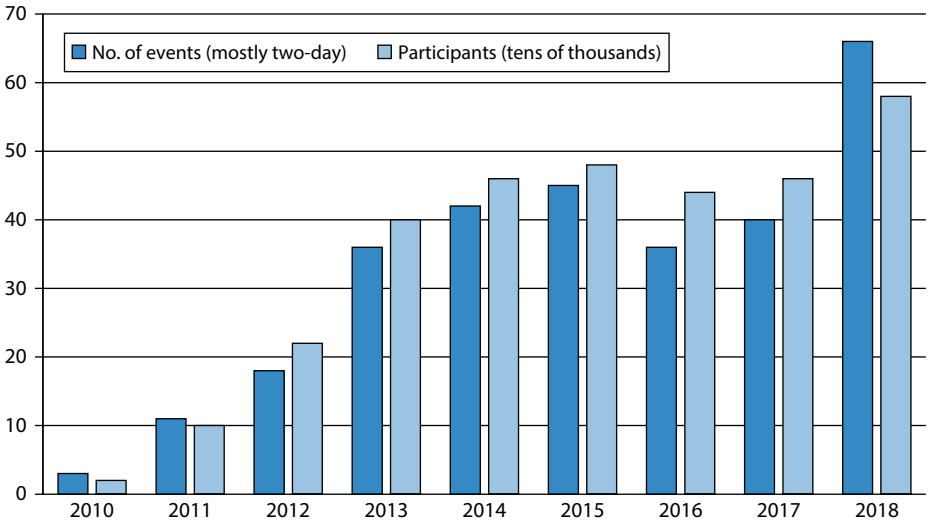
Establishing leadership within the obstacle mud run market was a key strategic goal for the company. The tendency for the market to coalesce around a few leading firms would be reinforced by the ability of the market leader to set industry standards—to establish norms of the key attributes of an authentic mud run. Hence, Dean envisaged Tough Mudder playing a similar role to the World Triathlon Corporation and its Ironman brand in triathlon racing.

The problem, however, was that Spartan Races was also committed to market leadership. The result was a fierce rivalry between the two companies and their CEOs, which manifested itself in espionage, efforts to poach one another's customers, and flying arial banners over their rival's events. At the same time, Will Dean liked to emphasize the differences between the two companies: "Spartan Race is based on the philosophy that success is earned through punishment and self-denial . . . anyone who fails to get over Spartan obstacles is punished by having to perform multiple numbers of burpees. . . We wanted to show that a tribal spirit of cooperation would prove more attractive than a message of 'win ar all costs'"[9]

Early-mover advantage combined with a rapidly growing program of events (Figure 2) gave Tough Mudder joint market leadership in North America together with Spartan Races. In the UK, Tough Mudder was the clear market leader. In other countries—notably Germany, Australia, and New Zealand—Tough Mudder licensed its trademarks, designs, and know-how to local event organizers. However, sustaining growth and staying ahead of the competition required delivering an experience that people would want to come back for, time and time again. This involved three major activities at Tough Mudder:

- Meticulous attention to customer feedback was achieved through customer surveys, on-site observations (including employee participation in mud runs), and close attention to social media. Tough Mudder continually sought clues as to how it might make improvements that would allow it to satisfy the energy, determination, and gung-ho spirit of the participants.

FIGURE 2 Tough Mudder: Growth 2010–2018



Note: Participant numbers are casewriter's estimates. Data for 2018 are projections.

- Continuous development of obstacles and course design involved continuous new product development and learning from participant experiences. As Will Dean explained: "the process starts with ideation—essentially brainstorming, having lots of ideas out there—not worrying about whether they're practical or feasible. . . And then we go through a very rapid iteration process of building prototypes, trying to understand what the economics of this might look like. And then we go to actual testing. We have an obstacle innovation lab out in Pennsylvania, where we have five mad scientists. And then we bring people in to try them. . . And then we have a big unveil once a year."[10]

Partnering

Partnering with other organizations has been a central feature of Tough Mudder's growth. Its partnerships have been important for building market momentum, providing resources and capabilities that Tough Mudder lacked, and generating additional sources of revenue.

Since its inaugural run in 2010, Tough Mudder has been an official sponsor of the Wounded Warriors Project, a charity that supports wounded veterans. The relationship reinforces Tough Mudder's military associations and helps legitimize Tough Mudder's image of toughness, bravery, and compassion. Military connections were further reinforced by sponsorship from the US Army Reserve, which viewed Tough Mudder events as an opportunity for promotion and recruitment.

Commercial sponsors include the suppliers of athletic apparel, beer, energy drinks, and food supplements—plus a few large consumer goods companies such as Diageo (Guinness), P&G (Head & Shoulders shampoo), and Suntory (Lucozade).

Expanding the Product Range

The principal means by which Tough Mudder sought to broaden the base of participation and encourage repeat business was through broadening the product range.

Between 2013 and 2017, Tough Mudder introduced a number of new events. Some of these, such as Mudderella, a five to seven mile obstacle course for women and Urban Mudder, a five to six mile city-based obstacle course, were soon withdrawn. Others became part of Tough Mudder's regular program. By 2018, Tough Mudder was offering its "Challenge Series" of Full, Half and 5-kilometer Tough Mudders and its "Competitive Series": a hierarchy of timed events for individuals and teams that culminated in the *World's Toughest Mudder*, which was introduced in 2011 to reinforce the brand's reputation for toughness. The annual run featured individuals and teams competing to complete the greatest number of course laps during a 24-hour period. The *Financial Times* described the event: "Le Mans on foot, through a Somme-like landscape with Marquis de Sade-inspired flourishes."[11] In addition, the "Mini-Mudder" was a 1-mile-obstacle course for children from 7 to 12.

Tough Mudder has also sought to diversify its sources of revenue. In addition to deals with CBS and Sky Sports to televise its Toughest Mudder events, in 2017, it launched a chain of franchised gyms. Tough Mudder Bootcamp offers functional fitness and teamwork training through 45-minute workout classes. Tough Mudder also provides franchise packages to gym operators and owners of work and office spaces suitable for its Bootcamp program.

Management

In an interview with Inc. magazine, CEO Will Dean outlined his management philosophy: "There are only two things a leader should worry about: strategy and culture . . . We aspire to become a household brand name, so mapping out a long-term strategy is crucial. I speak with Cristina DeVito, our chief strategy officer, every day, and I meet with the entire five-person strategy team once a week . . . We go on retreats every quarter to a house in the Catskill Mountains."[12]

At the core of Tough Mudder's strategy is its sense of identity, which is reinforced through the culture of the company: "Since Day 1, we've had a clear brand and mission: to create life-changing experiences. That clear focus means that every employee is aligned on the same vision and knows what they're working toward."[13] "We know who we are and what we stand for," he added. To sustain the culture, Tough Mudder has established a list of core values to guide the actions and behavior of the management team. The emphasis on building the corporate culture is reflected in a meticulous approach to hiring new employees who combine professional achievement with the pursuit of adventure and share Dean's passion and values. One indicator of Tough Mudder's distinctiveness is its reliance on internal financing: Tough Mudder has grown without venture capital financing and has no plans to go public.

Tough Mudder in 2018

During 2018, Tough Mudder continued to adapt its strategy to the challenges of a maturing market. Dean showed little concern over the industry's shakeout: consolidation around a few leading players was a normal feature of market evolution. At the same time, Tough Mudder's future depended upon it growing beyond mud runs:

> I think to be successful today, you must really have an integrated business. You have to, of course, be good at the events, but you also have to be good at marketing, you have to be good at media partnerships. You have to have ancillary businesses, such

> as the training business, to support that. Events companies are very much becoming sports media entertainment and lifestyle brands.[14]

In expanding its presence in sport and fitness, Dean regarded Tough Mudder as pioneering change in the endurance sport and fitness markets:

> Well, I think when we first got started, we really were disrupting the mass participation events business. . . I wanted to create an event that was much more about team inclusiveness, less about a race. I think we changed the way people think about mass participation events.
>
> Then if you look at the business today, I think we're really in two or three different areas. So of course we have the events business. We also have media business. I do think that what we're doing with CBS and Sky Sports in the UK has started to challenge some of the conventional norms within the sports media space.
>
> And then I think one area where we're definitely challenging assumptions is in the gym and the training space. We launched the Tough Mudder Bootcamp this year. In certain markets, like in New York or in L.A. or London, of course there are thousands of fitness studios to choose from. But in most parts of the United States, that's simply not true. We're definitely trying to disrupt what the fitness market looks like outside of those tier 1 markets, with what we believe is a very compelling fitness concept.[15]

However, these additional legs to Tough Mudder's business model depended upon the continued appeal of its mud runs. Here Tough Mudder faced uncertainties. Was the decline in obstacle course participation a feature of market maturity, or did it indicate long-term decline? Would Tough Mudder's broadening of its product portfolio encourage wider participation and would this detract from the appeal of its core 10-mile mud run? Would Tough Mudder's investments in community building, product development, and continuous improvement of the participant experience encourage repeat business? And would Tough Mudder's emphasis on camaraderie and team work win out over Spartan Run's commitment to individual achievement and competitiveness?

Notes

1. http://toughmudder.com/about/, accessed July 20, 2015.
2. An acrimonious legal dispute between Will Dean and Tough Guy Challenge founder Billy Wilson over the alleged theft of trade secrets was resolved by Dean paying $725,000 to Wilson in an out-of-court settlement.
3. "Obstacle Race World: The State of the Mud Run Business" (June 2014), http://www.obstacleusa.com/obstacle-race-world-the-state-of-the-mud-run-business-details-the-size-and-reach-of-the-ocr-market-as-the-sports-first-ever-industry-report/, accessed July 20, 2015.
4. "The Running Bubble has Popped," *New York Times* (November 5, 2017).
5. M. Tannenbaum, "The Making of a Tough Mudder" (January 15, 2015), http://blogs.scientificamerican.com/psysociety/2015/01/15/mud-running/, accessed July 20, 2015.
6. Ibid.
7. "Tough Mudder: There Are Riches in This Mud Pit," *New York Magazine* (September 29, 2013), http://nymag.com/news/business/boom-brands/tough-mudder-2013-10, accessed July 20, 2015.
8. Will Dean, *It Takes a Tribe: Building the Tough Mudder Movement* (New York: Penguin, 2017): 95.
9. Ibid: 49.

10. "CEO of Tough Mudder Talks About the Future of Adventure Racing," http://fortune.com/2017/09/26/tough-mudder-bootcamp-will-dean, accessed January 18, 2018.
11. "Tough Mudder," *Financial Times* online edition (January 18, 2013), http://www.ft.com/cms/s/2/7a80e610-603d-11e2-b657-00144feab49a.html#ixzz2nFzd1Xx4, accessed July 20, 2015.
12. "The Way I Work: Will Dean, Tough Mudder," Inc., Magazine, http://www.inc.com/magazine/201302/issie-lapowsky/the-way-i-work-will-dean-tough-mudder.html, accessed July 20, 2015.
13. "On the Streets of SoHo. Will Dean, Tough Mudder," http://accordionpartners.com/wp-content/uploads/2013/02/QA-Will-Dean.pdf, accessed July 20, 2015.
14. "CEO of Tough Mudder Talks About the Future of Adventure Racing," op cit.
15. Ibid.

Case 2 Kering SA: Probing the Performance Gap with LVMH

From PPR to Kering

In March 2013, the French fashion and retail giant, Pinault-Printemps-Redoute (PPR), changed its name to Kering. According to CEO François-Henri Pinault: "Kering is a name with meaning, a name that expresses both our purpose and our corporate vision. Strengthened by this new identity, we shall continue to serve our brands to liberate their potential for growth." The change in name followed the transformation in the business of the company.

PPR was primarily a retailing company: it owned the department store chain Au Printemps, the mail-order retailer La Redoute, and the music and electronics chain Fnac. However, the acquisition of a controlling stake in the Gucci Group in 1999 marked the beginning of a transformation into a fashion and luxury goods company. Table 1 shows the main acquisitions and divestments of PPR/Kering.

This was not the first transformation that the company had undergone. PPR/Kering was the creation of the French entrepreneur Francois Pinault who had established Pinault SA as a timber trading company before acquiring retailers Au Printemps and La Redoute in 1992. In March 2005, Francois Pinault was succeeded by his son François-Henri Pinault as chairman and CEO of Kering. The Pinaults' dominance of Kering is ensured through the role of the Pinault family's holding company, Groupe Artémis, which owns 40.9% of Kering. (Artemis also owns Christie's, the auction house, and the Château Latour vineyards.)

In recreating itself as a diversified fashion and luxury goods company, Kering has been widely viewed as modeling itself on LVMH—the world's leading purveyor of luxury goods. However, despite the close parallels between the two companies—and their leading families, the Pinaults and the Arnaults—Kering has struggled to match LVMH's financial performance. During the period of François-Henri Pinault's leadership (2005–17), Kering's revenues and operating profits have grown more slowly than LVMH's.

This differential was reflected in Kering's share price growth, which, until early 2016, lagged that of LVMH. (121% compared to 271% for LVMH during the 10 years to the end of 2015.) However, during 2016 and 2017, Kering's prospects were upwardly revised by the stock market—mainly due to the surging performance of Gucci. As a result, for the 10 years to February 21, 2018, Kering's share price growth (315%) outstripped that of LVMH (247%).

However, despite the upturn, Kering's profit performance—including its operating margin, return on assets (ROA), and return on equity (ROE)—continued to lag behind that of LVMH. If Kering was to close the gap, it needed to understand the sources of this performance differential.

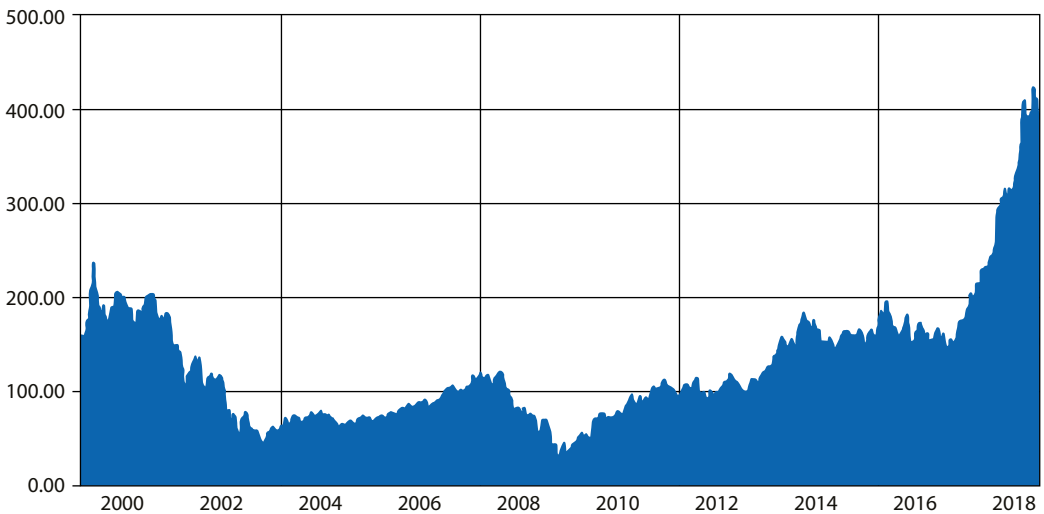
This case was prepared by Robert M. Grant. ©2019 Robert M. Grant.

TABLE 1 Kering's principal acquisitions, divestments, and new business launches, 1999–2017

Year	Business
1999	Acquisition of 42% of Gucci Group (later increased to 100%) Acquisition of Yves St. Laurent
2000	Acquisition of Boucheron (jewelry and perfumes)
2001	Acquisition of Bottega Veneta and Balenciaga Launch of Stella McCartney and Alexander McQueen brands
2004	Ownership of Gucci Group increased to 99.4% Sale of Facet (financial services), Rexel (distributors of electrical equipment)
2006	Sale of Printemps
2007	Acquisition of 62% of Puma
2009	Acquisitions of Dobotex (manufacturer of Puma socks and apparel) and Brandon (corporate merchandising)
2010–11	Acquisitions of Cobra and Volcom (sports equipment suppliers) and luxury menswear supplier, Brioni
2012	Divestment of Fnac Sale of Redcats online businesses Joint venture formed with Yoox for online sales of luxury brands
2013	Acquisition of Christopher Kane (fashion clothing), Pomellato (jewelry), and France Croco (processor of crocodile skins) Sale of La Redoute and Relais Colis (parcel delivery)
2014	Acquisition of Ulysse Nardin (watches)
2015	Sale Sergio Rossi (shoes) Launch of Kering Eyewear
2016	Kering Luxury Logistics and Industrial Operations established as a new division Sale of Electric (sports apparel and accessories)

Source: Tables 1, 2, 3, A1, and A2 are based upon information in *Kering Financial Documents* 2016 and 2017.

FIGURE 1 Kering share price (in euros), January 2000 to March 2018



Kering in 2018

In February 2018, Kering SA operated in two segments:

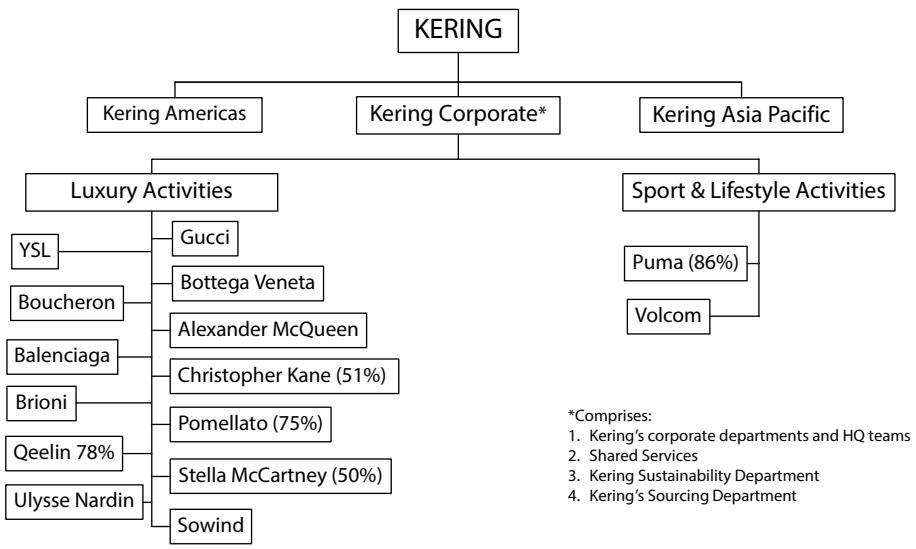
- Luxury: Kering designs, manufactures, and markets ready-to-wear clothing, leather goods, shoes, watches, jewelry, fragrances, and cosmetic products through Gucci, Bottega Veneta, Yves Saint Laurent, and several other high-profile brands.
- Sport & Lifestyle: Kering designs and develops footwear, apparel, and accessories under the Puma, Volcom brands.

Figure 2 shows Kering's organizational structure. Table 2 shows the performance of its major brands. Table 3 shows revenue by geographical region. Appendices 1 and 2 show financial data for Kering and LVMH.

Kering description of its group strategy is shown in Table 4. This strategy was revealed in several of the strategic decisions that Kering made during 2016–18. Close corporate supervision of the individual businesses was evident from the fact that, during 2015–17, Kering appointed new CEOs to every one of its subsidiaries with the exception of Puma, YSL, and Stella McCartney. New creative directors were also appointed to most subsidiaries. Kering's efforts to provide greater integration and efficiency included the creation of a single purchasing and supply chain organization to serve the luxury division.

However, by far the biggest strategic move was Kering's announcement in January 2018 that it would spin off the major part of its shareholding in Puma by distributing Puma shares to Kering's shareholders. The announcement had been widely anticipated and had been a factor in Kering's rising share price during late 2017 and early 2018. Kering's CFO observed that: "We found ourselves in a sort of imbalance, linked to the outperformance of the luxury sector," and the spinoff offered "a simple,

FIGURE 2 Kering: Divisional structure and main brands, January 2018



rapid way of creating value for our investors." The divestment marked the end of Kering's ambitions to integrate luxury fashion with a sports lifestyle brand—efforts that had included the appointment of singer and hip-hop artist Rihanna as Puma's creative director.

TABLE 2 Kering Group: Performance of the major brands (€ millions)

	Revenue		Op. income[a]		Op. margin		Net assets	
	2017	2016	2017	2016	2017	2016	2017	2016
Gucci	6211	4378	2124	1256	34.2%	28.7%	6482	6633
Bottega Veneta	1176	1173	294	297	25.0%	25.3%	618	619
Yves Saint Laurent	1501	1220	377	269	28.1%	22.0%	1136	1102
Other luxury brands	1907	1698	116	114	6.1%	6.7%	2267	2353
Total Luxury Division	**10,796**	**8469**	**2911**	**1936**	**27.0%**	**22.9%**	**10,504**	**10,508**
Puma	4152	3642	244	127	5.9%	3.5%	4427	4430
Other sport/lifestyle brands	230	242	0	(3)	0.0%	(1.2%)	220	265
Total Sport & Lifestyle Division	**4382**	**3884**	**244**	**123**	**5.6%**	**3.2%**	**4646**	**4695**

Note:
[a] Recurrent operating income. Excludes impairment of goodwill, restructuring costs, etc.
Source: *Kering Financial Document,* 2017.

TABLE 3 Kering Group: Sales revenue by geographical region

	2017 (€m)	2016 (€m)	Reported change (%)	Comparable change (%)[a]
Western Europe	5077	3886	+30.7	+32.3
North America	3306	2741	+20.6	+22.9
Japan	1291	1226	+5.3	+10.9
Eastern Europe, Middle East, and Africa	1024	814	+25.7	+24.9
South America	595	514	+15.6	+19.1
Asia-Pacific (excluding Japan)	4185	3304	+30.6	+32.7
Total revenue	15,478	12,385	+25.0	+27.2

Note:
[a] Change in revenue after adjusting for changes in exchange rates.
Source: *Kering Financial Document*, 2017.

TABLE 4 Kering: Extracts from "Kering in 2017—Group Strategy"

VISION: Embracing creativity for a modern, bold vision of luxury
Our ambition is to be the world's most influential Luxury group in terms of creativity, sustainability, and economic performance. Boldness is an essential source of inspiration and creativity. . . . Our values are closely tied to a powerful, creative content imbued with modernity, and are complemented by the entrepreneurial spirit that permeates each of our brands and creative teams.

BUSINESS MODEL: A multi-brand model built on a long-term approach and creative autonomy of our Houses
Our multi-brand approach is built on a long-term vision and combines agility, balance, and responsibility.
Agility: Kering helps its Houses realize their full growth potential . . . they benefit from the Group's solid integrated value chain and pooled support functions. By encouraging imagination in all its forms, our organization fosters performance while enabling our Houses to unleash the best of their talents and creativity.
Balance: We use our strength as a Group to help forge a distinctive identity for each House . . . The Group supports the brands by providing its expertise, reliable supply chain and access to distribution networks, as well as enhancing customer experience—especially in digital channels.
Responsibility: All our operations are founded on a responsible economic model. Our comprehensive, sustainable approach is a structural competitive advantage.

STRATEGY: Harnessing the full potential of Luxury to grow faster than our markets

- Promoting organic growth: product innovation, sales efficiency, customer experience
- Enhancing synergies and integration: resource pooling, cross-business expertise, vertical Integration, talent excellence

Source: *Kering Financial Document*, 2017: 8–12.

Appendix 1: Kering SA: Financial Data

TABLE A1 Kering Group: Selected data from financial statements

Year to 31 December (in € millions)	2017	2016	2015	2014
INCOME STATEMENT				
Total sales	15,478	12,385	11,584	10,038
Cost of sales	5345	4595	4510	3742
Gross margin	10,133	7790	7074	6296
Payroll expenses	2444	1984	1821	1545
Other recurring operating costs	4741	3920	3607	3087
Recurring operating income	2948	1886	1747	1664
Nonrecurring expenses[a]	242	506	394	112
Operating income	2706	1382	1253	1552
Finance costs (interest)	243	202	249	197

(continues)

TABLE A1 Kering Group: Selected data from financial statements (*Continued*)

Year to 31 December (in € millions)	2017	2016	2015	2014
Income before tax	2464	1178	1004	1355
Net income of discontinued operations	(6)	(12)	41	(479)
Net income ("total comprehensive income")	1685	931	892	477
BALANCE SHEET (at 31 December (in €m))				
Assets				
Cash and cash equivalents	2137	1050	1146	1196
Total receivables	1445	1302	1261	1168
Inventories	2699	2432	2192	2235
Total current assets	7317	5640	5365	5273
Property, plant, & equipment	2268	2207	2073	1887
Goodwill, net[b]	3421	3534	3759	4040
Brands and Intangible assets[c]	11,159	11,273	11,286	10,748
Total assets	25,577	24,139	23,851	23,254
Trade payables	1241	1099	940	983
Current borrowings	940	1235	1786	2284
Other current financial liabilities	368	286	239	347
Total current liabilities	5763	4899	5099	5780
Total long-term debt	4246	4206	4054	3195
Total debt (long-term and current)	5554	5727	6069	5696
Total liabilities (except shareholders' equity)	12,951	12,175	12,228	12,620
Total shareholders' equity	12,626	11,964	11,623	10,634
CASH FLOWS				
Total cash from operations	2459	1792	1296	1261
Total cash from investing	(725)	(670)	(759)	(903)
of which, capital expenditures on fixed assets	(752)	(611)	(672)	(551)

Notes:
[a] Mainly writedown of brand values and restructuring costs.
[b] Arising from acquisitions.
[c] At cost less amortization and impairment.
Source: Tables A1, A2, and A3 are based upon *Kering Financial Document*, 2017.

TABLE A2 Kering Group: Divisional information

	Luxury		Sport & Lifestyle	
	2017	2016	2017	2016
Brand value (€m)	6813	6887	3813	3920
Goodwill (€m)	2439	2551	977	978
Number of stores	1388	1305	789	734
Number of production units	114	97	3	4
Number of logistic units	82	80	46	4
Number of employees (full-time equivalents)[a]	23,423	21,559	12,144	11,873
Divisional revenue by product (total €m)	10,796	8469	4382	3884
of which Apparel (%)	16	16	38	37
Footwear (%)	17	14	45	45
Leather goods (%)	52	52	–	–
Watches & jewelry (%)	8	9	–	–
Other (%)	7	9	17	18
Divisional revenue by region				
W. Europe (%)	34	32	30	29
N. America (%)	19	19	27	26
Asia Pacific (%)	31	31	17	16
Japan (%)	9	10	7	9
Other (%)	7	8	19	20

Note:
[a] In addition, there were 3029 "corporate & other" employees (2445 in 2016; 1349 in 2015).

TABLE A3 Performance of leading suppliers of sports and lifestyle products, 2017

	Revenue	Operating margin	ROE
Nike Inc.	$34.4 bn	12.8%	32.1%
Adidas AG	€19.3 bn	9.4%	21.4%
Puma SE	€4.1 bn	5.9%	8.2%
Under Armour Inc.	$5.0 bn	0.6%[a]	(2.38%)[a]

Note:
[a] Under Armour's profit was reduced in 2017 by a rise in operating costs. In 2016, operating margin was 8.6% and ROE 12.5%.

Appendix 2: LVMH: Selected Financial Data

LVMH Moet Hennessy Louis Vuitton SA (LVMH) is a Paris-based luxury goods company. Tables A4–A6 show financial data for the company and its main businesses.

TABLE A4 LVMH's product segments and brands[a]

	Revenue (€m)		Op. profit (€m)		Operating margin (%)		Assets (€m)		ROA (%)	
Division	**2017**	**2016**	**2017**	**2016**	**2017**	**2016**	**2017**	**2016**	**2017**	**2016**
Wines and spirits[a]	5084	4835	1558	1504	30.6	31.1	15,581	14,137	10.0	10.6
Fashion and leather goods[b]	15,472	12,775	4905	3873	31.7	30.3	18,781	11,239	26.1	34.4
Perfumes and cosmetics[c]	5560	4953	600	551	10.8	11.1	3629	3419	16.5	16.1
Watches and jewelry[d]	3805	3468	512	458	13.5	13.2	8239	8531	6.2	5.4
Selective retailing[e]	13,311	11,973	1075	919	8.1	7.7	6921	8549	15.5	10.7

Notes:

[a] Major brands are: Moët & Chandon, Dom Pérignon, Veuve Clicquot, Krug, Ruinart, Mercier, Château d'Yquem, Château Cheval Blanc, Hennessy, Glenmorangie, Ardbeg, Wen Jun, Belvedere, Chandon, Cloudy Bay.

[b] Major brands are: Louis Vuitton, Céline, Loewe, Kenzo, Givenchy, Thomas Pink, Fendi, Emilio Pucci, Donna Karan, Marc Jacobs, Berluti, Nicholas Kirkwood, Loro Piana.

[c] Major brands are: Christian Dior, Guerlain, Parfums Givenchy, Parfums Kenzo, Loewe Perfumes, Benefit Cosmetics, Make Up For Ever, Acqua di Parma.

[d] Major brands are: Bulgari, TAG Heuer, Chaumet, Dior Watches, Zenith, Fred, Hublot, De Beers Diamond Jewellers Ltd (a joint venture).

[e] Major brands are: DFS, Sephora, Le Bon Marché, la Samaritaine, Royal Van Lent.

Source: Tables A4, A5, and A6 are based upon *LVMH Financial Documents*, 2017.

TABLE A5 LVMH's revenues by geographical region, 2016 and 2017

	2017		2016	
	€ millions	**%**	**€ millions**	**%**
France	4172	10	3745	10
Europe (excluding France)	8000	19	6825	18
Asia (excluding Japan)	11,877	28	9922	26
Japan	2957	7	2696	7
United States	10,691	25	10,004	27
Other countries	4939	11	4408	12

TABLE A6 LVMH: Selected items from financial documents 2014–17

	2017	2016	2015	2014
INCOME STATEMENT ITEMS				
Total revenue	42,636	37,600	35,644	30,638
Cost of sales	14,783	13,039	12,553	10,801
Gross margin	27,783	24,561	23,111	19,837
Selling, general, and admin. expenses	19,557	17,538	16,493	14,117
Profit from recurring operations	8293	7026	6605	5431
Nonrecurring net expenses	180	122	221	284
Operating profit	8113	6904	6384	5431
Cost of debt	62	83	78	115
Net income	5129	3981	3573	5648
BALANCE SHEET ITEMS				
Cash and short-term investments	3738	3544	3594	4091
Trade accounts receivable	2737	2685	2521	2274
Inventory	10,908	10,546	10,096	9475
Total current assets	21,028	19,398	18,950	18,110
Property, plant, and equipment	13,206	12,139	11,157	10,387
Goodwill	16,514	10,401	10,122	8810
Brands and other intangibles	13,714	13,335	13,572	13,031
Total assets	68,550	59,622	57,601	53,362
Trade accounts payable	4540	4184	3960	3606
Short-term borrowings	4530	3447	3769	4189
Total current liabilities	15,003	12,810	12,699	12,175
Long-term debt	7046	3932	4511	5054
Total debt	11,586	7379	8280	9243
Total liabilities (less equity)	38,290	31,733	30,002	31,599
Shareholders' equity	30,260	27,903	27,599	23,003
CASH FLOWS				
Net cash from operating activities	7030	6751	6063	4607
Total cash from investing	(8607)	(2347)	(2466)	(2007)
of which, capital expenditures	(2276)	(2265)	(1995)	(1775)
OPERATIONAL DATA				
Number of employees	138,449	134,476	125,346	121,289
Number of stores	4374	3948	3860	3544

Case 3 Pot of Gold? The US Legal Marijuana Industry

By 2018, the legal marijuana industry had established itself as a significant component of both the US agribusiness and medical sectors. Retail sales of legal marijuana in 2017 were estimated at $9 billion by BDS Analytics—most of it for medically-approved use. The 2017 US marijuana crop was valued (at wholesale prices) at $5.7 billion by Cannabis Benchmarks—as compared to the US wheat crop of $7.4 billion. For the states in which marijuana was legally cultivated and distributed, the benefits included 121,000 direct jobs and $1.2 billion in tax revenues.[1]

Medium-term projections for the industry pointed to continued strong growth. ArcView—a marijuana information, consulting, and investment firm—forecast that, by 2021, US consumer spending on legal cannabis would total $20.8 billion, and that the industry would generate 414,000 jobs and more than $4 billion in tax revenue.[2]

Like most growth industries, the industry has attracted considerable financial interest. Some of the venture capital and private equity funds investing in the industry are listed in Table 1. Investment in the marijuana sector was also facilitated by ArcView Group's intermediating role in linking investors with marijuana entrepreneurs had generated a buzz of excitement about this "new gold rush." By October 2017, its network of angel investors had invested $125 million in 157 cannabis-sector companies.

The transformation of the marijuana business from one controlled by criminal gangs to a legitimate business activity supported by an infrastructure of consultants, information providers and investment funds had generated a buzz of excitement about this "new gold rush." However, there remained perplexing questions over the industry's potential to generate attractive profits. Would the industry offer the sustained high profitability associated with the two other heavily regulated industries supplying recreational drugs—alcohol and tobacco—or would it suffer the squeezed margins and low returns typical of the agricultural sector?

Legalization

In 1996, California became the first state to legalize the sale of marijuana for medical use. Then, in 2014, Colorado and Washington became the first states to legalize the production, sale, and consumption of marijuana for recreational use. At the beginning of 2018, the sale of marijuana the sale of was legal in 30 states and, for recreational

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TABLE 1 Private equity and venture capital funds investing in the marijuana sector

Fund	Founded	Size	Notes
Privateer Holdings	2010	$129m.	Backed by PayPal cofounder Peter Thiel. Investments include Tilray (medical marijuana, The Goodship, (marijuana-infused candies and cookies), Marley Natural, and Leafly
Tuatara Capital	2014	$93m.	Investments include Willie's Reserve (owned by Willie Nelson), TeeWinot Life Sciences (cannabis-based pharmaceuticals), GreenDot Labs (cannabis extracts).
MedMen Opportunity Fund	2016	$130m.	The investment arm of MedMen Inc., a chain of 11 dispensaries in CA, NY, and NV. Has raised $176m in private equity funding, with an implied valuation of $1 billion.
Poseidon Asset Management	2013	$8m.	Invests in agricultural technology, SaaS solutions and data analytics for the marijuana industry.
Salveo Capital	2017	$2m.	Chicago-based venture capital fund. Initial investments: company Headset (cannabis data analytics) and Front Range Biosciences (biotech)
Casa Verde	2015	$33m.	Investments include Eaze Solutions Inc. (CA-based medical marijuana home delivery service), Trelis, Green Bits, and FunkSac (marijuana packaging)
Phyto Partners	2015	$10m.	Investments include: New Frontier (data analytics), firm Grownetics (growing solutions), Leaf (cannabis growing), and Flowhub (business management platform for marijuana businesses).

Source: https://www.investopedia.com/news/top-marijuana-private-equity-and-venture-capital-funds/

use by adults, in nine states (Colorado, Washington, Oregon, California, Nevada, Massachusetts, Maine, Alaska, and Vermont).

Yet, amidst continuing concerns over the physical and psychological dangers of marijuana consumption, the impetus to change federal law was weak. Continuing illegality of the production, sale, and possession of marijuana under federal law was a major handicap for the industry. In particular, firms engaged in producing and selling marijuana had limited access to the US financial system. Banks were fearful that involvement with the industry might contravene drug-racketeering or money-laundering rules. In the United States as a whole, law enforcement against consumers and suppliers of marijuana continued to be active. In 2016, there were 653,249 arrests throughout the United States on marijuana-related charges, down from 693,481 in 2013. Close to 90% of these arrests were for possession.

Moreover, the approach to enforcing Federal laws against marijuana had shifted considerably in the transition from the Obama to the Trump administration. In January 2018, US Attorney General Jeff Sessions rescinded the Obama-era guidelines, known as the "Cole Memo," which discouraged federal prosecutors from taking action against state-licensed marijuana businesses. As a result, banks and credit

unions became increasingly wary of transactions involving companies engaged in marijuana businesses.

The Market for Marijuana

The US market for marijuana can be segmented between legal and illegal sectors and between medical and recreational use. Table 2 provides some data.

Marijuana consumption in the United States has been widespread since the mid-1960s, although estimates of its prevalence are imprecise. According to the National Institute on Drug Abuse:

> Marijuana is the most commonly used illicit drug (22.2 million people have used it in the past month), according to the 2015 National Survey on Drug Use and Health. Its use is more prevalent among men than women—a gender gap that widened in the years from 2007 to 2014. Marijuana use is widespread among adolescents and young adults. . . Among the nation's middle and high school students, most measures of marijuana use by 8th, 10th, and 12th graders peaked in the mid-to-late 1990s and then began a period of gradual decline through the mid-2000s before levelling off. Most measures showed some decline again in the past five years. . . In 2016, 9.4% of 8th graders reported marijuana use in the past year and 5.4% in the past month (current use). Among 10th graders, 23.9% had used marijuana in the past year and 14.0% in the past month. Rates of use among 12th graders were higher still: 35.6% had used marijuana during the year prior to the survey and 22.5% used in the past month; 6.0% said they used marijuana daily or near-daily.[3]

Among adults, marijuana consumption was most prevalent among young males between the ages of 18 and 34; however, the fastest growth in marijuana use was among older Americans—especially those over 55.[4]

TABLE 2 Estimates of the US market for marijuana

Market feature	Data
Numbers of users, 2017	Total users: 33mn. (Gallup poll); 55mn. (Marist poll) Medical marijuana users: 1.7mn. (Marijuana Business Daily).
Marijuana sales, 2017	Total legal sales: $9 bn. (BDS Analytics), $5.1–6.1 bn. (Marijuana Business Daily). Medical sales: 60% of total; recreational 40% of total Total illegal sales: $64.7 bn. (ArcView).
Leading states for legal marijuana sales, 2017	California $1.45bn.; Washington $7.8bn. Colorado $0.44bn.; Arizona $0.35bn.; Michigan $0.13bn.; Illinois $0.08bn.; Oregon $0.07bn. (Marijuana Business Daily).
Number of legal marijuana businesses, 2017	Growers: 2500–3500; Retail dispensaries 3300–4300; Infused product manufacturers: 1600–2000; Testing labs: 100–150 (Marijuana Business Daily)

Note: The sources of the estimates are shown in brackets.

Development of Legal Marijuana Industry

The two lead states in legalizing recreational marijuana were Colorado and Washington; hence, the industry's development in these two states offers pointers as to how the legal marijuana industry might develop elsewhere—even though the structure and conduct of the industry will depend greatly upon how each state frames its regulations. In the future, California—because of the size of its market and extent of both legal and illegal cultivation—will have the biggest impact on the fortunes of the marijuana industry at the national level.

At present, entry into the industry depends critically upon the allocation of licenses. The availability of licenses depends upon the restrictiveness of eligibility criteria and whether the state imposes a limit on the number of licenses. In Colorado, eligibility criteria are strict: licensees must be US citizens, state residents, have clean criminal records, and meet other standards, but there is no quantitative limit on licenses issued. In Washington, a fixed number of licenses are available, and their allocation is by lottery. In California, eligibility criteria are relaxed and there is no quota on the number of licenses that can be issued. As a result, Cannabiz Media predicts that, by the end of 2018, California could grant as many as 10,000 licenses for marijuana businesses.[5]

However, in all states, receiving a state license is dependent upon local authorization—in Colorado, Washington, and California—many counties and cities have decided against permitting marijuana businesses. As a result, most businesses are concentrated in relatively few locations. In Colorado, over one-third of the state's 500+ dispensaries are in the Denver metropolitan area. In California, four cities—Oakland, San Jose, Sacramento, and San Francisco—accounted for 30% of all licenses in April 2018.[6]

In addition to the conditions for obtaining a license, the industry is subject to a vast array of regulatory requirements. All marijuana facilities have to have elaborate security equipment installed, including surveillance cameras and precautions against theft. In addition, every marijuana plant is subject to an elaborate system of tracking that includes RFID tagging. The physical movement of marijuana is also highly regulated—including specifications for the vehicles that can be used to transport marijuana.

The issuing of separate licenses for different types of marijuana businesses—growers, distributors/transporters, manufacturers, retailers, and testing labs—tends to reinforce fragmentation along the industry's value chain. Most states encourage small businesses—including social enterprises—in the development of their marijuana industries. However, the evidence in Colorado, Washington, and California shows an increasing role of large enterprises. In Colorado, dispensary chains include Native Roots (21 stores), LivWell (14 stores plus growing and processing operations), The Green Solution (11 stores), Green Dragon (11 stores), and Starbuds (10 stores). In California, multiple license holders include Honeydew Farms LLC (29 licenses), Harborside (12 licenses), KindPeoples (12 licenses), and CA Systematize (8 licenses).[7] Vertical integration from seed to retail dispensary is a feature of several of the larger players.

The development of the industry has been accompanied by the development of an infrastructure of support services. For example, MJ Freeway offers "seed-to-sale" tracking software that meets states' regulatory requirements and assisted operations management; Advanced Cannabis Solutions lease real estate to large commercial growers; Waste Farmers supply soils for cannabis growing; and ArcView Group is a hub for data, investment, media, and consulting. Table 3 shows some of the main features of the legal marijuana industries of Colorado, Washington, and California.

TABLE 3 Some features of the legal marijuana sector in Colorado, Washington, and California

	Colorado	Washington	California
Date of legalization	Medical 2000 Recreational 2012	Medical 1998 Recreational 2012	Medical 1996 Recreational 2018
Home cultivation	Yes (max. 6 plants)	No	Yes (max. 6 plants)
Licensing	Separate licenses for cultivation, manufacture and retailing, and for medical and recreational marijuana. State licenses only issued when allowed by local jurisdictions	Single licensing system for medical and recreational. Separate licenses for producers, processors, and retailers	Separate licenses for cultivation, manufacture, and distribution. License applicants must first have approval from local government.
Licensing fees	Application fees: dispensary $6000–$14,000; cultivation $1000. Licenses: dispensary $3000–$8000; cultivation: $1500–$1800	Application: $266 License fee: 1062	$1000 application fee. Licenses on sliding scale based on business throughput: e.g., retailers $4000–$72,000; distributors $1200–$125,000.
Taxes	2.9% sales tax	37% excise tax; 9.6% sales tax	15% excise tax plus $9.25 tax per pound on flower and $2.74 per pound on trim (in addition to sales and use taxes)
Operational regulation	State-wide tracking system for all plants and processed products		
Licenses issued (early 2018)	Medical: 503 dispensaries; 751 cultivators Recreational: 518 stores 722 cultivators	486 retail stores 1147 cultivators. No more licenses being issued	1273 licenses issued: cultivator 322, dispensary/retailer 322, manufacturer 302, distributor 176, micro-business 57, Delivery 52, testing 15.

Notes:

[a]By 2018, Colorado has highly developed marijuana industry with extensive infrastructure. Marijuana generated over $200m. in taxes and licensing fees for the state.

[b]The state has had a highly developed illegal marijuana market for decades with substantial production in the east of the state and imports from British Columbia.

[c]Total production approx.13.5 million pounds per year; consumption approx. 2.5 million pounds—hence massive (illegal) exports to other states.

The Economics of the Marijuana Business

Cultivation

Growing marijuana, whether for the medical or the recreational market, requires, first, a license, and then the acquisition of a growing facility. Marijuana is grown primarily in indoor, climate-controlled buildings under artificial light, but also in greenhouses and outdoors. Although greenhouse and outdoor cultivation offers economies both in set-up and operating costs, these advantages are mitigated by the need for extensive security equipment for all marijuana-growing facilities. More importantly, the key advantage of indoor cultivation is the ability to have multiple growing cycles each year. The average size of an indoor facility is 18,300 square feet; that of a greenhouse is 39,000 square feet.[8]

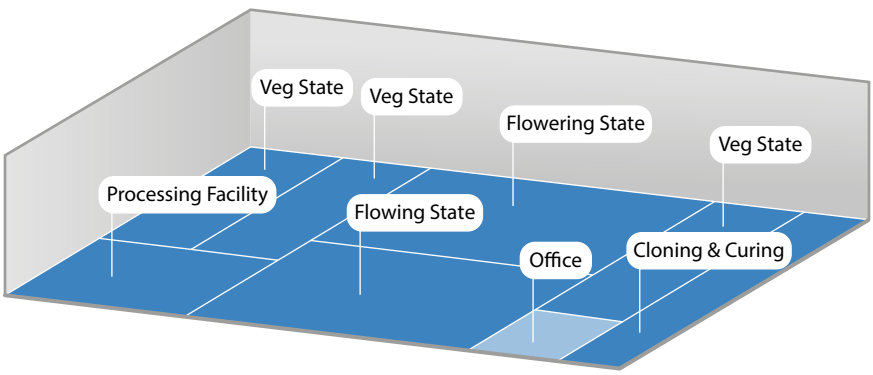
The growing process involves the following stages:

1. Establishing stage: cloning new plants from existing female plants and allowing the new plants 7–12 days to become established.
2. "Veg" (or growing) stage: two months under constant light.
3. Flowering stage: about two months with a daily cycle of 12 hours of light followed by 12 hours of darkness.
4. Processing stage: hanging the plants upside-down, then harvesting their buds and leaves.
5. Curing stage: drying the buds and leaves.

Figure 1 shows the layout of a typical growing facility.

Early estimates of revenues and costs suggested that marijuana is a highly profitable crop. For example, Motley Fool estimated that a 10,000-square-foot growing facility with five annual growing cycles could produce 1250 pounds a year, with a wholesale value of $2.75 million. With production costs of $1.25 million (i.e., $1000/lb.), this implies a margin of 55%.[9] However, estimates of production costs are highly variable: one study estimates a range of $70–$400/lb[10], while another study puts them as high as $1606/lb.[11]

FIGURE 1 Layout of a typical marijuana indoor cultivation facility



Source: J. Maxfield, "More Legalized Drug Dealing: An Inside Look at Colorado's Massive Marijuana Industry," *Motley Fool* (January 5, 2014).

TABLE 4 Estimates of the costs, revenues and profitability of legal marijuana production, 2017

	Indoor	Greenhouse
Start-up cost (per sq. ft.)[a]	$75	$50
Annual operating cost (per sq. ft.)[b]	$81	$8
Revenue (per sq. ft.) [c]	$151	$26
Average profit margin[d]	30%	40%
Percentage of business that is profitable	67%	55%
Percentage of business that breaks even	28%	22%
Percentage of business that is loss making	30%	44%

Notes:
[a] Equipment and real estate accounted for 60% of start-up costs, licensing, and security for a further 20%.
[b] Wages accounted for 30% of operating costs, rent/mortgage for 18%, utilities for 16%.
[c] Because of quality and consistency, indoor grown marijuana sells at a price premium.
[d] After-tax, net margin.
Source: Marijuana Business Daily, *Marijuana Business Factbook 2017*.

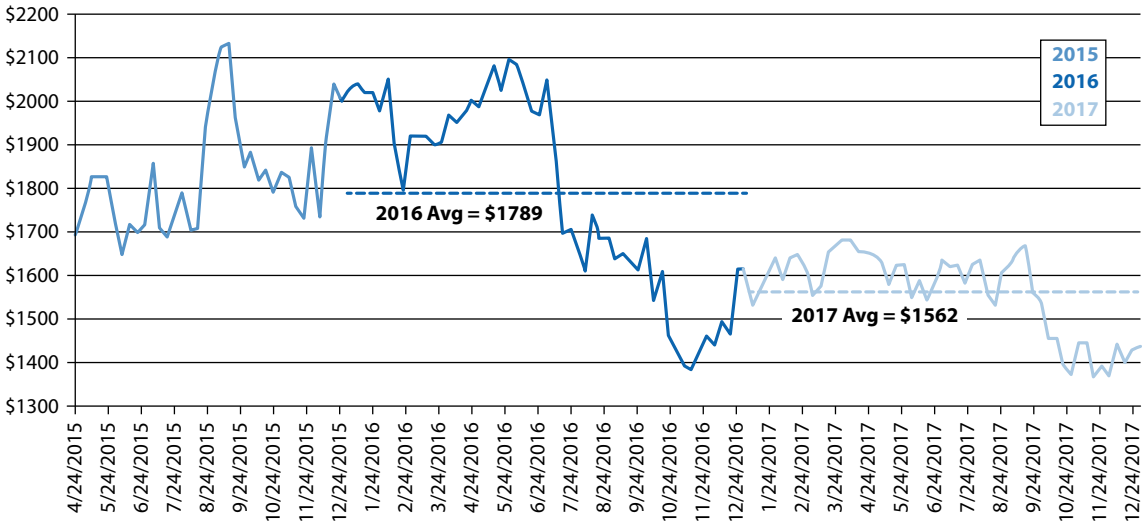
As the industry develops and spreads to more and more states, more reliable estimates of revenues and costs have become available. Table 4 provides estimates based on data available during the first half of 2017.

Over time, production costs change. While increased productivity from technological advances and greater operational efficiencies reduce production costs, these are offset by rising real estate costs due to a shortage of suitable facilities and increasing wage rates for marijuana workers—these wage rates tend to be above those for workers in similar horticultural and retail sectors. In Colorado, Oregon, Alaska, and some other states, employees in marijuana businesses are required to have state occupational licenses.

Most estimates of the profit margins on marijuana growing have failed to take account of the many risks affect the industry. These include: diseases, natural disasters (California's wild fires of 2017 and 2018 wiped out many producers), and other sources of crop failure. In addition, there is the ever-present risk of crime that affects all cash-based businesses and the risk of closure or loss of license resulting from failure to comply with state or local regulations.

The greatest uncertainty in projecting future profitability relates to prices. In the wholesale market, prices are determined by supply and demand. Prices vary over times due to spikes in demand (demand peaks during summer and holidays) and seasonal variations in supply (supply from outdoor and greenhouse cultivation increases during the fall). Longer term, there has been an overall downward trend in prices as growth in supply has outpaced growth in demand. Figure 2 shows prices between 2015 and the end of 2017. This downward trend has continued during the first half of 2018. During mid-August 2018, the average US spot wholesale price was $1130 per pound compared to $1486 at the beginning of the year. These averages masked considerable price variation both between quality grades and localities. During the first half of 2018, wholesale prices in Oregon were approximately 55% higher than those in Colorado.[12]

FIGURE 2 Average spot wholesale price of marijuana in the US ($ per pound)



Source: Cannabis Benchmarks.

Retailing

There is a huge diversity in the retail outlets supplying marijuana and marijuana processed products. There is a distinction between medical and recreational outlets, with the latter present in only nine states, compared to 30 for medical. Variations in regulations among states mean differences in size, operating practices, costs, and competitive conditions. In addition, some retailers are stand-alone, other backward-integrated into cultivation. Some indications of average revenues and costs are shown in Table 5.

TABLE 5 Average revenues costs, and profitability of licensed marijuana retailers, 2017

	Medical	Recreational[a]
Average outlet size (square feet)	2566	2100
Start-up cost (per outlet)	$0.775m.	$0.193m.
Annual operating cost (per outlet)	$1.920m.	$1.140m.
Revenue (per outlet)	$3.000m.	$1.800m.
Average profit margin[b]	15%	21%
Percentage of business that are profitable	65%	68%
Percentage of business that breakeven	29%	29%
Percentage of business that are loss-making	6%	3%

Notes:

[a] Includes combined medical and recreational stores.

[b] After-tax, net margin.

Source: Marijuana Business Daily, *Marijuana Business Factbook 2017.*

Competition

Competition in the legal market for marijuana is highly dependent on the ease with which licenses are available. Typically, because of the visibility of marijuana retailers and the often-hostile attitude of local residents, states are more restrictive over retail licenses than cultivation licenses. Indeed the steady decline in Colorado wholesale marijuana prices during 2016 and 2017 was attributed by many observers to the large number of cultivation licenses that had been issued.

Like most agricultural products, marijuana is essentially a commodity product at the wholesale level, although there are many different types. Marijuana comprises two species: *Cannabis indica* and *Cannabis sativa*, each with distinctive characteristics and each comprising many different strains. Leafly.com ("The World's Cannabis Information Resource") has listed and reviewed some 800 strains. There are also quality differentials: in general, indoor-grown marijuana commands a price premium of about 25% over outdoor-grown marijuana.

Growers have had limited success in establishing their own brands—not least because of the inability to register trademarks for marijuana-based products with the US Patent and Trademark Office. At the retail level differentiation has been greater—in addition to differentiation by geographical location, individual dispensaries can use quality and customer service to build customer loyalty.

Competition extends beyond the boundaries of the legal market for marijuana. Consumers, both medical and recreational, have the legal option of growing their own (in Colorado and Washington, adults can cultivate up to six plants). In addition, there is illegal marijuana. Illegal marijuana is produced domestically and imported from Mexico, Canada, and other countries. Mexico and British Columbia are major foreign sources. In the case of Mexico, outdoor production and low-cost labor gives producers a huge cost advantage that is only partly offset by the costs of clandestine, high-risk transportation and distribution. Nevertheless, the supply chains and distribution networks for illegal marijuana are well established and the lack of sales tax and regulatory compliance more than compensates for their inefficiencies. However, domestically grown illegal marijuana is a bigger threat than imported marijuana. A report in January 2018 by the California Growers Association estimated that, of the state's estimated 68,150 cannabis growers, only 534 were licensed to cultivate cannabis.[13]

According to data from *Price of Weed*, marijuana prices in states where recreational marijuana is illegal, but laws are lightly enforced, are similar to those in Colorado and Washington with a well-developed legal marijuana industry. However, in states where marijuana laws are strongly enforced (e.g., Alabama, Louisiana, North Dakota, and Iowa), prices are about 50% higher than states with light enforcement.[14]

Marijuana also competes with a host of other recreational drugs. These include cocaine, amphetamine, methamphetamine, ecstasy, and a number of other organic and synthetic drugs.

The Future

The major determinant of the development of the US marijuana industry in the coming years will be government policy. In 2018, there was a clear divergence between policy at the state level and at the federal level, where there was a renewed commitment to enforcing the existing legislation against marijuana. What happens at the federal level is critical to the industry's future development. So long as marijuana remains classified as an illegal drug, the industry will have limited access to the banking system and intellectual property protection, and businesses will find it difficult to expand across state boundaries.

However, even under the uncertain situation existing in early 2018, some trends were clear; although the industry remained fragmented in all states where legalization had occurred, there was a trend towards consolidation both in retail and production. This was partly the result of competition—i.e., expansion among the better-managed businesses—and partly the result of the flood of investment funds into the industry, resulting in individual venture capital funds controlling more marijuana businesses.

Should the federal government drop its opposition to marijuana, then Canada offers some pointers as to how the marijuana industry might evolve within the United States. During 2017 and 2018, the Canadian marijuana industry appeared to be consolidating at a rapid rate. The biggest producer, Canopy Growth, was planning to increase its output from 31 metric tons in 2017 to over 90 metric tons in 2018 as it expands from medical into recreational marijuana. It was already the world's biggest exporter of medical marijuana.[15] In January 2018, Canada's second biggest marijuana company, Aurora Cannabis Corp., acquired CanniMed for $1 billion.[16] In August 2018, there were 22 marijuana supplying companies listed on the Toronto stock exchange and three on US stock exchanges: Tilray Inc. (valued at $13bn.), Canopy Growth (valued at $11bn.), and Cronos Group (valued at $2bn.).

Another feature of the Canadian marijuana industry has been the interest shown by tobacco and alcohol companies in the business. Tobacco and alcoholic beverages are the most developed industries offering intoxicating and addictive products that are harmful to health and highly regulated. In the case of tobacco, it is interesting that—despite falling consumption, tight regulation, litigation, and heavy taxation—it remains one of the world's most profitable industries: the leading companies (Altria/Philip Morris, BAT, Japan Tobacco, and Imperial Tobacco) earned an average return on equity of 52% during 2014–17. In October 2017, US beer and wine giant, Constellation Brands, acquired a 10% stake in Canopy Growth, with a view to developing marijuana-infused beverages.[17] Big tobacco has kept a watchful eye on the marijuana market for decades. In 2017, tobacco company, Imperial Brands, added a medical marijuana executive to its board.[18]

Notes

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Case 4 The US Airline Industry in 2018

During the first quarter of 2018, it was unclear whether the strong upswing in the profitability of US airlines that had begun in 2012 would continue. The announcement by United Continental Holdings on January 24 that it planned to expand capacity by between 4% and 6% annually raised fears that the recent upswing would end the same way as previous booms—in excessive capacity additions leading to price wars.[1] These fears were reflected in the prices of airline shares: during the two weeks after the announcement, the Dow Jones Airlines Index declined by 17% (see Figure 1).

From Regulation to Competition

The first scheduled airline services began in the 1920s. Between 1938 and 1978, the industry was regulated by the Civil Aeronautics Board which awarded routes, approved mergers and acquisitions, and set fares.

Deregulation, combined with rapidly growing demand for air travel, transformed the industry. Despite barriers to entry into the industry arising from the need to set up a complex system comprising airline and aircraft certifications, airport facilities, baggage handling services, and ticketing, 20 new carriers—including People Express, Air Florida, Spirit Airlines, and Midway—began operating soon after deregulation. Since then, new entry into the industry has continued. Although most new airlines failed, successful entrants include Frontier Airlines (1994), Allegiant (1998), JetBlue (2000), Virgin America (2007).

FIGURE 1 Dow Jones Airlines Index, 2000–2018

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Since deregulation, the industry has been subject to turbulence caused by external shocks and internal competition. During 1979–83, high oil prices, recession, and strong competition triggered bankruptcies (over 100 carriers went bust) and a wave of mergers. Further profit slumps occurred in 1990–94, 2001–03, and 2008–11. Since 1990, all the leading US airlines (with the exception of Southwest) entered Chapter 11 bankruptcy: Continental (1990), United (2002), US Airways (2002, 2004), Delta (2005), Northwest (2005), and American (2011). Each re-emerged a few years later, reorganized and with new equity.

Table 1 shows the financial performance of the four leading airlines and Figure 2 shows industry profitability since deregulation. Profitability is acutely sensitive to the balance of demand and capacity: because of high fixed costs, dips in load factors or increases in cost result in industry-wide losses (Figure 3). The role of competition in driving efficiency is evident from the near-continuous decline in real prices over the period (Figure 4).

Dismal profit performance is not limited to the US airline industry: the propensity for the industry to earn a return on capital less than its cost of capital is a feature of the worldwide industry (Figure 5). During the first decade of the 21st century, the only major airlines to cover their cost of capital were Ryanair, Emirates, Singapore Airlines, and Southwest.[2] The industry's woes caused legendary investor, Warren Buffett, to observe:

> The worst sort of business is one that grows rapidly, requires significant capital to engender the growth, and then earns little or no money. Think airlines. Here a durable competitive advantage has proven elusive ever since the days of the Wright Brothers. Indeed, if a farsighted capitalist had been present at Kitty Hawk, he would have done his successors a huge favor by shooting Orville down.[3]

However, the 2013–17 upswing in airline financial performance was stronger and more sustained than previous interludes of profitability. The revival in economic growth after the financial crisis and a sharp decline in oil prices during 2015 and 2016 were contributory factors, but it was likely that rising profitability reflected a more fundamental transformation in the industry. Increased cost efficiency had resulted from union concessions on pay, benefits, and working practices, as well as from benefits from outsourcing, IT, and new, fuel-efficient planes. The consolidation in the industry as a result of mergers and acquisitions had created the conditions for a more restrained price competition. Moreover, the major airlines were showing unusual discipline by allowing increased demand to fill existing capacity rather than rushing to add new capacity. Even arch-skeptic Warren Buffett had begun to invest in airline stocks.[4]

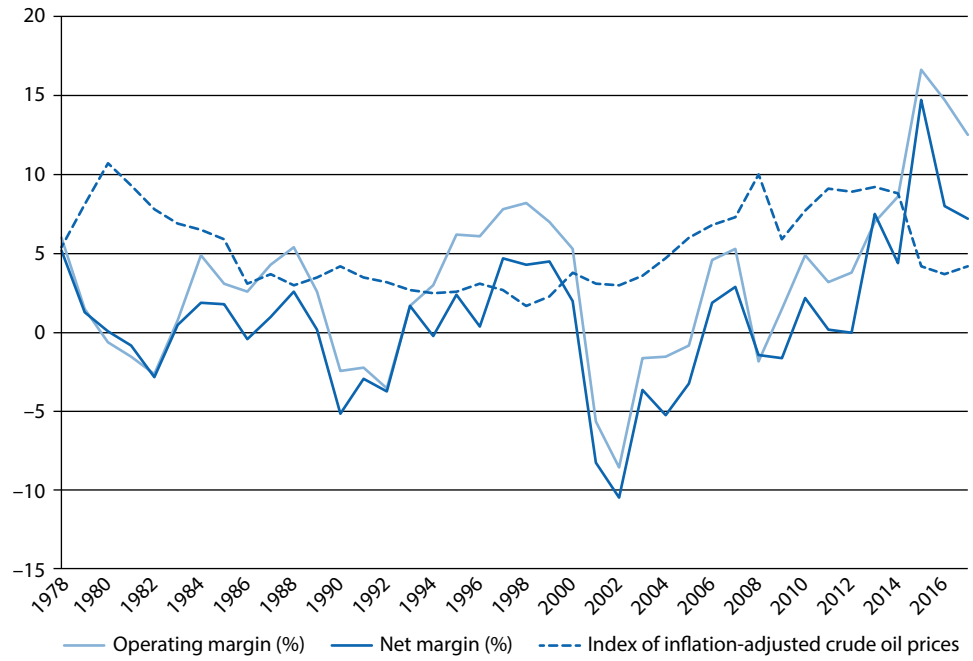
However, despite the *Financial Times*' observation that, "In recent years, passenger numbers grew faster than capacity. . . [and] there are some signs that the boom-to-bust capacity cycle has finally been broken,"[5] uncertainty remained—especially in relation to capacity. The low cost carriers (LCCs) continued to lead in capacity additions: during 2017 Spirit Airlines had increased capacity by 16%, Allegiant by 9%, and Southwest by 4%. Following United's announcement of capacity additions, there was anxiety that the major airlines might return to their old game of adding capacity in order to protect market share—a game that invariably led to intense price competition.

TABLE 1 Revenues and profitability of the largest US airlines, 2009–2017

	2017	2016	2015	2014	2013	2012	2011	2010	2009
Revenue ($bn.)									
United[a]	37.7	36.6	37.9	38.3	38.9	37.2	37.1	23.3	16.3
Delta	41.2	39.6	40.7	40.4	37.8	36.2	35.1	31.8	28.1
American[b]	42.2	40.2	41.0	42.6	26.7	24.9	24.0	22.2	19.9
Southwest	21.2	20.4	19.8	18.6	17.7	17.1	15.7	12.1	10.4
Net margin (%)									
United[a]	5.1	6.3	19.4	2.9	1.5	(1.9)	2.7	1.1	(4.0)
Delta	9.0	11.0	11.1	1.6	6.7[d]	2.7	2.4	1.9	(4.4)
American[b]	9.6	6.7	18.6	10.0	(4.7)	(8.3)	(8.2)	(2.1)	(7.4)
Southwest	16.6	11.1	11.0	6.1	4.2	2.5	1.1	3.8	1.0
ROA (%)[c]									
United[a]	8.7	10.6	14.1	3.0	1.6	(1.9)	2.2	0.6	(3.5)
Delta	11.5	12.1	14.7	1.2	4.8[d]	2.3	2.0	1.4	(2.8)
American[b]	8.0	10.3	12.8	9.7	(3.0)	(8.8)	(8.3)	(2.1)	(5.8)
Southwest	12.9	15.2	16.3	9.2	6.3	2.3	1.0	3.0	0.7

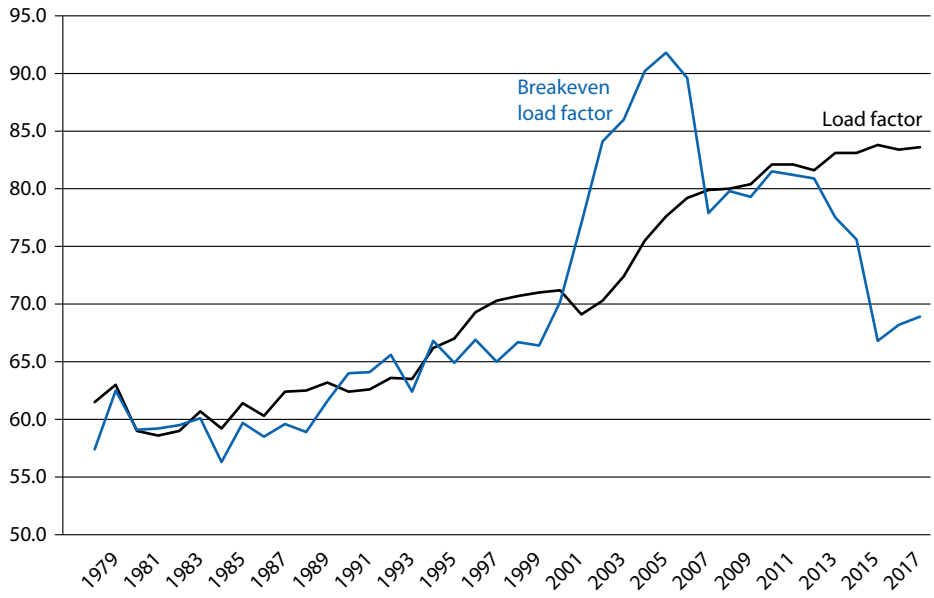
Notes:
[a] AMR until 2014, American Airlines Group after 2014.
[b] UAL Corp. until 2010, United Continental Holdings after 2014.
[c] Net income/End of period total assets.
[d] Based upon pre-tax net income.

FIGURE 2 Profitability of the US airline industry, 1978–2017



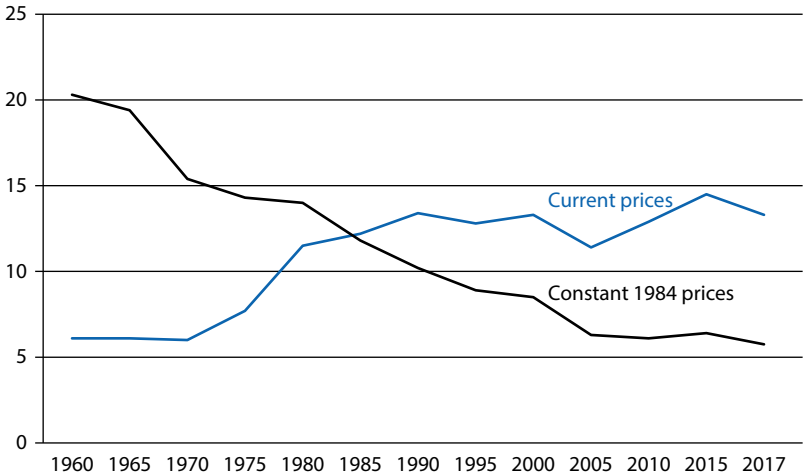
Source: Bureau of Transportation Statistics.

FIGURE 3 Load factor in the US airline industry, 1978–2017



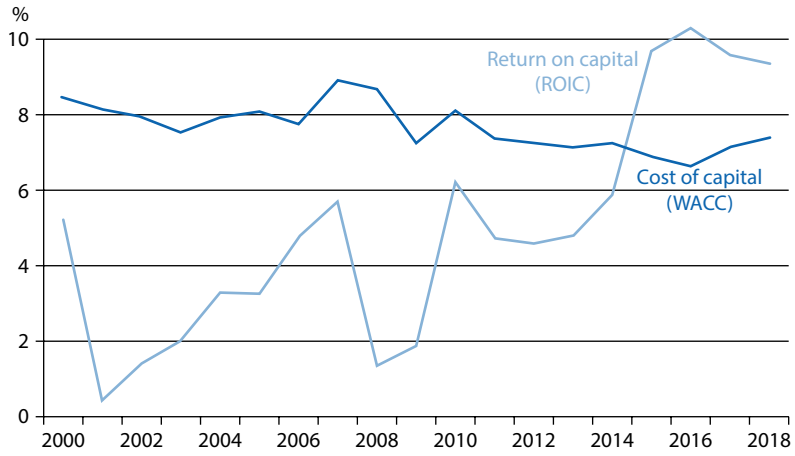
Source: Air Transport Association, annual economic reports (various years); Bureau of Transportation Statistics.

FIGURE 4 Average fares in the US airline industry (cents per revenue passenger mile), 1960–2015



Source: Bureau of Transportation Statistics.

FIGURE 5 Return on invested capital (ROIC) and weighted average cost of capital (WACC) for the world airline industry, 1993–2014



Source: IATA.

Firm Strategy

Changes in the structure of the airline industry during the past three decades were primarily an outcome of the strategies of the airlines as they sought to adjust to the conditions of competition in the industry and to gain competitive advantage.

Route Strategies: The Hub-and-Spoke System

During the l980s, the major airlines reorganized their route networks. Systems of point-to-point routes were replaced by hub-and-spoke systems, whereby each airline concentrated its routes on a few major airports. These hubs were linked by frequent services using large aircraft. Smaller cities were connected to these hubs by shorter routes using smaller aircraft. The hub-and-spoke system allowed greater efficiency through reducing the total number of routes needed to link the airports served, concentrating traveler and maintenance facilities into fewer locations, and permitting larger, more cost-efficient aircraft to be used for inter-hub travel. The system also allowed each major carrier to establish dominance in a particular regional market. Table 2 shows airports where a single airline held a dominant market share in 2017. The hub-and-spoke system also created a barrier to the entry of new carriers, who often found it difficult to obtain gates and landing slots at the major hubs. These hub-and-spoke networks of the major airlines also involved alliances with local commuter airlines. American Eagle, United Express, and Delta Shuttle were franchise systems established by American, United, and Delta, respectively.

Mergers

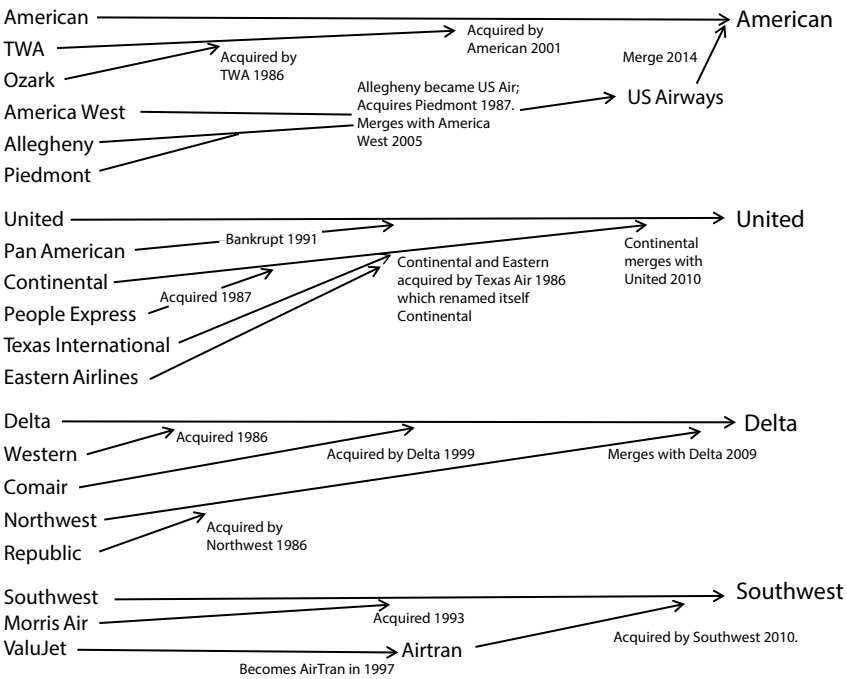
Mergers and acquisitions between airlines have been frequent (see Figure 6)—in many cases, acquisition was an alternative to bankruptcy for failing airlines. Since 2007, a more permissive attitude from the Department of Justice resulted in the pace of consolidation

TABLE 2 Share of passenger numbers by largest airline at selected US airports, 2017

City	Airline	Share of passengers (%)
Atlanta	Delta	73.0
Baltimore	Southwest	69.9
Miami International	American	68.6
Dallas/Fort Worth	American	68.5
Charlotte	American	60.3
Houston Intercontinental	United	52.8
Minneapolis–St. Paul	United	52.8
Newark	United	49.9
Detroit	Delta	47.1
Philadelphia	American	44.8
Seattle	Alaska	40.9
San Francisco	United	32.2

Source: Bureau of Transportation Statistics.

FIGURE 6 Mergers and acquisitions among major US passenger airlines, 1981–2018



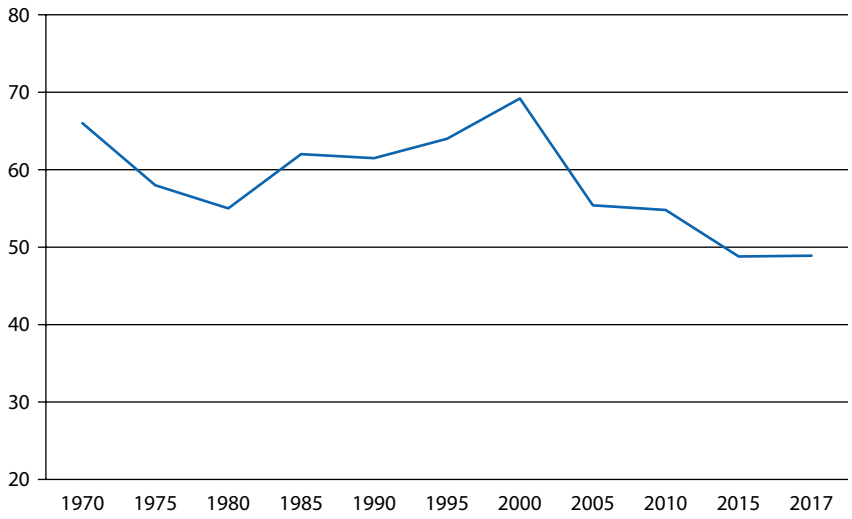
accelerating, with several mergers among leading airlines—Delta acquiring Northwest, United merging with Continental, and American merging with US Airways (Figure 7). Yet, despite these combinations, industry concentration declined after 2000—a result of capacity reduction by the major airlines and market share gains by smaller carriers. A report by the US General Accounting Office concluded that despite several major airline mergers, on most major routes there were between 4 and 5 competitors.[6] However, various alliance arrangements limited competition among airlines. These included franchise arrangements between major airlines and commuter airlines and codeshare agreements such as Alaska Airlines with American.[7]

Pricing

Price competition was typically initiated by the LCCs, which used their efficient cost structures and a bare-bones service to undercut the "legacy airlines"—the major, long-distance carriers that were established before deregulation. The majors then responded with price cuts that were selective by route and by customer segment—a major objective was to separate price-sensitive leisure customers from price-inelastic business travelers.

The ability of the major airlines to compete against the budget airlines was limited by their cost structures, which reflected their extensive infrastructure, restrictive labor agreements, and older planes. To meet competition from the LCCs, most of the major airlines set up new subsidiaries to replicate the strategies and cost structures of the

FIGURE 7 Concentration in the US Airline Industry (four-firm concentration ratio) 1970–2017



Note:
The four-firm concentration ratio (CR4) measures the share of the industry's passenger miles accounted for by the four largest companies. During 1970–81, the four biggest companies were United, American, TWA, and Eastern. During 1982–2005, the four biggest companies were American, United, Delta, and Northwest. During 2006–15, the four biggest were American, United, Delta, and Southwest.

Source: US Department of Transportation.

budget airlines. These included Delta's Song (1993), and United's Ted (1994), and Continental's Continental Lite (1994)—all were failures.

During the past two decades, the quest to be price-competitive has resulted in the legacy airlines adopting many of the operational practices of the LCCs. These have included charging separately for baggage, seat reservations, and refreshments. Baggage and reservation change fees collected by US airlines increased from $1.4 billion in 2007 to $7.6 billion in 2017. They also renegotiated union contracts, terminated inefficient working practices, abandoned unprofitable routes, and reduced staffing levels. In many instances, radical cost cutting was achieved during Chapter 11 bankruptcy.

The Quest for Differentiation

Under price regulation, airlines competed through branding, customer service, and in-flight food and entertainment. Deregulation exposed the myth of customer loyalty: most travelers found little discernible difference among the offerings of different major airlines—their choice of airline was determined mainly by price and convenience. As amenities for economy-class travelers were cut, differentiation efforts became focused upon first and business-class travelers.

The most successful loyalty-building initiative was the introduction of frequent-flyer schemes during the 1980s. These schemes encouraged customers to concentrate their air travel on a single airline. Unredeemed frequent-flyer miles represented a substantial financial liability for the airlines. American's liability from its AAdvantage program in 2015 was estimated at $1.8 billion.[8]

The dominance of cost leadership strategies in airlines was challenged by several recent entrants, which sought to combine low operating costs with a superior service offering. Jet Blue and Virgin America achieved high passenger satisfaction ratings as a result of superior cabin ambience, in-seat entertainment, and catering.

The Industry in 2018

The Airlines

At the beginning of 2018, the US airline industry (excluding charter and cargo airlines) comprised 12 "mainline" airlines, 21 "regional" airlines, and 32 "commuter" airlines. Table 3 shows operating data for the 14 biggest airlines. The industry was dominated by four major airlines: American, Delta, United, and Southwest. The market presence of the legacy carriers—American, Delta, and United—was augmented by their alliances with smaller airlines. These three were also core members of international airline alliances: American with Oneworld, Delta with SkyTeam, and United with Star Alliance.

Market for Air Travel

Airlines were the dominant mode of long-distance travel in the United States. For shorter journeys, cars provided the major alternative. Alternative forms of public transportation—bus and rail—accounted for a small proportion of journeys in excess of a hundred miles.

The Federal Aviation Administration System forecast the US airline market (in terms of RPMs) to grow at an annual rate of 2.4% between 2017 and 2037, with domestic RPMs growing at 2.0% a year and international RPMs at 3.4% a year.

TABLE 3 Operating statistics for US airlines, 2014 and 2017 (domestic flights only)

Airline	Market share (%)[a]		Passenger numbers (millions)		Load factor (%)	
	2017	2014	2017	2014	2017	2014
Southwest	18.4	16.9	154.2	126.7	84.1	82.8
Delta	16.5	16.8	120.9	106.2	87.1	86.8
American	18.2	12.4	116.3	66.4	85.1	85.0
United	14.7	15.1	80.5	64.7	86.0	86.1
JetBlue	5.5	5.1	32.4	26.4	84.8	84.7
Alaska	4.7	4.3	24.0	19.2	85.6	85.6
Spirit	3.4	2.1	22.0	12.6	83.6	86.8
SkyWest	2.7	2.3	34.2	26.0	84.1	83.5
Frontier	2.5	1.7	15.9	11.3	86.6	89.8
Virgin America	1.9	1.6	8.2	6.3	84.3	82.4
Allegiant	1.6	1.3	12.1	8.1	84.2	89.3
Hawaiian	1.5	1.6	10.0	9.1	88.6	85.0
ExpressJet	1.1	2.3	14.2	28.0	77.9	81.4
Envoy	0.8	1.2	10.7	14.7	77.2	77.5

Notes:
[a] Based upon available passenger miles.
Source: Bureau of Transportation Statistics.

Changes were occurring within the structure of demand. Of concern to the airlines was the erosion of the segmentation between business and leisure customers. Conventional wisdom dictated that the demand for air tickets among leisure travelers was fairly price-elastic, whereas that of business travelers was highly inelastic. Hence, airlines could cross-subsidize low fares for leisure travelers with expensive first and business class seats and full-price, flexible economy class tickets for business travelers. However, the number of organizations providing premium-class air travel to their employees was shrinking.[9]

Changes in the distribution of airline tickets contributed to increased price competition. Traditional travel agencies had been replaced by online retailers—most prominently Expedia and Priceline—and by direct online sales by the airlines. Although airlines had benefited from a sharp reduction in travel agents' commission rates, the new price transparency greatly increased travelers' responsiveness to fare differentials.

Cost Conditions

The structure of operating costs is shown in Table 4. Most of the industry's costs were fixed in the short term: they varied little with fluctuations in demand. For example, with union contracts, it was difficult to reduce employment and hours worked during seasonal and cyclical slack periods. The need to maintain flight schedules meant that

TABLE 4 Operating costs in the US airline industry

Cost item	Increase in cost 2000–17 (%)	% of total operating expenses 2017	% of total operating expenses 2014
Labor[a]	188.4	23.8	24.7
Fuel[b]	283.7	25.5	28.0
Cost of aircraft[c]	93.3	7.0	n.a.
Professional services[c]	120.8	8.6	7.5
Food and beverages[d]	73.8	2.0	1.5
Landing fees[e]	142.0	2.1	1.9
Maintenance material[f]	81.6	1.5	1.9
Insurance[g]	52.4	0.2	0.3
Passenger commissions[h]	23.1	1.0	0.9
Communication[i]	70.5	0.9	0.8
Advertising and promotion[j]	59.4	0.7	0.6

Notes:
[a] Compensation per employee;
[b] cost per gallon;
[c] per available seat mile;
[d] per revenue seat mile;
[e] per ton landed;
[f] per aircraft block hour;
[g] aircraft and nonaircraft;
[h] as % of passenger revenue;
[i] per enplanement;
[j] per revenue passenger mile.
Source: Airlines for America, "Passenger Airline Cost Index: US. Passenger Airlines."

planes flew even when occupancy was very low. An implication of this cost structure was that, during times of excess capacity, the marginal costs of filling empty seats on scheduled flights was extremely low. Major cost items included:

- ***Labor*** Average pay in the industry was 58% above the average for US industry as a whole. Pension and other benefits were also more generous than in most other industries. Labor costs for the legacy airlines were boosted by low labor productivity resulting from rigid working practices that were part of the employment contracts agreed with unions. At the three legacy carriers, average pilot flying time was 42.8 hours a month, compared to 55.3 at the LCCs. One outcome of the Chapter 11 bankruptcies of the legacy airlines was the negotiation of reduced benefits and more flexible working practices.
- ***Fuel*** was the industry's most volatile cost item. As a result, most airlines used forward contracts, options, and other derivatives to hedge against fluctuating oil prices. Delta went even further and acquired a refinery in 2011.[10] The fuel efficiency of modern planes was a major factor in conferring a cost advantage on airlines with the youngest fleets.

- ***Equipment*** Aircraft were the biggest capital expenditure item for the airlines, in 2018, with list prices for commercial jetliners ranging from $68 million for a Boeing 737 to $440 million for an Airbus A380. Although Boeing and Airbus competed through discounts and generous financing terms, the extent of price competition during 2016–18 was limited by the size of their bulging order books. Moreover, their major source of profits was aftermarket sales. Boeing's return on equity during 2010–17 averaged 54%; Airbus's was 9%. For smaller planes, competition was stronger: the smallest jets supplied by Boeing and Airbus overlapped with the largest planes of Bombardier and Embraer. The airlines' weak finances and high borrowing costs meant a preference for leasing rather than purchasing planes. The world's two biggest aircraft owners were both leasing companies: GECAS (a subsidiary of General Electric) and ILFC (a subsidiary of AIG).
- ***Airport facilities*** Airports are key players in US aviation. Only the largest cities are served by more than one airport and, despite the growth in air transport, Denver International Airport is the only major new airport to have been built since 1978. Most airports are owned by municipalities and generate substantial revenue flows for their owners. In 2017, the airlines paid over $3 billion to US airports in landing fees and a further $3.6 billion in passenger facility charges. Landing fees were based on aircraft weight. New York's La Guardia airport has the highest landing fees in the US, charging about $7500 for a Boeing 777 to land. Four US airports—JFK and La Guardia in New York, Newark, and Washington's Reagan National—are officially "congested" and take-offs and landings in those airports are regulated by the government. At these airports, slots have been allocated to individual airlines, who have subsequently assumed de facto ownership.[11]

Cost differences between airlines were primarily related to the two dominant business models in the industry. The major carriers, with their hub-and-spoke route configurations, extensive international connections and multiclass traveler segmentation, had higher costs than the LCCs with their point-to-point connections, single aircraft type, and minimal traveler services. The other factor accounting for the LCCs' cost advantage was their youth: the legacy airlines were burdened by their inherited structures and the costs of retirees' pensions and health care benefits. Economies of scale in airlines are relatively minor; economies of network density are of greater significance: the greater the number of routes within a region, the easier it is for an airline to gain fuller utilization of aircraft and crews, as well as passenger and maintenance facilities. In practice, cost differences between airlines are determined more by managerial, institutional, and historical factors than by economies of scale, scope, or density. The industry's traditional cost leader, Southwest, created the LCC business model comprising: point-to-point service from minor airports, single-class planes, limited customer service, a single type of aircraft, and job flexibility by employees. Southwest, JetBlue, and Spirit Airlines continue to have the industry's lowest operating costs per available seat mile (ASM), despite flying relatively short routes. However, as shown in Table 5, the cost gap between the legacy carriers and the LCCs has narrowed.

Managing costs requires meticulous attention to capacity utilization—the principle source of losses is load factors falling below breakeven level. Moreover, excess capacity creates incentives to cut prices in order to fill empty seats. Adjusting fares to optimize load factors and maximize the revenue for each flight is the goal of the airlines' *yield management systems*—sophisticated computer models that combine capacity, sales data, and demand forecasts to adjust pricing continually.

TABLE 5 Operating data for the larger airlines, 2006, 2014, and 2017

Airline	ASMs (billion)			Load factor (%)			Operating revenue per ASM (cents)			Operating expense per ASM (cents)		
	2006	2014	2017	2006	2014	2017	2006	2014	2017	2006	2014	2017
American	175.9	157.4	243.4	80.2	82.1	83.1	12.5	17.3	17.1	12.5	15.8	15.4
United	139.5	212.0	232.2	82.1	83.8	83.2	13.1	18.2	16.1	13.1	17.3	14.5
Delta	124.0	207.2	228.0	79.0	85.6	86.0	13.0	19.0	17.9	13.6	16.8	15.3
Southwest	92.7	122.6	152.2	73.0	82.5	84.1	9.5	13.0	13.7	8.5	12.4	11.4
JetBlue	28.5	45.0	55.1	81.6	84.0	84.9	7.6	12.9	12.5	7.5	11.9	10.5
Alaska	23.2	32.4	42.0	76.6	85.7	85.0	11.3	16.6	15.2	11.5	14.0	11.8

Note: The data relate to both domestic and international operations.
Source: Bureau of Transportation Statistics.

Notes

1. "Airline Shares Drop on Capacity Expansion Plans," *Wall Street Journal* (January 24, 2018).
2. International Air Transport Association, *Vision 2050* (Singapore: IATA, February 2011).
3. Berkshire Hathaway 2007 Annual Report.
4. "Airline Stocks Lifted By Buffett's Buys," *Wall Street Journal* (February 15, 2017).
5. "Airline capacity: plane sailing," *Financial Times* (February 18, 2018).
6. United States Government Accountability Office, *Report to Congressional Requestors: Airline Competition* (June 2014).
7. As a condition of its acquisition of Virgin America in 2016, Alaska was required to limit its codeshare arrangement with American.
8. https://www.traveldatadaily.com/american-ffp-analysis. Accessed February 23, 2018.
9. "CEOs Fly Coach? Business Travel Turns Frugal," *Wall Street Journal* (February 12, 2013).
10. "Delta Buys Refinery to Combat Fuel Costs," *Financial Times* (April 30, 2012).
11. "Airport Heist: The Rules on Allocating Take-off and Landing Slots Favor Incumbents," *Economist* (November 15, 2017).
12. Lex, op. cit.

Case 5 The Lithium-Ion Battery Industry*

During the early part of 2018, the Tesla Gigafactory near Reno, Nevada, was ramping up its production of lithium-ion batteries (LIBs) as it sought to be "the highest-volume and lowest-cost source of lithium-ion batteries in the world."[1] Within the plant, the cells were produced by Panasonic Corporation and then assembled into battery packs by Tesla. At full capacity, the plant would produce 35 gigawatt hours (GWh) of lithium-ion cells—equivalent to about one-third of the world's total output in 2017.[2]

The project was part of a surge of investment in production capacity for LIBs in anticipation of the growing demand for electric vehicles (EVs) and for stationary storage of electricity. Tesla's projected annual output of 500,000 cars by 2019 would alone require the entire battery output of the gigafactory. However, while the Tesla/Panasonic gigafactory had attracted massive media attention, the main center of activity was China. In mid-2017, planned additions to lithium-ion battery capacity in the United States amounted to 36.6 GWh; in China, planned new capacity was 320.9 GWh.[3]

Given the pace at which auto makers were introducing new models of plug-in EVs, and governments were planning the phasing out of petroleum-fueled vehicles, there seemed little doubt about the likelihood of a massive growth in the demand for LIBs. Indeed, a key concern among auto manufacturers was the ability of the battery industry to meet the anticipated growth in output of EVs.

Profitability was a different matter. During 2017, it appeared that most manufacturers were earning thin margins on their production of LIBs, and some were making losses. Future profitability would depend critically on the balance between demand and production capacity. It would also depend on the costs of raw materials and components. Major uncertainties related to the adequacy of supplies of lithium and cobalt and key components such as cathodes and separators.

Lithium-Ion Batteries

Research into lithium batteries began in 1912, but it was not until the early 1970s when the first nonrechargeable LIBs became commercially available. Sony first introduced rechargeable LIBs in 1991 to power its CCD-TR1 camcorder. Since then, LIBs have become the dominant means of power storage for mobile electronic devices.

Lithium is the lightest of all metals, has the greatest electrochemical potential, and provides the largest energy density for weight. The energy density of an LIB is about twice that of a nickel–cadmium battery. The cell voltage of 3.6 volts (three times that

* This case was prepared by Robert Grant assisted by Nitish Mohan.

of nickel–cadmium batteries) allows single-cell battery packs—as used in most mobile phones. Other advantages include low maintenance (no scheduled cycling is required to prolong battery life), self-discharge is less than half that of nickel–cadmium, they are long-lasting (battery life extends to more than 1000 recharging cycles), and present few hazards when disposed of.

Their major disadvantage is safety. Lithium is a highly reactive metal, and while the lithium compounds used in batteries are less volatile than lithium metal, they are still flammable. Each battery pack requires a protection circuit to control voltage during charge and discharge and to monitor cell temperature. Spontaneous combustion of LIBs affected Sony's laptop computers (2006), the Boeing 787 (2013), and Samsung's Galaxy Note 7 (2016).

The industry's product standard is the 18650: a cylindrical cell 65 millimeters long and 18 millimeters diameter. It powers most of the world's mobile devices. While most automakers were developing larger cells for use with their EVs, Tesla chose the standard 18650 for its battery packs (although it later switched to the slightly larger 2170 cell, developed jointly with Panasonic, for its Model 3).

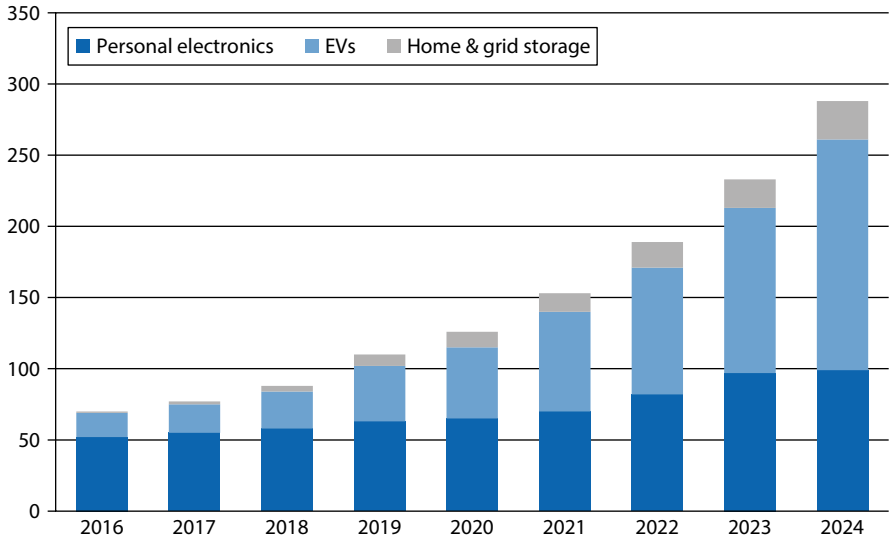
Manufacturers are constantly improving lithium-ion batteries. Changes in design and electrochemistry allow continual increases in the energy density of batteries. However, technological development involves a host of minor improvements, not major breakthroughs. The rate of technical improvement tends to be around 5% each year. Moreover, many technical developments involve improvements in some performance dimensions at the expense of others. For example, lithium–polymer batteries use a solid or gel polymer electrolyte, which offer much greater design flexibility (including ultrathin batteries) but with lower energy density and higher cost.

The Market for LIBs

Until 2011, LIBs were used almost exclusively for portable electronic and electrical appliances: laptop computers, phones, power tools, and the like. The growing demand for EVs and switch from nickel–metal hydride (NiMH) to LIBs has meant that EVs will soon become the biggest users of lithium-ion batteries. Even if the switch over from internal combustion engines to EVs is slow, the size of electric vehicle battery packs (the Tesla 85 kWh battery pack has 7104 cells) means that EVs will dominate the demand for lithium-ion batteries. The rate at which EVs will displace fuel-burning vehicles is highly uncertain (in 2017 plug-in EVs accounted for 1.2% of world production of automobiles and light trucks): forecasts of EV sales in 2040 range from 12 million (ExxonMobil) to 65 million (Bloomberg). At the beginning of 2018, most forecasts of EV sales were being revised upward: UBS raised its forecasts for global EV sales from 14% to 16% of total cars produced by 2025; components maker, Valeo, raised its "base scenario" forecast from 5% to 6% to "over 10%."[4] Figures 1 and 2 show projections of future demand for LIBs.[5]

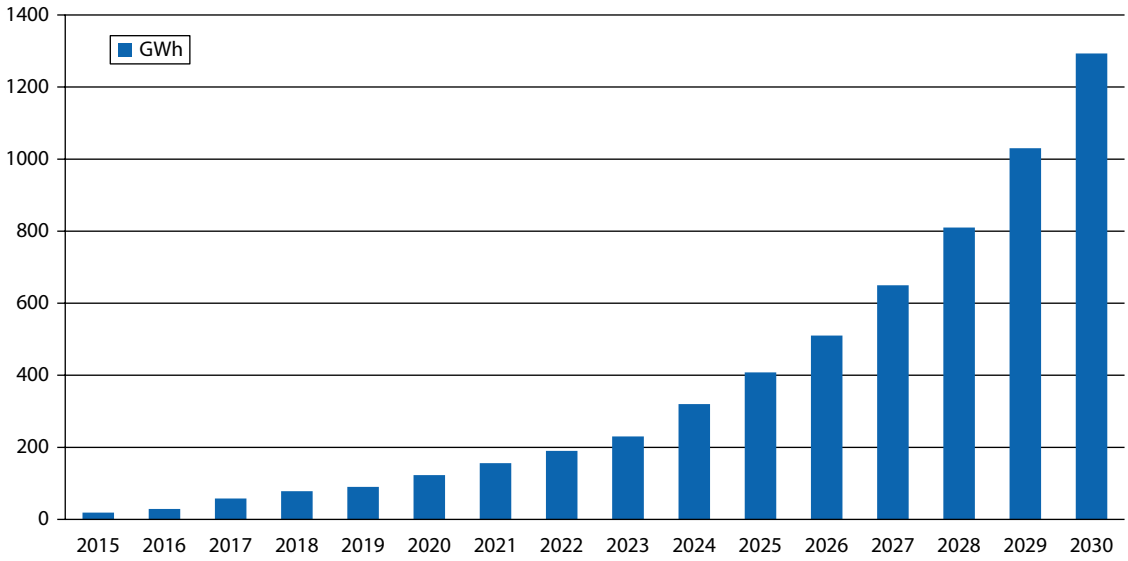
A further source of demand uncertainty relates to the use of LIBs for stationary electrical storage in individual buildings ("behind-the-meter" electrical storage) and for grid storage by electric utilities. The successful completion by Tesla of a 129 megawatt-hour storage facility for South Australia—the world's biggest battery—in December 2017 had led to a surge of interest by electrical grid operators in the potential for such batteries to bridge the imbalance in the supply and demand for solar and wind generated electricity.

FIGURE 1 The demand for lithium-ion batteries, 2016–2024 (in gigawatt hours)



Source: Bloomerg.

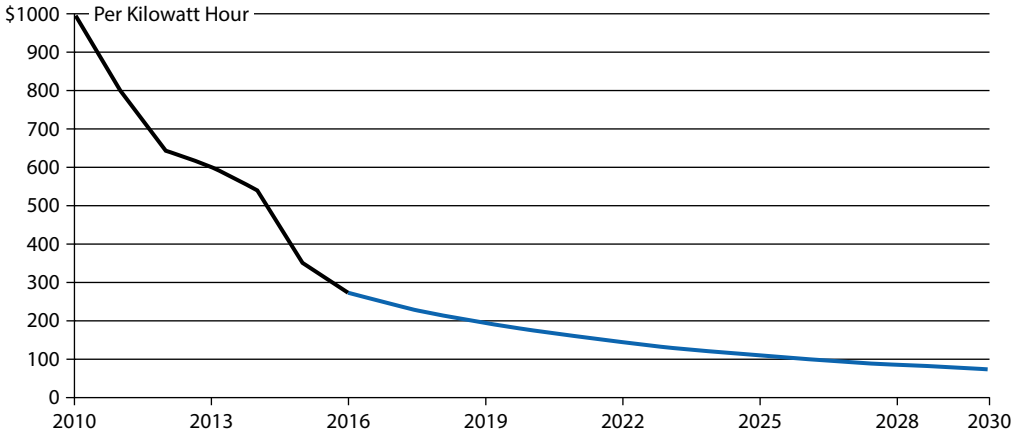
FIGURE 2 Demand for automotive lithium-ion batteries 2015–2030 (in gigawatt hours)



Source: Bloomerg new energy finance.

The rate of demand growth for lithium-ion batteries—especially the stationary storage demand—is sensitive to the rate at which LIB costs continue to fall. Between 2010 and 2017, prices declined by an average of 18% a year—a result of technical improvements and scale economies and squeezed profit margins. This trend is expected to continue (see Figure 3).

FIGURE 3 Cost of lithium-ion battery packs, 2010–2016 with forecasts for 2017–2030 ($/kWh)



The Manufacture of Lithium-ion Batteries

The leading producers of LIBs are Japanese, South Korean, and Chinese companies. Estimates of market shares by company vary considerably according to whether market shares are measured by sales or production and whether the units are quantity or value. However, the industry big-five are Panasonic, LG Chem, BYD, Samsung SDI, and CATL (see Figure 4). In addition to the big, global players, there are many smaller manufacturers—especially in China where more than 140 companies produce LIBs or components for them. Exhibit 1 provides information on the leading suppliers of LIBs.

During 2012–16 a slower-than-expected growth in sales of EVs worldwide meant that battery manufacturers expanded capacity ahead of demand. The resulting excess capacity caused intense price competition to the point where several battery manufacturers were making losses on sales of LIBs.

FIGURE 4 Sales of lithium-ion batteries by manufacturer, 2016

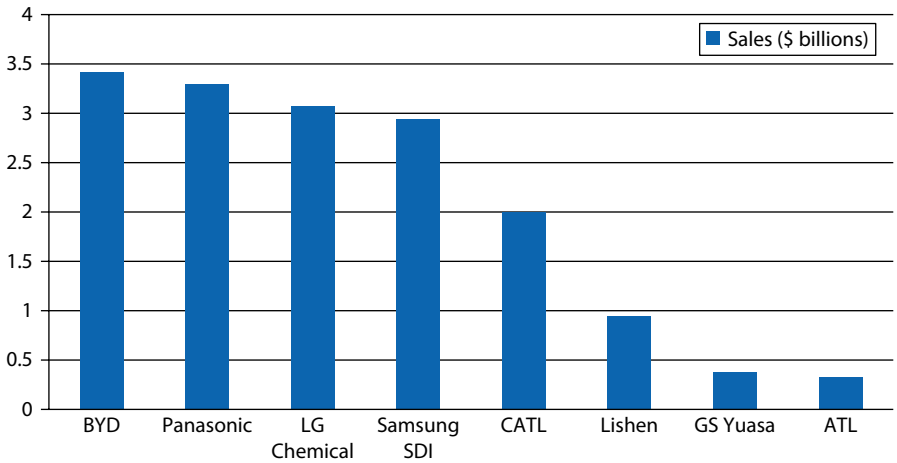


EXHIBIT 1
Major Suppliers of Lithium-Ion Batteries

PANASONIC established itself as industry leader in LIBs through its strong position in consumer electronics. Panasonic's technical innovations have made the batteries thinner and lighter for use in mobile devices. Its partnership with Tesla has allowed it helped to extend its technological and market leadership into automotive and stationary storage batteries.

LG CHEM, a member of the LG Group, is the largest Korean chemical company. It began mass production of LIBs in 1999 and by 2011 had an annual production capacity of 1 billion cells. LG Chem's US subsidiary in Holland, Michigan, began manufacturing battery packs for General Motors and Ford in 2013; it also has supply agreements with Volkswagen, Daimler, Volvo, and Hyundai.

BYD was China's biggest producers of LIBs, in 2016 mostly for its own EVs. BYD produces the world's cheapest battery packs, although their energy density is lower than those produced by Tesla/Panasonic. It is also highly vertically integrated: during 2016 it backward integrated into lithium mining by acquiring 18% of Zhabuye Lithium, a lithium and boron mining company in Tibet, for $31 million; it is seeking secure supplies of lithium in other parts of the world.

CATL, Contemporary Amperex Technology Ltd., is based in Ningde, China. It was spun off from Amperex Technology Limited in 2011. It supplies batteries for iPhones and other Apple products and battery packs for neighborhood electric vehicles (NEVs), passenger cars, and buses. With more than 3700 R&D personnel, CATL is a technological leader in LIBs. An IPO in June 2018 valued CATL at $12.3 bn. and will allow capacity expansion from 17 GWh in 2017 to over 50 GWh by 2021.

SAMSUNG SDI is a separately quoted battery and electronic component supplier within the Samsung group. It supplies small LIBs for mobile devices (mainly to Samsung Electronics) and large LIB packs for automotive applications. Its 2015 acquisition of Magna's automotive battery business allowed it to become a full-system supplier of battery packs for EVs.

LISHEN. Tianjin Lishen Battery Co., Ltd. supplies LIBs for consumer electronic products, power tools, EVs, electric bicycles, and energy storage systems. It is controlled by state-owned China Electronics Technology Group. To support the Chinese government's EV strategy, Lishen built new EV battery plants in Tianjin, Suzhou, and Qingdao in 2016 to triple its output to 10 gigawatts by early 2018.

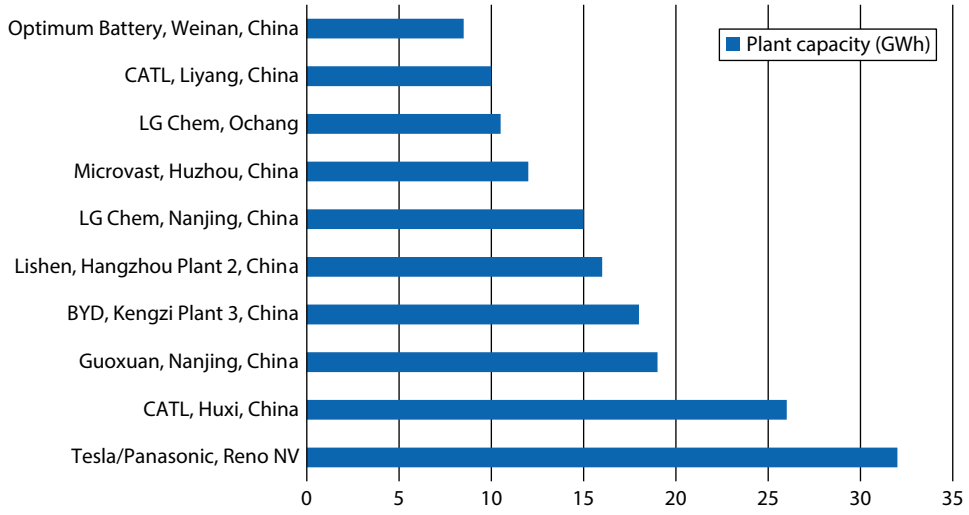
GS YUASA CORP. is one of the world's biggest suppliers of vehicle batteries. It acquired the lead-acid battery businesses of Exide and Lucas, then diversified into LIBs for automotive and aviation applications. It produces LIBs at five plants including a joint-venture with Bosch in Germany. During 2017, it announced that it was developing a new LIB that would double the range of its battery packs. During 2018, it was building a new plant in Hungary.

AUTOMOTIVE ENERGY SUPPLY CORPORATION (AESC) was formed in 2007 as a joint venture between NEC Corp. and Nissan to supply batteries to Renault-Nissan. Its main plant is at Zama City, Japan, close to Nissan's main production complex. During 2017, it was acquired by GSR Capital, a Chinese private equity firm.

ATL is a Hong-Kong-based international company specializing in design, manufacture, sales, and marketing of rechargeable lithium ion/polymer battery cells, battery packs and systems. Its lithium battery products are widely used mainly in consumer electronics products and cordless tools; it is expanding its sales of battery packs for electrical vehicles and electrical energy storage.

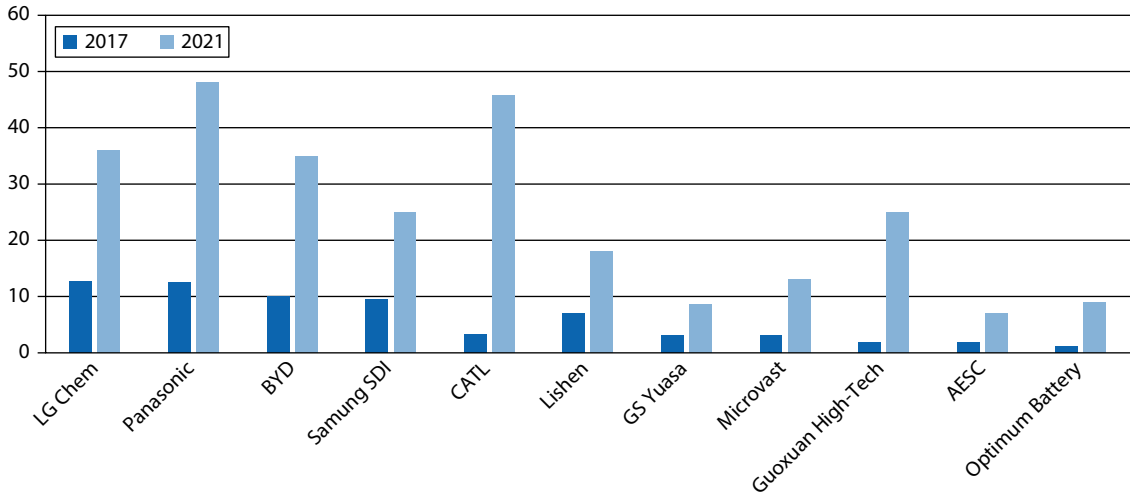
WANXIANG GROUP is China's biggest supplier of automotive parts. It began producing LIBs in 2000, initially for electric buses. In 2012, Wanxiang acquired A123 Systems, the bankrupt US producer of lithium batteries, which uses a proprietary nanophosphate technology initially developed at MIT.

FIGURE 5 Major lithium-ion battery plants under construction at the beginning of 2018



During 2017 and 2018, the major LIB producers were in a race to add capacity in anticipation of the upsurge in demand from the automakers. While Tesla had taken the lead and captured most of the publicity with its Nevada gigafactory, most of the new investment was in China. Among the priorities for China's 13th Five-Year Plan for 2016–20 was growing the auto industry and curbing emissions—hence a major focus on the development of EVs. This meant that expanding the production of LIBs was a key component of industrial strategy.[6] In response, Japanese and South Korean manufacturers were expanding their production capacities in order to maintain their market positions. Figure 5 shows some of the main LIB plants currently under construction, while Figure 6 shows projections of capacity for the leading manufacturers.

FIGURE 6 Lithium-ion battery manufacturing capacity, 2017 and 2021



Source: Cairn ERA, CATL, Bloomberg, company websites.

TABLE 1 Lithium-ion battery production capacity by country at the end of 2017 (including announced capacity additions)

Country	Capacity (GWh)
China	217.2
United States	46.9
South Korea	23.1
Japan	14.0
Poland	5.0
Hungary	1.7
United Kingdom	1.4
France	1.1
Russia	1.0
Germany	0.7

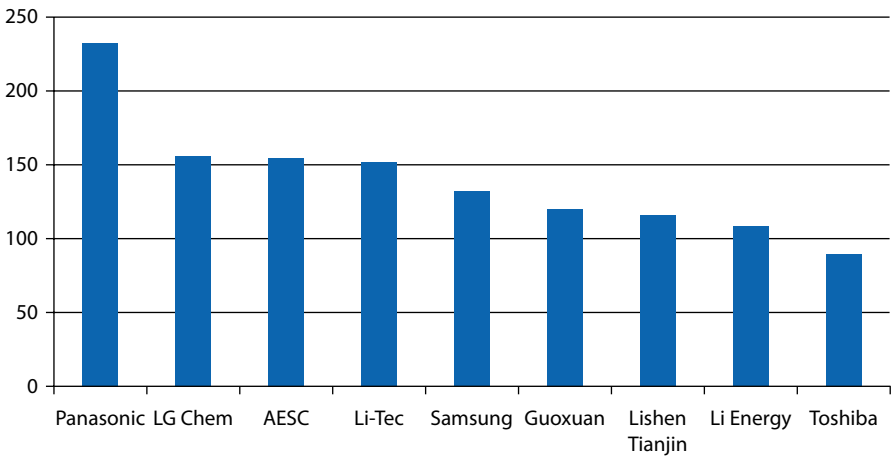
The sheer scale of Chinese investment in production capacity ensures that China will be the world's dominant manufacturing center for LIBs for the foreseeable future. Table 1 shows implications of current investment plans for the LIB production capacity by country.

Technology

Differences in technical know-how among manufacturers were indicated by differences in energy density (see Figure 7).

These differences reflected both differences in experiential learning and differences in proprietary technology. During 2000–04, US patent applications relating to LIBs

FIGURE 7 Energy density of lithium-ion batteries by manufacturer (watt-hour per kilogram)



were about 170 annually; by 2010–14, they had risen to 450 annually. Of the total patent applications, 48% relate to electrodes, 35% to the manufacture of secondary cells, and 8% to the construction or manufacturing processes of nonactive parts. The companies conducting research into LIBs include battery manufacturers, users of batteries (automobile producers in particular), and the suppliers of materials and components to the industry. Table 2 shows the most active patenting companies.

New Battery Technologies

In the same way that LIBs have displaced lead-acid, nickel–cadmium, and nickel–metal hydride batteries, the demise of the LIBs has been long anticipated. Alternative battery technologies offer attractions in energy density in terms of power output per unit of volume (size efficiency) and power output per unit of weight (weight efficiency), but none has yet been commercialized to the extent that it emerged as a realistic

TABLE 2 Leading assignees for worldwide patents relating to lithium-ion batteries, 2016

	Company	No. of patents
1.	Samsung	1258
2.	Panasonic	1224
3.	Toyota	1127
4.	Hitachi	790
5.	LG Chem	632
6.	Sony	493
7.	Mitsubishi	474
8.	NEC	325
9.	Nissan Motor	309
10.	Sumitomo	245
11.	Shin-Kobe Electric	190
12.	Toshiba	162
13.	Robert Bosch	153
14.	NOK Insulators	148
15.	TDK	133
16.	AIST*	128
17.	Ube Industries	107
18.	Mitsui	101
19.	Zeon	95
20.	GS Yuasa	91

Note:
*AIST is National Institute of Advanced Industrial Science and Technology, Japan.

challenge to the dominance of the LIBs, which continue to benefit from decades of development involving thousands of incremental improvements and the accumulation of deep manufacturing expertise.

Alternative battery technologies include variants on lithium-ion technology and batteries using distinctly different chemistries:

- ***Solid-state lithium-ion batteries*** use a solid electrolyte, which offer improved safety and ease of assembly and greater energy density. These batteries are being developed by the UK appliance manufacturer Dyson (which is also developing a plug-in electric car), BMW (in collaboration with Solid State), and by Toyota—which intends commercial production by the early 2020s.
- ***Lithium metal batteries*** use lithium metal for their negative electrode. They offer energy density of 350 or 400 watt-hours per kilogram, as compared to 150 watt-hours per kilogram for LIBs—but are about 10 years away from commercialization.
- ***Lithium air batteries*** Building upon research at MIT, research teams at Tesla's Gigafactory, Argonne National Laboratory and Peking University are working on prototypes of lithium air batteries, which offer greater durability, and faster recharging than conventional LIBs. Development being undertaken by Polypus Battery Company envisages a battery will allow EVs to travel 500 miles on a single charge.
- ***Lithium sulfur batteries*** are cheaper, lighter, and have double the energy density of LIBs; however, commercialization has been hampered by their tendency to become unstable over time hence, limiting widespread adoption.
- ***Zinc–bromine flow batteries*** offer faster charging, lower lifetime cost, but lower energy density than LIBs. They may offer an alternative to LIBs for stationary electrical storage.

In addition, fuel cells offer a distinctive alternative to battery-powered EVs. Fuel cells offer exceptional energy generation, but their dependence on liquid hydrogen has so far prevented commercialization.

The Supply Chain for LIBs

The value chain for LIBs is shown in Figure 8. During 2017 and early 2018, the rapid expansion of demand for LIBs was placing considerable strain on the supplies of materials and components for LIBs.

Raw Materials

Among raw materials there were emerging shortages of both lithium and cobalt. Lithium was mined in the form of lithium brine, which accounted for about half the world's supply, and spodumene, a crystalline ore, which accounted for most of the remainder. While lithium is plentiful within the earth's crust—with large deposits in Australia, Bolivia, Chile, and Argentina—its production is concentrated into a small number of locations. In South America, production is almost wholly through extracting lithium brine; elsewhere lithium is extracted through hard-rock mining. Table 3 shows the leading producer countries.

FIGURE 8 The value chain for lithium-ion batteries

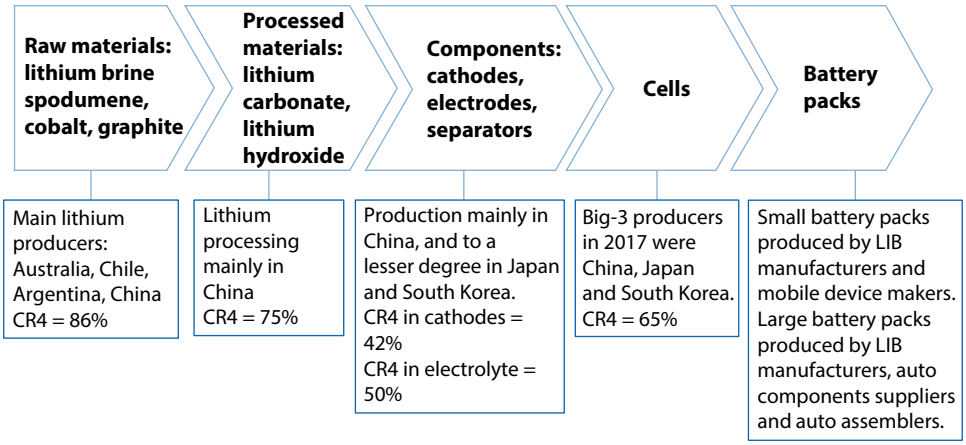


TABLE 3 Lithium-producing countries

Country	Production (tonnes, 2017)	Reserves (tonnes)	Notes
Australia	18,700	1.5m	Greenbushes, jointly owned by China's Tianqi Group and US-based Albemarle, is the world's largest hard-rock lithium mine. Other mines operated by Pilbara Minerals and Galaxy Resources.
Chile	14,100	16.4m	The leading producer, SQM, produces lithium salts from the brine deposits found beneath the Atacama Desert.
Argentina	5700	18.9m	The main production area is the Salar del Hombre Muerto salt flat.
China	3000	3.5m	Production—mainly in western Tibet—covers only a small portion of China's lithium consumption. Sichuan Tianqi Lithium and Jiangxi Ganfeng Lithium are major producers.
Zimbabwe	1000	0.2m	Bikita Minerals is the main producer.
Portugal	400	0.6m	Production is located mainly in the Goncalo aplite-pegmatite field.
Brazil	200	0.5m	Production is mainly in the north, including Minas Gerais and Ceara.
United States	n.a.	0.4m	Rockwood Holdings owns the sole production site in Nevada, which was acquired by Albemarle in 2015. Other companies (e.g., Darin Resources and Pure Energy Minerals) conduct exploration.

The industry was also highly concentrated with the top five producers accounting for about 75% of world lithium output. The growing demand for LIBs encouraged a surge of acquisitions in the lithium mining sector including Albemarle's acquisition of the world's largest lithium producer, Rockwood Holdings, in July 2014 and Tianqi Lithium (China) acquiring a stake in SQM (Chile) in September 2016. Fear of a shortage of lithium has encouraged both battery makers and automobile producers to establish alliances, supply agreements, and partnerships with lithium miners. In January 2018, Toyota took a 15% equity stake in Orocobre. Table 4 shows the major producers of lithium.

TABLE 4 Leading lithium-producing companies

Company	World market share, 2016	Notes
Albemarle	22%	A US-based specialty chemicals business with lithium sales of $1.02bn. in 2017. With the takeover of Rockwood, Albemarle acquired lithium mining operations in Nevada, Chile, and Australia. its plan to expand lithium production in Chile, Albemarle's lithium production would increase from 55,000 tonnes in 2016 to 165,000 tonnes in 2021.
SQM	21%	Revenues from lithium were $645m in 2017 on which it earned an operating margin of 21%. Problems with the Chilean government included a dispute over its mining leases and bribery and tax evasion allegations that resulted in the resignation of its CEO. In 2017, SQM sold $49,700 tonnes of lithium cambonate and derivative products. By 2021, its annual production capacity would expand to 180,000 tonnes.
FMC	10%	Operates lithium production in the Salar del Hombre Muerto in Argentina. Lithium sales were $347m in 2017 with operating profits of $41m.
Tianqi Lithium Industries	10%	Formerly Sichuan Tianqi Lithium. A subsidiary of Chengdu Tianqi Group, headquartered in Chengdu, China. A backward integrated producer of the lithium battery market. The world's largest hard-rock lithium miner. Acquired 49% of Talison Lithium owner of the Greenbushes mine in Australia, in 2012; subsequently sold its stake to Rockwood.
Jiangxi Ganfeng Lithium	12%	China's #2 lithium producer based in Xinyu. Interests outside of China include 14.7% of International Lithium and an offtake agreement with Australia's Reed Industrial Minerals.

Other producers include the following:

- Orocobre, based in Brisbane, Australia, mines lithium and borax in Argentina. It rapidly expanded its lithium production during 2016–17.
- Galaxy Resources. The Australian-based company has lithium extraction projects under development in Western Australia (Mt Cattlin), Argentina (Sal de Vida), and Quebec, Canada.
- Bacanora Minerals is a Canadian-based company developing the Sonora Lithium Project in Mexico, with projected output of 35,000 tonnes per annum of battery-grade lithium carbonate.
- Pure Energy Minerals Ltd. is one of several mining companies developing lithium brine projects in Clayton Valley, Nevada.
- Rare Earth Minerals is developing lithium mining projects in Mexico and the Czech Republic.

During 2016 and 2017, growing demand for LIBs had caused a rapid rise in the price of lithium carbonate (Figure 9). Because of the long development lags for new mines—between 5 and 8 years—supply was price inelastic in the short and medium term. Although price increases had encouraged new entry, most of these were engaged in exploration and project development—few had begun production. In February 2018, Mining Feeds listed 22 lithium mining companies quoted on US, Canadian, and Australian stock markets.[7] The requirement for substantial investment over this long period meant that several recent entrants had gone bankrupt.[8]

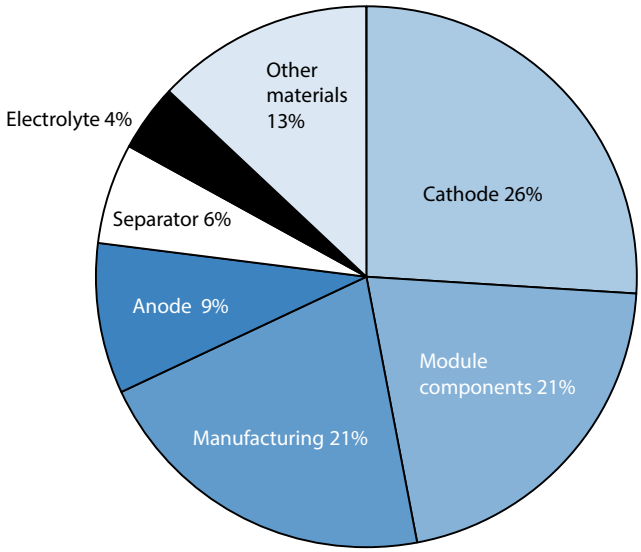
During 2017, attention shifted from lithium to cobalt, a metal used in the production of electrodes and another potential bottleneck in the LIB supply chain. The world's production of cobalt was about 100,000 tonnes in 2016. Glencore estimated that growth in battery production would increase the demand for cobalt to about 360,000 tonnes.[9] During the two years to March 2018, the price of cobalt increased by 280%. However, because cobalt is produced as a by-product of copper and nickel mining, even a large rise in the price of cobalt will not necessarily induce expansion in its supply. Compounding the problem, 60% of the world's cobalt supply is from the Democratic Republic of Congo—most of it from the Chinese-owned Tenke Fungurume mine whose development is hampered by "the lack of rail links, the horrific poverty, violence and corruption of the country, and the necessity for big power developments."[10] Evidence of widespread use of child labor in cobalt mining presented ethical challenges for LIB producers and their customers.

Components

Bottlenecks also existed in the supply of components. In a July 2017 report, Bloomberg New Energy Finance concluded: "Without the supply chain in place, the battery industry will not be able to meet future demand. The supply chain for battery components (cathodes, anodes, electrolyte, and separators) is a complex business. There's a looming production capacity shortage for components, particularly the separator. EV sales growth in China, in particular, is creating separator supply bottlenecks."[11] Figure 10 shows the contribution of different components to the cost of LIBs.

FIGURE 9 The price of lithium carbonate ($ per kilogram), February 2016–February 2018

FIGURE 10 Cost composition of lithium-ion batteries



Source: Argonne National Laboratories, industry experts.

Notes

1. Tesla, Inc. 10K Report for 2017: 9
2. A kilowatt hour (kWh) is a measure of energy, which represents one thousand watts supplied over one hour. A megawatt is a million watts. A gigawatt is a billion watts.
3. https://www.bloomberg.com/news/articles/2017-06-28/china-is-about-to-bury-elon-musk-in-batteries, accessed October 11, 2017.
4. "Valeo Doubles Forecast for Electric Car Sales," *Financial Times* (February 26, 2018).
5. All forecasts are highly sensitive to the speed of transition from petroleum to electric propulsion. With world production of cars and light trucks at around 94 million annually and an average battery size of 30 kWh, if EVs account for 25% of total production, battery demand is 225.6 GWh; if EVs account for 25% of total production, battery demand is 705 GWh. This ignores the potential for battery-powered large trucks, where battery sizes would be between 400 and 1200 kWh.
6. "The Breakneck Rise of China's Colossus of Electric-Car Batteries," *Bloomberg Business Week* (January 31, 2018).
7. http://www.miningfeeds.com/lithium-mining-report-all-countries, accessed February 27, 2018.
8. Albemarle, "Global Lithium Market Outlook," Goldman Sachs HCID Conference (March 2016).
9. "Glencore Sees Rich Benefits in Battery Growth as Debt Falls," *Financial Times* (August 10, 2017).
10. "Lack of Ethical Cobalt Undermines Tesla Debt Issue," *Financial Times* (August 11, 2017).
11. "Lithium-ion Battery Costs and Market," *Bloomberg New Energy Finance* (July 17, 2017).

Case 6 Walmart, Inc. in 2018: The World's Biggest Retailer Faces New Challenges

In 2018, Walmart was not only the world's biggest retailer, it was also the world's biggest company in terms of revenue—a position it had first attained in 2000 and had held for most of the intervening years.

Since going public in 1972, Walmart's record of growth and profitability was remarkable. Between 1972 and 2009, its average annual sales growth was 22% and its return on equity had not fallen below 20%.

Yet, sustaining Walmart's phenomenal record of growth and profitability was proving to be an ever more daunting challenge. As Walmart continued to expand its range of goods and services—into groceries, fashion clothing, music downloads, online prescription drugs, financial services, and health clinics—it was forced to compete on a broader front. While Walmart could seldom be beaten on price, it faced competitors that were more stylish (T.J.Maxx), more quality-focused (Whole Foods), more service-oriented (Lowe's, Best Buy), and more focused in terms of product range. In its traditional area of discount retailing, Target was an increasingly formidable competitor, while in warehouse clubs, its Sam's Clubs ran a poor second to Costco.

However, all these competitive threats were trivial compared to that posed by online retailing—and, specifically that posed by the world's emerging retail colossus: Amazon. During 2017, the turf battle between the two became increasingly acute: while Walmart expanded its online operations, Amazon shocked the retail world with its acquisition of Whole Food Markets. In December 2017, the company announced that it was changing its name from Wal-Mart Stores Inc. to Walmart Inc. reflecting "the company's growing emphasis on serving customers seamlessly however they want to shop: in stores, online, on their mobile device, or through pickup and delivery."[1]

Competition was not the only external threat that Walmart had to deal with. Its growth had made "The Beast of Bentonville" a bigger target for environmentalists, antiglobalization activists, women's and children's rights advocates, small-business representatives, and organized labor, which had long sought to unionize Walmart's 2.2 million employees. In response, Walmart had become increasingly engaged in social and environmental responsibility, corporate ethics, and government relations—all of which meant greater involvement of top management with government agencies, external interest groups, and the media.

These headwinds were reflected in Walmart's financial performance. During its five most recent financial years (2014–18), annual sales growth had averaged just 1.3% and return on equity had dipped below 20% (see Table 1).

This case was prepared by Robert M. Grant. ©2019 Robert M. Grant.

TABLE 1 Walmart Inc.: Financial data 2005–18 year ended January 31 ($billion unless otherwise stated)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Net sales	285	312	345	375	401	405	419	444	469	476	486	478	481	495
Net sales increase (%)	11.3	9.5	11.7	8.6	7.2	1.0	4.4	5.9	5.0	1.6	2.0	−1.6	0.6	2.9
Gross margin (%)	22.8	23.1	23.5	24.1	24.3	24.9	24.8	24.5	24.3	24.3	24.3	32.8	33.2	32.7
SG&A[a] expense as % of sales	18.0	18.2	18.5	19.1	19.4	19.7	19.4	19.2	19.0	19.3	19.4	20.3	21.0	21.4
Interest, net	0.9	1.2	1.6	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.4	2.2	2.1
Income taxes	5.6	5.8	6.2	6.9	7.1	7.4	7.5	7.9	8.8	8.1	8.0	6.5	6.2	4.6
Operating income	17.3	18.7	20.5	22	22.8	24	25.5	26.5	27.7	26.9	27.1	24.1	22.7	22.1
Net income	10.3	11.2	11.3	12.7	13.4	14.4	16.9	16.3	17.0	16.0	16.4	15.0	14.2	10.5
Current assets	38.9	43.8	47.6	47.6	48.8	48.8	52.0	54.9	58.8	61.2	63.3	54.3	57.6	59.6
Inventories	29.8	32.2	33.7	35.2	34.5	32.7	36.4	40.7	43.8	44.9	45.1	44.4	43.0	43.7
Property and equipment	68.1	79.3	88.4	97.0	95.7	102	105	110	113.0	117.9	116.7	116.5	114.1	114.8
Total assets	119.8	138.0	152.2	164.3	163.0	170.0	181.0	193.6	200.1	204.5	203.5	199.6	199.9	204.5
Current liabilities	43.2	48.8	52.2	58.5	55.3	56.8	58.6	62.3	67.2	69.3	65.3	66.0	66.9	78.5
Long-term debt[b]	23.3	30.1	30.7	33.4	34.5	39.5	43.7	47.0	41.4	44.6	43.7	40.3	36.0	30.0
Shareholders' equity	49.4	53.2	61.6	64.6	65.3	70.5	68.5	71.3	76.3	76.3	81.4	80.2	87.0	77.0
Current ratio	0.9	0.9	0.9	0.8	0.9	0.8	0.9	0.9	0.9	0.9	1.0	0.8	0.9	0.8
Return on assets[c] (%)	9.3	8.9	8.8	8.5	8.4	8.7	9.3	8.4	9.1	8.2	8.4	12.6	7.2	5.1
Return on equity[d] (%)	22.6	22.5	22.0	21.0	21.2	21.2	24.6	22.8	23.0	21.0	20.8	18.8	16.3	13.6
Other data (units)														
US stores[e]	3702	3856	4022	4141	4258	4314	4418	4479	4625	4835	5163	5229	5332	5358
International stores[f]	1587	2285	2757	3121	3615	4099	4587	5287	5783	6107	6290	6299	6363	6360
Employees (millions)	1.6	1.8	2.1	1.9	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.3	2.3

Notes:
[a]SG&A: sales, general, and administrative.
[b]Including long-term lease obligations.
[c]Net income before minority interest/average assets.
[d]Net income/average shareholders' equity.
[e]Includes US Sam's Club outlets.
[f]Includes overseas Sam's Club outlets.
Source: Walmart Inc. 10-K reports.

Walmart's success had rested heavily upon its ability to combine huge scale with speed and responsiveness. Walmart's increasing size and complexity—including its presence in 29 countries of the world—threatened this agility. One component of this agility was its short chain of command and close relationship between top management

and individual store managers. Walmart's Saturday-morning meeting at its Bentonville HQ, once described as "the pulse of our culture," was progressively downgraded between 2008 and 2015.[2]

Given these challenges, could Walmart's outstanding retailing capabilities sustain its outstanding performance in a retail sector that had always been brutally competitive, but was now being torn apart by online giants such as Amazon and Alibaba?

History of Walmart

Discount stores—large retail outlets offering a broad range of products—began appearing in the United States after World War II. Conventional wisdom held that cities with at least 100,000 inhabitants were needed to support a discount store. Sam Walton believed that, with low enough prices, discount stores could be viable in smaller communities: "Our strategy was to put good-sized stores into little one-horse towns that everyone else was ignoring."[3] His first Walmart opened in 1962; by 1970, there were 30 Walmarts across Arkansas, Oklahoma, and Missouri.

Distribution was a problem for Walmart:

> Here we were in the boondocks, so we didn't have distributors falling over themselves to serve us like our competitors in larger towns. Our only alternative was to build our own distribution centers so that we could buy in volume at attractive prices and store the merchandise.[4]

Walmart's expansion strategy involved entering new areas by building a few stores that were served initially from a nearby distribution center. Once a critical mass of stores had been established, Walmart would build a new distribution center. By 1995, Walmart was in all 50 states and was competing in major conurbations as well as in smaller towns.[5]

Different Store Formats

Sam Walton experimented continually with alternative retail formats—this continued under subsequent CEOs:

- Sam's warehouse clubs were wholesale outlets which required membership: they offered products in multipacks and catering-size packs with minimal customer service.
- Supercenters were large-format stores (averaging a floor space of 178,000 square feet, compared with 105,000 square feet for a Walmart discount store and 129,000 square feet for a Sam's Club). They combined a discount store with a grocery supermarket, plus other specialty units such as an eyeglass store, hair salon, dry cleaners, and photo lab. They were open 24 hours a day, seven days a week.
- Neighborhood Markets were supermarkets with an average floor space of 42,000 square feet.
- Walmart Express convenience stores of about 12,000 square feet were launched in 2013; however, in January 2016, Walmart closed all 102 of its Express stores.

- Walmart also built a substantial online business through its websites www.walmart.com and www.samsclub.com. A key feature of Walmart's online strategy was its integration of web-based transactions with its physical store network. In 2016–17, Walmart acquired additional e-commerce companies namely: Jet.com (general merchandise), Hayneedle.com (home furnishings), Shoes.com, Moosejaw (outdoor apparel and gear), ModCloth (women's apparel), and Bonobos (men's apparel).

International Expansion

Walmart's international expansion began in 1991 with a joint venture with Mexico's largest retailer, Cifra SA, to open discount stores and Sam's Clubs. By 2000, Walmart had entered six overseas countries. Table 2 summarizes Walmart's international development.

Walmart's overseas expansion followed no standard pattern: it might enter through greenfield entry, through joint venture, or by acquisition. Unlike the globally standardized approach of retailers such as IKEA and H&M, Walmart adapted its strategy to each country's consumer habits, infrastructure, competitive situation, and regulatory environment. Its overseas operations have met with varying degrees of success. In the adjacent countries of Mexico and Canada, Walmart was highly successful. Walmart withdrew from Germany and South Korea after sustaining heavy losses and, in March 2018, it was negotiating the sale of its Brazilian stores. Walmart's subsidiaries in UK and Japan, Asda and Seiyu, have each found profitability elusive.[6]

China represents Walmart's greatest international success outside of North America. In 2018, China accounted for 20% of Walmart's retail square footage outside the United States. It was also the lead country for Walmart's online operations. Through an alliance with JD.com, Walmart offers a guaranteed one-hour fresh grocery delivery service through a network of mini-warehouses.[7]

TABLE 2 Walmart stores by country, January 2015 and January 2018

	No of stores		
Country	**2018**	**2015**	**Notes**
US	5358	5163	In 2018 these comprised 3,561 Supercenters, 400 discount stores, 597 Sam's Clubs, 800 Neighborhood Markets, and other small formats
Canada	410	394	Entered in 1994 by acquiring 120 Woolco stores from Woolworth and converting them into Walmart discount stores
Mexico	2358	2290	In 1991 formed JV[a] with Cifra. Chains include Walmart, Bodegas, Suburbia, VIPS, and Mercamas. In 2000, Walmart acquired 51% of Cifra and took control of the JV. Walmart Mexico is the country's biggest retailer
Central America	778	690	Acquired CARHCO, a subsidiary of Royal Ahold in 2005 with stores throughout Central America
Argentina	106	105	Entered 1995: greenfield venture
Brazil	465	557	Entered 1995: JV with Lojas Americana, includes Todo Dia, Bompreço, and Sonae stores

(*Continues*)

TABLE 2 Walmart stores by country, January 2015 and January 2018 (*Continued*)

Country	No of stores 2018	2015	Notes
Chile	378	404	Entered January 2009 by acquiring Distribución y Servicio SA
China	443	411	Entered 1996, mainly organic growth, but in 2006 acquired Trust-Mart with 102 stores. Average store size was 166,000 sq. ft.—three times the average for Walmart International
Japan	336	431	Entered 2002: acquired 38% of Seiyu; 2008, Seiyu became a wholly owned subsidiary of Walmart. Mainly small stores, some superstores
India	20	20	Entered May 2009; JV with Bharti Enterprises
Africa	424	396	Entered 2011, acquiring 51% of Massmart Holdings Ltd; 382 stores in South Africa, also stores in Botswana, Ghana, Lesotho, Malawi, Mozambique, Namibia, Nigeria, Swaziland, Tanzania, Uganda, and Zambia
UK	642	592	Entered 1999 by acquiring Asda. Operates Walmart superstores, and Asda supermarkets and discount stores
Total	11,718	11,453	

Note:
[a] JV = joint venture.
Source: Walmart Inc. 10K reports.

Sam Walton and His Legacy

Walmart's strategy and management style was inseparable from the philosophy and values of its founder. After his death in 1992, Sam Walton's beliefs and business principles continued to guide Walmart's identity and development.

For Walton, thrift and value for money were a religion. Undercutting competitors' prices was an obsession that drove his unending quest for cost economies. Walton established a culture in which every item of expenditure was questioned. Was it necessary? Could it be done cheaper? He set an example that few of his senior colleagues could match: he walked rather than took taxis, shared rooms at budget motels while on business trips, and avoided any corporate trappings or manifestations of opulence or success. For Walton, wealth was a threat and an embarrassment rather than a reward and a privilege. His own lifestyle gave little indication that he was America's richest person (before being eclipsed by Bill Gates). He was equally disdainful of the display of wealth by colleagues: "We've had lots of millionaires in our ranks. And it drives me crazy when they flaunt it . . . I don't think that big mansions and flashy cars is what the Walmart culture is supposed to be about."[8]

His attention to detail was legendary. As chairman and CEO, his priorities lay with his "associates" (as Walmart employees are known), customers, and the operational details through which the former created value for the latter. Much of his life was

spent on the road (or in the air, piloting his own plane) making impromptu visits to stores and distribution centers. He collected information on which products were selling well in Tuscaloosa, why margins were down in Santa Maria, how a new display system for children's clothing in Carbondale had boosted sales by 15%. His passion for detail extended to competitors' stores: he visited their stores and counted cars in their parking lots.

Central to his leadership role was his relationship with his employees, the Walmart associates. In an industry known for low pay and poor working conditions, Walton created a spirit of motivation and involvement. He believed fervently in giving people responsibility, trusting them, but also continually monitoring their performance.

After his death in 1992, Sam Walton's habits and utterances became enshrined in Walmart's operating principles. The "10-foot attitude" pledge embodied Sam Walton's request to an employee that: "I want you to promise that whenever you come within 10 feet of a customer, you will look him in the eye, greet him and ask if you can help him."[9] The "Sundown Rule"—that every request, no matter how big or small, gets same-day service—became the basis for Walmart's fast-response management system. "Three Basic Beliefs" formed the foundation for Walmart's corporate culture:

- *Service to our customers:* "Every associate—from our CEO to our hourly associates in local stores—is reminded daily that our customers are why we're here. We do our best every day to provide the greatest possible level of service to everyone we come in contact with."
- *Respect for the individual:* Walmart's emphasis on "respect for every associate, every customer, and every member of the community" involves valuing and recognizing the contributions of every associate, owning "what we do with a sense of urgency" and empowering "each other to do the same," and "listening to all associates and sharing ideas and information."
- *Striving for excellence:* this comprised innovating by continuous improvement and trying new ways of doing things, pursuing high expectations, and working as a team by "helping each other and asking for help."[10]

Sam Walton's iconic status owed much to his ability to generate excitement and fun within the seemingly sterile world of discount retailing. Walmart's replacement of its mission slogan—"Everyday Low Prices" by "Save Money, Live Better"—was intended to reflect Walton's insistence that Walmart play a vital role in the happiness and well-being of ordinary people.

Walmart in 2018

The Business

Walmart described its business as follows:

> Walmart Inc. . . . helps people around the world save money and live better—anytime and anywhere—in retail stores and through e-commerce and mobile capabilities. Through innovation, we are striving to create a customer-centric experience that seamlessly integrates our e-commerce and retail stores in an omni-channel offering

> that saves time for our customers. Each week, we serve nearly 270 million customers who visit our over 11,700 stores and numerous e-commerce websites under 65 banners in 28 countries.
>
> Our strategy is to lead on price, invest to differentiate on access, be competitive on assortment and deliver a great experience. Leading on price is designed to earn the trust of our customers every day by providing a broad assortment of quality merchandise and services at everyday low prices ("EDLP"). EDLP is our pricing philosophy under which we price items at a low price every day so our customers trust that our prices will not change under frequent promotional activity. Price leadership is core to who we are. Everyday low cost ("EDLC") is our commitment to control expenses so those cost savings can be passed along to our customers. Our omni-channel presence provides customers access to our broad assortment anytime and anywhere. We strive to give our customers and members a great digital and physical shopping experience.[11]

Walmart divides its sales into three product groups: grocery (56%), health and wellness (11%), and general merchandise (33%). Grocery provided most of Walmart's sales growth over the past decade. By 2017, Walmart's held 26% of the US grocery market—Kroger, America's biggest supermarket chain, had 10%.

Walmart reports its operations and financial results in three business segments—Walmart US, Walmart International, and Sam's Club. Table 3 shows sales and profits for these segments. Although Walmart's Sam Club underperformed Costco, Walmart's overall corporate performance outshone all of its leading competitors (see Table 4).

TABLE 3 Walmart: Performance by segment (year ending January 31)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Sales ($billion)											
Walmart US	239.5	255.7	259.9	260.3	264.2	274.4	279.4	288	298.4	307.8	318.5
Sam's Clubs	44.4	46.9	47.8	49.4	53.7	56.4	57.2	58.0	56.8	57.4	59.2
International	90.6	98.6	97.4	109.2	125.9	134.7	136.5	136.2	123.4	116.1	118.1
Change in sales (%)											
Walmart US	5.8	6.8	1.6	0.1	1.5	3.9	1.8	3.1	3.6	3.2	3.5
Sam's Clubs	6.7	5.6	1.9	3.5	8.8	4.9	1.3	1.5	−2.1	1.1	3.1
International	17.5	9.1	−1.2	12.1	15.2	7.4	1.3	0.3	−9.4	−5.9	1.7
Operating income ($billion)											
Walmart US	17.5	18.8	19.3	19.9	20.3	21.1	21.8	21.3	19.1	17.7	17.8
Sam's Clubs	1.6	1.6	1.5	1.7	1.8	1.9	1.8	2.0	1.8	1.6	1.0
International	4.8	4.9	4.9	5.6	6.2	6.4	5.1	6.2	5.3	5.7	5.3
Operating margin (%)											
Walmart US	7.3	7.3	7.4	7.6	7.7	7.7	7.8	7.4	6.4	5.8	5.6
Sam's Clubs	3.6	3.4	3.1	3.4	3.4	3.3	3.2	3.4	3.2	2.8	1.7
International	5.2	5.0	4.5	5.1	4.9	4.7	3.8	4.5	4.3	4.9	4.5

Source: Walmart Inc. 10-K reports.

TABLE 4 Walmart and its competitors: Performance comparisons ($billion unless otherwise stated)

	Walmart[a]		Target[a]		Dollar General[b]		Costco[c]	
	2017	2018	2016	2017	2017	2018	2016	2017
Net sales	481.3	495.8	69.4	71.8	21.9	23.4	116	126.1
Operating income	22.7	22.1	4.9	4.3	2	2	3.6	4.1
Net income	14.2	10.5	2.7	2.9	1.2	1.5	2.3	2.6
Current assets	57.6	59.6	11.9	12.5	3.6	4.2	15	17
Inventories	43	43.7	8.3	8.6	3.2	3.6	8.9	9.8
Total assets	198.8	204.5	37	38	11	12	33	36
Current liabilities	66.9	78.5	12	13	2.6	2.9	15.5	17.4
Long-term debt	36	30	12.7	11.5	3.2	3	4	6.5
Shareholders' equity	87	77	10	11	5.4	6.1	12	10
Financial ratios								
Operating income/assets ratio	11.5	10.8	13.2	11.3	18.2	16.7	10.9	11.4
Current ratio	0.9	0.8	1	1	1.4	1.4	1	1
Return on assets (%)	7.2	5.1	7.3	7.6	10.9	12.5	7	7.2
Return on equity (%)	16	14	27	26	22	25	19	26
Inventory turnover	11.2	11.3	8.4	8.3	6.8	6.5	13	12.9
Total assets turnover	2.4	2.4	1.9	1.9	2	2	3.5	3.5
SG&A expense as % of sales	21	21.4	19.2	19.8	21.5	22.2	10.2	10.4
operating margin	4.7	4.5	7.1	6	9.1	8.5	3.1	3.3

Notes:
[a] 12 months to January 31 the following year
[b] 12 months to February 28 the following year
[c] 12 months to September 30
Sources: Company 10-K reports.

Walmarts' Operations and Activities

Purchasing and Vendor Relationships

The size of Walmart's purchases and its negotiating ability made it both desired and feared by suppliers. As a Walmart vendor, a manufacturer gained unparalleled access to the US retail market. At the same time, Walmart's buying power and cost-cutting fervor means razor-thin margins for most suppliers. Purchasing is centralized. All dealings with US suppliers take place at Walmart's Bentonville headquarters. Would-be suppliers were escorted to one of the spartan cubicles on "Vendor Row" where they prepared themselves for an intimidating and grueling encounter: "Expect a steely eye across the table and be prepared to cut your price," counseled one supplier.[12] To avoid dependence on individual suppliers, Walmart limited the total purchases it obtained

from any one supplier. The result was an asymmetry of bargaining power: Walmart's biggest supplier, Procter & Gamble, accounted for about 3% of Walmart's sales, but this represented 18% of P&G's revenues.

However, Walmart's relationships with its suppliers are anything but arm's-length. Walmart's *Standards for Suppliers Manual* is a 38-page document that covers suppliers' hiring and employment practices, environmental policies, health and safety, provision of canteen facilities for workers, and financial integrity.[13] Collaboration involves a constant quest for efficiencies through enhanced cooperation—though Walmart receives a disproportionate share of the resulting cost savings. Walmart's arrangements with P&G were a model for these relationships. Electronic data interchange (EDI) began in the early 1990s and within two years there were 70 P&G employees based at Bentonville to manage sales and deliveries to Walmart.[14] EDI was extended to almost all Walmart's US vendors. Through Walmart's "Retail Link," suppliers could log onto the Walmart database for real-time store-by-store information on sales and inventory for their products. This collaboration allows suppliers and manufacturers within the supply chain to synchronize their demand projections under a collaborative planning, forecasting, and replenishment scheme, resulting in Walmart achieving faster replenishment, lower inventory, and a product mix more closely tuned to local customer needs.

In 2017, Walmart increased its synchronization with suppliers through its "on-time, in-full" initiative. From January 2018, suppliers were obliged to deliver full orders within a specified one- or two-day window 85% of the time or be fined 3% of the cost of the delayed goods.[15]

Warehousing and Distribution

Walmart's world leadership in distribution logistics is a central component of its cost advantage. While most discount retailers relied heavily on their suppliers and third-party distributors for distribution to their individual stores, about 85% of Walmart's purchases are shipped to Walmart's own distribution centers, then distributed to Walmart stores in Walmart trucks. Walmart's hub-and-spoke configuration, where each distribution center serves between 75 and 110 stores within a 200-mile radius, permits control over the scheduling of deliveries, larger drop sizes, fuller utilization of trucks, and greater flexibility. On backhauls, Walmart trucks bring returned merchandise from stores and pick up from local vendors, allowing trucks to be over 60% full on backhauls.

Walmart continuously adapts its logistics system to increase speed and efficiency:

- Cross-docking allows goods arriving on inbound trucks to be unloaded and reloaded on outbound trucks without entering warehouse inventory.
- "Remix" adds an additional tier to Walmart's distribution system: third-party logistic companies made small frequent pick-ups from suppliers allowing Walmart a five-day rather than a four-day week ordering cycle from suppliers.
- The international extension of Walmart's procurement system involves direct purchases from overseas suppliers, rather than through importers, giving Walmart direct control of import logistics. In China it has global purchasing centers in Shenzhen and Shanghai. Imports are funneled through its huge import distribution center in Baytown, Texas.[16]

- Walmart pioneered the use of radio frequency identification (RFID) for logistics management and inventory control.
- In 2008, Walmart introduced a new system of packing trucks—allowing a better use of their capacity.

In-store Operations

Walmart's management of its retail stores is based upon satisfying customers by combining low prices, a wide range of quality products carefully tailored to customer needs, and a pleasing shopping experience. Walmart's store management was distinguished by the following characteristics:

- *Merchandising:* Walmart offers a wide range of nationally-branded products. Between 2006 and 2009, it had expanded its range of brands, focusing in particular on upscale brands. Traditionally, Walmart had placed less emphasis on own-brand products than other mass retailers; however, after 2008, Walmart greatly increased its range of private-label products. Its "Store of the Community" philosophy involves tailoring its range of merchandise to local market needs on a store-by-store basis—a goal that is facilitated by Walmart's meticulous analysis of point-of-sale data for individual stores (see *Information Technology* below).
- *Decentralization of store management:* Individual store managers are given greater decision-making authority in relation to merchandise, product positioning within stores, and pricing than is typical in discount retailing where such decisions are concentrated at head office or at regional offices. Similarly, decentralized decision-making is apparent within stores, where the department managers (e.g., toys, health and beauty, consumer electronics) are expected to develop and implement their own ideas for increasing sales and reducing costs.
- *Customer service:* Most Walmart stores in the United States are either 24 hours or 6 am to midnight (sometimes with shorter hours on Sundays). Despite the primacy of "Everday Low Prices", Walmart seeks to engage with its customers at a personal level. Within stores, employees are expected to look customers in the eye, smile at them, and offer a verbal greeting. Walmart's "Satisfaction Guaranteed" program assures customers that Walmart would accept returned merchandise on a no-questions-asked basis.

Marketing and External Relations

At the core of Walmart's strategy is Sam Walton's credo that "There is only one boss: the customer" and the belief that value for customers equated to low prices. Hence, Walmart's marketing strategy is built upon its slogan "Everyday Low Prices." Unlike other discount chains, Walmart does not engage in promotional price-cutting.

"Everyday Low Prices" also permitted Walmart to spend less on advertising and other forms of promotion than its main rivals. Its advertising/sales ratio in 2017 was 0.6%—less than half that of its main rivals (Target's was 2.0%). Nevertheless, Walmart advertising budget of $3 billion exceeded that of any other retailer.

The image that Walmart communicates is grounded in traditional American virtues of hard work, thrift, individualism, opportunity, and community. This identification with core American values is reinforced by a strong emphasis on patriotism and national causes.

However, as Walmart became a target for pressure from politicians, NGOs, and labor unions, it was increasingly forced to adapt its image and its business practices. In 2005, Walmart committed itself to a program of environmental sustainability and set targets for renewable energy, waste reduction, and the introduction of environmentally friendly products.[17] Two years later, Walmart published the first of its annual sustainability reports.

Commitment to social and environmental responsibility forms part of a wider corporate makeover to upgrade Walmart's image and broaden its consumer appeal.[18]

Human Resource Management

Walmart's approach to human resource management reflects Sam Walton's beliefs about relations between the company and its employees and between employees and customers. All employees, from corporate executives to checkout clerks, are known as "associates." Walmart claims that its relations with its associates are based on respect, high expectations, close communication, and clear incentives.

In common with other discount retailers, Walmart's employees receive low pay. In 2015, full-time employees earned an average of $13.58 an hour; part-time employees, $10.28. Benefits included a company health plan that covered almost all employees and a retirement scheme for employees with a year or more of service. Performance bonuses were paid to hourly as well as salaried employees and a stock purchase plan was also available.

Walmart is under continuous pressure to increase rates of pay—particularly from labor unions that have long sought to recruit Walmart employees. In January 2018, Walmart increased its minimum starting rate from $9 to $11 and improved maternity and parental leave benefits. Walmart has resisted unionization in the belief that union membership create a barrier between the management and the employees in furthering the success of the company and its members. However, at several of its overseas subsidiaries Walmart works closely with local unions.[19]

Orchestrating employee enthusiasm and involvement is a central feature of Walmart's management style. Opportunity for advancement provides a key incentive: 75% of Walmart managers (including CEO Doug McMillon) had started as hourly employees. Top management believes that close collaboration between managers and front-line employees infuses every aspect of Walmart's operations. Employees are encouraged to show initiative and flexibility, especially in relation to serving customers and identifying opportunities for cost saving.

Walmart's human resource practices are an ongoing paradox. Its dedication to training, internal promotion, and employee involvement can generate levels of commitment among Walmart shop-floor employees that is unusual in the brutally competitive discount retailing sector. Yet, the intense pressure for cost reduction and sales growth frequently results in cases of employee abuse. In several adverse court decisions, Walmart has been forced to compensate current and former employees for unpaid overtime work and for failure to ensure that workers received legally mandated rest breaks.

Information Technology

Walmart has long been a pioneer in applying information and communications technology to support decision making and promote efficiency and customer responsiveness. Walmart was among the first retailers to use computers for inventory control, to initiate EDI with its vendors, and to introduce bar code scanning for point-of-sale and inventory control. To link stores and cash register sales with supply chain management and inventory control, Walmart invested $24 million in its own satellite in 1984. By 1990, Walmart's satellite system was the largest integrated private satellite network in the world, providing two-way interactive voice and video capability, data transmission for inventory control, credit card authorization, and enhanced EDI. During the 1990s, Walmart pioneered the use of data mining for retail merchandising,

> The result, by now, is an enormous database of purchasing information that enables us to place the right item in the right store at the right price. Our computer system receives 8.4 million updates every minute on the items that customers take home—and the relationship between the items in each basket.
>
> Data analysis allows Walmart to forecast, replenish, and merchandise on a product-by-product, store-by-store level. For example, with years of sales data and information on weather, school schedules and other pertinent variables, Walmart can predict daily sales of Gatorade at a specific store and automatically adjust store deliveries accordingly.[20]

Analyzing purchasing patterns also led to continual adjustments in store layout (e.g., creating "baby aisles that include infant clothes and children's medicine alongside diapers, baby food and formula—but at the same time plac[ing] higher-margin products among the staples."[21]

Even before the onset of web-based computing, IT had played a central role in integrating Walmart's entire value chain with point-of-sale data forming the basis for inventory replenishment, deliveries from suppliers, and top management decision making:

> Combine these information systems with our logistics—our hub-and-spoke system in which distribution centers are placed within a day's truck run of the stores—and all the pieces fall into place for the ability to respond to the needs of our customers, before they are even in the store. In today's retailing world, speed is a crucial competitive advantage. And when it comes to turning information into improved merchandising and service to the customer, Walmart is out in front.[22]

Unlike most retailers, Walmart outsourced little of its IT requirements. In 2018, Walmart's IT function was split between two groups: Walmart Technology, at the corporate headquarters in Bentonville, developed and managed technology for the stores and logistical systems, while Global eCommerce, employing over 2000 developers and engineers in Silicon Valley, developed customer-focused technologies and ran Walmart websites.

As Walmart increased its commitment to building an online presence, so too did its investments in information technology and e-commerce. In the United States, these rose from $2.54 billion in 2013 (29% of total US capital expenditure) to $4.52 in 2017 (61% of the total). They included a number of acquisitions of hi-tech companies. The most important being Jet.com. bought in 2016 for $3.3 billion. Jet.com's founder and CEO, Marc Lore, was also put in charge of walmart.com.

In order to compete with Amazon, walmart.com is imitating some elements of Amazon's approach, for example, it now offers free two-day shipping on orders greater than $35. In other areas it is exploiting Walmart's distinctive presence—most notably its 4700 stores, hundreds of distribution centers, and 6200 trucks. By early 2018, walmart.com customers could pick up their grocery orders from grocery pickup from 1125 US locations.[23] Walmart was also testing "associate delivery" using employees to deliver packages for extra pay on their way home from work in their personal cars.

Walmart's other online initiatives included partnering with Google Express, and using Google's data analytics and artificial intelligence capabilities. Walmart customers can link their Walmart and Google accounts providing Walmart with additional data to forecast customer demand. Walmart also established a Silicon-Valley-based incubator—Store No. 8—to develop and launch innovative retailing startups. In May 2018, Walmart opened a new front in its rivalry with Amazon: it acquired a controlling interest in Flipkart, Amazon's leading online retailing competitor in India.

Organization and Management Style

Walmart's management structure and management style reflects Sam Walton's principles and values—especially his belief that all managers, including the CEO, needed to be closely in touch with customers and store operations. The result was a structure in which communication between individual stores and the Bentonville headquarters are both close and personal. Traditionally, Walmart US's regional vice presidents were each responsible for supervising between ten and 15 district managers (later designated "market managers") who, in turn, were in charge of 8 to 12 stores. The key to Walmart's fast-response management system was the close linkages in this system which ensured speed of communication and decision making between the corporate headquarters and the individual stores and warehouses. The critical links in this system were the regional vice presidents. Most large retailers had regional offices; Walmart's regional VPs had no offices. Their time was spent visiting stores and warehouses in their regions Monday to Thursday, then returning to Bentonville on Thursday night for Friday and Saturday meetings. On Friday, the 7 a.m. management meeting was followed by the merchandising meeting, which dealt with stockouts, excess inventory, new product introductions, and various merchandising errors. At the Saturday meeting, weekly sales data would be reviewed and the regional VPs would contact their district managers about actions for the coming week. According to former CEO David Glass: "By noon on Saturday we had all our corrections in place. Our competitors, for the most part, got their sales results on Monday for the week prior. Now, they're already ten days behind."

The two-and-a-half-hour Saturday morning meetings beginning at 7 a.m. were a manifestation of Walmart's unique management style—"part evangelical revival, part Oscars, part Broadway show."[24] Their downgrading to monthly with optional attendance are seen by many as indicating the erosion of Walmart's fast-paced, high-commitment, highly personalized, management culture.

Notes

1. https://news.walmart.com/2017/12/05/walmart-changes-its-legal-name-to-reflect-how-customers-want-to-shop, accessed April 11, 2018.
2. "Wal-Mart Alters Regular Saturday Meeting," *Northwest Arkansas Democrat Gazette* (January 14, 2008); "Walmart's new CEO has made its iconic Saturday morning meeting optional," http://qz.com/272018/walmarts-new-ceo-has-made-its-iconic-saturday-morning-meeting-optional/, accessed April 11, 2018.
3. S. Walton, *Sam Walton: Made in America* (New York: Bantam Books, 1992).
4. "How Sam Walton Does It," *Forbes* (August 16, 1982): 42.

5. *Wal-Mart Stores, Inc*., Harvard Business School Case No. 9–974–024 (1994).
6. Asda Stores Ltd. earned a small operating profit in 2015 and 2016. In Japan, Asda reduced the number of its stores from 434 in 2014 to 336 in 2018.
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Case 7 Harley-Davidson, Inc. in 2018

For us and for our loyal customers, the motorcycles we build aren't just motorcycles. They are living pieces of American history, mystique on two wheels. They are the vehicle with which our riders discover the power, the passion, and the people that define the Harley-Davidson Experience.

—HARLEY-DAVIDSON, INC.[1]

Harley-Davidson, Inc. was far from being the world's biggest motorcycle manufacturer. In 2017, it sold 241,498 bikes; Honda sold 11.2 million. In relation to the world market for motorcycles of about 132 million bikes—of which Asia accounted for over 80%—Harley's market share was about 0.25%.

Yet, Harley-Davidson was also one of the world's most famous motorcycle companies. On Interbrand's ranking of the world's most valuable brands, it placed #77 in 2017 with a brand value of $5.7 billion. In 2018, the company would celebrate its 115th birthday. On Labor Day weekend, tens of thousands of Harley riders would descend on Milwaukee WI for five days of festivities. As one enthusiast explained: "It ain't a motorcycle—It's a way of life!"

Harley-Davidson was also the world's most financially successful motorcycle company. Since its listing on the NYSE in 1986, its revenues had grown 11-fold, it had earned an average return on equity of 27%, and average annual return to shareholders was 12.8%.

However, since 2008, Harley had experienced headwinds. The financial crisis of 2008–09 had hit it hard and, despite a strong recovery, sales revenues and profits had declined after 2014. The decline in sales continued in 2018—exacerbated by the trade war initiated by the Trump administration. The European Union had targeted Harley-Davidson with 25% additional tariff on imports of US-made motorcycles. However, CEO Matt Levatich's biggest concern was the longer term outlook for the market for its bikes. Was America's long-running love affair with Harley-Davidson's heavyweight motorcycles cooling? And, if it was, would international markets take up the slack? These concerns were fueled by demographic trends. Harley's core market was the baby-boomer generation—and this cohort was moving toward retirement homes rather than outdoor sports. Would the next cohorts—Generation X, Y, and the millennials—have the same affinity for the motorcycles and the cultural values that Harley-Davidson represented? The evidence pointed to worrying problems for the entire US motorcycle market. Among the youngest age group—the under-18s—motorcycle ownership was declining sharply.

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The History of Harley-Davidson

From Birth to Maturity, 1903–81

Harley-Davidson, Inc. was founded in 1903 by William Harley and the three Davidson brothers: William, Arthur, and Walter. In 1909, Harley introduced its two-cylinder, V-twin engine with its deep, rumbling sound: this engine type would be the characteristic feature of Harley-Davidson motorcycles for the next 110 years. At that time, there were about 150 US motorcycle producers in the United States; by 1953, Harley-Davidson was the sole survivor.

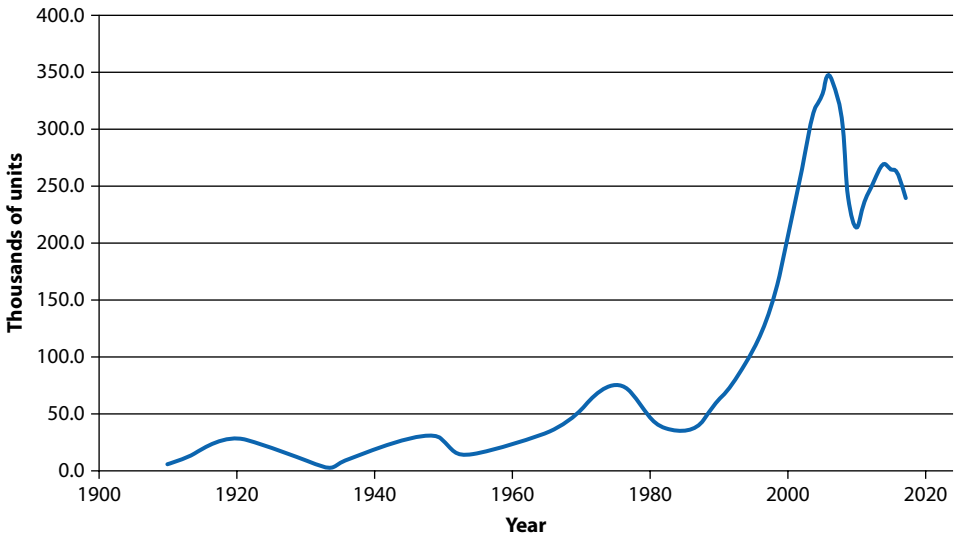
After the Second World War, the demand for motorcycles boomed. This encouraged a flood of imports: first the British (BSA, Triumph, and Norton) and then the Japanese (led by Honda). Following Harley's acquisition by the leisure conglomerate AMF in 1969, sales declined and financial losses mounted.

Rebirth, 1981–2008

In 1981, Harley's senior managers led a leveraged buyout of the company. Despite a perilous financial condition, the management team embarked upon rebuilding production methods and working practices. Managers visited Japanese automobile plants and introduced their own version of Toyota's just-in-time (JIT) system called "MAN" (materials-as-needed). Harley's manufacturing plants adopted collaborative processes of quality management.

The 1986 initial public offering of Harley-Davidson's shares fueled investment in new models, plants, and dealerships. Harley's share of the market for heavyweight motorcycles (over 500cc) grew steadily. Harley's biggest challenge was satisfying the surging demand for its products. Between 1996 and 2003, it dramatically increased its production capacity. In 2006, Harley's sales reached a peak of 362,000 motorcycles, a 10-fold increase on 1986. Figure 1 shows Harley's growth in output.

FIGURE 1 Annual shipments of motorcycles by Harley-Davidson



Source: Harley Davidson annual reports and Harley-Davidson archives.

Downturn and Readjustment, 2008–14

The financial crisis of 2008 put an abrupt end to growth. After decades of customer waiting lists and a shortage of production capacity, Harley faced plummeting sales, excess inventory, and bad debts as customers defaulted on their loan repayments. In the shrinking motorcycle markets of North America and Europe, Harley—with the highest average retail price of any major manufacturer—suffered disproportionately. The credit crunch prevented Harley-Davidson Financial Services (HDFS) from securitizing its customer loans—it was obliged to retain them on its own books.

When Keith Wandell took over as Harley's CEO in May 2009, his priorities were to restore funding for Harley's consumer lending, align production and employment with lower demand, and refocus on the core Harley-Davidson brand—which involved closing Buell Motorcycles and selling Italian subsidiary MV Agusta.[2] With its financial position stabilized, Wandell then sought to return Harley to its previous growth path. This involved:

- Restructuring manufacturing operations including reducing capacity and increasing flexibility to allow a wider range of models to be produced and to match production to seasonal fluctuations in demand.
- Expanding international sales—especially in the emerging markets of Asia and Latin America. In 2011, Harley opened an Asia-Pacific regional headquarters in Singapore, and an assembly plant in India.[3]
- Expanding the customer base. To reestablish growth in North America, Harley needed to broaden its customer base from its core demographic of white males of 45 years or more. Targeted groups included: women riders, "Harlistas" (Latino riders), "Iron Elite" (African-American riders), "Harley's Heroes" (military and veteran riders), and, most of all, younger riders through new models. During 2013, Harley launched its "Project Rushmore" motorcycles: a restyled range of touring motorcycles. They were followed by its "Street" models—lighter, sports motorcycles featuring new, liquid-cooled 500cc and 750cc engines.

Matt Levatich and Harley's Ten-Year Strategy

In May 2015, when Matt Levatich succeeded Keith Wandell as CEO, Harley was facing declining revenues as it faced a shrinking US motorcycle market, intensifying international competition, and a rising US dollar. Of particular concern was a decline in motorcycle ownership among younger Americans. To address these challenges, in February 2017, Levatich and his team announced a 10-year development strategy for the company. The key theme of the strategy was "Building the Next Generation of Harley-Davidson Riders Globally." Table 1 summarizes the key components of the strategy.

The Heavyweight Motorcycle Market

Until the financial crisis of 2008–09, the heavyweight segment had been the most rapidly growing part of the world motorcycle market: sales trebled between 1990 and 2008. However, during 2008–10, sales dropped sharply in North America and Europe. Despite a subsequent recovery, the US market continued to contract during 2015–17.

In North America, Harley was the leader in heavyweight bikes, with over half the market (Table 2). Overseas, Harley had been unable to replicate this market dominance, despite strong sales in a few markets: it was heavyweight market leader in Japan, Australia, and Brazil. In Europe, Harley's market share lagged those of Honda, BMW, Suzuki, and Triumph.

TABLE 1 Harley-Davidson's 10-year strategy, 2017–27

10-Year objectives	Actions
Build 2 million new HD[a] riders in the United States	To convert "customer opportunities" into HD customers, HD would use its dealer network to provide more instruction in m-c[b] riding, expand m-c rental, assure quality of local events, and expand HD presence in used m-c market.
Grow international business to 50% of annual volume	Add 150–200 dealer points between 2016 and 2020. Increase brand awareness and loyalty through test rides and dealer events, including "Battle of the Kings" dealer customization competition.
Launch 100 new high-impact H-D motorcycles	Annual expenditure on product development to be doubled. New models intended to expand HD's customer base while building on HD's "Key Differentiators": Look, Sound, Feel, Personalization, and Connected Riding Experience.
Deliver superior return on invested capital for HDMC[c] (S&P 500 top 25%)	HD's initiatives to grow demand and increase the appeal of HD m-cs would help revenue growth while improvements in operational efficiency would support margins. HD Financial Services would become increasingly important source of competitive advantage.
Grow our business without growing our environmental impact	Sustainability initiatives related mainly to waste reduction and improvements in fuel economy. The launch of an all-electric m-c announced January 2018.

Notes:
[a]HD = Harley-Davidson;
[b]m-c = motorcycle;
[c]HDMC = Harley-Davidson Motor Company, the main subsidiary of Harley-Davidson, Inc.
Source: Harley-Davidson, Inc. Investor Meeting, February 28, 2017.

TABLE 2 Retail sales (registrations) of heavyweight motorcycles (601+cc), 2008–17 (thousands of units)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
United States[a]										
Total market	477	304	260	271	299	306	316	328	311	289
Harley-Davidson	235	174	154	152	161	168	167	165	160	147
Market share (%)	49.3	53.2	54.9	55.7	53.8	54.9	52.8	50.2	51.2	50.7
Europe										
Total market	384	314	301	293	300	282	320	352	392	391
Harley-Davidson[b]	45	40	41	44	36	36	39	37	42	38
Market share (%)	11.7	12	12.7	13.7	12.1	12.8	12	10.5	10.8	9.8
Asia-Pacific										
Harley-Davidson	25	23	21	21[c]	25[c]	27[c]	30[c]	32	33	30
Latin America										
Harley-Davidson	8	6	6	7	9	11	12	11	10	9
Canada										
Harley-Davidson	n.a.	n.a.	n.a.	10	11	11	10	10	10	10

Notes:
[a]Includes Canada for 2008–10.
[b]Includes Middle East and Africa a 2005–11.
[c]In 2011–17, sales in Japan were between 9,500 and 11,000 each year.
n.a. = not available.
Source: Harley-Davidson 10-K reports.

The heavyweight motorcycle market comprised three segments:

- *Cruiser motorcycles:* These were "big, noisy, low riding, unapologetically macho cycles,"[4] typically with V-twin, large displacement engines and an upright riding position. Their design reflected the dominance of styling over either comfort or speed. For the urban males (and some females), the cruiser motorcycle, while a practical mode of transportation, was primarily a statement of style. The cruiser segment was dominated by Harley and most of its competitors in this segment had imitated the main features of the traditional Harley design.
- *Touring motorcycles:* These included cruisers especially equipped for longer-distance riding and bikes especially designed for comfort over long distances (including the Honda Goldwing and the bigger BMWs). These tourers featured luxuries such as audio systems, two-way intercoms, and heaters. While Harley was segment leader, Honda and BMW had engineered their motorcycles for greater smoothness and comfort over long distances through the use of multi-cylinder, shaft-drive engines and advanced suspension systems.
- *Performance motorcycles:* These were based on racing bikes, with high-technology, high-revving engines offering speed, acceleration, race-track styling, and minimal concessions to rider comfort. The segment was the most important in the European and Asia-Pacific markets, representing 62% and 65% of total heavyweight bike sales, respectively. It was dominated by Japanese motorcycle companies, with a strong representation of European specialists, such as Ducati and Triumph. Harley had competed in this segment during 1993–2010 through Buell Motorcycles.

Unlike its Japanese competitors, Harley was highly market focused: its Harley's models were concentrated on the "super-heavyweight" segment (over 850cc) and within this on cruiser and touring motorcycles.

Harley-Davidson in 2018

The Brand

Harley-Davidson's image and the loyalty the company engendered among its customers were seen as its greatest assets. The famed spread eagle signified not just the brand of one of the world's oldest motorcycle companies but also an entire lifestyle with which it was associated. Harley has been described as "the ultimate biker status symbol . . . a quasi religion, an institution, a way of life."[5] Harley had a unique relationship with American culture. The values that Harley represented—individuality, freedom, and adventure—could be traced back to the cowboy and frontiersman of yesteryear, and before that to the quest that brought people to America in the first place. As the sole surviving indigenous motorcycle company, Harley-Davidson represented a once-great tradition of American engineering and manufacturing.

The Harley brand was central not just to the company's marketing but also to its strategy as a whole. The central thrust of the strategy was reinforcing and extending the relationship between the company and its consumers. Harley-Davidson had long

recognized that it was not selling motorcycles: it was selling the Harley Experience, which formed the central theme in almost all its external communications:

> A chill sweeps through your body, created by a spontaneous outburst of pure, unadulterated joy. You are surrounded by people from all walks of life and every corner of the globe. They are complete strangers, but you know them like your own family. They were drawn to this place by the same passion—the same dream. And they came here on the same machine. This is one place you can truly be yourself. Because you don't just fit in. You belong.[6]

Customers and Customer Relations

If the appeal of the Harley motorcycle was the image it conveyed and the lifestyle it represented, the company's challenge was to ensure that the experience matched the image. Harley's involvement in its consumers' riding experience was through the Harley Owners' Group (HOG), which organized social and charity events. Employees, from the CEO down, were encouraged to take an active role in attending HOG shows, rallies, and rides. "The feeling of being out there on a Harley-Davidson motorcycle links us like no other experience can. It's made HOG like no other organization in the world . . . more family reunion than organized meeting."[7] Customer loyalty led to their continuing reinvesting in Harley products: Harley-branded accessories and apparel, customizing their bikes, and eventually trading them in for a new (typically more expensive) model. About half of bike sales were to repeat customers.

Financial success involved Harley's repositioning from blue-collar youngsters to middle-aged and upper-income buyers, many of whom had never ridden a motorcycle before. Harley's core demographic was Caucasian males aged 35 and over. The average age of Harley's customers was about 50.

Harley's core customer base was narrow and it was aging, hence the priority given to widening the brands appeal. In his final letter to shareholders, retiring CEO Keith Wandell reported success in expanding Harley's customer base. Between 2012 and 2014, Harley had grown its sales to "outreach customers": young adults, women, African Americans, and Hispanics. In addition, its international sales had grown to 36% of total retail sales.[8]

The Products

Broadening Harley's market appeal had major implications for product policy and design. Ever since its disastrous foray into small bikes during the AMF years, Harley had recognized that its competitive advantage lay with super-heavyweight bikes. Here it stuck resolutely to the classic styling that had characterized Harleys since the company's early years. At the heart of the Harley motorcycle was the air-cooled V-twin engine that had been Harley's distinctive feature since 1909. Harley's frames, handlebars, fuel tanks, and seats also reflected traditional designs.

Harley's commitment to traditional design features may be seen as making a virtue out of necessity. Its smaller corporate size and inability to share R & D across cars and bikes (unlike Honda and BMW) limited its ability to invest in technology and new products. As a result, Harley lagged far behind its competitors in the development and application of automotive technologies: not only did its motorcycles look old-style, much of their technology was old-style. Among the 238 US patents awarded to Harley during 2000–2016, a large proportion related to the design of peripheral items: saddlebag

mounting systems, footpegs, seats, backrests, electrical assemblies, and motorcycle music systems. Over the same period Honda was awarded 12,228 US patents, Kawasaki 2146, and Suzuki 740.

Long after other manufacturers had moved to multiple valves per cylinder, overhead camshafts, liquid cooling, and electronic ignition, most Harley bikes featured air-cooled push-rod engines with two valves per cylinder. Hence, the launch of the Milwaukee Eight engine in 2016 was a major event for Harley. Throughout Harley's entire history there had been just nine engines powering its heavyweight V-twins. The Milwaukee Eight's predecessor was the Twin-Cam introduced in 1999.

Nevertheless, Harley was engaged in constant upgrading—principally incremental refinements to its engines, frames, and gearboxes—aimed at improving power delivery and reliability, increasing braking power, and reducing vibration. Harley's automotive technology alliance partners included Porsche, Ford, and Gemini Racing.

Harley's new product development was driven by design rather than by technology. By 2018, Harley offered 47 different models. Its Product Development Center and Prototyping Lab were among the most important units within the company. Most of Harley's product development efforts were limited to style changes, new paint designs, and engineering improvements. However, after 2000, Harley accelerated technological development. Milestones included the liquid-cooled engines, fuel injection, electronic ignition, a six-speed gearbox, and electric propulsion.

At the heart of the Levatich's "Ten Year Strategy" for "Building the Next Generation of Harley-Davidson Riders Globally" was a new range of motorcycles that were radically different from Harley's traditional designs. The Street 500cc and 750cc models, introduced in 2015, were the first of series of lighter-weight, more technologically-advanced motorcycles. In 2019 they would be joined by the LiveWire, Harley's first all-electric motorcycle. Additional electric models will follow. Harley will also introduce the Pan-American–an adventure bike designed for on and off-road use.

Central to Harley's product strategy was the belief that every Harley rider should own a unique, personalized motorcycle—hence the offer of a wide range of presale and postsale customization opportunities. New bikes offered multiple options for seats, bars, pegs, controls, and paint jobs, with over 7000 accessories, and special services such as "Chrome Consulting."

Reconciling product differentiation with scale economies was a continuing challenge for Harley. The solution was to offer a wide range of customization options while standardizing key components. Thus, Harley's broad model range involved "permutations of four": four engine types, four basic frames, four styles of gas tank, and so on.

The Harley product line also covered a wide price range. The Street 500 model was priced as an entry-level bike, beginning at $6799, less than one-fifth of the price of the CVO Limited, at $39,349. Table 3 shows Harley's motorcycle output by product type.

Distribution

Upgrading Harley's distribution network was central to its resurgence during the 1980s and 1990s. At the time of the buyout, many of Harley's 620 US dealerships were operated by enthusiasts, with erratic opening hours, a poor stock of bikes and spares, and indifferent customer service. If Harley was in the business of selling a lifestyle and an experience, then dealers played a pivotal role in delivering that experience. Moreover, if Harley's target market had shifted toward mature, upper-income individuals, Harley needed to provide a retail experience commensurate with the expectations of this group.

Harley's dealer development program provided increased support for dealers, while imposing higher standards of pre- and after-sales service and requiring improved

TABLE 3 Harley-Davidson shipments of motorcycles, 2006–17

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Unit shipments (thousands of motorcycles)												
United States	273.2	241.5	206.3	144.4	131.6	152.2	160.5	167	174	170	161.8	144.8
International	76.0	89.1	97.2	78.5	78.8	80.9	87.1	93.4	96.7	95.6	100.3	96.6
Buell	12.5	11.5	13.1	9.5	2.6	0.2	—	—	—	—	—	—
Company total	361.6	342.1	316.4	232.4	213	233.2	247.6	260.5	270.7	266.3	262.2	241.7
Product mix (%)												
Sportster and Street	18.5	21.8	20	21.4	19.5	21.3	20.5	19.3	21.0	23.4	23.4	22.5
Cruiser	46.2	43.7	46.4	40.9	41.4	39.2	39.1	39.5	33.8	33.5	35.6	36.2
Touring	35.4	34.5	33.6	37.7	39.0	39.5	40.4	41.2	45.2	43.1	41.0	41.3

Source: Harley-Davidson 10-K reports.

TABLE 4 Harley-Davidson's dealership network, 2008–17

	US	Canada	EMEA	Asia-Pacific	Latin America
2008	686	71	383	201	32
2014	669	69	369	273	55
2017	698	68	398	276	58

Source: Harley Davidson 10-K reports.

facilities. Dealers were obliged to carry a full line of Harley products and accessories and to offer services that extended beyond service, repair and financing to include test ride facilities, rider instruction classes, motorcycle rental, consulting for customization, insurance services, and vacation packages. Over 90% of Harley dealerships in the United States were exclusive: most other motorcycle manufacturers sold through multibrand dealerships.

Dealer services were a continuing strategic priority for Harley. Its Retail Environments Group established a meticulous set of performance standards and guidelines for dealers that covered every aspect of managing the showroom and interacting with actual and potential customers. Harley-Davidson University was established to "enhance dealer competencies in every area, from customer satisfaction to inventory management, service proficiency, and front-line sales."[9]

Expanding international sales required Harley to extend its dealer network into countries where it had little or no distribution presence. Yet, as Table 4 shows, Harley's dealership network outside of North America was still sparse even in 2018.

Other Products and Services

Sales of parts, accessories, "general merchandise" (clothing and collectibles), and financial services represented 32% of Harley's total revenue in 2017 (Table 5)—much higher than for other motorcycle companies. Clothing sales included not just traditional riding apparel but also a wide range of men's, women's, and children's leisure apparel.

TABLE 5 Harley-Davidson's nonmotorcycle sales, 2005–14 ($million)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Parts and accessories	858.7	767.2	749.2	816.5	836.7	873.1	875	862.6	842.6	804.3
General merchandise	313.8	282.2	259.1	274.1	282.5	295.9	284.8	292.3	284.5	262.7
Financial services	377.0	494.7	682.7	649.4	650.1	641.6	660.8	686.6	725.0	732.1

Source: Harley Davidson 10-K reports.

The "general merchandising" business included licensing of the Harley-Davidson name and trademarks to third-party manufacturers of clothing, giftware, jewelry, toys, and other products. Licensing revenues were $35.5 million in 2017, down from $46.5 million in 2015. To expand sales of licensed products, Harley opened "nontraditional" dealerships: retail outlets selling clothing, accessories, and giftware but not motorcycles.

Manufacturing

Since the 1981 buyout, Harley-Davidson had been upgrading its manufacturing operations through new plant and equipment, automation, enterprise resource planning, total quality management, JIT scheduling, CAD/CAM, and participative decision-making.

Despite the constant development of its manufacturing facilities and operational capabilities, Harley's low production volume relative to Honda and the other Japanese manufacturers imposed significant cost disadvantages, especially in the purchase of components.

Harley's capacity for efficiency was also limited by its dispersed manufacturing operations: engine manufacture in Milwaukee, Wisconsin and assembly in York, Pennsylvania, and Kansas City, Missouri. During 2009–14, Harley reorganized its manufacturing operations, combining the two Milwaukee-area powertrain plants into a single facility and merging the separate paint and frame operations at York, Pennsylvania. Job losses and the introduction of more flexible employment arrangements and working practices created frictions with Harley's labor unions.

Competition

Despite Harley's insistence that it was supplying a unique Harley experience, its success inevitably attracted competitors. The clearest indication of direct competition was imitation: Honda, Suzuki, Yamaha, and Kawasaki had long been offering V-twin cruisers styled closely along the lines of the classic Harleys, but at lower prices and with more advanced technologies (Table 6). In competing against Harley, the Japanese manufacturers' key advantage was the scale economies that derived from vastly greater volume. However, despite their price premium, Harley-Davidson motorcycles benefitted from a lower rate of depreciation than other brands.

Almost all of Harley's competitors were, compared to Harley, highly diversified. Honda, BMW, and Suzuki were important producers of automobiles, and more than

TABLE 6 Recommended retail prices for V-twin, cruiser motorcycles, 2018

Model	Specifications	Price ($)
Harley-Davidson		
Street 750	Liquid-cooled, OHC, 8-valve, 750cc engine	7599*
Sportster Superlow	Air-cooled, 4-valve, 883cc engine	8699*
Softail Slim	Air/liquid cooled, 8-valve 1746 cc engine	15,899
Fat Boy	Air/liquid cooled, 8-valve 1746 cc engine	17,699
Honda		
Shadow Phantom	Liquid-cooled, 6-valve, OHC, 745cc	7799
Fury	Liquid-cooled, 6-valve, OHC, 1312cc	10,449
Suzuki		
Boulevard M50	Liquid-cooled, OHC, 805cc	8649
Boulevard C90T	Liquid-cooled, OHC, 1462cc	12,949
Kawasaki		
Vulcan 900 Classic	Liquid-cooled, 8-valve, OHC, 903cc, belt drive	7999
Vulcan 900 Custom	Liquid-cooled, 8-valve, OHC, 903cc, belt drive	8499
Yamaha		
Bolt	V-twin, OHC, 4-valve, air-cooled, 942cc	7999
Stryker	OHC, 8-valve, liquid-cooled, 1304cc	11,899
Polaris		
Victory Octane	4-valve, OHC, liquid cooled, 1200cc	9999
Victory Vegas 8-Ball	8-valve, air-cooled, 1731cc	12,999
Indian Scout Sixty	Liquid cooled, 655ccs	8999
Indian Chief	Liquid cooled, 1644ccs	18,499

Note:
*Price is for the base model which is black, other colors extra.

one-third of Yamaha's turnover came from boats and snowmobiles. These companies could share technologies, engineering capabilities, distribution, and brand awareness across their different vehicle divisions. Moreover, sheer size conferred purchasing power.

Imitators of Harley's retro-styled, V-twin cruisers were not only the Japanese motorcycle companies but also domestic competitors—notably Polaris which produced Victory and Indian motorcycles.

Appendix Table A2 compares the financial performance of leading motorcycle companies.

The Future

During the first half of 2018, Harley's revenues, net income, and margins continued to decline. Its problems were principally in the US where sale volume was 8.7% lower than the first half of 2017; international sales volume grew by 0.5%.[10] Overseas, Harley sought to expand sales through adding new dealerships and building an assembly plant in Thailand. At home, Harley continued its quest to broaden its rider base. Among its new models, the most radical was the electric motorcycle, to be introduced in the latter part of 2019. Moreover, Harley planned to "increase its investment in electric motorcycle technology, products and infrastructure in 2018 and beyond. . . [which] will help accelerate the development of this market and assure its leadership in electric motorcycles."[11] In March 2018, it invested in Alta Motors, a California-based developer of electric vehicles.[12]

In the face of challenging market conditions, Harley announced the closure of its Kansas City plant. Production would be transferred to the York, PA plant, and the company would incur a $54 million restructuring charge. However, Harley remained committed to its strategy to "build the next generation of Harley-Davidson riders globally." On July 30, 2018, Harley announced accelerated measures to develop new models, broaden market reach with "a multichannel retail experience," and strengthen its dealer network.

Exploiting the potential offered by emerging markets was particularly challenging. A major dilemma for Harley was the extent to which it should seek to replicate the same brand image and the same Harley Experience that had been so successful in the United States, or whether it should adapt to the physical and cultural differences of each national market?

A Milwaukee blogger summarized Harley's dilemma:

> So what does Harley do? One tack would be to stay focused on what it does best: big bikes. While that strategy may make sense on some fronts (focus on what you know, stay loyal to the brand identity, etc.), that approach will mean greatly reduced growth prospects and could doom it if the current consumer spending environment holds out long term. And meanwhile its core audience just gets older.
>
> Or it could do what people have been saying what it should do for years: Make smaller, more affordable bikes. That's harder than it sounds, as it would force Harley to compete against the Japanese manufacturers on their own turf. But if the market is moving away from Harley, does it have a choice?[13]

As for Harley's venture into electric motorcycles, this too attracted skepticism: "Investment in the tech will be funded by a dying business, and they are basically starting from scratch. Either they shrink to demand and be what they've always been or they sell out and pursue some weird future-mobility business model that doesn't promise anything—even if they were capable of pulling it off."[14] Bloomberg Businessweek summed up HD's dilemma as follows: "It's searching for a middle ground, one that will let it reach into the future without letting go of the past. If there is such a path, it must be pretty narrow." [15]

Appendix: Financial Data

TABLE A1 Selected Items from Harley-Davidson financial statements, 2005–14 ($million)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Income statement items										
Net sales	5594	4781	4859	5311	5581	5900	6229	5995	5996	5647
R & D	164	143	136	145	137	152	138	161	172	175
Selling, administrative, and engineering expense	985	979	1020	1061	1111	1127	1160	916	866	907
Operating income	1029	197	559	829	1000	1154	1281	1155	1048	891
—of which:										
Financial services	83	(117)	181	268	259	283	278	280	275	275
Interest income/(expense)	9	(22)	(90)	(45)	(46)	(45)	(4)	12	29	31
Income before taxes	1034	178	390	792	961	1114	1283	1150	1023	863
Net income	655	(55)	146	599	624	734	845	752	692	521
Balance sheet items										
Cash	594	1630	1021	1526	1327	1067	907	722	759	687
Finance receivables	1378	1436	1080	1168	1344	1774	1917	2053	2076	2105
Accounts receivable, net	296	269	262	219	255	261	248	247	285	329
Inventories	401	323	326	418	428	425	449	585	499	538
Total current assets	5378	4341	4066	4542	4216	3989	3948	3977	3853	3884
Property, plant, and equipment, net	1094	906	815	809	819	842	883	942	981	967
Total assets	7829	9155	9430	9674	9513	9405	9528	9972	9890	9972
Current portion of long-term debt	0	1332	0	399	682	1176	1011	838	1084	1127
Accounts payable	324	162	225	255	248	240	197	235	235	227
Total current liabilities	2604	2268	2013	2698	0	2510	2389	2747	2862	3158
Long-term debt	2176	4144	2516	2396	2936	3417	3762	4832	4666	4587
Post-retirement healthcare liability	274	264	254	268	258	216	203	193	173	118
Stockholders' equity	2116	2108	2207	2420	2558	3009	2909	1839	1920	1844
Cash flow items										
Operating activities	2685	609	1163	885	801	977	1147	1100	1174	1005
Capital expenditures	(2232)	(116)	(170)	(189)	(189)	(208)	(232)	(259)	(256)	(206)
Total investing activities	(2393)	(863)	145	(63)	(261)	(569)	(745)	(915)	(392)	(562)

TABLE A2 Comparative financial data for Honda, Yamaha, and Harley-Davidson[a]

	Honda Motor Co.		Yamaha Motor Co.		Harley-Davidson		Triumph Motorcycles	
	2017	2016	2017	2016	2017	2016	2017	2016
Revenue ($bn)	119.97	131.3	14.31	13.28	5.65	6.00	0.54	0.43
—*of which* motorcycles ($bn)	14.7	15.23	8.95	8.02	4.92	5.27	0.54	0.43
Operating income ($bn)	7.5	5.9	1.29	0.96	0.89	1.05	0.01	0.01
Net income after tax ($bn)	5.8	4.1	0.87	0.56	0.52	0.69	0.01	0.01
Gross margin (%)	22.4	22.3	27.5	26.8	42.3	43.0	12.0	13.9
Operating margin (%)	5.94	4.45	8.93	7.22	15.75	17.5	1.43	2.17
Net margin (%)	4.85	2.78	6.08	4.21	9.2	11.5	1.22	2.44
Operating income/ total assets	4.43	2.76	10.57	8.19	8.92	10.62	2.31	2.97
Return on equity (%)	8.97	5.77	17.59	12.31	28.20	35.93	11.3	19.3
Inventory turnover	10.26	11.12	5.42	5.09	10.50	12.0	5.25	4.51
Debt/equity ratio	0.53	0.53	0.27	0.27	2.49	2.43	0.64	0.73
Capital expenditure ($bn)	5.04	5.89	0.42	0.45	0.21	0.26	n.a.	n.a.
—*of which* motorcycles ($bn)	0.57	0.65	n.a.	n.a.[b]	n.a	n.a	n.a.	n.a.
R&D expenditure ($bn)	5.71	6.39	n.a.	n.a.	0.18	0.17	n.a	n.a.
Motorcycles shipped (units ,000s)	11,237	10,529	5400	5200	241	262	63	56

Notes:
[a] Honda's financial year is to March 31; Triumph's is to June 30. Yamaha and Harley-Davidson have financial years that end on December 31.
[b] n.a. = not available.
Sources: Company annual reports.

Notes

1. "The Company," http://www.harley-davidson.com/content/h-d/en_GB/company/becoming-a-dealer/the-company.html, accessed March 19, 2018.
2. Harley produced sports motorcycles under the Buell brand between 1990 and 2009. Harley acquired MV Agusta, an Italian manufacturer of premium, high-performance motorcycles in July 2008. On August 6, 2010, Harley sold it back to its previous owner for €3 ($3.90).
3. The Indian plant was its second overseas assembly plant; the first was established in Brazil in 1999.
4. G. Strauss, "Born to be Bikers," USA Today (November 5, 1997).
5. M. Ballon, "Born to be Wild," Inc. (November, 1997): 42.
6. Harley-Davidson, Inc., annual report (2000).
7. "Welcome Letter," Blackstone Valley HOG Chapter, http://www.blackstonevalleyhog.com/HTML/Welcome.php, accessed July 20, 2015.
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9. Harley-Davidson, Inc., "Knowledge is Horsepower," annual report (2003).
10. Harley-Davidson, Inc. Second Quarter Update (July 24, 2018).
11. Harley-Davidson, Inc. 10K Report for 2017: 24.
12. https://www.bloomberg.com/news/articles/2018-01-30/harley-davidson-is-making-an-electric-motorcycle-after-livewire, accessed March 18, 2018.
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14. https://www.bloomberg.com/news/articles/2018-01-30/harley-davidson-is-making-an-electric-motorcycle-after-livewire. Accessed May 20, 2018.
15. "Harley-Davidson Needs a New Generation of Riders," *Bloomberg Businessweek*, August 27, 2018.

Case 8 BP: Organizational Structure and Management Systems

When John Browne stepped down as CEO at BP plc in January 2007, he was credited with having transformed an inefficient, bureaucratic, state-owned oil company into the world's most dynamic, entrepreneurial, performance-focused, and environmentally aware oil and gas major. Since taking up the job in 1995, BP's market capitalization had increased fivefold and its earnings per share by 600%.

Even before Browne's departure, BP's fall from grace had already commenced. Concerns over BP's HSE (health, safety, and environmental) management had been circulating for years. However, in March 2005 disaster struck: an explosion at BP's Texas City refinery killed 15 employees. This was the first of a series of catastrophes that destroyed the company's reputation and threatened its very survival.

In 2006, a corroded pipeline from BP's huge Alaskan oilfield leaked 4800 barrels of oil. Then in March 2009, BP was fined for safety violations at its Toledo refinery. The next month, an explosion on Transocean's *Deepwater Horizon* oilrig drilling BP's Macondo oil well in the Gulf of Mexico killed 11 workers and caused one of the worst environmental disasters in US history. The company took an accounting charge of $37.2 billion to cover the likely costs of the cleanup, compensation, and legal penalties, but by 2018 these costs had reached $65 billion.

BP's troubles extended beyond its safety and environmental mishaps. Between 2003 and 2013, BP's trading activities in the crude oil, gasoline, propane, and natural gas markets were investigated by US regulators, resulting in a series of fines. In Russia, BP was hit, first, by a dispute with its joint venture partner, TNK, and then from the declining value of its 20% stake in Rosneft following Western sanctions on Russia.

In the recriminations that followed the Texas City and Gulf of Mexico disasters, attention increasingly focused upon the organizational structure, management systems, and corporate culture that had developed at BP during John Browne's tenure. The management system developed by Browne had produced what the *Financial Times* described as "the most swashbuckling, the most entrepreneurial, the most creative" of the world's biggest oil companies.[1] Was it also the most accident prone and, more generally, was it suited to the circumstances and needs of the petroleum industry?

A Brief History of BP

BP began as the Anglo-Persian Oil Company, which had been founded in 1909 to exploit a huge oilfield that had been discovered in Iran. At the outbreak of the First World War, the British government acquired a controlling interest in the company,

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which it held until the company (by then renamed British Petroleum) was privatized by Margaret Thatcher's government in 1979.

Under a series of chief executives—Peter Walters, Bob Horton, and David Simon—BP went from being a highly centralized, bureaucratic organization to becoming less hierarchical and more financially oriented. However, it was under John Browne that BP's transformation gathered pace. Browne initiated the acquisitions of Amoco, Atlantic Richfield, and Burmah Castrol not only made BP the world's third biggest petroleum major after Exxon and Shell, but also precipitated an industry-wide wave of consolidation. Browne refocused BP's exploration efforts around frontier regions including deep waters (the Gulf of Mexico in particular), Angola, Siberia, and the Arctic. Browne also broke away from industry convention by acknowledging climate change, supporting the Kyoto Protocol, and rebranding BP as "Beyond Petroleum." This strategic transformation was accompanied by radical changes to BP's structure, systems, and culture.

The Atomic Structure

In 1997, the *Harvard Business Review* commented upon the changes occurring at BP:

> Organizationally, BP is much smaller and simpler than it was a decade ago. It now has 53,000 employees–down from 129,000. Before, the company was mired in procedures; now it has processes that foster learning and tie people's jobs to creating value. Before, it had a multitude of baronies; now it has an abundance of teams and informal networks or communities in which people eagerly share knowledge.[2]

At the heart of Browne's transformation of BP were high aspirations. According to Nick Butler, former head of strategy at BP:

> When Browne stepped in as CEO in 1995, we knew we had to create something different. We looked at the ROACE [return on average capital employed]: we were all operating within a limited space. We realized that to break out we had to redefine ourself. It was not about beating Exxon, it was about how to beat the ROACE of Microsoft. We wanted to create [a] company with sufficient scale to take regional knocks with enough reach to survive in almost any circumstances.[3]

Through a series of mergers and acquisitions, Browne created a company with the scale he believed was essential to become a leader in the petroleum industry. But it also created the challenge of how to organize such a huge company—by 2000, BP was the world's seventh biggest company in terms of revenues. Browne's approach was built upon three principles:

- BP operates in a decentralized manner, with individual business unit leaders (such as refinery plant managers) given broad latitude for running the business and direct responsibility for delivering performance.
- The corporate organization provides support and assistance to the business units (such as individual refineries) through a variety of functions, networks, and peer groups.
- BP relies upon individual performance contracts to motivate people.[4]

At the time, most of the oil majors had a corporate head office that coordinated and controlled a few major divisions. This divisional structure typically comprised: upstream (exploration and production), downstream (refining and marketing), and

petrochemicals. BP had been similar; its divisional structure had been described as a "collection of fiefdoms."

Browne was keen to break away from the management conventions of the oil industry. His inspirations were the management styles of Silicon Valley and the corporate transformation that had been unleased by Jack welch at General Electric. The structure created by Browne was radically different: the divisions were dismantled and the company was organized around 150 business units each headed by a business unit leader who reported directly to the corporate center. According to the deputy CEO, this was "an extraordinarily flat, dispersed, decentralized process of delivery" that reflected a division of responsibility between the business unit heads who were responsible for operational performance and senior management who were responsible for strategic direction and managing external relations—especially with governments. The 150 business units were organized into 15 "peer groups"—networks of similar businesses that could share knowledge, cooperate on matters of common interest, and challenge one another.

The Performance Management System

A basic principle of BP's management system was decentralized, personalized responsibility:

> Under the Management Framework, authority is delegated, but accountability is not. Delegations of authority flow from the shareholders to the Board of Directors to the Group Chief Executive and down throughout BP. BP's philosophy is to delegate authority to the lowest appropriate point in the organization—a single point of accountability. The single point of accountability is always a person, as opposed to an organization, committee, or other group of people, who manages performance through monitoring and intervention. Those higher in the chain of delegation monitor this performance and report up the line of delegation to meet their accountabilities. This structure reflects BP's philosophy that leadership monitors but does not supervise the business; leadership only supervises the people who report directly to them. BP's Management Framework is evident at every level of the organization. Its concepts of delegation and accountability begin with the shareholders and extend through each level of the organization.[5]

The relationship between top management and the business units was governed by a "performance contract": an agreement between the head of the business unit and the corporate center over the performance that the business would deliver in the year ahead. While the performance targets included strategic and operational goals—including HSE objectives—the primary emphasis was on four financial targets: profit before tax, cash flow, investment, and return on invested capital.

Performance goals for the year were proposed by the business unit head after discussions, first with his/her own management team and, second, with the other business unit heads within the peer group. BP encouraged the business unit heads within each peer group to support and encourage one another. There was a particular responsibility for the top three units in each peer group to assist the performance of the bottom three.

Each business unit then discussed its performance targets with top management. The outcome was a performance contract. Once a performance contract was agreed, the business unit leader was free to pursue them in whatever way he or she found appropriate. The monitoring of performance targets involved a quarterly meeting between top management and the business unit leader. "There is an understanding here . . . that this is a performance culture and either you deliver or you don't," explained one senior

executive. Failure to achieve performance targets often meant reassignment to another job or termination.

Performance contracts were given to all managers within BP from the CEO down and were a key determinant of a manager's annual bonus.

BP as a Learning Organization

At the same time as driving financial and operational performance, Browne was determined to recreate BP as a "learning organization." According to Browne:

> In order to generate extraordinary value for shareholders, a company has to learn better than its competitors and apply that knowledge throughout its business faster and more widely than they do. Any organization that thinks it does everything the best and that it need not learn from others is incredibly arrogant and foolish.[6]

Turning BP into a learning organization involved redefining the role of top management. The primary role of top management was strategic thinking, which involved a quest for knowledge and a commitment to analysis and sharing ideas. Browne espoused an intellectualism that was foreign to the senior executives of most oil companies:

> This company is founded on a deep belief in intellectual rigor. In my experience, unless you can lay out rational arguments as the foundation of what you do, nothing happens. Rigor implies that you understand the assumptions you have made: assumptions about the state of the world, of what you can do, and how your competitors will interact with it, and how the policy of the world will or will not allow you to do something.[7]

This openness involved BP's executives fostering links outside their own company and outside the petroleum business. Browne was a board member of both Intel and Goldman Sachs.

The same culture of interaction and communication was encouraged among peer groups and supported by a number of intranet-based knowledge management and groupware tools. It also involved increased emphasis on career development within BP through training and mentoring.

Social and Environmental Responsiveness

Browne sought to distance BP from the common perception of oil companies as being powerful, secretive organizations complicit with the corrupt, autocratic practices of many leaders of oil-producing countries. Browne envisaged the "new BP" as being more open and responsive to the interests of its employees and the needs of society:

> To build the reputation, we picked four areas. First, safety: when you invite someone to come and work, you should send them home in the same shape as when they arrived—that is a minimum requirement for respect of a person, and you have to take that terribly seriously. Second, you have to take care of the natural environment. It is important because people do not want companies to make a mess and leave them behind. Third, everyone wants a place in the ideal which is free of all discrimination; it doesn't matter what you stand for in terms of your race, gender, sexual orientation, or religious beliefs. All that matters is merit. Fourth, the company has to invest in the

> community from which the people have come, so as to narrow the gap between life within the company and life outside the company.

The key initiative was Browne's endorsing of the link between greenhouse gases and climate change and his commitment to a path of environmental responsibility for BP. The resulting effort to reposition BP in the minds of consumers, governments, and NGOs involved a host of initiatives, including renaming British Petroleum as simply "BP" and replacing its shield logo with a sunburst. The effectiveness of BP's newfound environmentalism was indicated by references to BP and Exxon as "beauty and the beast"[8] and the *Oil & Gas Journal*'s lauding of the company:

> Among the top 10 [oil and gas companies] there is one striking example of a company driven by a different vision. BP has designated corporate citizenship and being forward-thinking about the environment, human rights and dealing with people and ethics as the new fulcrum of competition between the oil companies.[9]

Adapting the Management Model, 2001–08

In 2001 and again in 2003, BP's organizational structure underwent significant revisions designed to address excessive decentralization and to improve coordination and control.

Instead of the individual business units reporting directly to top management, the peer groups were replaced by "strategic performance units," which were more formalized organizational units with their own budgets and with responsibility for the business units beneath them.

The strategic performance units were organized within three business segments: exploration and production; refining and marketing; and gas, power, and renewables. Thus, while BP's individual refineries remained as separate business units, they reported to refining, which itself was one of the three strategic performance units that comprised the refining and marketing segment.

In addition to the business structure, there was a regional structure. BP had four broad geographic areas: (1) Europe; (2) the Americas; (3) Africa, the Middle East, Russia, and the Caspian; and (4) Asia, the Indian subcontinent, and Australasia. The head of each region was responsible for ensuring regional consistency of the businesses within that region, managing BP's relations with governments and other external parties, and conducting certain administrative functions relating to tax and compliance with local laws.

Further changes took place when Tony Hayward took over from John Browne in 2007. A consulting report from Bain and Co. declared that BP was the most complicated organization that the consultants had ever encountered. Bain identified more than 10,000 organizational interfaces. Hayward's "forward agenda" emphasized cost cutting and simplification. Regional structures were eliminated, functional structures streamlined, and the number of senior executives was reduced from 650 to 500.

Findings of the Baker Panel

An independent investigation by a panel led by former Secretary of State James Baker into the Texas City refinery explosion offered penetrating insights into the role that BP's culture and management system had played in the events leading up to the disaster. Among the findings of the Panel were the following:

- From board level downwards, "BP has not provided effective process safety leadership and has not adequately established process safety as a core value across all its five US refineries."[10]
- Inappropriate performance metrics. Establishing and monitoring performance targets can reconcile individual decision-making with overall coordination—but only if the targets encourage the right decisions. In safety, BP's key performance metric was the number of days lost through injury. While conducive to improvements in personal safety, this metric did not help BP in improving its process safety. According to the Panel: "BP's corporate process safety management system does not effectively translate corporate expectations into measurable criteria for management of process risk or define the appropriate role of qualitative and quantitative risk management criteria."[11]
- Inadequate resources. The Panel reached no conclusion as to whether BP's emphasis on cost reduction and profit performance had impeded safety. However, it did observe that: "the company did not always ensure that adequate resources were effectively allocated to support or sustain a high level of process safety performance. In addition, BP's corporate management mandated numerous initiatives that applied to the US refineries and that, while well-intentioned, had overloaded personnel at BP's US refineries. This "initiative overload" may have undermined process safety performance."[12]
- Failure of board oversight: "BP's Board of Directors has been monitoring process safety performance of BP's operations based on information that BP's corporate management presented to it. A substantial gulf appears to have existed, however, between the actual performance of BP's process safety management systems and the company's perception of that performance . . . [T]he Panel believes that BP's Board can and should do more to improve its oversight of process safety at BP's five US refineries."[13]

Similar allegations surfaced following the Deepwater Horizon tragedy. A study by the Center for Catastrophic Risk Management observed that BP lacked a "functional safety culture"; there were "gross imbalances between the system's provisions for production and those for protection"; a potent driving force was "BP management's desire to "close the competitive gap" and "improve bottom-line performance." In addition to "incentives that provided increases in productivity without commensurate increases in protection" and "inappropriate cost and corner cutting," the study pointed to BP's emphasis on "worker safety" and its failure to address "system safety."[14]

However, these inquiries into the Texas City and Deepwater Horizon disasters focused entirely on BP's performance in relation to safety. A broader issue concerned the appropriateness of BP's organization structure and management systems to overall corporate performance. It was notable that BP's organizational delayering and system of performance management had not been imitated by other oil and gas majors. Exxon Mobil, for example, remained organized around 10 global businesses, and maintained a management system that was dominated by its emphasis on disciplined processes. Its management style had been described as "no-nonsense," "conservative," "detail-oriented," "engineering-based," and "military." Yet, Exxon Mobil had maintained the best financial performance in the industry and was widely admired for its operational excellence—including its safety record: it had not suffered any major incident since the Exxon Valdez oil spill in 1989.

Notes

1. "BP: The Inside Story," *Financial Times* (July 3, 2010).
2. "Unleashing the Power of Learning: An Interview with British Petroleum's John Browne," *Harvard Business Review* (September–October 1997).
3. *The Transformation of BP*, London Business School (March 2002): 2–3.
4. See *The Report of the BP U.S. Refineries Independent Safety Review Panel* (January 2007).
5. Ibid.: 27. Note that the "Management Framework" refers to the company's description of its management system, produced in 2003.
6. *The Transformation of BP*, London Business School (March 2002): 5.
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8. I. H. Rowlands, "Beauty and the Beast? BP's and Exxon's Positions on Global Climate Change" *Environment and Planning: Government and Policy* 18 (2000): 339–54.
9. "Common Financial Strategies Found among Top-10 Oil and Gas Firms," *Oil & Gas Journal* (April 20, 1998).
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12. Ibid.: iii.
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Case 9 Starbucks Corporation, March 2018

Starbucks Corporation's annual shareholders' meeting on March 22, 2017 marked Starbucks' 25th anniversary as a public company. It also marked a changing of the guard: Howard Schultz, Starbucks founder, CEO, and chairman announced his retirement as CEO and handed over the key of the first Starbucks store to his successor, Starbucks' president and chief operating officer, Kevin Johnson. Johnson was a 16-year Microsoft veteran who had been CEO of Juniper Networks before joining Starbucks.

Stepping in Schulz's "venti-sized" shoes presented a massive challenge to Johnson and for his first year as CEO, he kept a low profile. When Starbucks hit turbulence—as in April when two African-American men were arrested at a Starbucks in Philadelphia—it was Schultz who was the public face of the company. However, in June 2018, Schulz also announced his retirement as executive chairman of Starbucks—fueling speculation that he was planning to run for president of the United States of America as a Democratic candidate.

Johnson was now the official and de facto leader of Starbucks Corporation. As he acknowledged: "The most difficult transition any company will ever go through is from founder-led to founder-inspired."[1] Moreover, Starbucks was facing significant strategic and operational challenges. Some of Starbucks' diversification—into tea shops for example—had been unsuccessful, and in the United States, same-store sales growth had declined, causing the company to announce in June 2018 the closure of 150 stores. But to put these challenges in context, Starbucks' financial health continued to be robust: in the first quarter of 2018, Starbucks' revenues grew by 7% (year-on-year), its operating margin was 12.8%, and it earned a return on equity of 14.0%.

Starbucks' rise from a single Seattle coffee store to a global chain of over 27,000 coffee shops employing almost 280,000 people and generating revenues of $22.4 billion in 2017 was one of the wonders of American entrepreneurial capitalism. Howard Schultz was a legend among US business leaders. During 2017/18, Starbucks' profits and share price had set new records (Table 1 and Figure 1).

For many observers, including the owners of the Milanese cafés that had provided the inspiration for Schultz, the Starbucks story was little short of miraculous. America's first coffeehouse had opened in Boston in 1676. How could brewing a better cup of coffee in the 1980s produce a company with a market value of $78 billion? Given the ubiquity of good coffee, could Starbucks possibly sustain its success?

Any sense of trepidation that Johnson might have felt would have been heightened by the memory of Schultz's previous retirement as CEO in 2000: Starbucks' faltering performance forced Schultz to return as CEO in 2008.

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TABLE 1 Starbucks Corporation: Financial data for 2010–18 ($million)

12 months to end-Sept. ($m)	2018[a]	2017	2016	2015	2014	2013	2012	2011	2010
Total net revenues *of which*:	16,448	22,387	21,316	19,163	16,448	14,892	13,300	11,700	10,707
—company-operated stores	12,978	17,651	16,844	15,197	12,978	11,793	10,534	9632	8964
—licensed stores	1589	2355	2318	2104	1589	1360	1210	1007	801
—CPG[b], foodservice, other	1881	2.381	2318	2104	1881	1739	1555	1061	1744
Cost of sales	6859	9038	8511	7788	6859	6382	5813	4916	4459
Store operating expenses	4638	6493	6064	5411	4638	4286	3918	3595	3551
Other operating expenses	450	554	545	522	450	457	430	393	293
Depreciation and amortization	710	1011	981	894	710	621	550	523	510
General and administrative expenses	991	1393	1361	1197	991	938	801	636	570
Special charges[c]	—	—	—	—	—	2784	—	—	53
Total operating expenses	13,635	18,643	17,462	15,812	13,635	15,469	11,513	10,176	9436
Operating income	3081	4135	4172	3601	3081	(325)	1997	1729	1419
Net earnings	2068	2885	2818	2757	2068	8	1384	1246	946
Net cash from operations	608	4174	4575	3749	608[d]	2908	1750	1612	1705
Capital expenditures (net)	818	1519	1440	1304	1161	1411	974	1019	441
Working capital	450	1063	211	719	690	94	1990	1719	977
Total assets	14,752	14,366	14,313	12,404	10,752	11,516	8219	7360	6386
Long-term debt	3648	3933	3585	2335	2048	1299	550	549	549
Shareholders' equity	5610	5450	5884	5818	5272	4482	5115	4385	3675

Notes:
[a] First 9 months of financial year only.
[b] Consumer Products Group.
[c] The special charge in 2013 comprised a payment to Kraft Foods arising from litigation. Special charge in 2010 was restructuring cost.
[d] Operating cash flow was reduced by the $2.8 billion payment made to Kraft.

The Starbucks Story

Starbucks Coffee, Tea, and Spice had been founded in Seattle by college buddies Gerald Baldwin and Gordon Bowker. In 1981, Howard Schultz, a coffee filter salesman, visited their store. The coffee he sampled was a revelation: "I realized the coffee I had been drinking was swill." Captivated by the business potential that Starbucks offered, Schultz encouraged the founders to hire him as head of marketing. Shortly afterward, Schultz experienced a second revelation. On a trip to Italy, he discovered the joys of the Milanese coffee houses, which offered a combination of good coffee, ambiance, social interaction, and the artistry of the barista. After failing to persuade the founders to transform Starbucks into a chain of coffee bars, Schultz left to open his own Italian-styled coffee bar, Il Giornale. However, in 1987, Schultz acquired the Starbucks chain of six stores, merged it with his three Il Giornale bars, and adopted the Starbucks name for the enlarged company.[2]

FIGURE 1 Starbucks' share price ($), January 1998 to January 2018 (adjusted for splits)

Schultz's original idea of replicating Italian coffee bars (where customers mostly stand to drink coffee) was adapted to "the American equivalent of the English pub, the German beer garden, and the French café." With the addition of wi-fi, Starbucks' stores became a place to work as well as to socialize. An IPO in 1992 funded accelerated growth. Expansion followed a cluster pattern: opening multiple stores in a single metro area increased local brand awareness and helped customers make a Starbucks' visit part of their daily routine. International expansion began with Japan in 1996 and the UK in 1998. Starbucks relied mainly on organic growth, but with occasional acquisitions.

The Starbucks Experience

Starbucks' mission "to inspire and nurture the human spirit" required not just serving excellent coffee but also engaging customers at an emotional level. As Schultz explained: "We're not in the coffee business serving people, we are in the people business serving coffee."

Central to Starbucks' strategy was Schultz's concept of the "Starbucks Experience," which centered on the creation of a "third place"—somewhere other than home and work where people could engage socially while enjoying the shared experience of drinking good coffee. The Starbucks Experience combined several elements:

- Coffee beans of a high, consistent quality and the careful management of a chain of activities that resulted in their transformation into the best possible espresso coffee: "We're passionate about ethically sourcing the finest coffee beans, roasting them with great care, and improving the lives of the people who grow them."
- Employee involvement. Starbucks' counter staff—the baristas—played a central role in delivering the Starbucks Experience. Their role was not only to brew and serve coffee but also to engage customers in the ambiance of the Starbucks coffee shop. This was supported by human resource practices based upon a

distinctive view about the company's relationship with its employees: "we had to exceed the expectations of our people, so that they could exceed the expectations of our customers."[3] This required, first, attracting and recruiting people whose attitudes and personalities were consistent with the company's values and, second, fostering trust and loyalty that facilitated their engagement with the Starbucks experience. Starbucks' employee training extended beyond basic operational and customer-service skills to educate employees about coffee; it provided health insurance for all regular employees, including most part-timers; its College Achievement Plan provided tuition reimbursement for employees taking online degree programs.

- Community relations and social purpose. Schultz viewed Starbucks as redefining the role of business in society: "I wanted to build the kind of company my father never had the chance to work for, where you would be valued and respected wherever you came from, whatever the color of your skin, whatever your level of education . . . We wanted to build a company that linked shareholder value to the cultural values that we want to create with our people."[4] Schultz's vision was of a company that would earn good profits but would also do good in the world. This began at the local level: "Every store is part of a community, and we take our responsibility to be good neighbors seriously. We want to be invited in wherever we do business. We can be a force for positive action—bringing together our partners, customers, and the community to contribute every day."[5] It extended to Starbucks' global role: "we have the opportunity to be a different type of global company. One that makes a profit but at the same time demonstrates a social conscience." Starbucks' sponsoring of social causes was not without controversy: its 2015 "Race Together" campaign to promote discussion of racism was poorly received by customers and was soon abandoned.[6]
- The layout and design of Starbucks' stores were critical elements of the experience. Like everything else at Starbucks, store design was subject to meticulous planning, following Schultz's dictum that "retail is detail." While every Starbucks store is adapted to its unique neighborhood, all stores reflect some common themes. "The design of a Starbucks store is intended to provide both unhurried sociability and efficiency on-the-run, an appreciation for the natural goodness of coffee and the artistry that grabs you even before the aroma. This approach is reflected in the designers' generous employment of natural woods and richly layered, earthy colors along with judicious high-tech accessorizing . . . No matter how individual the store, overall store design seems to correspond closely to the company's first and evolving influences: the clean, unadulterated crispness of the Pacific Northwest combined with the urban suavity of an espresso bar in Milan."[7]
- Starbucks' location strategy—its clustering of 20 or more stores in each urban hub—helped create a local "Starbucks buzz" and facilitated customer loyalty. To expand sales of coffee-to-go, Starbucks began adding drive-through windows to some of its stores and building new stores adjacent to major highways.

Broadening the Experience

Delivering the Starbucks Experience encouraged Starbucks to broaden its product offerings. This involved adding food, music, books, and videos. Schulz was initially skeptical about Starbucks' "Artists Choice" CDs, "But then I began to understand that our customers looked to Starbucks as a kind of editor. It was like, 'We trust you. Help us choose.!'"

Starbucks also diversified its business model to include other ownership and management formats, additional products, and different channels of distribution. These included:

- Licensed coffee shops and kiosks. The desire to reach customers in a variety of locations eventually caused Starbucks to abandon its policy of only selling through company-owned outlets. Its first licensing deal was with Host Marriot, which owned food and beverage concessions in several US airports. This was followed by licensing arrangements with Safeway and Barnes & Noble for opening Starbucks coffee shops in their stores. Overseas, Starbucks increasingly relied upon licensing arrangements with local companies.
- Distribution of Starbucks retail packs of Starbucks coffee through supermarkets and other retail food stores.
- Licensing of Starbucks brands to PepsiCo and Unilever for the supply of Starbucks bottled drinks (such as Frappuccino and Tazo Tea).
- Starbucks' involvement in financial services began with its Starbucks prepaid store card, which was later combined with a Visa credit card (the Starbucks/Bank One Duetto card). The Starbucks card allowed entry to the Starbucks reward program, which offered free drinks and other benefits to regular customers.

The Crisis of 2007–09

Starbucks' growth trajectory came to a shuddering halt in 2007–09 when slowing same-store sales growth and declining operating profits were exacerbated by the financial crisis. In response to growing concerns over Starbucks' strategy and management effectiveness, Howard Schultz, who had relinquished the CEO role and continued as chairman, returned as CEO in early 2008.

Schultz's turnaround strategy comprised two initiatives. First, retrenchment: Schultz cancelled new store openings, closed 600 US stores and most Australian stores, eliminated 6000 jobs in the stores and 700 corporate and support positions. Savings in operating costs of $500 million in 2009 included Schultz cutting his own salary from $1.2 million to $10,000 and selling two of Starbucks' three corporate jets.[8]

Second, Schultz worked to reaffirm Starbucks' values and business principles, revitalize the "Starbucks Experience," and reconnect with customers. Reinvigorating Starbucks' social commitment played a central role in the rediscovery process. A company-wide reconsideration of Starbucks' purpose and principles resulted in a revised mission statement and a stronger commitment to social responsibility, environmental sustainability, and community service programs. To promote these initiatives, Schultz traveled extensively meeting with employees ("partners") in concert halls and other venues, reigniting their drive and reinforcing Starbucks' values with inspiring tales of the "humanity of Starbucks" and the values that made Starbucks a special place.[9]

Broadening Corporate Scope: Diversification, Internationalization, and Technology

Diversification

By 2010, Starbucks had restabilized and resumed its growth path. In the US market, the primary emphasis was on exploiting new revenue opportunities. Overseas, it was building Starbucks' presence in emerging markets.

In its US stores, Starbucks expanded its menu of drinks and food. A stream of new coffee drinks included Cascara Latte, Smoked Butterscotch Latte, Nitro Cold Brew, barrel-aged Starbucks Reserve coffee, and "Black & White" mocha beverages. Starbucks also expanded beyond coffee drinks.

In November 2011, Starbucks acquired premium juice maker Evolution Fresh Inc., with a view to expanding the retail distribution of fruit juices both within its own stores and to the grocery trade.

A year later, Starbucks acquired Teavana Holdings, Inc. for $620 million with the intention of creating over 1000 Teavana stores on the basis that "the tea category is ripe for reinvention and rapid growth."[10] However, following disappointing sales and a reassessment of market potential, Starbucks decided in 2017 to close its 379 Teavana outlets and sell Teavana drinks only through its Starbucks outlets. Fizzio "handcrafted soda" was another initiative that had little market impact.

Starbucks also introduced new formats for its coffee outlets, Starbucks Reserve began as a brand of ultra-premium coffees served in selected Starbucks stores. In 2014, Starbucks began creating separate Starbucks Reserve cafes and its flagship Starbucks Reserve Roastery and Tasting Room chain where coffee drinks ranged from $3.50 to $12.

Starbucks viewed food as the greatest opportunity for growing revenue at its US stores. In 2012, Starbucks acquired San Francisco bakery, La Boulange, to provide pastries and baked goods to its stores. To build traffic during quiet periods, Starbucks launched a dinner menu accompanied, in selected stores, by beer and wine. Starbucks ended its "Evenings" program in 2016 and shifted attention to growing its lunchtime food sales. However, despite continued efforts "to grow food business through customer-driven innovation," food continued to account for just 20% of sales at company-operated stores during 2017.

Starbucks' most successful diversification was in expanding sales to the grocery sector. Under Schultz's leadership, Starbucks' Channel Development (previously the Consumer Products Group) became the fastest-growing part of the company. The strategy was to exploit complementarities between Starbucks' coffeehouses and the grocery trade: first, introducing Starbucks branded products (such as Via instant coffee) in its own stores, then supplying them to supermarkets and other grocery outlets. Initially, Starbucks packaged coffee and other products were distributed to the grocery trade by Kraft Foods. In 2010, Starbucks terminated the arrangement and took over distribution itself. In 2013, Starbucks was required to pay Kraft $2.8 billion in compensation.

International Expansion

Starbucks' international expansion had initially focused upon Canada, Western Europe, Japan, and Latin America. After 2010, its emphasis shifted to Asia–China in particular. By 2017, China was Starbucks' biggest market after the United States. By 2021, Starbucks aimed to have 5000 stores in China. Other initiatives in Asia included an Indian joint venture with Tata Group and the buyout of its Japanese joint venture partner in 2014.

In a few countries, notably Canada, China, and Japan, Starbucks stores were mostly company managed; however, in most overseas markets, Starbucks increasingly favored licensing to local operators.

In September 2018, Starbucks' licensee, Percassi, would open the first Starbucks coffee house in Italy.

Tables 2 and 3 show Starbucks' store information and financial performance by region. The appendix shows Starbucks' stores by country.

TABLE 2 Starbucks Corporation: Store information, 2010–2017

	2017	2016	2015	2014	2013	2012	2011	2010
Percentage change in same store sales								
Americas	3	6	5	6	7	8	8	7
EMEA[a]	1	0	4	5	0	0	3	5
Pacific	3	3	9	7	9	15	22	11
Consolidated	3	5	7	6	7	7	8	7
Stores opened during the year (net of closures)								
Americas								
Company-operated stores	394	348	276	317	276	228	32	32
Licensed stores	558	465	336	381	404	280	215	101
EMEA								
Company-operated stores	(21)	(214)	(80)	(9)	(29)	10	25	(64)
Licensed stores	353	494	302	180	129	101	79	100
China/Asia-Pacific								
Company-operated stores	259	359	1320	250	240	154	73	30
Licensed stores	777	622	(482)	492	348	294	193	79
All other segments								
Company-operated stores	(68)	(17)	6	12	343	0	6	(1)
Licensed stores	2	(6)	(1)	(24)	(10)	(4)	(478)	10
Total stores opened	2254	2042	1677	1599	1701	1063	145	223
Total number of stores at year-end								
Americas								
Company-operated stores	9413	9019	8671	8395	8078	7802	7574	7542
Licensed stores	7146	6588	6132	5796	5415	5011	4731	4516
EMEA								
Company-operated stores	502	523	737	817	853	882	872	847
Licensed stores	4409	3632	3010	1323	1116	987	886	807
China/Asia-Pacific								
Company-operated stores	3070	2811	2452	1132	906	666	512	439
Licensed stores	4409	3632	3010	3492	2976	2628	2334	2141
All other segments								
Company-operated stores	290	358	375	369	357	14	14	8
Licensed stores	37	35	41	42	66	76	80	558
Total number of stores	27,399	25,085	23,043	21,366	19,767	18,066	17,003	16,858

Note:
[a] Europe, Middle East and Africa.
Source: Starbucks Corporation, 10-K reports.

TABLE 3 Starbucks Corporation: Segment results, 2015–2017

($ millions)	Americas	China/ Asia Pacific	EMEA	Channel development
Fiscal 2017				
Total net revenues	15,652.7	3240.2	1013.7	2008.6*
Company-operated stores	13,996.4	2906.0	551.0	--
Licensed stores	1617.3	327.4	407.7	--
Foodservice and other	39.0	6.8	55.0	--
Operating income/(loss)	3663.2	765.0	116.1	893.4
Total assets	3327.2	2770.9	273.8	114.0
Fiscal 2016				
Total net revenues	14,795.4	2938.8	1124.9	1932.5*
Company-operated stores	13,247.4	2640.4	732.0	--
Licensed stores	1518.5	292.3	339.5	--
Foodservice and other	29.5	6.1	53.4	--
Operating income/(loss)	3742.0	631.6	151.6	807.3
Total assets	3424.6	2740.2	552.1	67.1
Fiscal 2015				
Total net revenues	13,293.4	2395.9	1216.7	1730.9*
Company-operated stores	11,925.6	2127.3	911.2	--
Licensed stores	1334.4	264.4	257.2	--
Foodservice and other	33.4	4.2	48.3	--
Operating income/(loss)	3223.3	500.5	168.2	653.9
Total assets	2726.7	2230.5	749.1	87.3

Note:
* During 2015 to 2017, Channel Development's revenues comprised 77% consumer packaged goods and 23% foodservice.

Technology

The appointment of Kevin Johnson as CEO was indicative of the central role that technology played in Starbucks strategy. Johnson's prior experience was exclusively in the digital technology sector. Technology was a critical component of the Starbucks Experience: Starbucks was an early leader in using social media (particularly Facebook and Twitter) to connect with customers, it was a pioneer of mobile payment systems, and the Starbucks app for iPhone and Android provided customers with an integrated set of services—including placing orders. The Starbucks loyalty card, an in-store debit card, was launched in 2002 and was linked to "My Starbucks Rewards" loyalty program, providing rewards for cumulative purchases. These three components—loyalty rewards, remote ordering, and mobile payments—were three components of Starbucks' "Digital Flywheel." The fourth was personalization: "Offers, communications, and service tailored to individual customers." According to Starbucks' head of strategy, "Our

personalization engine will help us deepen engagement with customers and would allow our baristas to recognize customers that deserve differentiated treatment, perhaps customers celebrating birthdays or regular customers from one store who show up at a different store."[11] Yahoo Finance went as far as to claim that Starbucks had become "a technology company that also sells coffee."[12]

The Market for Coffee

Coffee was the most popular beverage of North America and Europe, with Northern Europeans the heaviest consumers (Table 4).

The United States was the world's biggest market for coffee, with expenditure (for consumption at home, at work, and at catering establishments) of $68 billion in 2017. In terms of expenditure, the market was split roughly equally between sales of the home-brewed coffee and sales of ready-brewed coffee. However, in terms of quantity, 80% of the coffee consumed in the United States was at home. Sales of home-brewed coffee had recently reversed their long-term decline due to the popularity of single-serve coffee makers.

The US market could also be segmented between "ordinary" coffee and "specialty" coffee (also known as "premium" or "gourmet" coffee). Although specialty coffeehouses had existed for many decades, especially on the east and west coasts of the United States, Starbucks' achievement had been to bring quality coffee to the mass market. Sales of premium brewed coffee were estimated to have grown from about $3.5 billion in 2000 to about $23.4 billion in 2017, with the number of coffee shops roughly doubling over the same period to reach 32,500.[13]

Although Starbucks had been the primary driver of this growth, its success had spawned many imitators. These included both independent coffeehouses and chains, most of which were local or regional, although some aspired to grow into national chains (Table 5).

In addition to specialty coffeehouses, most catering establishments in the United States, whether restaurants or fast-food chains, served coffee as part of a broader

TABLE 4 Coffee consumption per head of population, 2014

Rank	Country	Kilograms	Rank	Country	Kilograms
1	Finland	9.6	11	Bosnia-Herzegovina	4.3
2	Norway	7.2	12	Estonia	4.2
3	Netherlands	6.7	13	Switzerland	3.9
4	Slovenia	6.1	14	Croatia	3.8
5	Austria	5.5	15	Dominican Republic	3.7
6	Serbia	5.4	16	Costa Rica	3.7
7	Denmark	5.3	17	Macedonia	3.6
8	Germany	5.2	18	Italy	3.4
9	Belgium	4.9	19	Canada	3.4
10	Brazil	4.8	20	Lithuania	3.3

Source: Euromonitor (www.caffeineinformer.com/caffeine-what-the-world-drinks).

TABLE 5 Leading chains of coffee shops in the US, 2017

Company	No. of outlets	Headquarters
Starbucks	13,172	Seattle, WA
Tim Hortons	580	Oakville, Ontario
Caribou Coffee	402	Brooklyn Center, MN
Coffee Bean and Tea Leaf	378	Los Angeles, CA
Peet's Coffee & Tea	193	Emeryville, CA
Coffee Beanery	131	Flushing, MI
Gloria Jean's	110	Castle Hill, Australia
Dunn Bros. Coffee	77	St. Paul, MN
Tully's Coffee Shops	76	Seattle, WA
PJ's Coffee	76	New Orleans, LA
It's a Grind Coffee House	17	Long Beach, CA

Source: Multiple company web sources.

menu of food and beverages. Increasingly, these outlets were seeking to compete more directly with Starbucks by adding premium coffee drinks to their menus. McDonald's had introduced a premium coffee to its menu and had also reconfigured its outlets to include McCafés, which highlighted its premium coffee drinks. Burger King and Dunkin' Donuts had also moved upmarket in their coffee offerings. Both McDonald's and Dunkin' Donuts had targeted Starbucks in their advertising, characterizing Starbucks as overpriced and snobbish.

Outside of the United States, Starbucks' competitive situation varied by country. In some, competition was even more intense than in the United States. For example, Starbucks' withdrawal from Australia was a consequence of a highly sophisticated coffee market developed by southern European and Middle Eastern immigrants. Throughout continental Europe, Starbucks had to deal with well-developed markets with high standards of coffee preparation and strong local preferences. In the United Kingdom, where Starbucks was second to Costa in terms of outlets, it earned a net margin of just 1.7% in 2016.

As well as competition from the bottom (McDonald's, Dunkin' Donuts), Starbucks faced competition from the top. The upmarket Italian coffee roaster Illycaffè SpA was expanding in the United States through franchise arrangements with independent coffee houses. Some observers believed that once Starbucks had educated North Americans about the joy of good coffee, consumers of gourmet coffee would go on to seek superior alternatives to Starbucks.

The home-brewed coffee market was also being revolutionized. Sales of Italian-style espresso coffee makers, which used highly pressurized hot water to make coffee, had grown rapidly since 2000. The key stimulus had been the popularity of single-serve coffee pod systems pioneered by Nestlé's Nespresso subsidiary. In the United States, Keurig Green Mountain with its K-Cup system dominated the market. In March 2012, Starbucks joined the fray by launching its own single-serve, home coffee makers under its Verismo brand. Starbucks also supplied K-Cups for Keurig coffee makers. By 2017, Starbucks was one of the leading suppliers of both premium packaged coffee and single-cup capsules to the US retail market (Table 6).

TABLE 6 Brand market shares of packaged coffee in the US, 2017

Packaged ground and whole-bean coffee		Single cup servings	
Brand	**Market share (%)**	**Brand**	**Market share (%)**
Folgers	29	Keurig Green Mountain	24
Kraft	17	Private label	16
Starbucks	10	Starbucks	15
Private label	9	Kraft	10
J.M. Smuckler	8	Folgers	8

Source: Multiple web sources.

Looking Ahead

In the early months of 2018, Starbucks was looking forward to continued growth of revenue and earnings. Despite several quarters of disappointing revenue growth, Starbucks predicted net revenue growth in the upper single digits, and earnings-per-share growth of 12% or more in the coming years. Among the 35 analysts following Starbucks, 34 rated Starbucks a buy, an outperform, or a hold. At the same time, Starbucks acknowledged the risks to its continued prosperity:

- Growing competition in Starbucks' markets: "In the US, the ongoing focus by large competitors in the quick-service restaurant sector on selling high-quality specialty coffee beverages could lead to decreases in customer traffic to Starbucks . . . Similarly, continued competition from well-established competitors in our international markets could hinder growth."[14]
- Starbucks recognized that its core US market was close to saturation: "because the Americas segment is relatively mature and produces the large majority of our operating cash flows, such a slowdown or decline could result in reduced cash flows. . ."[15]
- In international markets, Starbucks' future growth was heavily dependent upon China and Asia Pacific. Here, risk factors included political and regulatory uncertainties, difficulties of protecting intellectual property and enforcing contracts, reliance upon foreign partners, and the challenge of adapting to differences in consumer tastes and business and employment practices.

Starbucks' growing diversification also presented risks. Its widening range of food and beverage products, and entry into the grocery trade, raised issues as to whether Starbucks had the capabilities necessary to succeed in these areas, and the possible erosion of the Starbucks Experience and Starbucks' identity as it extended into tea, soda drinks, hot food, instant coffee, and drive-through stores.

Appendix: Starbucks' Stores by Country

TABLE A1 Starbucks' company operated stores

	2017	2012
US	8222	6875
Canada	1083	874
Brazil	108	53
UK	345	593
Other EMEA	157	289
China	1540	408
Japan	1218	—
Thailand	312	155
Singapore	—	80
All other[a]	290	14
Total	13,275	9327

Note:
[a]Includes Seattle's Best Coffee, Teavana, Evolution Fresh, and Siren Retail.
Source: Starbucks Corporation 10-K reports.

TABLE A2 Starbucks' licensed stores

	2017	2012
US	5708	4189
Mexico	632	356
Canada	377	300
Other Americas	429	166
UK	606	168
Turkey	387	171
United Arab Emirates	164	99
Germany	156	—
Spain	96	78
Kuwait	118	65
Saudi Arabia	124	64
Russia	115	60
Other EMEA[a]	689	282
Japan	—	965

(Continues)

TABLE A2 Starbucks' licensed stores (*continued*)

	2017	2012
China	1396	292
South Korea	1108	467
Taiwan	420	271
Philippines	324	201
Other Asia Pacific	844	432
Other licensed	37	76
Total licensed	**14,064**	**8702**

Note:
[a]EMEA: Europe, Middle East, and Africa.
Source: Starbucks Corporation 10-K reports.

Notes

1. "The CEO of Starbucks Isn't Leaving. Only Howard Schultz Is," *New York Times* (June 17, 2018).
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3. https://hbr.org/2010/07/the-hbr-interview-we-had-to-own-the-mistakes; accessed January 19, 2018.
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5. http://en.starbucks.at/about-us/company-information/mission-statement; accessed July 20, 2018.
6. "Starbucks Ends Conversation Starters on Race," *New York Times* (March 22, 2015).
7. "Starbucks: A Visual Cup o' Joe," *@Issue: Journal of Business and Design* 1, (2006): 18–25.
8. Starbucks Corporation, press release, Starbucks Reports First Quarter Fiscal 2009 Results (January 28, 2009).
9. A meeting at London's Barbican Center is described in J. Wiggins, "When the Coffee Goes Cold," *Financial Times* (December 13, 2008).
10. "Starbucks' Quest for Healthy Growth: An Interview with Howard Schultz," *McKinsey Quarterly* (March 2011).
11. https://www.geekwire.com/2017/starbucks-tech-company-coffee-giant-investing-heavily-digital-innovation/; accessed January 20, 2018.
12. https://finance.yahoo.com/news/starbucks-becoming-tech-company-sells-coffee-202605767.html; accessed January 20, 2018.
13. http://www.scanews.coffee/2016/12/06/specialty-coffee-shops-market-size-in-the-u-s/; accessed January 21, 2018.
14. Starbucks Corporation 10-K report for 2017: 14.
15. Ibid.: 14.

Case 10 Eastman Kodak's Quest for a Digital Future

On January 19, 2012, the Eastman Kodak Company declared bankruptcy—it entered "voluntary Chapter 11 business reorganization." Its two-decade journey of transition from traditional photography into digital imaging was effectively over. In 1990, Kodak had launched its Photo CD system for storing photographic images; in 1991, it had introduced its first digital camera and, in 1994, its new CEO, George Fisher, had declared: "We are not in the photographic business . . . we are in the picture business."

With senior executives recruited from Motorola, Apple, General Electric, Silicon Graphics, and Hewlett-Packard, Kodak's digital imaging efforts had established some notable successes. In digital cameras, Kodak was US market leader for most of 2004–10; globally, it ranked third after Canon and Sony. It was a technological leader in megapixel image sensors. It was global leader in retail printing kiosks and digital minilabs.

Financial performance was a different story. In 1991, Eastman Kodak was America's 18th-biggest company by revenues; by 2011, it had fallen to 334th: over the same period its employment had shrunk from 133,200 to 17,100. During 2000–11, its operating losses totaled $5.2 billion.

As Antonio Perez prepared for his new role under the supervision of Kodak's chief restructuring officer, James Mesterharm, he reflected on Kodak's two decades of decline. How could a company that had been a pioneer of digital imaging and had invested so heavily in building digital capabilities and launching new digital imaging products have failed so miserably to profit from its efforts? And what could he have done differently to have avoided this fate?

These same questions haunted the CEOs of other companies: if one of America's most successful companies could be destroyed by new technology, what did the future hold for their own businesses?

Kodak's History, 1901–93

George Eastman transformed photography from a professional, studio-based activity into an everyday consumer hobby. His key innovations were silver halide roll film and the first fully portable camera. The Eastman Kodak Company established in Rochester, New York, in 1901 offered a full range of products and services for the amateur photographer: "You push the button, we do the rest" was its first advertising slogan. By the time George Eastman died in 1932, Eastman Kodak was one of the world's leading multinational corporations with production, distribution, and processing facilities throughout the world and with one of the world's most recognizable brand names.

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After the Second World War, Kodak entered a new growth phase with an expanding core business and diversification into chemicals (its subsidiary, Eastman Chemical, exploited its polymer technology) and healthcare (Eastman Pharmaceutical was established in 1986). Kodak also faced major competitive challenges. In cameras, Japanese companies came to dominate the world market; in film, Fuji Photo Film Company embarked on an aggressive international expansion. In addition, new imaging technologies were emerging: Polaroid pioneered instant photography; Xerox led the new field of electrostatic plain-paper copying; while the advent of the personal computer ushered in new image management and printing technologies.

Kodak was alert to the emergence of digital technology and introduced several products that embodied new imaging technologies:

- The world's first megapixel electronic image sensor (1986), followed by a number of new products for scanning and electronic image capture.
- Computer-assisted image storage and retrieval systems for storing, retrieving, and editing graphical and microfilm images.
- Data storage products included floppy disks (Verbatim was acquired in 1985) and 14-inch optical disks (1986).
- Plain-paper office copiers (Kodak acquired IBM's copier business in 1988).
- The Photo CD system (1990) allowed digitized photographic images to be stored on a compact disk, which could then be viewed and manipulated on a personal computer.
- Kodak's first digital camera, the 1.3 megapixel DCS-100, priced at $13,000 launched in 1991.

Committing to a Digital Future

Kodak's commitment to a digital imaging strategy was sealed with the appointment of George Fisher as CEO. Fisher had a doctorate in applied mathematics, 10 years of R & D experience at Bell Labs, and had led strategic transformation at Motorola. To focus Kodak's efforts on the digital challenge, Fisher's first moves were to divest Eastman Chemical Company and most of Kodak's healthcare businesses (other than medical imaging) and to create a single digital imaging division headed by newly hired Carl Gustin (previously with Apple and Digital Equipment).

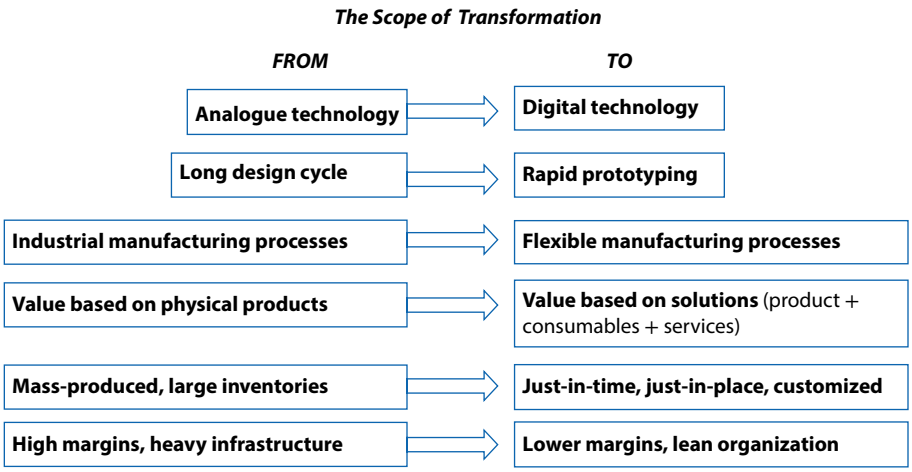
Kodak's Digital Strategy

Under three successive CEOs—George Fisher (1993–99), Dan Carp (2000–05), and Antonio Perez (2005–12)—Kodak developed a digital strategy intended to transform Kodak from a traditional photographic company to a leader in the emerging field of digital imaging. The scale and scope of this transformation was outlined by Antonio Perez in terms of the "fundamental challenges" that Kodak was engaged in (Figure 1).

During 1993–2011, Kodak's strategy embodied four major themes:

- an incremental approach to managing the transition to digital imaging;
- different strategies for the consumer market and for the professional and commercial markets;

FIGURE 1 Eastman Kodak's "fundamental challenges"



Source: Based upon Bob Brust, "Completing the Kodak Transformation," Presentation, Eastman Kodak Company, September 2005. © Kodak. Used with permission.

- external sourcing of knowledge through hiring, alliances, and acquisitions;
- an emphasis on printed images;
- harvesting the traditional photography business.

An Incremental Approach

"The future is not some harebrained scheme of the digital information highway or something. It is a step-by-step progression of enhancing photography using digital technology," declared Fisher in 1995.[2] This recognition that digital imaging was an evolutionary rather than a revolutionary change would be the key to Kodak's ability to build a strong position in digital technology. If photography was to switch rapidly from the traditional chemical-based technology to a wholly digital technology where customers took digital pictures, downloaded them onto their computers, edited them, and transmitted them through the Internet to be viewed electronically, Kodak would face an extremely difficult time. Not only would the new digital value chain make redundant most of Kodak's core competitive advantages (its silver halide technology and its global network of retail outlets and processing facilities): most of this digital value chain was already in the hands of computer hardware and software companies.

Fortunately for Kodak, during the 1990s, digital technology made only selective incursions into traditional photographic imaging. As late as 2000, digital cameras had achieved limited market penetration; the vast majority of photographic images were still captured on traditional film.

Hence, central to Kodak's strategy, was a hybrid approach where Kodak introduced those aspects of digital imaging that could offer truly enhanced functionality for users. Thus, in the consumer market, Kodak recognized that image capture would continue to be dominated by traditional film for some time (digital cameras offered inferior resolution compared with conventional photography). However, digital imaging offered immediate potential for image manipulation and transmission.

If consumers continued to use conventional film while seeking the advantages of digitization for editing and emailing their pictures, this offered a valuable opportunity

for Kodak's vast retail network. Kodak had installed its first self-service facility for digitizing, editing, and printing images from conventional photographs in 1988. In 1994, Kodak launched its Picture Maker, a self-service kiosk located in retail stores where customers could edit and print digital images from a variety of digital inputs, or from digital scans of conventional photo prints. Picture Maker allowed customers to edit their images (zoom, crop, eliminate red-eye, and add text) and print them in a variety of formats. George Fisher emphasized the central role of retail kiosks in Kodak's digital strategy:

> Four years ago, when we talked about the possibilities of digital photography, people laughed. Today, the high-tech world is stampeding to get a piece of the action, calling digital imaging perhaps the greatest growth opportunity in the computer world. And it may be. We surely see it as the greatest future enabler for people to truly "Take Pictures. Further." We start at retail, our distribution stronghold … We believe the widespread photo-retailing infrastructure will continue to be the principal avenue by which people obtain their pictures. Our strategy is to build on and extend this existing market strength which is available to us, and at the same time be prepared to serve the rapidly growing, but relatively small, pure digital market that is developing. Kodak will network its rapidly expanding installed base of Image Magic stations and kiosks, essentially turning these into nodes on a massive, global network. The company will allow retailers to use these workstations to bring digital capability to the average snapshooter, extending the value of these images for the consumers and retailers alike, while creating a lucrative consumable business for Kodak.[3]

Despite growing ownership of inkjet printers, a very large proportion of consumers continued to use photo-print facilities in retail stores. By the beginning of 2004, Kodak was the clear leader in self-service digital printing kiosks, with 24,000 installed Kodak Picture Makers in the United States and over 55,000 worldwide.

Kodak also used digital technology to enhance the services offered by photofinishers. Thus, the Kodak I.Lab system offered a digital infrastructure to photofinishers that digitized every film negative and offered better pictures by fixing common problems in consumer photographs.

Despite the inferior resolution of digital cameras, Fisher recognized their potential and pushed Kodak to establish itself in this highly competitive market. In addition to high-priced digital single reflex lens cameras for professional use, Kodak developed the QuickTake camera for Apple: at $75 it was the cheapest digital camera available in 1994. In March 1995, Kodak introduced the first full-featured digital camera priced at under $1000.

The Consumer Market: Emphasizing Simplicity and Ease of Use

Kodak pursued different approaches to consumer and professional/commercial markets. While the commercial and professional market offered the test-bed for Kodak's advanced digital technologies, the emphasis in the consumer segment was to maintain Kodak's position as mass-market leader by providing simplicity, quality, and value. Kodak's incremental strategy was most evident in the consumer market, providing an easy pathway for customers to transition to digital photography while exploiting Kodak's core brand and distribution strengths. This transition path was guided by Kodak's original vision of "You push the button, we do the rest." Kodak envisaged itself

as the mass-market leader in digital imaging, providing security, reliability, and simplicity for customers bewildered by the pace of technological change.

Simplicity and mass-market leadership implied that Kodak provided the fully integrated set of products and services needed for digital photography. "For Kodak, digital photography is all about ease of use and helping people get prints—in other words, getting the same experience they're used to from their film cameras," noted Martin Coyne, head of Kodak's Photographic Group.[4] A systems approach recognized that most consumers had neither the time nor the patience to read instructions and to integrate different devices and software. Kodak believed that its integrated system approach would have particular appeal to women, who made up the major part of the consumer market.

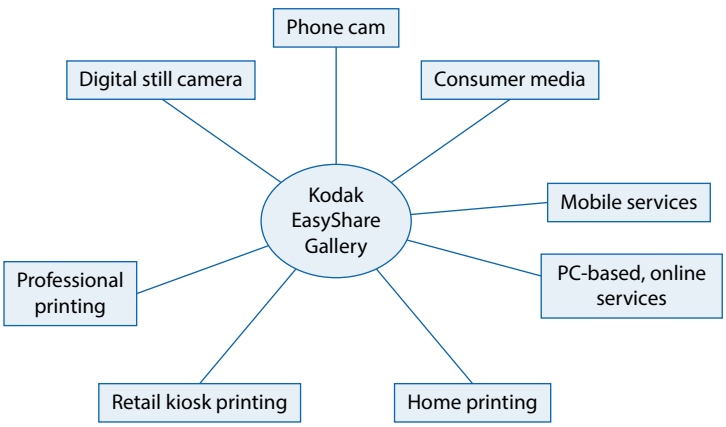
The result was Kodak's EasyShare system, launched in 2001. According to Willy Shih, head of digital and applied imaging, EasyShare's intention was to:

> provide consumers with the first easy-to-use digital photography experience … Digital photography is just the first step … People need to get their pictures to their PCs and then want to share by printing or e-mail. So we developed a system that made the full experience as easy as possible.[5]

Figure 2 shows Kodak's conceptualization of its EasyShare system.
By 2005, most of the main elements of the EasyShare system were in place:

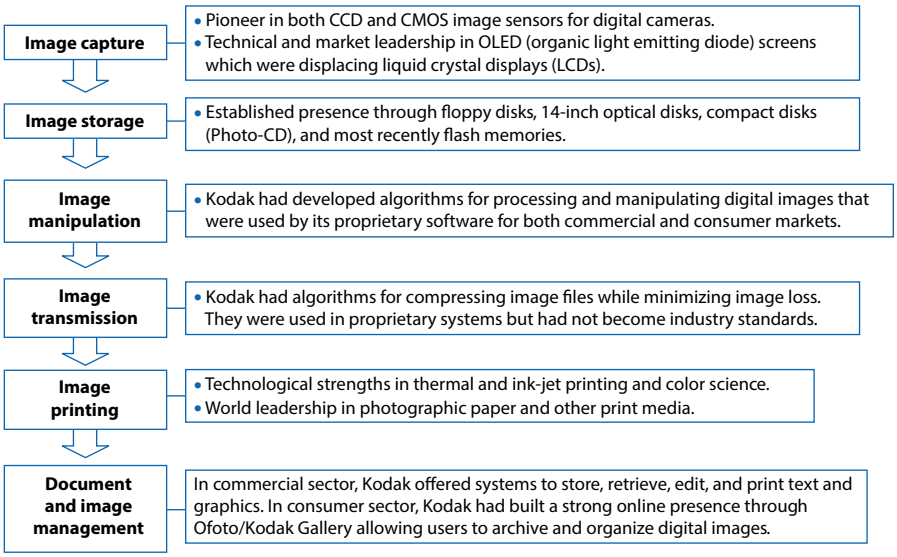
- Kodak's range of EasyShare digital cameras had carved out a strong position in a crowded market.
- EasyShare software allowed the downloading, organization, editing, and emailing of images and the ordering of online prints. EasyShare software was bundled with Kodak's cameras as well as being available for downloading for free from Kodak's website.
- The EasyShare printer dock introduced in 2003 was the first printer that incorporated a camera dock allowing the "one touch simple" thermal-dye printing direct from a camera. Antonio Perez's arrival in 2003 reinforced Kodak's push

FIGURE 2 Kodak's easyShare network: "Your pictures—anytime, anywhere"



Source: Based upon Bob Brust, "Completing the Kodak Transformation," Presentation, Eastman Kodak Company, September 2005. © Kodak. Used with permission.

FIGURE 3 Kodak's technological position within the digital imaging chain



into printers: "If a company wants to be a leader in digital imaging, it necessarily has to participate in digital output."[6]

- Online digital imaging services: Kodak had been quick to recognize the potential of the Internet for allowing consumers to transmit and store their photographs and order prints. Kodak's Picture Network, launched in 1997, allowed consumers to have their conventional photographs digitized by a retail photo store, then uploaded to a personal Internet account on Kodak's Picture Network. In 1998, Kodak launched its online printing service, *PhotoNet*, enabling consumers to upload their digital images and order prints. Kodak also partnered with AOL to offer *You've Got Pictures*. By acquiring Ofoto in 2001, Kodak became the leader in online photofinishing and online image storage. In January 2005, Kodak renamed Ofoto "Kodak EasyShare Gallery."

By 2005, therefore, Kodak was present across the entire digital value chain—this integrated presence was underpinned by proprietary technology at each of these stages (Figure 3).

Professional, Commercial, and Healthcare Markets

The commercial and professional markets were important to Kodak for two reasons. First, they were lead customers for many of Kodak's cutting-edge digital technologies: news photographers were early adopters of digital cameras; the US Department of Defense pioneered digital imaging for satellite imaging, weather forecasting, and surveillance activities; NASA used Kodak cameras and imaging equipment for its space missions and satellites. For commercial applications ranging from real estate brokerage to security systems, digital imaging offered image transmission and linkage with IT management systems for image storage and retrieval. The huge price premium of commercial consumer products made it attractive to focus R & D on these leading-edge users in the anticipation of trickle-down to the consumer market.

In commercial printing and publishing (which became the Graphic Communications Group in 2005), Kodak assembled a strong position in commercial scanning, formatting, and printing systems for the publishing, packaging, and data processing industries. Kodak's opportunity was to exploit the transition from traditional offset printing to digital, full-color, variable printing. This opportunity built on two key strengths: first, Kodak's proprietary inkjet technology (including its technically superior inks) and, second, its leadership in variable-data printing—printing that permitted individually customized output (as in personalized sales catalogues or bills). Kodak built its commercial printing business on both internally developed technologies and acquisitions—notably Heidelberg's Nexpress and Digimaster businesses, and Scitex, supplier of Versamark high-speed inkjet printers. Kodak also built a presence in prepress and workflow systems used by commercial printers.

In medical imaging, Kodak also faced the decline of its sales of X-ray film and in related chemicals and accessories. Through a series of acquisitions and internal developments, Kodak established a portfolio of products for digital X-rays, laser imaging, picture archiving and communications systems—including systems for digitizing and storing conventional X-rays. Kodak also built up a strong position in dental imaging systems comprising hardware, software, and consumables. Kodak sold its Health Group to Onex Healthcare Holdings in 2007 for $2.55 billion.

Kodak's capability in creating integrated imaging and information solutions was of particular value in certain public sector projects. Kodak's digital scanning and document management systems were used in national censuses in the United States, the United Kingdom, France, Australia, and Brazil. At the German post office, a Kodak team achieved a world record, creating digitized copies of 1.7 million documents in 24 hours.

Hiring, Alliances, and Acquisitions

Kodak's business system had been based upon vertical integration and self-sufficiency: at its Rochester base, Kodak developed its own technology, produced its own products, and supplied them worldwide through its vast global network. In digital imaging, not only did Kodak lack much of the expertise needed to build a digital imaging business but also the pace of technological change was too rapid to rely on in-house development. Hence, as Kodak transformed its capability base from chemical to digital imaging, it looked outside for the knowledge it required.

Kodak recruited executives and technical specialists it needed for its new digital strategy. Key executives who relocated from a variety of technology-intensive companies including Silicon Graphics, IBM, Xerox, Hewlett-Packard, Lexmark, Apple, GE Medical Electronics, Olympus Optical, and Lockheed Martin. Table 1 shows the backgrounds of Kodak's top management team.

Kodak acknowledged that the digital imaging chain already included companies that were well established, sometimes dominant, in particular activities. For example, Adobe Systems dominated image-formatting software; Hewlett-Packard, Epson, and Canon were leaders in inkjet printers; and Microsoft dominated PC operating systems. Willy Shih, head of Kodak's digital imaging products from 1997 to 2003, observed: "We have to pick where we add value and commoditize where we can't."[7]

In many cases, this meant partnering with companies that were already leaders in digital technologies. Kodak forged alliances with Canon, AOL, Intel, Hewlett-Packard, Olympus, and IBM.

Kodak made acquisitions where it believed that a strong proprietary position was essential to its strategy and in technologies where it needed to complement its own expertise. Its major acquisitions over the period are shown in Table 2.

TABLE 1 Eastman Kodak's senior management team, April 2012

Name	Position	Joined Kodak	Prior company experience
Robert L. Berman	Senior Vice President	1982	Kodak veteran
Philip J. Faraci	President and COO	2004	Phogenix Imaging, Gemplus
Stephen Green	Director, Business Development, Asia-Pacific	2005	Creo Inc.
Pradeep Jotwani	President, Consumer Business	2010	Hewlett-Packard
Brad W. Kruchten	President Film and Photo-finishing Systems Group	1982	Kodak veteran
Antoinette McCorvey	CFO and Senior Vice President	1999	Monsanto/Solutia
Gustavo Oviedo	Chief Customer Officer	2006	Schneider Electric
Antonio M. Perez	Chairman and CEO	2003	Hewlett-Packard
Laura G. Quatela	General Counsel and Chief Intellectual Property Officer	1999	Clover Capital Management, Inc., SASIB Railway GRS, and Bausch & Lomb Inc.
Isidre Rosello	General Manager, Digital Printing Solutions	2005	Hewlett-Packard
Eric H. Samuels	Chief Accounting Officer and Corporate Controller	2004	KPMG, Ernst & Young
Patrick M. Sheller	Chief Administrative Officer, General Counsel and Secretary	1993	McKenna, Long & Aldridge, Federal Trade Commission
Terry R. Taber	Vice President	1980	Kodak veteran

Note:
Includes corporate officers, senior vice presidents, and division heads.
Source: www.kodak.com. © Kodak. Used with permission.

Emphasis on Printed Images

A consistent feature of Kodak's digital strategy from 1993 to 2012 was the belief that digital technology would not eliminate printed images. Kodak's emphasis on printed images was reinforced by its own capabilities: the printing of photographic and other images onto paper and other media lay at the heart of Kodak's traditional chemical and chromatic know-how. Under Perez, the impetus behind photographic printers for the consumer market intensified, reflecting Perez's own background as former head of Hewlett-Packard's printer division.

This effort to build Kodak's presence in the market for consumer inkjet printers has been the most widely criticized of all Kodak's digital imaging initiatives. Even with Kodak's "treasure trove" of inkjet technologies and its tweaking of the traditional "razors-and-blades" model by charging low prices for ink and higher prices for printers, establishing Kodak in such a mature, intensely competitive market would be a struggle. By 2011, Kodak held just 6% of the US market, compared to 60% for Hewlett-Packard.

TABLE 2 Kodak's major acquisitions, 1994–2011

Date	Company	Description
1994	Qualex, Inc.	Provider of photo-finishing services; acquired to complement Kodak's online photofinishing service
1997	Wang Laboratories	Acquisition of Wang's software unit
1997	Chinon Industries	Japanese camera producer; majority stake acquired; outstanding shares purchased in 2004
1998	PictureVision, Inc.	Provider of PhotoNet online digital imaging services and retail solutions; complement to Kodak's Picture Network business
1998	Shantou Era Photo Material, Xiamen Fuda Photographic Materials	Strengthened Kodak's position in photographic film in China
1999	Imation	Supplier of medical imaging products and services
2000	Lumisys, Inc.	Provider of desktop computed radiography systems and X-ray film digitizers
2001	Bell & Howell	Imaging businesses only acquired
2001	Ofoto, Inc.	Leading US online photofinisher
2001	Encad, Inc.	Wide-format commercial inkjet printers
2003	PracticeWorks	Digital dental imaging and dental practice management software
2003	Algotec Systems Ltd.	Developer of picture archiving systems
2003	Lucky Film Co., Ltd.	Acquisition of 20% of China's leading photographic film supplier
2003	LaserPacific Media Corporation	Provider of postproduction services for filmmakers
2004	NexPress	Acquired Heidelberg's 50% of this joint venture, which supplied high-end, on-demand color printing systems and black-and-white variable-data printing systems
2004	Scitex Digital Printing	A leader in high-speed variable data inkjet printing (renamed Kodak Versamark, Inc.)
2004	National Semiconductor	Acquisition of National's imaging sensor business
2005	Kodak Polychrome Graphics LLC	Kodak acquires Sun Chemical's 50% stake in the joint venture, which is a leader in graphic communication
2005	Creo Inc.	Leading supplier of prepress and workflow systems used by commercial printers
2008	Design2Launch	Developer of collaborative end-to-end digital workflow solutions for transactional printing
2008	Intermate A/S	Danish supplier of Intelligent Print Data Stream software for managing high speed printers
2009	Böwe Bell & Howell	Acquisition of document scanner division
2011	Tokyo Ohka Kogyo Co., Ltd.	Acquisition of TOK's relief printing plates business

Source: Eastman Kodak 10-K reports, various years.

Harvesting the Traditional Photography Business

On the basis that the transition to digital photography would be gradual, Kodak believed that the transition period would give it the opportunity to generate cash flows from its legacy film business while investing in digital imaging technologies and products. Kodak's prediction was initally correct. Through the 1990s, film sales continued to grow in the United States, reaching a peak of 800 million rolls in 1999. However, by 2004, sales had halved to under 400 million and by 2011 were below 100,000.

Kodak's forecasts proved wrong in relation to emerging market demand. Kodak's acquisitions of Chinese photographic film producers were based on the assumption that sales of roll film would continue to increase into the 21st century. In reality, the transition to digital imaging occurred at much the same pace in emerging markets as in the mature industrialized countries.

During 2011 and 2012, Kodak withdrew several film products, including film for slides. It also withdrew from other unprofitable markets (including cameras) and sold other businesses, including its Kodak EasyShare Gallery to rival Shutterfly.

Eastman Kodak in 2012

Eastman Kodak's business was organized around three business segments. Exhibit 1 describes each of these segments.

EXHIBIT 1

Eastman Kodak's business segments

CONSUMER DIGITAL IMAGING GROUP ("CDG") SEGMENT

CDG's mission is to enhance people's lives and social interactions through the capabilities of digital imaging and printing technology. CDG's strategy is to drive profitable revenue growth by leveraging a powerful brand, a deep knowledge of the consumer, and extensive digital imaging and materials science intellectual property.

- ***Digital Capture and Devices*** includes digital still and pocket video cameras, digital picture frames, accessories, and branded licensed products. These products are sold directly to retailers or distributors, and are also available to customers through the Internet . . . As announced on February 9, 2012, the company plans to phase out its dedicated capture devices business. . .
- ***Retail Systems Solutions'*** product and service offerings to retailers include kiosks and consumables, Adaptive Picture Exchange ("APEX") drylab systems and consumables, and after sale service and support . . . Kodak has the largest installed base of retail photo kiosks in the world.
- ***Consumer Inkjet Systems*** encompasses Kodak All-in-One desktop inkjet printers, ink cartridges, and media . . .
- ***Consumer Imaging Services:*** Kodak Gallery is a leading online merchandise and photo sharing service . . .

GRAPHIC COMMUNICATIONS GROUP ("GCG") SEGMENT

GCG's strategy is to transform large graphics markets with revolutionary technologies and customized services that grow our customers' businesses and Kodak's business with them.

- ***Prepress Solutions*** is comprised of digital and traditional consumables, including plates, chemistry, and media, prepress output device equipment and related services, and proofing solutions. Prepress solutions also include flexographic packaging solutions, which is one of Kodak's four digital growth initiative businesses.
- ***Digital Printing Solutions*** includes high-speed, high-volume commercial inkjet printing equipment, consumables, and related services, as well as color and black-and-white electrophotographic printing equipment . . .
- ***The Business Services and Solutions*** group's product and service offerings are composed of high-speed production and workgroup document scanners, related services, and digital controllers for driving digital output devices, and workflow software and solutions. Workflow software and solutions, which includes consulting and professional business process services, can enable new opportunities for our customers to transform from a print service provider to a marketing service provider . . .

FILM, PHOTOFINISHING AND ENTERTAINMENT GROUP ("FPEG") SEGMENT

FPEG provides consumers, professionals, and the entertainment industry with film and paper for imaging and photography. Although the markets . . . are in decline . . . due to digital substitution, FPEG maintains leading market positions for these products. The strategy of FPEG is to provide sustainable cash generation by extending our materials science assets in traditional and new markets.

- ***Entertaining Imaging*** includes origination, intermediate, and color print motion picture films, special effects services, and other digital products and services for the entertainment industry.
- ***Traditional Photofinishing*** includes color negative photographic paper, photochemicals, professional output systems, and event imaging services.
- ***Industrial Materials*** encompasses aerial and industrial film products, film for the production of printed circuit boards, and specialty chemicals, and represents a key component of FPEG's strategy of extending and repurposing our materials science assets.
- ***Film Capture*** includes consumer and professional photographic film and one-time-use cameras.

Source: Eastman Kodak 10-K report, 2011: pp. 5–8. Reproduced by permission of Eastman Kodak Company.

Competition

In most of the markets where it competed, Kodak was subject to intense competition. In digital cameras, phones incorporating cameras had decimated all but the quality segment of the market. Online photographic services were also ferociously competitive: Kodak's Gallery was the market leader, but it competed with a host of other online competitors, including: Shutterfly, Snapfish, Walmart.com's Photo Center, Fujifilmnet.com, Yahoo Photos, and Sears.com.

Kodak's highest margins were earned on consumables, notably photographic paper. However, Kodak faced strong competition, mainly from Xerox, Hewlett-Packard, 3M, and Oji, as well as from many minor brands. Its attempts to differentiate itself through superior technology, particularly in inkjet printing paper, were only partially successful

in resisting the tide of commoditization and, across all markets, Kodak was suffered the growing trend for consumers to view their photographs on screens rather than in printed form.

In commercial markets, competitive price pressures were less severe than in the consumer sector, in particular the opportunity for Kodak to differentiate its offering through packaging hardware, software, and services into customized "user solutions."

Kodak's Resources and Capabilities

Digital imaging was a classic "disruptive technology."[8] For traditional photographic companies, it was "competence destroying"[9]—digital technology undermined the usefulness of many of their resources and capabilities Yet, as late as 2011, Kodak still possessed some potentially valuable resources and capabilities.

- *Brand and distribution:* Kodak's traditional resource strengths had been its brand and its global distribution presence. Two decades of decline and wrenching technological changes had weakened both. Despite Kodak's brand recognition, it was unclear whether it added value and market appeal to Kodak's consumer and commercial products.
- *Technology:* For two decades Kodak had maintained one of the world's biggest research efforts in imaging. During 2000–05, its research labs in the United States, the United Kingdom, France, Japan, China, and Australia had employed more than 5000 engineers and scientists, including more than 600 PhDs. Between 1975 and 2011, Kodak had been issued 16,760 patents. Table 3 identifies some of Kodak's principal areas of technological strength.
- *New Product Development:* Despite Kodak's strengths in basic and applied research and its long history of successful new product launches, the company had struggled to move away from its traditional long and meticulous product development process to embrace the fast-cycle world of electronics.

Table 4 shows financial data for Eastman Kodak, while Table 5 shows data for its business segments.

Reflections

As Perez reflected upon Kodak's two decades of digital transformation, he was struck by the paradox of Kodak's progress. In terms of adapting to a highly disruptive technological revolution, Kodak had been surprisingly successful. For a company that had dominated its traditional market for so long and so thoroughly as Kodak had, to survive the annihilation of its core technology, and to build the capabilities needed to become a significant player in a radically different area of technology was unusual. Yet, in terms of financial performance, Kodak had failed: for all of Kodak's technical and market achievements, Perez and his two predecessors, Dan Carp and George Fisher, had been unable to build a financially viable digital imaging business. Where had they gone wrong?

- It was difficult to argue that Kodak had been too slow or that it had failed to recognize the digital threat—as early as 1979 Kodak produced a remarkably

TABLE 3 Kodak's technical capabilities

Area of technology	Kodak capabilities
Color science	Kodak is a leader in the production, control, measurement, specification, and visual perception of color, essential to predicting the performance of image-capture devices and imaging systems. Kodak has pioneered *colorimetry*—measuring and quantifying visual response to a stimulus of light.
Image processing	Includes technologies to control image sharpness, noise, and color reproduction. It is used to maximize the information content of images and to compress data for economical storage and rapid transmission. Kodak is a leader in image processing algorithms for automatic color balancing, object and text recognition, and image enhancement and manipulation. These are especially important in digital photofinishing for image enhancement, including adjustments for scene reflectance, lighting conditions, sharpness, and a host of other conditions.
Imaging systems analysis	Provides techniques to measure the characteristics of imaging systems and components. Predictive system modeling is especially important in Kodak's new product development, where it can predict the impact of individual components on the performance of the entire system.
Sensors	A world leader in image sensor technology, with 30 years' experience in the design and manufacture of both CCD and CMOS electronic image sensors used in cameras, machine vision products, and satellite and medical imaging.
Ink technology	A world leader in dyes and pigments for color printing. Pioneer of micro-milling technology (originally invented for drug delivery systems). It has advanced knowledge of humectants (which keep print-head nozzles from clogging), and surface tension and viscosity modifiers (which control ink flows).
Inkjet technology	Innovations in the electronic and thermal control of inkjet heads coupled with innovation in inks have given Kodak technological advantages in inkjet printing. In commercial printing, Kodak's continuous inkjet technology has permitted the flexibility of inkjet printing to be matched with substantial improvements in resolution and color fidelity.
Microfluidics	Microfluidics, the study of miniature devices that handle very small quantities of liquids, is relevant to film coating, fluid mixing, chemical sensing, and liquid inkjet printing.
Print media	A leader in applying polymer science and chemical engineering to ink-receiving materials. Expertise in specially constructed inkjet media in which layers of organic/inorganic polymers are coated onto paper or clear film and multilayer coated structures of hydrogels and inorganic oxides.
Electronic display technology	Through its joint venture with Sanyo, Kodak pioneered organic light-emitting diode (OLED) technology for self-luminous flat panel displays. Kodak's OLED display panels extended from small-screen devices to larger displays.
Software	EasyShare software focused on ease of image manipulation, printing, and storage (even without a computer). Commercial software leads in workflow solutions (Kodak EMS Business Software), scanning software (Perfect Page), and printing software (Kodak Professional Digital Print Production Software); strengths in control software and printing algorithms that overcome technical limitations of inkjet printing and optimize color and tone reproduction (e.g., the Kodak One Touch Printing System).

Source: www.kodak.com.

TABLE 4 Eastman Kodak: Selected financial data, 2006–2011 ($million)

	2011	2010	2009	2008	2007	2006
From income statement						
Sales	6022	7167	7609	9416	10,301	10,568
Cost of goods sold	5135	5221	5850	7247	7757	8159
Selling, general, and admin.	1159	1275	1298	1606	1802	1950
R & D costs	274	318	351	478	525	578
Operating earnings	(600)	(336)	(28)	(821)	(230)	(476)
Interest expense	156	149	119	108	113	172
Other income (charges)	(2)	26	30	55	86	65
Restructuring costs	121	70	226	140	543	416
Income taxes	9	114	115	(147)	(51)	221
Net earnings	(764)	(687)	(210)	(442)	676	(601)
From balance sheet						
Total current assets including	2703	3786	4303	5004	6053	5557
Cash	861	1624	2024	2154	2947	1496
Receivables	1103	1196	1395	1716	1939	2072
Inventories	607	746	679	948	943	1001
Property, plant, and equipment	895	1037	1254	1551	1811	2602
Other long-term assets	803	1109	1227	1728	4138	3509
Total assets	4678	6226	7691	9179	13,659	14,320
Total current liabilities including	2150	2820	2896	3438	4446	4554
Payables	706	959	2811	3267	3794	3712
Short-term borrowings other liabilities	152	50	62	51	308	64
Long-term borrowings	1363	1195	1129	1252	1289	2714
Postemployment liabilities	3053	2661	2694	2382	3444	3934
Other long-term liabilities	462	625	1005	1119	1451	1690
Total liabilities	7028	7301	7724	8191	10,630	12,932
Shareholders' equity	(2350)	(1075)	(33)	988	3029	1388
From cash flow statement						
Net cash from operating activities	(998)	(219)	(136)	168	328	956
Net cash used in investing activities	(25)	(112)	(22)	(188)	2408	(225)
Net cash flows from financing activities	246	(74)	33	(746)	(1294)	(947)
Number of employees	17,100	18,800	20,250	24,400	26,900	40,900

Source: Eastman Kodak annual reports.

TABLE 5 Eastman Kodak: Results by business segments, 2007–2011 ($million)

	2011	2010	2009	2008	2007
Net sales from continuing operations					
Consumer Digital Imaging Group	1739	2731	2626	3088	3247
Film, Photofinishing, and Entertainment Group	1547	1762	2262	2987	3632
Graphic Communications Group	2736	2674	2718	3334	3413
All other	—	—	3	7	9
Consolidated total	6022	7167	7609	9416	10,301
Earnings (losses) from continuing operations before interest and taxes					
Consumer Digital Imaging Group	(349)	278	(10)	(177)	(17)
Graphic Communications Group	(191)	(95)	(107)	31	104
Film, Photofinishing, and Entertainment Group	34	91	187	196	281
All other	—	(1)	(16)	(17)	(25)
Total of segments	(506)	273	54	33	343
Segment total assets:					
Consumer Digital Imaging Group	929	1126	1198	1647	2442
Graphic Communications Group	1459	1566	1734	2190	3723
Film, Photofinishing, and Entertainment Group	913	1090	1991	2563	3778
All other	—	1	—	8	17
Total of segments	3301	3782	4923	6408	9960

Source: Eastman Kodak 10-K reports.

accurate forecast of the evolution of digital imaging and it had been a pioneer of digital cameras.[10]

- It was also difficult to argue that Kodak had failed in implementing its digital strategy in terms of being a laggard in developing the capabilities needed to compete in digital imaging. Kodak's market leadership in digital cameras pointed to its ability to build technological know-how, apply that know-how to develop attractive new products, and market those products in fiercely competitive digital markets.
- Perhaps Kodak's emphasis had been on the wrong markets and wrong products? Kodak's biggest losses had been in the consumer market, Kodak's traditional stronghold. Was this market simply too unattractive because of intense competition? Had Perez's emphasis on printing been misplaced? Might Kodak's scarce resources been better spent on other parts of the digital value chain (such as image capture through cameras and sensors and displays)?
- A further possibility was that Kodak's vision of establishing itself as a leader in digital imaging was misconceived. In 2000, Kodak had announced its intention to be at the center of the $225 billion "infoimaging" industry. But did this

"infoimaging" industry really exist? Or was digital imaging part of the overall computing and communication sector?

Finally, Perez wondered as to what lessons could be drawn from the comparative success of Fujifilm. For all of Fuji's similarities to Kodak, its performance had been radically different: its revenues had grown (in terms of US dollars), and it had been consistently profitable (Exhibit 2).

EXHIBIT 2
Fujifilm Holdings Corporation

	1992			2011		
	Sales ($million)	Net income ($million)	Employees	Sales ($million)	Net income ($million)	Employees
Fujifilm Holdings[a]	9126	593	24,868	27,440	1412	35,274
Eastman Kodak[b]	20,577	1146	132,600	6022	(764)	17,100

Notes:
[a]2011 data are for financial year to March 31, 2012.
[b]2011 data are for year ended December 31, 2011.

Despite the strong similarities between Fujifilm and Kodak—both companies were heavily dependent on film during the early 1990s and both had diversified into other imaging technologies (Fujifilm had a major position in plain-paper copiers through its Fuji/Xerox joint venture)—the two companies responded to the digital revolution with different strategies which led to very different financial results.

Like Kodak, Fujifilm recognized the implications of digital imaging for its core business and struggled to adapt its strategy. However, a key difference was Fuji's recognition that digital imaging alone would be unlikely to support the business of a large company, hence its emphasis on diversification. Under its chief executive, Shigetaka Komori, Fujifilm underwent a major restructuring between 2000 and 2010 (especially during 2005/6 and 2009/10) involving business closures, employee layoffs, and financial write-downs.

Comparing Fujifilm and Kodak in 2012, the most obvious difference is Fujifilm's business diversity. Its three business segments comprise a variety of different businesses:

Imaging solutions (14.8% of total sales) included traditional photo imaging products (photographic paper, film, and supplies) and electronic imaging (mainly digital cameras).

Information solutions (40.5% of total sales) included medical systems, pharmaceuticals, cosmetics, flat panel display materials, graphic arts materials, data storage tapes, industrial X-rays, and optical devices.

Document solutions (44.8% of total sales) comprised office supplies, office printers, and document product services.

Fujifilm's diversification has combined selective acquisitions (since 2000, $9 billion has been spent on 40 acquisitions) and internal development based upon

Fujifilm's existing technical capabilities. In particular, it has built upon its chemical and coatings expertise to diversify into cosmetics, pharmaceuticals (especially drug delivery systems), components for LCD panels, and a variety of plastics products. The quest to exploit technical capabilities in "functional compound molecular design, chemical reaction control, and organic synthesis technologies" resulted in several discoveries. For example, human skin was observed to be similar to photographic film: it contained collagen and was about the same thickness. Fujifilm discovered that many of the antioxidants used to preserve photographic film could be used for skin care products.

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Case 11 The *New York Times*: Adapting to the Digital Revolution

On January 1, 2018, 37-year-old A.G. Sulzberger succeeded his father, Arthur Ochs Sulzberger, as chairman of the New York Times Company (NYT). He is the sixth member of the Ochs/Sulzberger family to lead the newspaper since it was purchased by Adolph Ochs in 1896.

Yet, this apparent reverence for family tradition was not matched by conservatism in the company's strategy and operational management. Indeed, A.G. Sulzberger was the primary architect of the digital strategy that had shaken the "Gray Lady"—as the *Times* was affectionately known—to her very foundations.

In 2012, the prospects for the New York Times Company (NYT) were bleak. In common with most of the world's newspaper companies, revenues were in steep decline and the company was losing money. Most commentators were pessimistic about the company's future. Henry Blodget of *Business Insider* predicted a continuing decline in the company's revenues as news readership and advertising moved online.[1] Eric Jackson of Ironfire Capital LLC predicted that declining advertising revenues, rising pension costs, and limits on further cuts in operating costs, would mean that the NYT would be unable to continue as a standalone business.[2]

For over a decade, the NYT had been experimenting with different online business models, while at the same time selling assets and cutting costs. However, growth in revenues from digital advertising had failed to cover the shrinking revenues from print advertising, while cost cutting was limited by NYT's commitment to comprehensive, high-quality journalism.

The appointment of Mark Thompson, formerly director-general of the British Broadcasting Corporation, as CEO at the end of 2012 marked the beginning of a profound strategic shift. In May 2014, a working party chaired by A.G. Sulzberger issued a report titled "Innovation," which provided a searing and penetrating analysis of the NYT's weaknesses in adapting to the new world of digital media.[3] The report created a firestorm both within the NYT and in the newspaper industry more widely and was the trigger for a total overhaul of the company's strategy.

In 2017, the NYT had its "best revenue growth in many years, driven by strong digital subscription revenues, which increased by over $100 million year-over-year."[4] The turnaround was reflected in the NYT's share price, which more than doubled in the two years leading up to March 2018 (see Figure 1).

However, as A.G. Sulzberger prepared for his first annual shareholders' meeting as board chairman, he wondered about the sustainability of the NYT's upturn in performance. Had the NYT finally cracked the problem of how to reconcile its traditional commitment to quality journalism with the requirements of the digital age, or did the massive rise in the number of digital subscriptions simple reflect the "Trump

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FIGURE 1 New York Times Company share price January 2000–March 2018

Source: Macrotrends.

bump"—the quest for unbiased, authoritative journalism in a time when the current US President was challenging the norms of objectivity and truth?

The US Newspaper Industry

The US newspaper industry—like that of most other countries—had been in decline for over two decades. The reason was competition from online media, both for news readership and for advertising. Although print newspapers had diversified into online news provision, they had encountered powerful competition in this field from other suppliers of digital news content—including online newspapers such as the *Huffington Post*, *Daily Beast*, and *BuzzFeed*—as well as TV news suppliers with their own websites (ABC, CNN, and Fox), and online news aggregators such as Google News and Lexis-Nexis. Table 1 shows the leading US news websites. The ability of all news websites to generate advertising revenues was constrained by the dominance of Google and Facebook over online advertising and by the powerful mobile platform owners—notably Apple and Google (Android). As a result, the decline in print readership (Figure 2) translated into an even steeper decline in advertising revenues for printed newspapers (Figure 3), which was only partly compensated for by the shift from print to digital advertising (Figure 4).

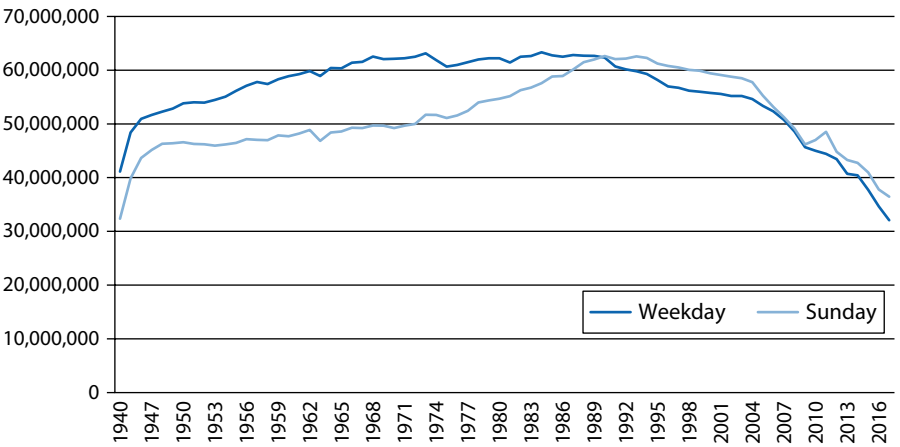
The shift from print to online readership favored both national and international newspapers at the expense of the vast majority of US newspapers, which served local markets—individual cities and metropolitan regions. Only three newspapers could claim to be national (or even international) in their distribution: *USA Today*, the *Wall Street Journal*, and the *New York Times*. Table 2 shows the print circulations of the largest US newspapers.

For newspapers to survive, they needed to reduce costs to match their shrinking revenues. Independent news gathering had been the major casualty—newsroom staffs had been cut drastically and most newspapers relied upon agencies such as Reuters,

TABLE 1 Leading US news websites by number of unique visitors for 2017 (in millions)

Website	2017	2015
Yahoo News	128	128
Google News	102	82
Huffington Post	110	84
CNN Network	101	102
USA Today	78	79
BuzzFeed	73	78
The New York Times	70	57
Fox News	65	57
NBC News	63	101
Mail Online	53	51
Washington Post	47	40
Guardian	42	36

FIGURE 2 Average daily circulation of newspapers in the US, 1940–2017



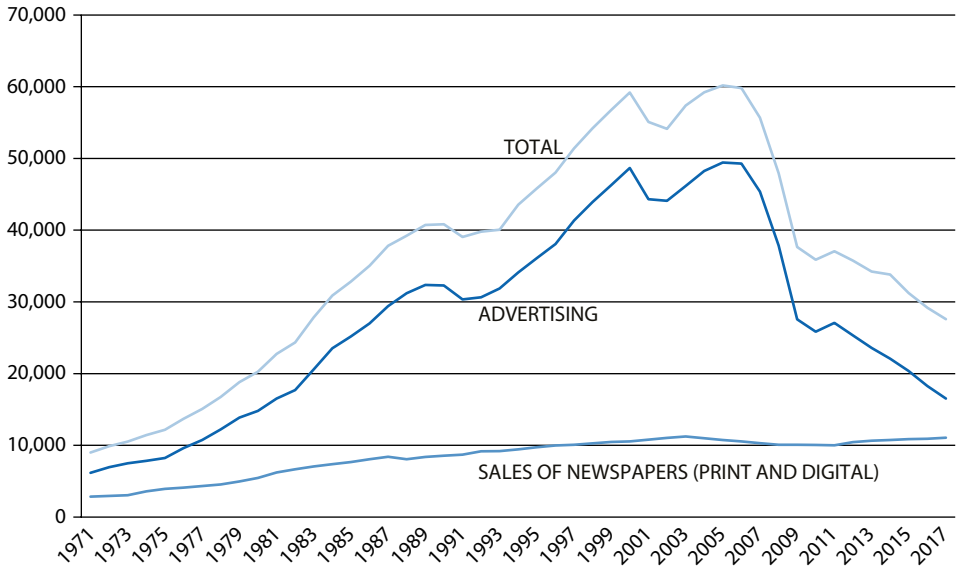
Source: Pew Research Center and industry sources.

Associated Press, and Agence France-Presse for their news content. Alternatively, newspapers could seek out a billionaire "sugar daddy": following Jeff Bezos's purchase of the *Washington Post*, Warren Buffet bought the *Omaha World-Herald*, and Patrick Soon acquired the *Los Angeles Times*.

Decline and Refocusing

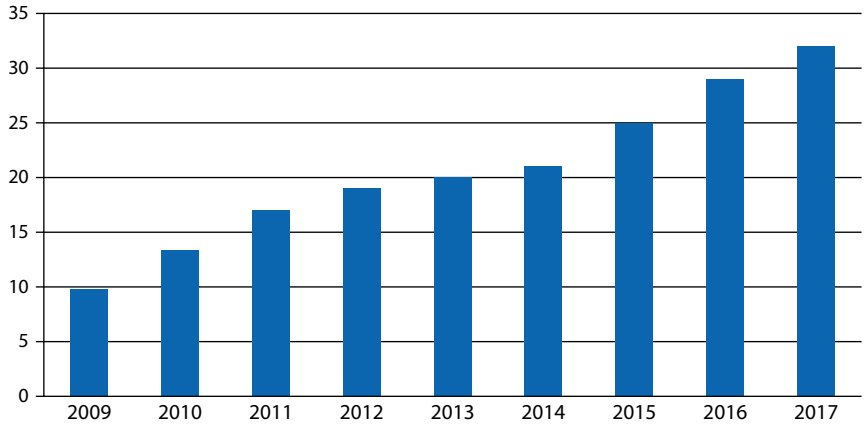
Between 1996 and the end of 2017, strategic leadership of the NYT was exercised by its chairman, Arthur Sulzberger Jr. At the heart of his strategy was a commitment to

FIGURE 3 Annual revenues of US newspapers, 1970–2017 ($ millions)



Source: Pew Research Center and company accounts.

FIGURE 4 Digital advertising revenue as a percentage of total US newspaper advertising, 2009–2017



Source: Pew Research Center and industry sources.

delivering the highest standards of journalism, while recognizing that the *Times* could not restrict itself to print:

> "[A] decade from now and a century from now, the *New York Times* will still be the leader in its field of quality journalism, regardless of how it is distributed. These plans entail our moving from a strategy focused on the specific products we produce to one built around our audience—*a quality audience strategy*. Our goal is to know our audience better than anyone else; to meet their informational and transactional needs—by ourselves where we can; in partnership with others when necessary; and to serve them in print and digitally, continuously and on-demand."[5]

TABLE 2 Print circulation of leading US newspapers

	2015	2013
Wall Street Journal	1064	1481
New York Times	528	731
Los Angeles Times	328	433
Washington Post	330	431
USA Today	299	1424
Chicago Tribune	266	368
New York Post	245	300
New York Daily News	228	360
Newsday	217	266
Minneapolis Star Tribune	184	228
Houston Chronicle	169	231
Arizona Republic	164	286
Denver Post	156	214
Cleveland Plain Dealer	153	216
Newark Star-Ledger	144	180
Tampa Bay Times	141	241
Boston Globe	140	172
Philadelphia Inquirer	138	185
Chicago Sun-Times	118	185

Source: Alliance for Audited Media.

This strategy required focusing upon a single title: the *New York Times*. Between 2007 and 2013, NYT sold nine local television stations, its WQXR radio station, the Regional Media Group of 16 local newspapers, and the *Boston Globe*, which was sold for 93% less than the $1.1 billion the NYT had paid for it in 1993. The Paris-published *International Herald Tribune* became the global edition of the *New York Times*.

This focusing upon the *Times* reflected the unique status of the newspaper in terms of its national and international distribution and unrivalled reputation for journalism. *Times*' journalists had earned more than twice as many Pulitzer prizes as any other newspaper. Its columnists, including Nicholas Kristof, Thomas Friedman, Maureen Dowd, and Nobel-Prize-winning economist Paul Krugman, were leading commentators on current issues.

Meanwhile, the NYT's revenues continued the decline that had commenced in 2005 when revenues had peaked at $3.4 billion. Reduced print sales of newspapers were one factor, but a much bigger one was the collapse of advertising revenues. Table 3 shows the NYT's revenues. Cost economies were sought through eliminating duplication (e.g., moving to a single printing plant), closing loss-making businesses, outsourcing a wide range of functions, and eliminating jobs. Table 4 shows overall financial performance.

TABLE 3 The New York Times Company's revenues, 2009–2017

	2017	2016	2015	2014	2013	2012	2011	2010	2009
Total revenues	1676	1555	1579	1589	1577	1595	2323	2394	2440
of which									
—Advertising[a]	559	581	639	662	667	712	1222	1300	1336
—Subscription[b]	1008	881	852	837	824	795	942	932	937
of which									
—Digital only	340	233	199	169	149	n.a.	n.a.	n.a.	n.a
—Other[c]	109	94	89	89	86	88	160	162	168

Notes:

[a] Advertising revenues were 57% print and 43% digital in 2017. In 2014, the corresponding proportions were 73% and 27%.

[b] Company renamed as "subscription revenues." Subscription revenues (previously called "circulation revenues") are revenues from subscriptions to print and digital products and single-copy and bulk sales of print products (which represent approximately 10% of these revenues).

[c] Principally syndication revenues.

TABLE 4 New York Times Company, Inc.: Selected financial data for 2010–2017

	2017	2016	2015	2014	2013	2012	2011	2010
Revenues	1676	1555	1579	1589	1577	1595	2323	2393
Operating costs	1488	1411	1393	1484	1412	1441	2093	2137
Operating profit	112	102	137	92	156	104	57	23
Interest expense, net	20	35	36	54	58	63	85	85
Post-tax income from continuing operations	7	26	63	33	57	164	(40.2)	109
Post-tax income from discontinued operations	(1)	(2)	—	(1.1)	7.9	(27.9)	—	—
Net income	4	29	63	33	65	136	(40)	109
Property, plant, and equipment	640	597	632	666	713	773	1085	1157
Total assets	2100	2185	2418	2566	2573	2807	2883	3286
Total debt and lease obligations	250	247	431	650	683	697	698	996
Stockholders' equity	897	848	827	726	843	662	506	656
ROE (%)	0.5	3.5	8.1	4.2	8.6	23.2	(6.9)	17.3
Debt/equity ratio	0.22	0.23	0.34	0.89	0.81	1.05	1.38	1.52
Operating margin (%)	8.7	6.5	8.6	5.8	9.9	6.5	2.4	1.0
Current assets to current liabilities	1.80	2.00	1.53	1.90	3.36	2.45	1.46	1.7
Employees (full-time equivalent)	3789	3710	3560	3588	3529	5363	7273	7414

Source: New York Times Company, Inc. 10-K reports.

Searching for an Online Business Model

The NYT was quick to recognize the potential—and the threat—of the Internet. The NYTimes.com website launched in 1996 focused upon adapting content from the print edition for Web display. It was free to access and aimed to attract paid advertising.

In 1999, New York Times Digital was established to manage the websites of the *Times*, *Globe*, and *International Herald Tribune* and to launch other online initiatives. It was an independent business unit within NYT in the belief that, if NYT was to be a serious player in cyberspace, it needed to have the people, systems, and culture of a dot.com start-up rather than of a century-old newspaper.

Despite success in attracting online visitors, digital advertising revenues were disappointing, and executives increasingly recognized the need to charge users. The first online subscription, launched in 2005, was Times Select, which charged an annual $49.95 fee for premium content and access to online archives. It generated a mere $10 million a year and was discontinued in 2007. Then in March 2011, NYT introduced its "metered access" model, which allowed Web visitors free access to a limited number of articles each month, after which a paid subscription was required. By the end of 2011, there were 390,000 paid digital subscribers to subscription packages and, by the end of 2014, there were 910,000 digital-only subscribers.

Although digital advertising revenues grew—by 2014, digital accounted for 27% of NYT's advertising revenues—this growth failed to offset declining revenues from print advertising. Moreover, despite huge improvements in the content and accessibility of NYTimes.com, it was the digital-only upstarts that were leaders in innovation and user features.

Some industry observers saw the hybrid model—print and digital editions—as doomed to failure. Rick Wartzman, Director of the Drucker Institute, argued: "Dead-tree editions must immediately yield to all-internet operations. The presses need to stop forever, with the delivery trucks shunted off to the scrapyard." He pointed to the *Huffington Post* (owned by AOL) as the model for an online newspaper.[6] Eric Schmidt, chairman of Google, suggested that users would only be willing to pay for unique content, as most news was available from multiple online sources. For online newspapers to generate adequate advertising revenues, they needed to offer targeted advertising linked to customized content—for this, Google was an essential partner for the newspaper companies.[7]

The 2014 Innovation Report

One of the main initiatives of the incoming CEO, Mark Thompson, was to initiate a fundamental rethink of NYT's digital strategy. In May 2014, a committee headed by A.G. Sulzberger delivered a report entitled "Innovation" that provided a wrenching diagnosis of NYT's weaknesses in "the art and science of getting our journalism to readers."

Among the many challenges the report identified were as follows:

- Creating a fully digital newsroom. With Jeff Bezos funding advanced technological development at the *Washington Post*, BuzzFeed and Yahoo increasing their investments in news gathering and delivery, and new entrants such as Flipboard and First Look Media entering the business—NYT was being left behind. The report noted: "The newsroom has historically reacted defensively by watering

down or blocking changes, prompting a phrase that echoes almost daily around the business side: 'The newsroom would never allow that.'"[8]

- Fewer and fewer readers were accessing the *Times* through the NYTimes.com home page. The NYT needed to take its journalism to the reader: at NYT "the story is done when you hit publish. At the *Huffington Post*, the article begins its life when you hit publish."[9] Taking NYT journalism to readers' "digital doorsteps" would require eliminating the NYT's traditional division between the news side and the business side of the newspaper.
- Exploiting the archive: "We have an archive of 14,723,933 articles extending back to 1851 that can be resurfaced in useful or timely ways. Yet we rarely think to mine our archive, largely because we are so focused on news and new features."[10]
- Experimentation—especially in finding new ways of packaging existing content that would be conducive to sharing on social networks.
- Personalization: "using technology to ensure that the right stories are reaching the right readers in the right places and the right times. For example, letting you know when you are walking past a restaurant we have just reviewed."[11]
- User-generated content. The *Times*' audience is its "most underutilized resource. We can count the world's best-informed and most influential people among our readers. And we have a platform to which many of them would be willing and honored to contribute."[12]

The report was intended for a handful of senior managers; however, the leak of the report to *BuzzFeed* triggered an explosion of anguish and debate within the company. Harvard's Nieman Lab reported: "One [NYT employee] admitted crying while reading it because it surfaced so many issues about *Times* culture that digital types have been struggling to overcome for years."[13] For A.G. Sulzberger the leak was ". . . a moment of panic . . . suddenly it felt like our dirty laundry was being aired." Yet, within days, the report had become a rallying cry: "You couldn't read that report and think that the status quo was an option."[14]

The Innovation Report was a prelude to a flurry of top management and organizational changes. A week after the distribution of the report, the executive editor of the *Times*, Jill Abramson, was fired. She was replaced by the *Times*' managing editor Dean Baquet. One factor in her dismissal was her perceived opposition to the greater integration of the news and business sides of the NYT—a key objective of CEO Thompson, but contrary to the long tradition of the independence of the *Times*' journalism. As A.G. Sulzberger later explained: ". . . the most important thing is to have real strong protections around the editorial independence of our newsroom," but the separation of the news and the business sides of the newspaper had created a barrier to change. "We regarded the members of our technology team and product team as being on the business side . . . the folks who were building our website weren't able to talk to the people who were filling the website with great journalism each day."[15]

Jill Abramson's dismissal was followed by the elimination of about 100 positions in the company's newsroom: "the most extraordinary collection of talent, of human knowledge, that has ever left the *New York Times* in a single day," according to reporter David Dunlap.[16] Under Dean Baquet, the newsroom leadership was reorganized around four deputy editors. The major emphasis was on promoting and bringing in talent that could propel the *Times*' digital efforts—especially within mobile communication. Essential to this effort was the integration of journalism and technology. According to Clifford Levy, who won two Pulitzers at the *Times* before being promoted to the assistant managing editor overseeing digital platforms: "Working hour by hour, day by

day, with software developers and designers and product managers—to me that was a real revolution, a kind of epiphany. . . This is standard operating procedure in Silicon Valley, but it was radical here."[17]

Our Path Forward

Having established a consensus around the imperative of a digital future for the *Times*, it was easier to articulate a longer-term strategy for the company. In October 2015, the top management team released "*Our Path Forward*," a public document intended "to share our challenges, our progress and our plans for moving forward."[18] At the foundation of the NYT's strategy was the principle of "offering content and products worth paying for," which put quality journalism at the heart of NYT's strategy and established that NYT's basic revenue model was user fees. If producing quality content was the dominant priority, it needed to be financed. To do this, the company set the goal of doubling its digital revenues over the next five years to more than $800 million—which in turn meant more than doubling the number of digital readers, most of whom would be accessing news content on their phones and mobile devices.

Expanding the number of users and building a revenue-generating relationship with users required the following:

- "*We will continue to lead the industry in creating the best original journalism and storytelling*." This involved not only maintaining NYT's corps of journalists but also infusing them with the technical and design skills needed to deploy new storytelling tools. Initiatives included increased emphasis on visuals, including videos, and increased customization to allow fully personalized content delivery.
- "*We will continue to develop new audiences and grow the Times as an international institution*." The international expansion offered a huge potential for subscriber growth: this strategy required both greater global integration and greater customization to meet the needs of specific audiences in different countries.
- "*We will improve the customer experience for our readers, making it easier to form and deepen a relationship with the Times*." The goal was to make the *Times* an essential part of its readers' lives. This required that: "Every moment in the reader's journey, from visiting for the first time to registering as a user to becoming a lifelong subscriber, must be frictionless, intuitive, and responsive. To support this goal, we will improve each stage of the experience."
- "*We will continue to grow digital advertising by creating compelling, integrated ad experiences that match the quality and innovation of the Times*."
- "*We will continue providing the best newspaper experience for our print readers and advertisers, while carefully shifting time and energy to our digital platforms*."

Digital Initiatives

These aspirations were reflected in a host of digitally based new initiatives launched between 2014 and 2017. Behind these initiatives was the Beta Group—an in-house digital development group housed on the 9th floor of the NYT's building. Most of the new products were apps for mobile platforms. These included *NYT Now*, a mobile app

aimed at younger readers, and *NYT Cooking*, a hugely successful mobile app allowing access to the *Times*' library of over 17,000 recipes, which became the model for additional apps covering real estate, crosswords, health and fitness, and TV and movie reviews. In 2015, NYT launched a virtual reality app. Emailed newsletters were another means by which NYT communicated with users. By mid-2017, it had 50 different newsletters with 13 million subscribers. *Wirecutter*, acquired in 2016, was another website and mobile app providing reviews of consumer products.

T Brand Studio, was established in 2014 to create "native advertising"—stories appearing on NYT websites and apps that were sponsored by advertisers. One of the first of these paid posts was an article on women prison inmates, accompanied by video interviews with several of them, designed to generate interest in Netflix's *Orange is the New Black* series. T Brand Studio developed into a fully-fledged marketing and creative services agency—partly through acquiring Hello Society, a leader in influencer marketing, and Fake Love, an experiential design studio with a focus on virtual reality and augmented reality.

Looking to the Future

By 2018, the NYT had made substantial progress in implementing a clearly articulated strategy based upon an intelligible vision for the future and a realistic understanding of the challenges it faced. The decline in its revenues had been halted and its presence in digital media transformed.

Yet still doubts remained. The dominance in digital media of Google and Facebook and the power exerted by the other digital giants—Apple, Amazon, Microsoft, and Netflix—placed all digital media companies in a subservient position, while the pace of technological change gave born-digital upstarts an advantage over the former giants of print media. This was especially apparent in digital advertising revenues whose growth since 2014 had been modest.

A report by a NYT newsroom working party in early 2017, "*Journalism that Stands Apart*," made it clear that NYT still had far to go: "For all the progress we have made, we still have not built a digital business large enough on its own to support a newsroom that can fulfill our ambitions," the report's authors wrote, and "too often, digital progress has been accomplished through workarounds . . . our work too often reflects conventions built up over many decades, when we spoke to readers once a day."[19]

Among the report's criticisms were:

- Too many stories that "lack significant impact or audience" or were "little different from what can be found in the freely available competition."
- Stories "dominated by long strings of text" because reporters "lack the proper training to embed visuals contextually."
- The need for greater engagement by readers through "email newsletters, alerts, FAQs, scoreboards, audio, video, and forms yet to be invented."
- The success of NYT's *Cooking* and *Watching* (TV and movie reviews) apps needs to be extended with "more big digital bets" in features—especially features that are designed to provide useful guidance to readers (as *The Wirecutter* and *Smarter Living*).
- The need for better organization around themes of reader interest: "High-priority coverage areas are spread across multiple desks . . . Our health care coverage, for example, spans five departments and multiple print sections."

- The needs to improve hiring and training processes to ensure "the right mix of skills in the newsroom to carry about the ambitious plan for change."
- "Lack of clarity over who are we writing for". The success of sections like *Cooking* and *Well* is because they were designed with specific audiences and story forms in mind. Other parts of the *Times* are unclear who their target audience is. Every section should specify what the team will cover, the target audience, how that audience will experience the section's reporting, and what kinds of skills the group will need.

Even if the NYT could achieve the same level of comfort and flexibility with the world of digital media as its "digitally native" competitors such as BuzzFeed, Vox, Mashable and Vice Media, the financial performance of these companies gave cause for concern. During 2017, all the on-line news providers struggled to grow revenues.[20] Although the NYT's user subscription-based business model provided insulation from the slim returns to content providers from digital advertising, this placed even greater weight on the imperative of generating new subscriptions.

If NYT were to be unable to generate the revenues needed to finance the high costs of high-quality, global journalism, would it need to explore alternative business models? One possibility was that NYT could become a social enterprise: either explicitly, through enlisting charitable support or establishing an endowment that could support news gathering and analysis, or implicitly, through seeking a wealthy backer (as in the case of the *Washington Post* with Jeff Bezos).[21] Alternatively, should NYT view itself less in the news business and more in the intelligence business, using its news gathering and analytical capabilities to supply customized intelligence to corporations and government agencies?

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Case 12 Tesla: Disrupting the Auto Industry

Tesla's strategy was no secret: in 2006, chairman and CEO, Elon Musk, had announced:

"So, in short, the master plan is:

- Build a sports car
- Use that money to build an affordable car
- Use that money to build an even more affordable car
- While doing above, also provide zero emission electric power generation options
- Don't tell anyone."[1]

By July 2017, Tesla had implemented its master plan. Phase 1 ("Build a sports car") was realized with the launch of its Roadster in 2007. Phase 2 ("Use that money to build an affordable car") began in 2013 with the launch of Model S. Phase 3 ("Use that money to build an even more affordable car") was realized with the launch of Model 3 in July 2017. Providing "zero emission electric power generation options" involved, first, establishing SolarCity, which installed solar power systems; then, merging SolarCity with Tesla in 2016. The only deviation from Musk's original plan had been the introduction of Model X—an SUV derivative of Model S—in 2015.

Tesla's "Master Plan, Part Deux," which would take Tesla into integrating solar energy generation with storage, expanding to "cover the major forms of terrestrial transport" (including heavy-duty trucks), fully autonomous driving, and vehicle sharing, was outlined by Elon Musk on July 20, 2016:

"So, in short, Master Plan, Part Deux is:

- Create stunning solar roofs with seamlessly integrated battery storage
- Expand the electric vehicle product line to address all major segments
- Develop a self-driving capability that is 10X safer than manual via massive fleet learning
- Enable your car to make money for you when you aren't using it."[2]

The success of Tesla's strategy was reflected in the company's stock market performance. Despite incurring huge losses, Tesla's stock market capitalization was $55 billion on August 2, 2018. By comparison, Ford Motor Company—which in 2017 had produced 6.6 million vehicles compared to Tesla's 103,184—was valued at $39 billion. General Motors, which sold 9.6 vehicles in 2017, had a market valuation of $53 billion. The optimism that supported Tesla's valuation reflected the company's remarkable achievements during its short history—including the acclaim that has greeted its first four models of car—and investors' faith in the ability of Elon Musk to realize his mission "to accelerate the advent of sustainable transport by bringing compelling mass market electric cars to market as soon as possible."[3]

This case was prepared by Robert M. Grant assisted by Nitish Mohan. ©2019 Robert M. Grant.

Indeed, Musk's vision for Tesla extended beyond revolutionizing the automobile industry: Tesla's battery technology would also provide an energy storage system that would change "the fundamental energy infrastructure of the world." The installation of the world's biggest lithium-ion battery at a South Australian wind farm on December 1, 2017 was a landmark in this ambition.[4]

For a technology-based, start-up company, Tesla's strategy was unorthodox. This was most clearly manifest in the scale of its ambition: not only did Musk wish to establish Tesla as one of the world's leading car companies, he also wanted to "accelerate the world's transition to sustainable energy" and, if this wasn't enough to save Planet Earth, to develop pace travel in order to make homo sapiens an interplanetary species.[5] Rather than minimizing risk and investment requirements by outsourcing to other companies, Tesla was the world's most vertically integrated automobile supplier. Instead of keeping tight control over its proprietary technology, Tesla had opened its patent portfolio to its competitors.

During the first half of 2018, Tesla's strategy was facing some major challenges. Operational difficulties in ramping up the production at its both Fremont CA auto plant and Nevada battery plant, the "Gigafactory," had prevented Tesla from reaching its target production of 5000 Model 3s per week until the final week of June—six months behind schedule. With capital expenditures in 2018 expected to reach $2.5 billion spent in 2018, cash burn remained a problem, despite Tesla's forecast that it would achieve a positive free cash flow in the second half of 2018. Meanwhile, competition in electric vehicles (EVs) was intensifying: the main feature of the March 2018 Geneva Motor Show was the number of new EVs being launched by the world's leading automakers.[6] Was Tesla's strategy consistent with its capability and the emerging situation in the world vehicle market and with the resources and capabilities available to Tesla?

Electric Cars

The 21st century saw the "second coming" of electric cars. Electric motors were widely used in cars and buses during the 1890s and 1900s, but by the 1920s they had lost out to the internal combustion engine.

However, most of the world's leading automobile companies had been undertaking research into electric cars since the 1960s, including developing electric "concept cars," and, in the early 1990s, several had introduced EVs to California in response to pressure from the state. The first commercially successful electric cars were hybrid electric vehicles (HEVs), the most successful of which was the Toyota Prius, 10 million of which had been sold by January 2017. The first all-electric, battery-powered cars (BEVs) were the Tesla Roadster (2008), the Mitsubishi i-MiEV (2009), the Nissan Leaf (2010), and the BYD e6 (launched in China in 2010), In addition, there were plug-in hybrid electric vehicles (PHEVs), which were fitted with an internal combustion engine to extend their range. General Motors' Chevrolet Volt, introduced in 2009, was a PHEV.

Other types of BEVs included highway-capable, low-speed, all-electric cars such as the Renault Twizy and the city cars produced by the Reva Electric Car of Bangalore, India. Others were for off-highway use. These "neighborhood electric vehicles" (NEVs) included golf carts and vehicles for university campuses, military bases, industrial plants, and other facilities. Global Electric Motorcars, a subsidiary of Polaris, was the US market leader in NEVs. Most NEVs used heavier, but cheaper, lead–acid batteries.

Electric motors had very different properties from internal combustion engines—in particular, they delivered strong torque over a wide range of engine speeds, thereby

dispensing with the need for a gearbox. This range of torque also gave them rapid acceleration. Although electric motors were much lighter than internal combustion engines, the weight advantages were offset by the need for heavy batteries, which were also the most expensive part of an electric car, costing from $10,000 to $25,000.

Electric cars were either redesigns of existing gasoline-powered models (e.g., the Ford Focus Electric and Volkswagen's e-Golf) or newly designed electric cars (e.g., the Tesla Roadster and Nissan's Leaf). Complete redesign had major technical advantages: the battery pack formed part of the floor of the passenger cabin, which saved on space and improved stability and handling due to a lower center of gravity.

Predictions that electric cars would rapidly displace conventionally powered cars proved false. In 2017, global registrations of plug-in EVs totaled 1,223,600. Although this was a 58% increase on 2016, this still represented just 1.3% of total sales of cars and light trucks, with China the world's largest market. Forecasts of the growth in demand varied substantially—most predicted that the market share of EVs would be between 7% and 20% by 2025. Much depended on government policy: by March 2018, eight countries had announced their intention to ban the sale of new gasoline and diesel-powered vehicles at some date between 2020 and 2040. The countries where EVs had gained the highest market shares were those with the most generous government incentives. Thus, in Norway, where plug-in EVs had a 39% market share in 2017, incentives included exemption from purchase taxes on cars (including VAT), road tax, and fees in public car parks, and the right to use bus lanes. In the US, federal government incentives included development grants to the manufacturers of EVs and batteries, and tax credits for purchases of EVs. Several countries had announced a phasing out or scaling back of subsidies. The US federal government's $7,500 tax credit to buyers of Tesla cars would be halved In January 2019 and phased out a year later. The impact of lower fiscal incentives would be offset, in part, by EVs falling prices relative to conventional vehicles—in addition to lower battery prices, EVs benefitted from fewer components than conventional vehicles.

"Range anxiety"—the threat of running out of battery charge—was seen as a major obstacle to the market penetration of battery-powered EVs. However, by 2018, these concerns were dissipating. Improved battery technology had doubled the average range of EVs between 2015 and 2018. Secondly, the density of charging stations was increasing rapidly. By the end of 2017, there were 210,000 publicly available charging points in China, 43,000 in the US, 33,000 in Netherlands, and 24,000 in Germany.

Although battery-powered electric propulsion was the leading zero-emission technology available to automakers, it was not the only one: fuel cells offered an alternative. Several automakers had developed prototypes of fuel-cell cars, but in 2018 only Toyota was producing cars powered by fuel cells. The dependence of fuel cell vehicles on a network of hydrogen fueling stations was the main disadvantage of this technology.

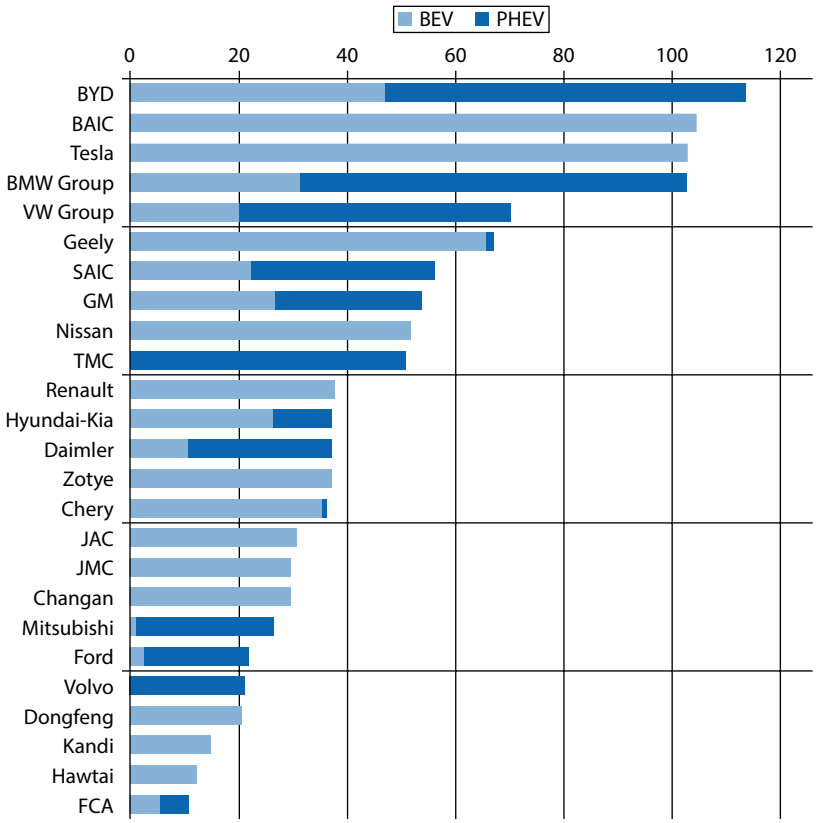
Figure 1 shows the leading suppliers of EVs in 2017.

Tesla Motors, 2003–2018

Elon Musk is a South-African-born, serial entrepreneur, who moved to Canada at the age of 17. He cofounded Zip2, a developer of Web-based publishing software, and then PayPal, which earned him $165 million when it was acquired by eBay. His next start-ups were SpaceX, which became the world's leading satellite launch company, and SolarCity, which aimed to become "the Walmart of solar panel installations."

Tesla Motors Inc., founded in 2003, was named after Nikola Tesla, a pioneer of electric motors and electrical power systems. In 2004, Musk became its lead shareholder

FIGURE 1 World's leading suppliers of plug-in electric vehicles, 2017 (thousands of units)



and chairman, and then took over as CEO in 2008. Two years later, Tesla Motors' shares began trading on the NASDAQ market.

The Tesla Roadster, launched in 2007, was a sensation. Priced at $109,000, it was a luxury sports car that could accelerate from 0 to 60 miles per hour in less than four seconds and had a range of 260 miles on a single charge. It immediately became a favorite among Hollywood celebrities and Silicon Valley entrepreneurs. The battery pack was built by Tesla from Panasonic lithium-ion cells, car assembly was by Lotus in the UK, and the car was delivered direct to the final customer without using dealers. Although only 2500 Roadsters were produced between 2007 and 2012, the huge publicity the car attracted is credited with changing public perceptions of electric cars.

Model S was the first car Tesla built at the GM-Toyota joint-venture plant in Fremont, California, a plant that Tesla acquired from Toyota for $42 million. It was a four-door, five-seater sedan, with an additional seat to accommodate two children. It offered different battery sizes (up to 85 KWh). It's launch price was between $52,400 and $72,400. The car's electronics featured a touchscreen that controlled almost all the car's functions, eliminating the need for most knobs and other controls. Its software allowed the driver to adjust the car's suspension and steering behavior and allowed Tesla to remotely monitor performance, diagnose problems, and provide updates to expand functionality. In order to control its interface with customers, Tesla rejected the traditional franchised dealer model, and set up its own directly managed retail showrooms, mainly in downtown locations. This direct sales model conflicted with the laws of several US states. These laws required retail sales of automobiles to be undertaken

through independent dealers. As a result, Tesla was unable to open retail outlets in six states, including Texas.

The Tesla S was launched in 2013 to a torrent of rave reviews. It won *Motor Trend*'s Car of the Year for 2013, *Consumer Reports* gave it the highest customer satisfaction score for any car it had tested, and it was awarded the National Highway Traffic Safety Administration's highest safety rating.[7]

Model X, a sedan/SUV crossover built upon the same platform as Model S, was launched in September 2015 with a base price of $79,500. Like the Model S, it received superlative reviews; however, the difficulties that Tesla encountered in its manufacture, including problems with its falcon-wing doors, were warning signs of the much bigger manufacturing problems that would plague the Model 3.

Model 3 would take Tesla from being a niche producer of luxury cars to a volume manufacturer. However, this transition tested Tesla—and its leader—to the limit. Introduced in July 2017, problems at the Gigafactory in ramping up the production of battery packs and assembly difficulties at Fremont resulted in Tesla's target of producing 10,000 vehicles a week being deferred to December 2018. During the latter half of 2017, just 2686 Model 3s were produced; during the first half of 2018, this increased to 28,215. By the middle of 2018, very few of the more than 400,000 people who has each paid $1,000 for a place on the waiting list for a Model 3 had received their car.

In addition to EVs, Tesla has two other lines of business:

- Energy Storage. Tesla's Powerwall was a 7 kWh battery pack for home storage of electrical power. In 2016, this was superseded by the 13.5 kWh Powerwall 2. During 2017, Tesla's Powerwall accounted for almost 80% of power storage installations under California's Self-Generation Incentive Program.[8] Tesla also produced large-scale battery storage for grid storage. Tesla's power storage batteries are particularly useful for bridging asymmetries in the demand and supply of power from solar and wind generation.
- Solar Energy Systems. SolarCity installs solar energy systems in residential and commercial properties. Most of the residential systems are supplied on 20-year leases that allow customers to take advantage of federal tax credits. In October 2016, Tesla introduced its Solar Roof—photovoltaic glass roofing tiles produced at Tesla's Gigafactory 2 in Buffalo, New York.

During the first half of 2018, energy generation and storage revenues were $784m compared to $6092m from automotive.

Tesla's Technology

Tesla regards itself as a technological leader within EVs:

> Our core competencies are powertrain engineering, vehicle engineering, innovative manufacturing and energy storage. Our core intellectual property includes our electric powertrain, our ability to design a vehicle that utilizes the unique advantages of an electric powertrain and our development of self-driving technologies. Our powertrain consists of our battery pack, power electronics, motor, gearbox and control software. We offer several powertrain variants for our vehicles that incorporate years of research and development. In addition, we have designed our vehicles to incorporate the latest advances in consumer technologies, such as mobile computing, sensing, displays, and connectivity.[9]

However, for the most part, Tesla's cars combined existing automotive, electric motor, and battery technologies with few radically new innovations. In electric motors, for example, the technology was mature and Tesla's advances (including several of its patents) related to refinements in design (e.g., a liquid-cooled rotor). However, the critical technical advantages of Tesla's electric motors related to their overall integration within the electrical powertrain and the software that managed that system.

Batteries

Electrical storage was the most formidable challenge facing electrical vehicle manufacturers. The lithium-ion battery was first introduced in 1991 and became the dominant type of battery for rechargeable mobile devices. By 2005, all the automakers developing EVs had adopted lithium-ion batteries because of their superior power density. To power electric cars, lithium-ion cells are combined into modules, which are then assembled into battery packs. Battery packs are controlled by software that monitors and manages their charging, usage, balancing, and temperature.

Each of the leading automakers partnered with a battery producer to develop and supply batteries for their electric cars: Renault–Nissan with NEC, General Motors with LG Chemical, BMW with Samsung SDI. With the exception of Chinese EV giant, BYD, the automakers were unwilling to backward integrate into lithium-ion batteries.

Although most of the automakers sought to develop customized lithium-ion cells for their battery packs, Tesla used the standard 18650 lithium-ion cell, which it bought from Panasonic. This off-the-shelf lithium-ion cell is used in laptop computers and many other portable devices. Because of their small size, a large number were required. The Tesla S with an 85 kWh battery pack uses 7104 lithium-ion battery cells in 16 modules wired in series and weighs 1200 lb (540 kg). By contrast, the Nissan Leaf uses a much bigger cell: its 24 kWh battery pack comprises 192 cells in 48 modules and weighs 403 lb (182 kg).[10]

The paradox of Tesla's battery technology is that in using standard lithium cells, it has achieved superior performance from its battery packs. The key to this lies in Tesla's configuration of its cells and modules and the software for managing battery performance.

In July 2014, Tesla announced an agreement with Panasonic to build the world's biggest manufacturing plant for lithium-ion batteries. The "Gigafactory," built near Reno, Nevada, has the capacity to manufacture 35 gigawatt-hours of battery cells and 50 gigawatt-hours of battery packs. The $5 billion cost was shared between Tesla and Panasonic, with the state of Nevada providing $1.25 billion in grants and tax breaks. Tesla's goal was to ensure sufficient supply of battery packs for its cars and to reduce the cost of batteries from about $260 per kilowatt-hour in 2015 to $120 by 2020.

During 2017, the Gigafactory began producing a new cell, the "2170," which referred to the cell's size: 21 mm in diameter and 70 mm long, compared to the 18650 with its 18 mm diameter and 65 mm length. The new cell was used in the Model 3 whose 50 kWh battery pack comprises 2976 of these cells. Shortly afterward, Samsung SDI launched its own battery pack using the larger 2170 cell.

At the end of 2012, one third of Tesla's patents and patent applications related to batteries and another 28% to battery charging.[11] Tesla's battery patents were mainly concerned with the configuration of batteries, their cooling and temperature management, and systems for their monitoring and management. Although Tesla closely monitored developments in battery chemistry, very few of its patents related to the design or chemistry of lithium-ion cells. Hence, amidst excitement over Tesla's

prospects in supplying battery packs for stationary power storage, *Scientific American* noted that, first, Tesla possessed no breakthrough technology in batteries and, secondly, it was doubtful whether Tesla's cost advantage in battery packs was sustainable.[12]

Battery Charging

In battery charging, Tesla's Supercharger stations offered—until recently—the world's fastest recharging of EV batteries: delivering up to 120 kWh of direct current directly to the battery, a 30-minute Supercharger permitted about 170 miles' driving, whereas a 30-minute charge from a standard public charging station would allow about 10 miles' driving. The speed of the Supercharger is a result of the architecture of Tesla's car battery packs, the high-voltage cables that feed the battery, and the computer system that managed the charging process. In June 2015, Tesla had 64 patents relating to its charging system.

At the beginning of March 2018, Tesla had 480 Supercharger stations in the US and 698 elsewhere. The total number of public charging stations in the US was about 21,000.

There were two competing technical standards for fast charging: the CHAdeMO standard, supported by Nissan, Mitsubishi, and Toyota and the SAE J1772 standard, supported by GM, Ford, Volkswagen, and BMW. Tesla's proprietary system was not compatible with either: hence, to use the large number of CHAdeMO and SAE charging stations, Tesla owners needed special adapters. In the US in January 2018, the Tesla's 390 Supercharger stations were outnumbered by 1651 CHAdeMO and 1438 SAE charging stations—though Tesla possessed the greatest number of charging points.

The different networks of charging stations had different systems of payment. In the US, the biggest network of fast-charging stations was owned by ChargePoint, which required users to purchase an annual subscription. Networks of charging stations were also operated by electricity providers: in China, the leading provider of charging stations was the State Grid. In Europe, the Ionity network was backed by BMW, Mercedes, Ford, and Volkswagen. In 2018, several European charging networks were introducing ultra-fast 350 kW chargers.

Self-Driving Cars

Tesla's first version of Autopilot, its semi-autonomous driving system, was offered as an option for the Tesla S in October 2013. Then from October 2016, all Tesla vehicles were equipped with the sensing and computing hardware for future fully-autonomous operation, with the software becoming available as it developed. Tesla was a latecomer to autonomous driving: other car manufacturers began testing driverless systems several years earlier: Ford and BMW since 2005, VW since 2010, GM since 2011. By 2018, at least 30 companies were developing their own driverless car systems. While Tesla's rivals were experimenting with fully autonomous driving systems, Tesla's emphasis was on gaining experience through collecting and analyzing the vast quantities of data generated by its Autopilot system on its entire fleet of cars: "The aggregate of such data and learnings, which we refer to as our 'neural net,' is able to collect and analyze more high-quality data than ever before, enabling us to roll out a series of new autopilot features in 2018 and beyond."[13] As a result of its distinctive approach, assessments of different companies' progress in bringing fully autonomous driving to market viewed Tesla as lagging behind its rivals: Navigant Research placed Ford, GM, Renault-Nissan, and Daimler as leaders, with Tesla a distant 12th.[14] *Investor's Business Daily* observed that: "Tesla largely has eschewed self-driving alliances and acquisitions in favor of developing its Autopilot feature, which has some autonomous capabilities. Although

the company has amassed a vast trove of data from Autopilot usage that could improve performance, Tesla is now seen at risk of falling behind other carmakers on rolling out full autonomy."[15] Tesla's preference for radar over lidar sensors was viewed as a particular weakness of its self-driving technology.

Tesla Opens Its Patents

Early on, Tesla had rigorously protected its intellectual property. Its 2012 Annual Report stated:

> Our success depends, at least in part, on our ability to protect our core technology and intellectual property. To accomplish this, we rely on a combination of patents, patent applications, trade secrets - including know-how employee and third party non-disclosure agreements, copyright laws, trademarks, intellectual property licenses and other contractual rights to establish and protect our proprietary rights in our technology.[16]

Hence the amazement when, on June 12, 2014, Elon announced:

> Tesla Motors was created to accelerate the advent of sustainable transport. If we clear a path to the creation of compelling electric vehicles, but then lay intellectual property landmines behind us to inhibit others, we are acting in a manner contrary to that goal. Tesla will not initiate patent lawsuits against anyone who, in good faith, wants to use our technology.[17]

The announcement was followed by a flurry of speculation as to the reasons why Tesla would want to relinquish its most important source of competitive advantage in the intensifying battle for leadership in EVs. Tesla's motivation was unclear. Was it Elon Musk's personal commitment to saving the plant from fossil-fueled vehicles, or a calculated judgment that Tesla's interest would be better served by speeding the development of an EV infrastructure rather than by holding on to its proprietary technologies? Certainly, diffusing its technology would help Tesla influence technical standards and dominant designs with regard to batteries, charging technology, electric powertrains, and control systems. Writing in the *Harvard Business Review*, Paul Nunes and Joshua Bellin emphasized Tesla's strategic position as an innovator within its ecosystem; by adopting an open-source approach to its technology, Tesla could strengthen its centrality within its ecosystem.[18]

Professor Karl Ulrich of Wharton Business School emphasized the limits of Tesla's patent portfolio: "I don't believe Tesla is giving up much of substance here. Their patents most likely did not actually protect against others creating similar vehicles."[19] This observation was reinforced by the recognition that Tesla's patent portfolio was smaller than those of most major auto companies (Table 1). Tesla's strengths were much more in the know-how needed to combine existing technologies in order to optimize vehicle performance, design, add-on features, and the overall user experience. Figure 2 shows the annual numbers of patents received by Tesla.

Tesla's Future

During the first half of 2018, Tesla's dominant priority was resolving its operational difficulties. At its Nevada Gigafactory and Fremont auto plant, employees worked

TABLE 1 Automobile companies' numbers of patents relating to electric vehicles, 2012 and 2014

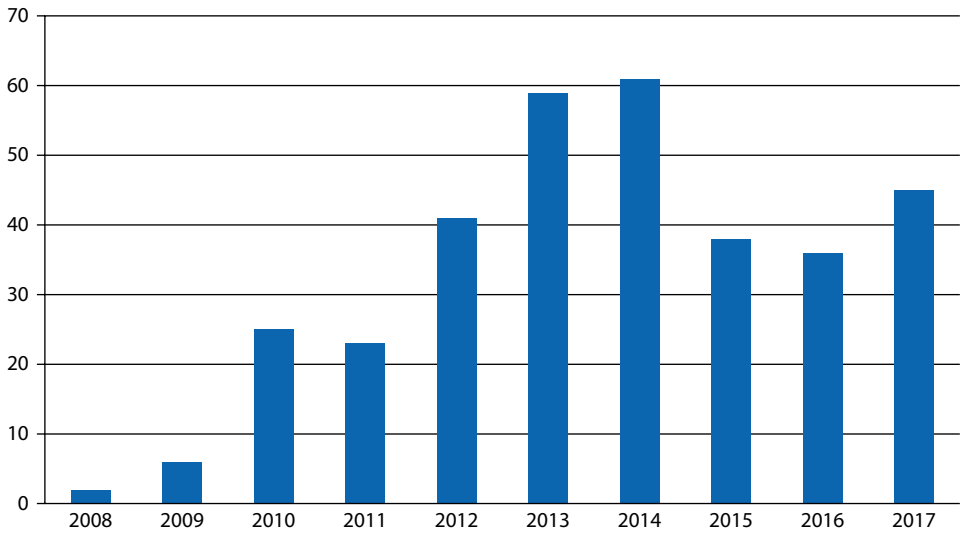
Company	2012[a]	2014[b]
General Motors	686	370
Toyota	663	201
Honda	662	255
Ford	446	459
Nissan	238	102
Daimler	194	48
Tesla Motors	172	84
Hyundai	109	n.a.
BMW	41	n.a.

Notes:

[a] M. Rimmer, "Tesla Motors: Intellectual Property, Open Innovation, and the Carbon Crisis," Australian National University College of Law (September 2014).

[b] Includes only patents that specifically mention "electric vehicles." http://www.ipwatchdog.com/2015/09/02/electric-vehicle-innovation-america-tops-japan/id=61178/, accessed March 8, 2018.

FIGURE 2 Patents awarded to Tesla Motors Inc. and Tesla Inc., 2008–2017



desperately to boost the output of its battery packs and Model 3 cars. During most of June, Elon Musk was sleeping at the factory amidst "production hell" as the company struggled to achieve its weekly production target of 5000 Model 3s. Unless Tesla could deliver cars to its waiting list of about 360,000 customers, there was a risk they might request refunds on their $1000 deposits and defect to the other major automakers that were launching new models of BEVs. Table 2 shows just a few of some of the BEVs available early in 2018. Competition in the sector would continue to

TABLE 2 Tesla's rivals: Some of the battery-electric cars available in March 2018

Model (base model)	Type	Base price	Range
Tesla 3	5-seat compact sedan	$35,000	220 miles
Tesla X90D	Crossover SUV	$93,500	257 miles
Tesla S70	5-seat +2 compact sedan	$72,700	234 miles
Nissan Leaf	5-seat compact sedan	$29,990	150 miles
GM Chevrolet Bolt	5-seat compact sedan	$36,620	238 miles
Kia Soul EVi	subcompact, crossover SUV	$32,250	90 miles
Smart Fortwo (Daimler)	2-seat city car	$25,750	80 miles
Mitsubishi i-MiEV	4-seat sub-compact sedan	$23,845	80 miles
BMW i3	5-seat compact sedan	$42,400	114 miles
Ford Focus Electric	5-seat compact sedan	$29,120	73 miles
FIAT 500e	5-seat compact sedan	$32,995	84 miles
Jaguar I-PACE	Crossover SUV	$69,500	240 miles
BYD e6	5-seat compact sedan	$35,000	250 miles

increase—all the world's major automakers were committed to increasing the number of BEV models they offered. Moreover, several of the world's leading producers of BEVs—BYD, BAIC, and ZD, in particular—had yet to establish themselves in Western markets.

Given these short-term priorities and the financial constraints that Tesla faced, the company might have been expected to limit the scope of its longer term projects. However, during summer 2018, Tesla showed little sign of moderating its ambitions. Internationally, it sought to broaden its presence in Europe and Asia. It was expected to announce a European Gigafactory to manufacture battery packs and assemble Tesla cars. In China, where Tesla has 15 retail outlets, it planned to open an assembly plant by 2020. Tesla's vertical integration strategy makes international expansion especially challenging—it has to develop its own retail network and charging network and, if it is to produce within its overseas markets, it also needs to develop battery plants. At the end of June 2018, it had just 347 retail stores worldwide.

Tesla was also committed to introducing a heavy-duty truck. The Tesla Semi, with a hauling capacity of 40 tons and range of 500 miles, will begin production in 2019. By January 2018 preorders had been received from Walmart, PepsiCo, Anheuser-Busch, Sysco, UPS, DHL, and several other companies.

However, Elon Musk's ambitions were not limited to Tesla. His other major venture, SpaceX, is world market leader in commercial space launches. The successful launch of its massive Falcon Heavy rocket on February 6, 2018 reinforced its leadership. Other ventures include the Boring Company, which develops innovative solutions to tunneling in order to relieve urban congestion, the "hyperloop" project to develop ultra-high-speed intercity travel, and Neuralink, which seeks to combine human and artificial intelligence.

Conventional business wisdom dictates that sustaining diverse and grandiose long-term ambitious while grappling with short-term operational difficulties is a recipe

for disaster. However, Elon Musk had the capacity to deploy his long-term vision to inspire faith in Tesla that dwarfed short-term fears. For example, the impact of Tesla's dismal 4th quarter results announced on February 7, 2018 was dwarfed by the publicity arising from SpaceX's launch of a Tesla Roadster into space just the day before. Fortunately, the quarterly financial data released on August 1, 2018 did not require such gimmickry: despite a net loss of $718m, Tesla's smaller-than-expected cash outflow and projections of profitable upcoming quarters reinforced hopes that Tesla could become a profitable volume manufacturer of cars.

Appendix

TABLE A1 Tesla Inc.: Selected financial data

($ millions)	2017	2016	2015	2014	2013	2012	2011	2010
Revenues	11,758	7000	4046	3198	2013	413	204	117
Gross profit	2222	1599	923	882	456	30	62	31
SG&A expenses	2477	1432	922	603	286	97	52	46
Research & development	1378	834	718	465	232	274	209	93
Operating profit	(1632)	(667)	(717)	(187)	(61)	(394)	(251)	(147)
Net profit	(1961)	(674)	(889)	(294)	(74)	(396)	(254)	(154)
Cash	3368	3393	2286	1906	846	458	255	100
Total assets	28,655	22,664	8067	5849	2417	1114	713	386
Total long-term obligations	15,348	10,923	4145	2772	1075	450	298	93
Cash flow from operating activities	(61)	(124)	(525)	(57)	265	(264)	(114)	(128)
Cash flow from investment activities	(4419)	(1416)	(1674)	(990)	(249)	(207)	(176)	(180)

TABLE A2 Extracts from Tesla's income statements: Years 2015, 2016, and 2017; and first six months of 2018

($ millions)	2018 (to June 30)	2017	2016	2015
Revenues				
Automotive sales	5680	8535	5589	3432
Automotive leasing	413	1107	762	309
Total automotive revenues	6093	9641	6351	3741
Energy generation and storage	784	1116	181	14
Services and other	534	1001	468	291
Total revenues	7411	11,759	7000	4046

(Continues)

TABLE A2 Extracts from Tesla's income statements: Years 2015, 2016, and 2017; and first six months of 2018 (*continued*)

($ millions)	2018 (to June 30)	2017	2016	2015
Cost of revenues				
Automotive sales	4621	6724	4268	2640
Automotive leasing	241	708	482	183
Total automotive cost of revenues	4863	7433	4750	2823
Energy generation and storage	706	875	178	12
Services and other	767	1229	472	287
Total cost of revenues	6336	9536	5401	3123
Gross profit	1075	2222	1599	924
Operating expenses	2294	3855	2267	1640
Loss from operations	(1218)	(1632)	(667)	(717)
Interest income	10	20	9	2
Interest expense	(313)	(471)	(199)	(119)
Other (expense) income, net	13	(125)	111	(42)
Loss before income taxes	(1508)	(2209)	(746)	(876)
Net loss	(1527)	(2241)	(773)	(889)

Notes

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Case 13 Video Game Console Industry in 2018

In 2018, the video games consoles—dedicated hardware devices for playing video games in the home—were in their eighth generation. Yet, although this generation had begun six years previously with the launch of the Nintendo Wii U followed by Sony's PlayStation 4 and Microsoft's Xbox One, uncertainty remained over the future direction of their industry and the strategies to pursue.

The first six generations of consoles had established a clear consensus as to key success factors in this industry. The strategies of all the leading players were focused upon establishing market leadership that would then generate network effects in gaining support both from users and game developers. To establish early market leadership, the key was to target early adopters—the "hardcore gamers," who were primarily males aged between 12 and 35.

However, the conventional wisdom had been upset by the outcome of the last round of competition. Among seventh-generation consoles, the winner had been Nintendo. Its Wii was a technologically unsophisticated, easy-to-use console targeted at the casual user. It had outsold the more technologically-advanced machines from Sony and Microsoft. Moreover, while Sony and Microsoft had focused upon turning their consoles into multifunctional home entertainment devices, the Wii was a dedicated games console.

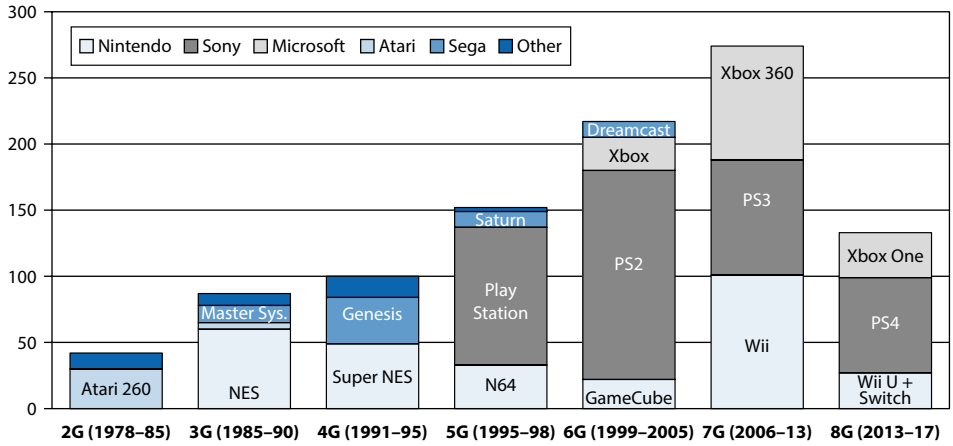
At the same time, the home video game console was under threat. Increasingly game playing was shifting to mobile, multifunctional devices, such as smartphones and tablet computers.[1] Not only were the console makers facing competition from alternative hardware platforms, they were grappling with the rising power of video games publishers. The inability of the console makers to enforce restrictive licensing conditions on the games publishers had greatly weakened the network effects that had caused consumers and developers to converge toward the market-leading console platform.

History of the Video Game Industry, 1972–2018

The history of the video game console comprised a series of product generations, each lasting between five and seven years and each defined primarily by the power of the microprocessors used by the consoles (Figure 1).

This case was prepared by Robert M. Grant assisted by Nitish Mohan. ©2019 Robert M. Grant.

FIGURE 1 Global sales of video game consoles by product generation (millions of units)



The First and Second Generations, 1972–85: The Atari Era

The home video game market emerged during the 1970s as an extension of arcade video games. The first generation of home video consoles were dedicated to a single game. The second generation of players featured interchangeable cartridges. Industry pioneer Atari with its Atari 2600 unleashed a craze for video games driven by *Space Invaders* (released in 1979) and *Pac-Man* (1981). Atari failed to protect its proprietary technology and was overwhelmed by competition from suppliers of Atari-compatible consoles and a flood of unauthorized games from independent software developers.

The Third Generation, 1985–90: The Nintendo Era

Nintendo, the leading Japanese supplier of arcade video games, released its Nintendo Entertainment System (NES) home video console system in Japan in 1983 and two years later in the United States. By 1988, Nintendo held 80% the US market, due to hugely popular games such as *Donkey Kong*, *Legend of Zelda*, and *Super Mario Brothers* created by its legendary games developer, Shigeru Miyamota.

Nintendo's market dominance and huge profits rested upon its tight control over the development, manufacture, and distribution of games. Cartridges incorporated a security chip that ensured that only cartridges manufactured by Nintendo could run on the NES. Nintendo charged game publishers a 20% royalty and a manufacturing fee of $14 per cartridge. The minimum order—10,000 cartridges for the Japanese market and 50,000 for the US market—had to be paid in advance. Any game developed for the NES could not be released on a competing system for two years.

By 1991, Nintendo's sales exceeded $4.4 billion, its stock market value exceeded that of Sony, and about one-third of US and Japanese households owned an NES.

The Fourth Generation, 1991–95: Sega versus Nintendo

Sega, like Atari and Nintendo, began in arcade games. In October 1988, it launched its 16-bit Genesis home video system in Japan and next year in the United States. With the introduction of *Sonic the Hedgehog* in 1991 and, with strong support from independent games developers, sales of Genesis took off.

Nintendo countered with its 16-bit Super-NES, in September 1991. Sega's bigger library of 16-bit titles (by 1993 it offered 320 games, compared to 130 for Nintendo) allowed it to take a small lead in the European and US markets; however, Nintendo continued to dominate in Japan.

The Fifth Generation, 1995–98: Sony PlayStation

The launch of Sega's 32-bit Saturn console in November 1994, was quickly followed by Sony's introduction of its PlayStation console, the result of a six-year development effort led by Ken Kutaragi, Sony's video game guru. Like Saturn, PlayStation used CD-ROMs rather than cartridges. Sony's advantages included its strong brand, global distribution capability, and content from its movie division. It was able to offer a suite of high-quality games, the result of close technical, creative, and marketing collaboration with leading games developers. Sega's ill-coordinated Saturn introduction paled beside PlayStation's well-orchestrated, big budget launch, which was preceded by pre-launch promotion that fueled a buzz of anticipation within the gamer community. Meanwhile, Nintendo attempted to recapture market leadership by leapfrogging Sony in technology. Its 64-bit N-64 console was released in June 1996 at a low price ($199 compared to $299 for a PlayStation), but its cartridge system was more costly and less flexible than Sony's use of CD-ROMS, allowing Sony to offer a much bigger library of games, many of which targeted niche markets segments.[2] By 1998, PlayStation was the undisputed market leader.

The Sixth Generation, 1999–2005: Sony versus Microsoft

With the sixth generation of consoles, was led by Sega with its Dreamcast console in November 1998, followed by Sony's PlayStation 2 (PS2) two years later. With massive processing power, cinematic-style graphics, a DVD player, and the potential for internet connectivity, the PS2 was a huge advance over the orogonal PlayStation, and aspired to be a multifunctional entertainment device. However, its technical complexity created problems both for the supply of key components and the development of new games. As a result, the launch of the PS2 was marred by a shortage of consoles and a lack of new games.

A few months later, Microsoft entered the market with its Xbox, which featured an internal hard disk, a 733 MHz processor, 64 MB of memory, a DVD player, an ethernet port, and the hit game *Halo*. In 2002, Microsoft launched Xbox Live, which allowed online interactive gaming and the direct downloading of games.

Nintendo, with its GameCube console, was the last to join the new generation of consoles.

By 2004, Sony was the clear market leader, with Microsoft a strong second in the United States and Europe, and Nintendo a strong second in Japan. Saga withdrew from the console market in 2002, in order to focus on game development.

The Seventh Generation, 2006–12: Nintendo's Renaissance

Microsoft's Xbox 360 released on November 25, 2005 represented a shift in market positioning: while the original Xbox emphasized processing power and focused on hardcore gamers, Xbox 360 emphasized versatility, design, and a multiplicity of entertainment and online capabilities.

Sony's PS3 was launched on November 11, 2006 after a long delay, caused by Sony's technological ambitiousness—notably its decision to make the PS3 the flagship for the

Blu-ray DVD drive and its adoption of an advanced microprocessor developed jointly with IBM and Toshiba. The huge development and high component cost of the PS3 resulted in Sony incurring a loss on every unit sold.[3] In addition, the complexity and high cost of developing games for the PS3 meant that there were few games that fully exploited its technical capabilities.

Nintendo's Wii console, also in November 2006, was a game changer. Despite its technological modesty—it lacked the speed and graphical capabilities of the PS3 and Xbox 360 as well as a hard drive, DVD player, and ethernet port—it featured a remote, wand-like controller that was sensitive to a range of hand movements. This allowed Wii to be used for a variety of new sport and exercise applications—*Wii Fit* was one of the biggest-selling titles of 2008–10. The accessibility, ease of use, and cheapness of the Wii (it retailed at $250, compared to $499 for the PS3) appealed to a very broad demographic group, including older people.[4]

The Eighth Generation, 2012–18

Nintendo's Wii U, launched in November 2012, was essentially an upgraded Wii. It's most innovative feature was a touchscreen controller that could also be used as the main screen itself, enabling games to be played without the need of a television. It was the first Nintendo console to support high-definition graphics, but compared with the rival offerings from Sony and Microsoft, it was a low-powered console. For example, it possessed 2 GB of memory compared to its rivals' 8 GB. By the end of 2015, 12.6 million Wii Us were sold worldwide, after which sales fell off sharply. . .

Sony's PS4 and Microsoft's Xbox One were launched in November 2013. In terms of technology, they were surprising similar: both used an AMD Octa-Core microprocessor, an AMD Radeon graphics processor, and BluRay disk reader. Yet their positioning was different. With the PS4, Sony returned to the industry's traditional focus on hardcore gamers—its tagline "4 the players" emphasized its focus on technical capabilities—notably in graphics, upgraded online services, and remote playing capability, which allowed a smartphone to be used both as a controller and as a display screen. Sony also envisaged a continual upgrading of PS4 over its intended 10-year lifespan—this would include virtual reality capability.

Microsoft's Xbox One reflected the company's "One Microsoft" strategy, which sought greater integration across the company's products and divisions. According to Microsoft's VP for hardware: "It's more than a gaming platform. We're thinking about our devices as a stage for all of Microsoft."[5] Xbox One was envisaged as a platform for a broad array of Microsoft's streaming and cloud services.

Between 2014 and 2017, Sony established a clear market lead: its PS4 outsold the Xbox One by more than two-to-one. Targeting hardcore games players gave Sony's PS4 a focus that Microsoft's Xbox lacked:

> The PlayStation 4 is a game console that was more powerful than the Xbox One at launch while also selling at a lower price. The focus was always on the games, and the ability to trade or loan your games to a friend at a time when Microsoft was pushing an innovative but poorly communicated system of digital rights and limitations. . . Microsoft wanted to sell a box that connected all aspects of your entertainment center while pulling everyone into a digital future while also ushering in a new era of motion controls with the Kinect. Raw power was less important than voice commands, and Microsoft believed that players would be willing to pay for this strange mixture of features.[6]

This difference in focus was also apparent in the two firms approach to virtual reality (VR). While Sony's Playstation VR focused on game playing, Microsoft has pursued "mixed reality" that has involved partnering with different companies in developing various VR headsets.

The big surprise of the eighth generation was Nintendo's Switch console, which was introduced in February 2017 to replace the Wii U. Switch was a hybrid device that could be used as a console linked to a TV or as a handheld, portable games player. Between February 2017 and the end of March 2018, Switch was the world's leading console selling 17.8 million units—four million more than the Wii U over its entire lifetime. Driving the Switch's sales were new games in Nintendo's *Super Mario*, *Mario Kart*, *Zelda*, and *Splatoon* franchises.

The Video Game Industry in 2018

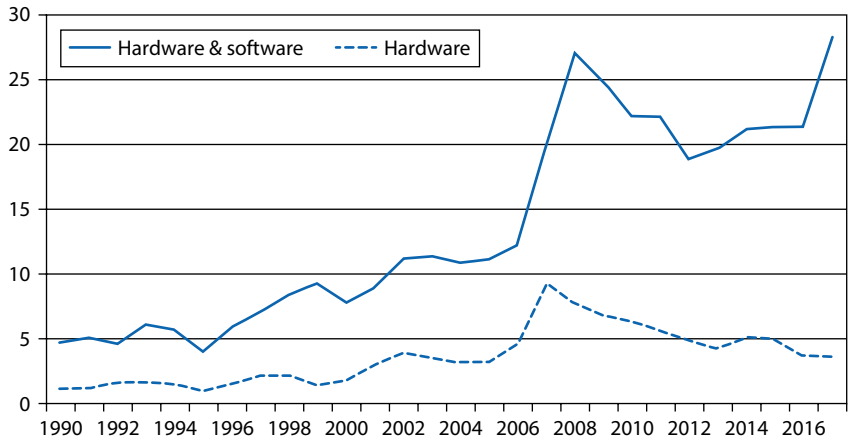
The Market for Video Games

In 2018, video games continued to be a growth industry. Worldwide sales of video game software, dedicated hardware (both consoles and handheld game players) and online content and subscription, were expected to reach $165 billion in 2018, and were likely to grow to $230 billion by 2022.[7] China was the world's biggest market, and would account for much of the growth. The United States and Japan were the other biggest markets, but would show much slower growth.

However, the industry was becoming increasingly fragmented. Video games were played on an increasingly wide variety of hardware: home video consoles, personal computers, and various mobile devices. All the recent growth had been in gaming on mobile devices—smartphones in particular. In mature markets, notably in the United States, sales of video game consoles had been in decline for several years (Figure 2). Nevertheless, video game consoles faced little prospect of total displacement. User experience had been continually enhanced by graphical realism, multiplayer online gaming, the personalization of games, 3-D visual displays, and virtual reality.

The shift in the distribution of games from boxed DVDs to downloads, subscriptions, and cloud access fostered the emergence of new business models. The online

FIGURE 2 US sales of home video game consoles and associated software ($billion)



Source: Author's estimates based upon multiple sources.

distribution of video games through console makers' websites had facilitated the sale of add-ons and accessories. In-game advertising also offered additional sources of revenue. Most video games for mobile devices were offered free and supported by advertising. Increasingly, the developers of mobile games adopted "freemium" models: the games could be downloaded for free, but additional features and enhancements had to be purchased.

E-sports, organized, multiplayer video game tournaments and competitive leagues, usually with prize money and professional players, have been a rapidly growing feature of video gaming over the past decade. Types of e-sports include first-person shooter games, multiplayer online battle arena (MOBA) games, and sports such as FIFA soccer and NBA basketball. Spectators view competitions as live audience at tournament arenas, televised tournaments, online streaming and through Twitch, and through dedicated modes for certain games. By the end of 2017, e-sports was believed to have an audience of 320 million and annual revenues of $1 billion.[8]

In terms of demographics, a major development has been the broadening user base of video game players. Once the preserve of teenage boys and young adult men, by 2017 the majority of the US population aged 18–49 played video games; even among 55- to 65-year-olds 38%, played video games. Female participation had increased strongly—especially in mobile gaming. However, gaming on dedicated consoles remained concentrated among males aged between 12 and 35. The broadening of the market had also led to its segmentation—both demographically and in terms of game genres.[9]

Software

Each video game console supplier ("platform provider") licensed third-party software companies to develop and distribute games for its system. Two types of company were involved in video game software: video game publishers, which were responsible for financing, manufacturing, and marketing video games; and video game developers, which developed the software. Publishing was increasingly dominated by a few large companies (Table 1). Typically, the software publisher submitted a proposal or a prototype to the console maker for evaluation and approval. The licensing agreement between the software company and the hardware provider gave the console maker the right to approve game content and control of the release date, and provided for a royalty payment from the software company. Game developers were paid a royalty, typically between 5% and 15%, based on the publisher's revenues from the game. The console makers also developed and published their own games, including some of the most popular titles (Table 2).

Escalating game development costs were a result of the demand for multi-featured, 3-D, cinematic-quality games that could utilize the potential of increasingly powerful consoles. Atari's *Pac-Man* released in 1982 was created by a single developer and cost about $100,000. Rockstar Games' *Grand Theft Auto V* cost an estimated $137 million to develop and was supported by a $125 million marketing budget.[10] Like movies, video games incurred substantial upfront costs and a mere few became money-spinning blockbusters. Like movies, they increasingly featured Hollywood actors and many of the most successful new releases were sequels to earlier games—this created valuable brand franchises such as *Super Mario Brothers, Grand Theft Auto, Call of Duty*, and *Halo*.

Over time, there has been a major shift in the balance of power from console makers to game publishers. In earlier generations, the console makers were dominant,

TABLE 1 Leading suppliers of video games ranked by sales of game software ($million)

Company	2017 (Q1–Q3)	2016	2014
Tencent	12,701	12,009	7211
Sony*	6642	7837	6040
Activision Blizzard	4975	6607	4409
Microsoft*	4854	6477	5023
Apple*	4764	5864	3199
NetEase	4072	4177	1586
Electronic Arts	3935	4626	4453
Google*	3039	4065	2623
Nintendo	1879	1831	2092
Bandai Namco	1737	1991	–
Nexon	1557	1564	1446
Net Marble	1553	1247	–
TakeTwo Interactive	1433	1585	978
Square Enix	1323	1666	949
Ubisoft	1245	1602	1806
Warner Brothers	1223	1606	883

Note:
*estimated.
Source: New Zoo.

TABLE 2 Top-10 console games in the United States, 2014 and 2017 (ranked by units sold)

	2017		2014	
Rank	Title/platform*	Publisher	Title/platform*	Publisher
1	*Call of Duty: WII* (PS, Xbox)	Activision Blizzard	*Call of Duty: Advanced Warfare* (PS, Xbox)	Activision Blizzard
2	*Destiny 2* (PS, Xbox)	Activision Blizzard	*Madden NFL 15* (PS, Xbox)	Electronic Arts
3	*NBA 2K18* (PS, Xbox)	Take 2 Interactive	*Destiny* (PS, Xbox)	Activision Blizzard
4	*Madden NFL 18* (PS, Xbox)	Electronic Arts	*Grand Theft Auto V* (PS, Xbox)	Take 2 Interactive
5	*Tom Clancy's Ghost Recon: Wildlands* (PS, Xbox)	Ubisoft	*Minecraft* (PS, Xbox)	Mojang
6	*The Legend of Zelda: Breath of the Wild* (Switch, Wii)	Nintendo	*Super Smash Bros.* (Wii)	Nintendo
7	*Grand Theft Auto V* (PS, Xbox)	Take 2 Interactive	*NBA 2K15* (PS, Xbox)	Take 2 Interactive
8	*For Honor* (PS, Xbox)	Ubisoft	*Watch Dogs* (PS, Xbox)	Ubisoft
9	*Injustice 2* (PS, Xbox)	Warner Bros.	*FIFA 15* (PS, Xbox, Wii)	Electronic Arts
10	*Horizon Zero Dawn* (PS)	Sony	*Call of Duty: Ghosts* (PS, Xbox, Wii)	Activision Blizzard

Note:
*No distinction is made between the different models of PS (e.g., PS3, PS4), Xbox (e.g., Xbox 360, Xbox One) or Wii (e.g., Wii, Wii U).

enforcing exclusivity and imposing heavy royalty payments on the publishers. Consolidation among publishers (caused by rising development costs) and more intense competition among the different hardware platforms have changed all that. Exclusivity ties have disappeared from most licensing contracts—by 2018, most leading games titles were cross-platform—and were often launched simultaneously on both PlayStation and Xbox. The only popular games exclusive to a single platform were typically those developed in-house by the console makers (e.g., Microsoft's *Halo*).

At the same time, game publishers were also facing new pressures. The licensing fees paid by software publishers for exclusive rights to the intellectual property of media companies and sports organizations grew substantially over the past two decades. The rights to a game based on a hit movie (e.g., *Harry Potter*) could cost several million dollars. For sports games, the major leagues (NFL, NHL, MLB, NBA, and FIFA) required an upfront payment, plus a royalty of 5–15% of the publisher's revenue from the game. The licensing fee paid by EA Sports to FIFA is undisclosed, but EA Sport's payments to the English Premier League alone amount to $85 million over 3 years.

Not only did software sales exceed hardware sales; software was responsible for virtually all of the industry's profit. The console makers followed a "razors and blades" business model: the consoles were sold at a loss; profits were recouped on software sales (both games developed internally and royalties received from third-party game publishers). The result was strongly cyclical earnings for the platform providers: the launch of a new console would result in massive cash outflows; only with a substantial installed base would the platform provider begin to recoup the investment made.

The Console Makers

For the console suppliers, the past two generations (2008–18) had been a difficult period. Their razors-and-blades model worked less well when the games were no longer exclusive to specific platforms. The loss of software exclusivity also undermined network effects: the incentives for consumers and software developers to gravitate toward the market-leading platform were weaker, and consumers had less loyalty to a particular platform.

The console makers also faced increasing competition from alternative games platforms notably smartphones and competition also came from new console platforms, notable Android consoles such as the Nvidia Shield, Mojo Micro, and Amazon's Fire TV console.

The competitive pressures were evident from the financial performance of the companies (see the Appendix). Despite being the industry leader, Sony's games division earned an overall loss during the 10-year period 2008–17. Nintendo was also unprofitable during the most recent six-year period. Although Microsoft's financial results for the Xbox were buried in the aggregated financial data it published, it appears that Microsoft's video game business accumulated billions of dollars of losses between 2001 and 2017.

One consequence of deteriorating profitability was the desire to extend product cycles. Reluctance to incur the costs of developing new models was the major motivation behind Sony and Microsoft's desire to extend the lives of their current models. Thus, rather than following Nintendo in developing an entirely new games console, both Sony and Microsoft chose to release upgrades of their existing models. In 2017, Sony released its PS4 Pro and Microsoft its Xbox One X, while continuing to market their base PS4 and Xbox One models.

Xbox One X was viewed as an attempt by Microsoft to gain technological leadership over Sony: its new machine featured superior graphics processing and ultra-high definition 4k resolution. It also committed itself to backward compatibility: both its Xbox One and Xbox One X were adapted to play games from any generation of Xbox.

However, competition among the three focused more on software than on hardware. The primary draw of the Nintendo Switch was new games in the *Mario, Legend of Zelda,* and *Splatoon* franchises—all developed by Nintendo. For Sony and Microsoft too, their exclusive., in-house games were critically important in driving demand for their upgraded models—*Uncharted 4* and *Horizon Zero Dawn* for the PS4 Pro, and new versions of *Halo, Gears of War,* and *Forza Motorsport* titles for Xbox One X.

During 2018, each of the three major console suppliers was pursuing different strategies in their quest to establish competitive advantage and enhance financial performance:

- Sony's key challenge was sustaining the global market leadership that it had held for most of the period since 1995. Its focus on the gaming community had given its strategy a clarity and focus that engendered loyalty within its two target communities: consumers and developers. Its strategy of technological leadership for its PlayStation was reinforced by complementary products and services. The PlayStation Network included PlayStation Plus, providing game patches, betas, and online multiplayer gaming; the PlayStation Store, from which games, music, and movies could be downloaded; and PlayStation Vue, which allowed TV streaming. At the end of 2017, there were 31.5 million PlayStation Plus subscribers each paying about $60 annually. The PlayStation VR headset launched in 2016 established Sony's leadership in virtual reality. Over 2 million units had been sold by the end of 2017.
- Microsoft's primary focus in 2018 was on closing the gap between itself and Sony. Its bid for technological leadership with its Xbox One X was one element of its strategy. Even more significant was its convergence of the Xbox and the PC as games platforms. During 2017 and 2018, updates to Windows 10 operating system enhanced the PC's game-playing capabilities. Simultaneously, all new and updated Microsoft-released games could be run on both Xbox and PCs. A game bought on Xbox would automatically add it to the user's Windows 10 library, and vice versa. While this upgrading of the gaming experience of the PC relative to the Xbox might reduce the incentive for PC owners to also own an Xbox, the fact remained that in March 2018 there were about 1.3 billion personal computers in the world of which almost 89% ran Windows and 37% of these ran Windows 10. Encouraging third-party developers to develop games simultaneously for Xbox and the PC could also help Microsoft overcome the Xbox's disadvantage to the PC in terms of developer support (see Table 3).
- Nintendo had demonstrated that its Wii was no one-hit-wonder: its Switch was destined to be the world's best-selling console during the early months of 2018. Like Microsoft, Nintendo was drawing upon its firm-specific strengths to offset the weaknesses of its small corporate size and limited technological resources. Nintendo's strength is its creativity that is founded upon a unique culture that combines Japanese traditions of craftsmanship with a love of fun, fantasy, and the transcendent. This culture is expressed most fully in Nintendo's highly successful games. In hardware, Nintendo's primary strength was its handheld devises: Gameboy, DS, and 3DS By creating a hybrid console/mobile device,

TABLE 3 Developer support for different gaming platforms, January 2018

	PC	PS4	Switch	Xbox One	Smartphones /Tablets	Mac
Developers currently developing for	59%	39%	36%	28%	30%	14%
Most interested in developing for	60%	30%	12%	26%	36%	20%

Note: Based on a survey of 4000 video game developers. Percentages aggregate to more than 100 because many developers work on multiple platforms.
Source: UBM, *State of the Game Industry*, January 2018.

Switch could tap a bigger market and—assuming eventual discontinuation of the 3DS—offer internal and third-party developers a single platform for game development. However, this still raised the issue of whether Nintendo needed its own hardware platform. If Nintendo's core capability was its in software—as demonstrate by the enduring appeal of *Mario, Pokémon,* and *Legend of Zelda*—should it exploit the opportunity to offer its games for the biggest available platforms—namely Android, Windows, and iOS?

Looking to the Future

The evolution of the video game industry had greatly impacted the distribution of profit among the different participants. During the 1980s and 1990s, the console makers' control over software, and the power of network effects, ensured massive profits for the market leader (first, Nintendo, then Sony).

The shift in power from the suppliers of hardware to the suppliers of software had greatly undermined network effects had meant that video games were no longer a winner-takes-all industry with a single dominant strategy for all the console makers.

The competitive dynamics of the sectors were also complicated by, the expanding number and variety of platforms for playing video games. One implication was increased market segmentation with casual games players using mobile devices such as smartphones and tablets, and consoles being the platform of choice for more intensive and sophisticated games players. Such segmentation was also apparent within dedicated home consoles: Nintendo's Wii and Switch appealed to different users than the Xbox and PlayStation.

By 2018, it seemed that attempts to position video games console as multifunctional platforms for home entertainment, communication, and home automation had made little headway.

Hence, the strategic challenge for the console makers was twofold. First, they needed to protect their position in the video games ecosystem against other participants—notably the games developers and owners of alternative platforms (such as Google, Apple, and Amazon). Here, their online, subscription-based models for distributing games and supporting multiplayer game play, were proving useful. Second, they needed to build competitive advantage vis-a-vis one another. This resulted in a quest for differentiated strategies that could deploy each company's idiosyncratic strengths.

Appendix: Financial Data for the Leading Console Makers

TABLE A1 Nintendo (year ending March 31; ¥billion)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Sales	966	1672	1838	1434	1014	648	635	572	550	504	489	1056
Operating income	226	487	555	357	171	(37)	(36)	(46)	25	33	29	178
Net income	174	257	279	229	78	(43)	7	(23)	42	17	103	140
Operating income/ average total assets (%)	19.5	27.0	31.7	21.0	10.1	(2.4)	(2.2)	(3.1)	1.8	2.5	1.9	11.5
Return on equity (%)	16.8	11.0	19.9	16.8	5.7	(4.2)	0.6	(2.0)	3.7	1.4	8.5	10.9

Source: The financial data in Tables A1, A2, and A3 is derived from the companies' annual reports.

TABLE A2 Sony corporation (year ended March 31; ¥billion)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Sales	8296	8871	7729	7214	7181	6403	5691	6682	7036	8160	7603	8544
—*of which*, Games	974	1219	1685	1512	1493	3137	750	1044	1388	1552	1650	1944
Operating income	150	475	(227)	32	200	(67)	227	26	40	294	289	735
—*of which*, Games	(232)	(124)	(87)	(83)	36	(230)	(4)	(19)	48	89	136	177
Net income	126	369	(98)	(41)	(259)	(457)	42	(128)	(126)	148	73	491
Operating income/average total assets (%)	0.6	2.9	(1.8)	0.3	1.6	(0.5)	1.6	0.0	0.3	1.8	1.7	4.0
Return on equity (%)	3.9	10.8	(3.1)	(1.4)	(9.4)	(15.6)	0.3	(4.6)	(4.1)	6.2	2.9	18.0

TABLE A3 Microsoft (year ending June 30; $billion)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Sales	44.3	51.1	60.4	58.4	62.5	69.9	73.7	77.8	86.8	93.6	85.3	90.0
—*of which*, Entertainment and devices[a]	4.29	6.07	8.14	6.42	6.22	8.16	32.44	32.10	37.67	23.7	25.0	27.4
Operating income	16.5	18.5	22.5	20.4	24.1	27.2	21.8	21.9	22.1	18.2	20.0	22.3
—*of which*, Entertainment and devices[a]	(1.28)	0.43	(1.97)	0.29	0.57	1.14	6.05	9.42	8.71	5.1	6.2	8.3
Net income	12.6	14.1	17.7	14.6	18.8	23.2	17.0	21.9	22.1	12.2	16.8	21.2
Operating income/average total assets (%)	23.6	29.3	30.9	27.2	27.8	27.9	18.0	18.8	16.0	10.6	11.0	17.6
Return on equity (%)	28.6	16.45	42.47	38.5	43.7	44.8	25.6	27.8	24.7	14.4	22.1	29.4

Note:

[a] The segment data for 2012–14 relate to "Devices and Consumer," of which "Computing and Gaming Hardware" comprises less than 25%. Segment data for 2015–17 relate to "More Personal Computing."

Notes

1. The rise of smartphones for playing video games was revealed by the success of *Angry Birds*. Launched in 2009 for the Apple iPhone, over 3 billion copies of *Angry Birds* had been downloaded by the end of 2015.
2. In 1997, the average PlayStation game sold 69,000 copies; the average N-64 title sold over 400,000 copies.
3. "Delays Likely for Sony's PlayStation 3," Financial Times (February 20, 2006).
4. Prof. Clayton Christensen discusses Nintendo's Wii strategy and its implications in: http://www.easy-strategy.com/sony-strategy.html. Accessed April 5, 2018.
5. "Xbox Is a Test for the One Microsoft Strategy," *Bloomberg Business Week* (November 21, 2013).
6. https://www.polygon.com/2017/12/8/16751740/playstation-vs-xbox. Accessed April 4, 2018.
7. https://venturebeat.com/2018/01/19/digi-capital-game-software-hardware-could-hit-170-billion-in-2018-230-billion-by-2023/. Accessed April 4, 2018.
8. "How the Owner of Esports.com Is Using the Valuable Domain He Purchased for 7 Figures," *Inc* (November 5, 2017).
9. Genres included: action games, shooter games, adventure games, role-playing games, simulation games, strategy games, and sports games.
10. Rockstar Games is a subsidiary of Take-Two Interactive Software, Inc.

Case 14 Eni SpA: The Corporate Strategy of an International Energy Major

Between 1992 and 2018, Eni had been transformed from a widely diversified, loss-making, state-owned company into an international oil and gas major with the highest market capitalization of any Italian company. Over this period, Eni had pursued a consistent, focused strategy that concentrated heavily on oil and gas exploration and production. This strategy has involved an emphasis on Africa (which accounted for more than half of Eni's oil and gas production), collaborating closely with producer countries (and their national oil companies), a vertically integrated natural gas strategy linking Eni's gas fields to its downstream markets in Europe with pipelines and liquefied natural gas (LNG) facilities (This included partnering with Gazprom, the Russian gas giant, particularly in international pipeline projects).

The strategy brought Eni considerable success—including a series of spectacular oil and gas field discoveries. These included the Kashagan oilfield in the Caspian Sea (2000), the Mamba gas fields off Mozambique (2011), and Zohr gas field in the eastern Mediterranean (2015).

However, changing circumstances had upturned many of the assumptions that had underpinned Eni's strategy. Most serious was the fall in crude oil prices during the latter half of 2014. Eni's strategy of concentrating capital investment on E&P was predicated on the belief that upstream was inherently more profitable than downstream. For over half century this had been true—but not when crude oil prices were below $50 a barrel. Eni's upstream operations were also threatened by political developments. The Arab Spring had unleashed chaos across much of North Africa and the Middle East, with Eni's two most important sources of hydrocarbons, Libya and Egypt, particularly affected. Further problems ensued from increased tensions between Europe and Russia. In December 2014, Vladimir Putin announced the cancelation of the South Stream gas pipeline from Russia to Western Europe, which was to have been built by Eni's associate Saipem.

Meanwhile, Eni's strategy of vertical integration in natural gas conflicted with the European Union's goal of creating a competitive market for gas in Europe. As a result, Eni was forced to divest most of its gas storage and pipeline businesses into a separate company, SNAM Rete.

These developments impacted Eni's top and bottom lines. Between 2012 and 2017, despite increased production of oil and gas, revenues contracted by 44% while net profits fell by 56%.

For CEO, Claudio Descalzi, Eni's difficulties presented a personal threat. Eni had long regarded itself as a pioneer of corporate social responsibility, especially in its dealings with host governments. However, allegations from the Nigerian government that

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that and Shell had paid huge bribes to Nigeria's former president and attorney-general substantial bribes to secure exploration licenses had resulted in Italian prosecutors indicting both companies and 13 of their executives—including Descalzi—in a trial that began in June 2018.[1]

The History of Eni

Mattei and State Ownership, 1953–92

In 1926, Italian Prime Minister Benito Mussolini established Azienda Generali Italiana Petroli (Agip) as a state-owned oil company. At the end of the Second World War, Enrico Mattei, a former partisan, was appointed head of Agip and instructed to dismantle this relic of fascist economic intervention. Instead, Mattei renewed Agip's exploration and, in 1948, discovered a substantial gas field in Italy's Po Valley. In 1953, the government merged Agip, Snam (gas distribution), and other state-owned enterprises to form Ente Nazionale Idrocarburi (Eni) with the task of "promoting and undertaking initiatives of national interest in the fields of hydrocarbons and natural gases." Mattei was its first chairman and chief executive.

Mattei's vision was for Eni to become an integrated, international oil and gas company that would ensure the independence of Italy's energy supplies and contribute to Italy's postwar regeneration. In doing so he became a national hero: "He embodied great visions for postwar Italy—antifascism, the resurrection and rebuilding of the nation, and the emergence of the 'new man' who had made it himself, without the old boy network."[2]

Eni's international growth reflected Mattei's daring and resourcefulness. The international oil majors, which Mattei referred to as the "Seven Sisters," controlled most oil reserves in the Middle East and Latin America. The production-sharing agreement that Mattei signed with the Shah of Iran in 1957 marked the beginning of a fundamental shift of power from the oil majors to producer governments and established Eni as the *enfant terrible* of the oil business. The agreement created a jointly owned exploration and production company headed by an Iranian chairman and with the proceeds shared between Eni and the Iranian National Oil Company. This "Mattei formula" was replicated in Libya, Egypt, Tunisia, and Algeria. Mattei also concluded a barter deal to import crude oil from the Soviet Union.

At home, Mattei built political support within Italy, principally by rescuing struggling companies to gain favor with government ministers and politicians. By 1962, Eni was "engaged in motels, highways, chemicals, soap, fertilizers, synthetic rubber, machinery, instruments, textiles, electrical generation and distribution, contract research, engineering and construction, publishing, nuclear power, steel pipes, cement, investment banking, and even education, to mention only a few."[3]

Mattei died in a plane crash on October 27, 1962 aged 56. He left a sprawling corporate empire whose strategy had been Mattei's own vision and whose integrating force had been Mattei's charisma and personal authority. Without his leadership, Eni became an instrument of government economic, industrial, and employment policies, with the boards and chief executives of Eni's subsidiaries appointed by government.[4] Eni continued to expand its oil and gas interests, but its financial performance was weak.

Privatization and Transformation, 1992–98

In 1992, under pressure to cut the public-sector deficit and reduce state intervention, prime minister Giuliano Amato appointed Franco Bernabè, a 44-year-old economist

with no line management experience, as CEO. Though lacking operational experience, Bernabè possessed a clear vision of Eni as a privatized, international oil and gas major. The corruption scandal that swept Italy in 1993 resulting in the arrest of Eni's chairman and many senior executives gave Bernabè the opportunity to implement his vision.[5] Bernabè's transformation of "Eni from being a loose conglomerate to concentrate on its core activity of energy"[6] involved divesting businesses, cutting employment, and eliminating losses.[7]

Eni's initial public offering on the Milan, London, and New York stock exchanges in November 1995 marked the beginning of a new era. The new creed of shareholder value creation encouraged further refocusing: "Eni's strategy is to focus on businesses and geographical areas where, through size, technology, or cost structure, it has a leading market position. To this end, Eni intends to implement dynamic management of its portfolio through acquisitions, joint ventures, and divestments. Eni also intends to outsource non-strategic activities."[8] The results were striking (see Figure 1). Between 1992 and 1998, Eni halved its debt, turned a loss into a substantial profit, and reduced employment by 46,000. In 1998, Bernabè departed to lead another newly-privatized giant: Telecom Italia.

Focused Development 1998–2017

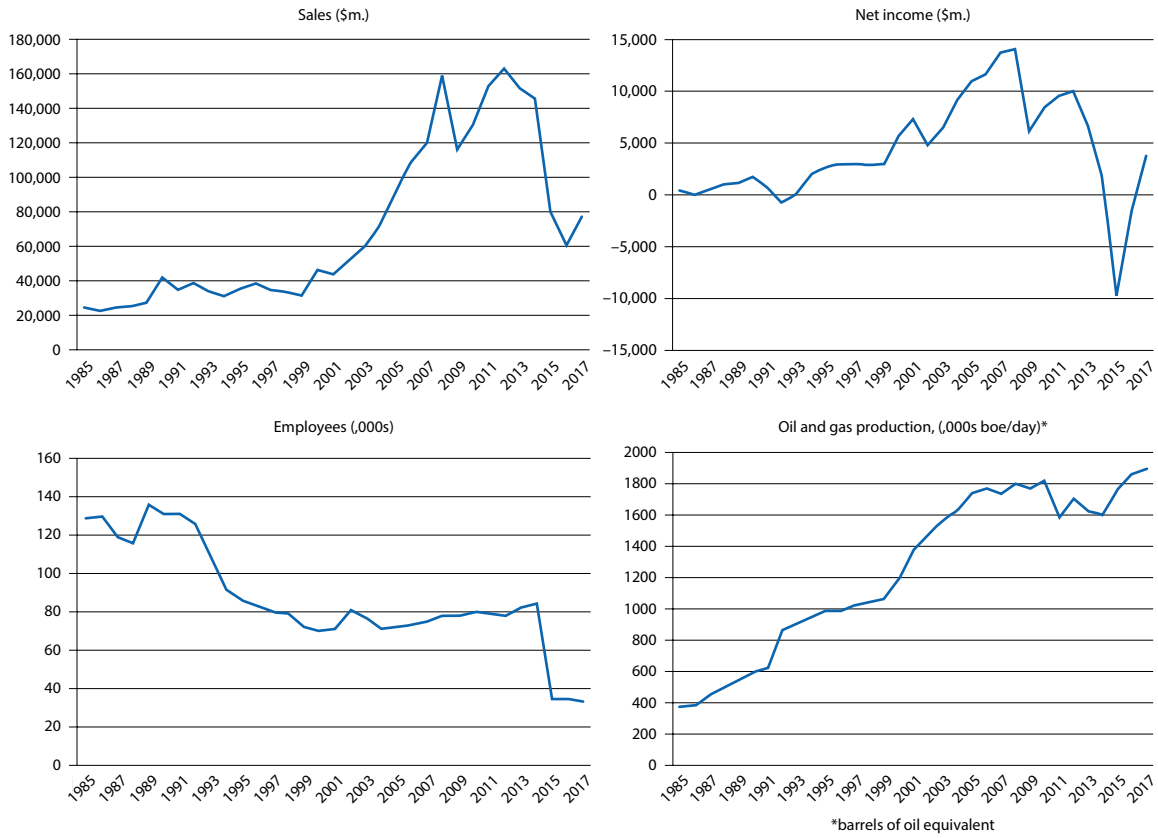
During the next 19 years, Eni was led by three different chief executives: Vittorio Mincato, a veteran line manager (1998–2005); Paolo Scaroni (2005–14), former CEO of British glassmaker Pilkington and Enel, Italy's leading electricity supplier; and Claudio Descalzi (2014–), an Eni's insider with extensive upstream experience in Africa. Yet, despite their differences, all three followed a consistent long-term strategy for Eni. The strategy resulted in steadily increasing petroleum production, an upward trend in revenues and profits, and a shrinking employee base (see Figure 1).

Upstream Strategy: "Disciplined Growth" Eni's dominant strategic goal was to grow its production of oil and gas. This was achieved primarily by organic growth—finding new oil and gas fields and more effectively exploiting existing reserves. All three CEOs were eschewed large-scale mergers and acquisitions and made only small acquisitions that could be integrated within Eni's existing upstream activities. These included British Borneo (2000, €1.3 billion), LASMO (2000, €4.1 billion), Fortum's Norwegian oil and gas assets (2002, $1.1 billion), and Dominion Exploration and Production's Gulf of Mexico oilfields (2007, $4.8 billion), Maurel & Prom's Congo oilfields (2007, $1.4 billion), and Burren Energy (2008, €2.36 billion).

Between 1998 and 2012, Eni's capital expenditure more than tripled before being cut back during 2013–16. Most went upstream where major projects included:

- Kazakhstan: Eni held 16.8% of the Kashagan oilfield—the world's biggest oil find of the past three decades and the most expensive and difficult to develop. Eni had endured huge cost overruns, an eight-year start-up delay, and fierce disputes with the Kazakh government.
- Russia: Eni built upon its status as a major, long-term customer for Soviet oil and gas to broaden its relationship with Gazprom (including joint ventures to build the Blue Stream and South Stream gas pipelines) and exploration ventures with Rosneft.
- Republic of Congo: Eni's activities in Congo were widely viewed as a model for its relationships with other with host governments. In addition to E&P projects, Eni built power plants using associated gas to provide the majority of Congo's electricity supply, a biofuel plant, and health clinics, and a vaccination program.

FIGURE 1 The development of Eni, 1985–2017



Note: BOE = barrels of oil-equivalent.
Source: Eni annual reports for various years.

- Libya: Eni built on its status as Libya's oldest and biggest petroleum partner by maintaining production despite the chaos that followed the overthrow of the Gaddafi regime.
- Two huge gas discoveries: off Mozambique, the Coral and Mamba gas fields hold about 2250 billion cubic meters (or 85 trillion cubic feet) of gas; Eni's Zohr field off Egypt holds about 850 billion cubic meters (30 trillion cubic feet) of gas. Overall, Eni replaced 150% of its reserves during 2014–16, compared to 50% for the other majors.
- Eni extended its E&P activities into Asia—including Australia, East Timor, Indonesia, and Pakistan.

A further feature of Eni's upstream strategy was its preference to take the role of operator in oil and gas fields in which it held a major stake. This allowed Eni greater control over development and costs and helped it to build its production capabilities.

In March 2018, Eni sold 10% of its giant Zohr gas field and acquired oil and gas assets in the United Arab Emirates. As it extended the geographical extent of its gas fields beyond its core Mediterranean region, it looked increasingly to LNG as a means

of monetizing these reserves. LNG allowed Eni to develop gas production far from its core European market and to expand its sales of gas to Asia. By 2018, Eni held equity interests in LNG trains in Egypt, Libya, Nigeria, Angola, Oman, Trinidad, Indonesia, and Australia.

Table 1 shows the geographical distribution of Eni's production and reserves. This distribution contrasted sharply with that of most other petroleum majors. Their major sources of hydrocarbons were North America and the Middle East. Eni's focus on Africa and the former Soviet Union reflected, first, its comparative youth and, second, its capacity to build cordial relations in countries that were viewed as difficult places to do business. Energy commentator Steve LeVine observed: "Italy's Eni continues to pioneer a successful path to survival in Big Oil's treacherous new world—get in bed, don't compete with the world's state-owned oil companies. . . Where its brethren bicker with Hugo Chavez and Vladimir Putin, Eni has found a comfortable embrace."[9] At the root of Eni's flexible approach to host government relationships was its recognition that the balance of power had shifted in favor of the producer countries. As former CEO Scaroni commented: "The fact is, the oil is theirs . . . If you are looked at as a partner, you are allowed to exploit their oil; if not, you are pushed aside."[10] Electricity supply formed one component of Eni's engagement with host countries. In Nigeria, Eni's power production supplied 10.5 million customers.

Downstream: Building the European Gas Business Eni's possession of a large downstream gas business made it was unique among the majors—few of which possessed a substantial downstream presence in gas. In Europe, distribution had historically been in the hands of regulated monopolies (e.g., British Gas and Gaz de France; in the US it was in the hands of regulated local utilities).

TABLE 1 Eni's petroleum production and reserves by region, 2017[a]

	Hydrocarbon production[b]	Liquids production[c]	Gas production[d]	Reserves[e]
Italy	134	53	442	354
Rest of Europe	189	102	476	495
North Africa	713	233	2620	2446
Sub-Saharan Africa	347	250	533	1399
Kazakhstan	132	83	264	1221
Rest of Asia	119	54	357	290
Americas	160	75	264	1006
Australia and Oceania	22	2	105	145
TOTAL	1816	852	5261	6990

Notes:
[a]Production/reserves data include both consolidated subsidiaries and equity-accounted entities.
[b]Thousands of barrels of oil-equivalent per day.
[c]Thousands of barrels per day.
[d]Millions of cubic feet per day.
[e]Millions of barrels of oil-equivalent (includes both developed and undeveloped reserves).
Source: Eni 20-F report for 2017.

Eni's downstream gas and power business was a consequence of Eni's historical roots in natural gas and its belief that its integrated gas chain was a key competitive advantage. As Paolo Scaroni observed:

> Eni has a very distinctive way of dealing with the gas in Europe. We are both upstream with our E&P division, and downstream in distribution, transport and sales. Just to give you an idea of how integrated these two divisions are, 35% of our equity gas is sold through our Gas and Power division, so we are already where most of our competitors in the midstream and downstream business of gas would like to be: integrated upstream, and generating our sales from our own equity gas . . . Then of course we have a wide portfolio of sourcing of gas, which goes from Algeria to Libya, Poland, Norway, and of course, Russia . . . There is no other player that has such a privileged position in the European market.[11]

Marco Alvera, in charge of gas supplies, explained further:

> Our gas, be it equity or contracted, comes from ten different countries. This gives us considerable diversity and security of supply. Second, we can leverage on a growing integrated LNG business. Third, we have attractive contractual structures and terms. Fourth, we have access to a very large set of transportation and storage assets across Europe from north to south and east to west. Finally, we have significant commercial flexibility that allows us to vary, on a daily basis, the amounts of gas produced or drawn from each of our contracts. Summing up, I would say that no other operator in the European gas market can claim to have the same scale and asset-backed flexibility as Eni's Gas and Power division.[12]

International pipelines linked Eni's gas supplies with its Italian distribution network. The Trans Austria Pipeline (TAP) brought Russian gas from Slovakia; the Trans Europa Naturgas Pipeline (TENP) carried North Sea gas from the Netherlands; the Trans-Mediterranean pipeline brought Algerian gas; the Green stream pipeline carried gas from Libya; the Blue stream pipeline, owned jointly with Gazprom, linked Russia and Turkey across the Black Sea. Saipem, an oilfield services, engineering, and construction company, 43% owned by Eni, built its subsea pipelines.

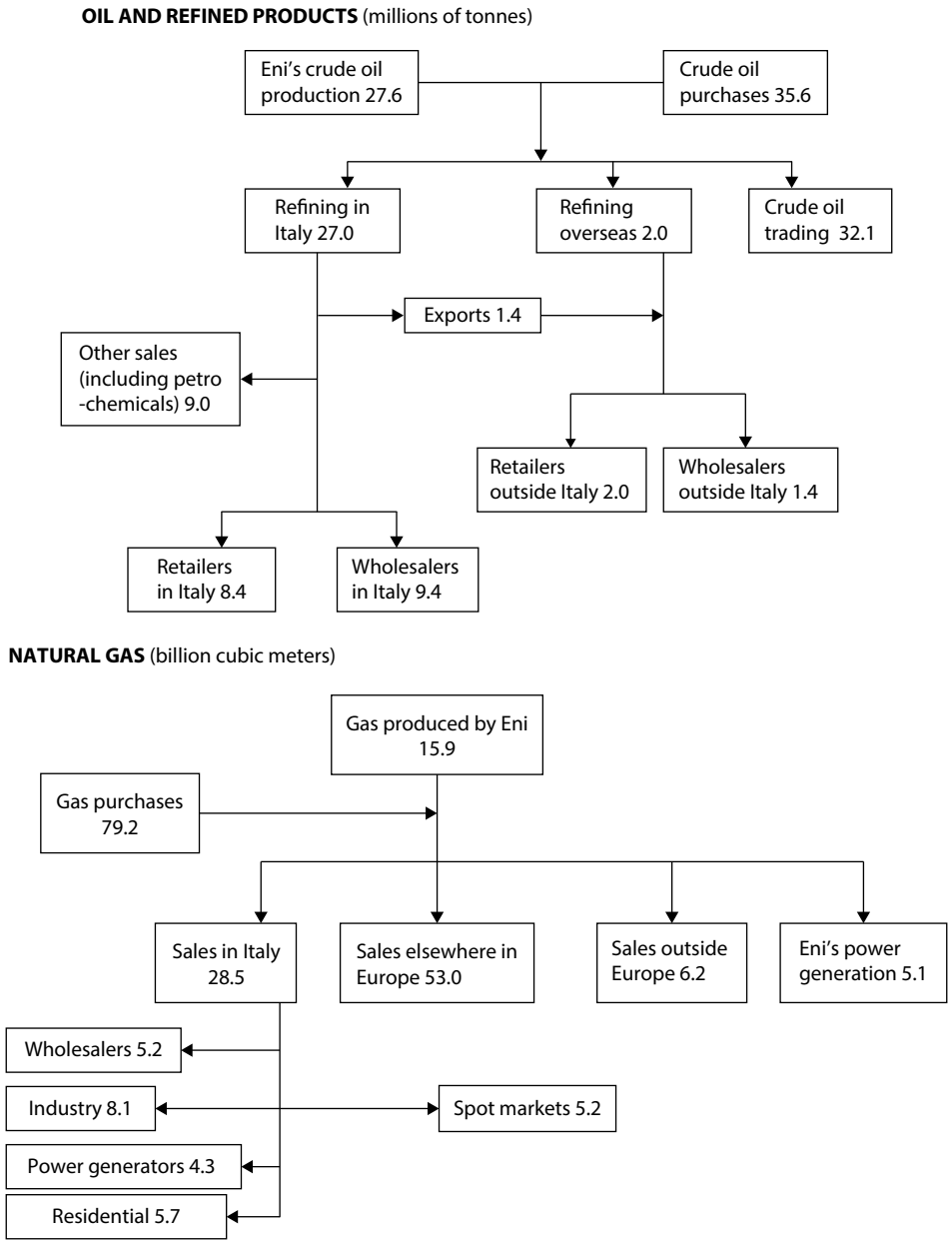
To further its goal of a competitive European gas market, the European Commission required Eni it reduce its share of the Italian downstream gas market to 50% and divest gas transmission, storage, and distribution. Eni's ownership and operation of international gas pipelines were also targeted by the European Commission: Eni was forced to sell its stakes in the TAP and TENP pipelines.

At the same time, Eni broadened its European presence by acquiring equity stakes in downstream gas companies in Spain, Germany, Portugal, Belgium, Hungary, and Croatia.

Refining, Marketing, and Chemicals In oil, Eni's downstream presence was small: the refining, marketing, and chemicals accounted for just 10% of Eni's capital employed compared to 85% for E&P. The business was based almost wholly in Italy, where Eni held 31% of the market for fuels. Yet, despite shrinking refining capacity, fewer retail outlets, and exiting downstream markets outside of Italy, the sector was a consistent loss maker and only turned an operating profit in 2015 and 2016. In chemicals, Eni lacked scale and distinctive technological advantages. After failing to find a buyer for the business, in 2012, Eni renamed its chemicals division Versalis and refocused on specialty chemicals, bio-chemicals, and collaborative arrangements with other companies.

Eni's vertical chains for oil and gas are shown in Figure 2.

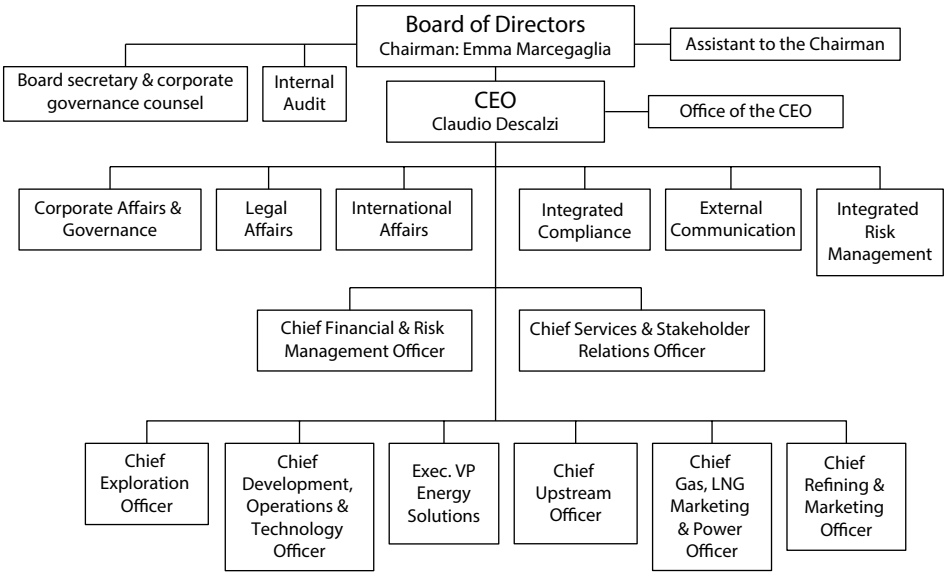
FIGURE 2 Eni's vertical chains for oil and gas



Source: Eni Fact Book.

Organizational Changes All three CEOs sought to make Eni a more integrated corporation in order to strengthen financial control, implement more rigorous internal auditing and risk management procedures, establishing a corporate-wide code of ethics and sustainability reporting system, and give Eni a clearer corporate identity. The first stage of this was transforming Eni from a holding company into a multidivisional corporation with three key divisions—exploration and production, gas and power, and

FIGURE 3 Eni's organizational structure, March 2018



Source: https://www.eni.com/en_IT/company/our-management/organizational-chart.page.

refining and marketing—and stronger corporate-level functions, especially finance and human resources.

Under Descalzi, further integration involved breaking up the divisional structure and reorganizing around activities and businesses (see Figure 3).

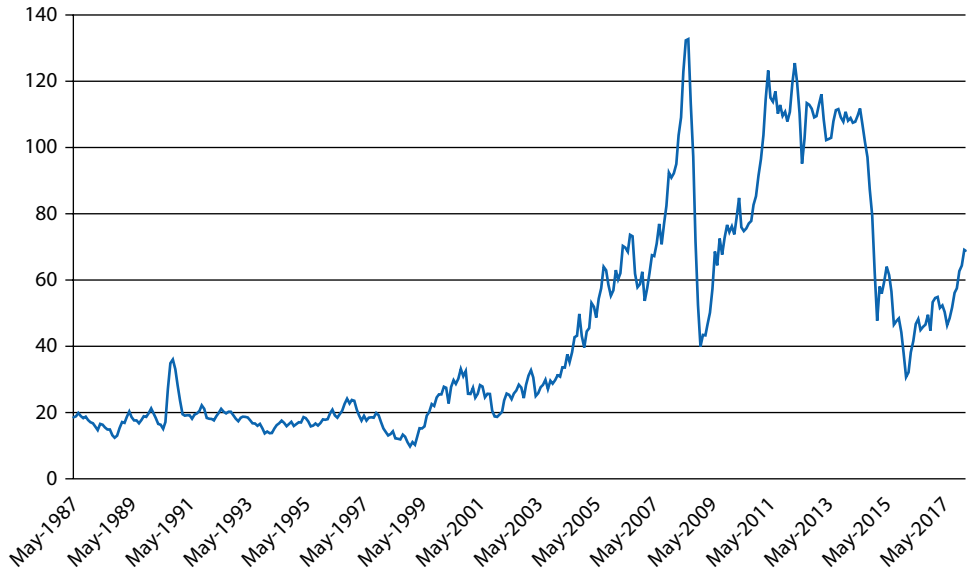
The Petroleum Industry in 2018

The petroleum sector comprises two major segments: upstream and downstream. Upstream undertakes the exploration and production of oil and gas; in downstream, gas and oil have separate value chains. In oil, the primary activities are refining and marketing (where marketing includes both wholesale and retail distribution of fuels). In gas, the primary downstream activities are distribution and marketing. Linking upstream and downstream are mid-stream activities: transportation, storage, and trading.

Exploration and Production

The rise in the price of crude from around $22 in 2002 to over $100 during 2010–14 resulted from rising world demand (especially from India and China) and limits on oil production—not because of declining reserves—but because of political instability in Libya, Egypt, Iraq, and Nigeria and underinvestment in Venezuela, Russia, and Mexico. During 2006–13, the majors earned a return on capital employed in E&P at least double what they earned in refining and marketing, reinforcing the conventional wisdom that industry's primary source of profit was oil and gas production. Hence, all the majors channeled their capital investment increasingly toward E&P.

FIGURE 4 Europe Brent Spot Price ($ per barrel)



Source: IEA.

During June 2014 to January 2016, crude declined from $115 to $28 per barrel from before recovering during 2017 (Figure 4). The main cause of falling prices was growing US production of "tight" oil as a result of horizontal drilling and hydraulic fracturing. United States 2018, the US was poised to displace Saudi Arabia as the world's biggest oil producer (Table 2).

The impact of lower oil prices on the finances of the oil majors was severe. During 2015 and 2016, the pretax profits of the majors were between 40% and 70% lower than below the average for the previous three years.

Upstream margins were also pressured by rising costs. In response, the oil and gas companies had outsourced more and more of their E&P activities. Drilling, seismic surveys, rig design, platform construction, and oilfield maintenance were increasingly undertaken by oilfield service companies. As these companies developed their expertise and their proprietary technologies, and grew through mergers and acquisitions, sector leaders such as Schlumberger, Baker Hughes, Halliburton, and Diamond Offshore Drilling emerged as powerful players within the petroleum industry.

Refining and Marketing

The main refined products in order of importance were gasoline, diesel fuel, aviation fuel, heating oil, liquefied petroleum gas (LPG), and petrochemical feedstock (e.g., naphtha). Historically, downstream was less profitable than upstream: in their refining and marketing businesses, the majors typically earned rates of return that barely covered their costs of capital. As a result, all the majors had divested refining and marketing assets to concentrate increasingly on their upstream businesses (Table 3).

The main problem in refining was excess capacity. Demand for refined products was declining in Europe and North America and new refining capacity was coming on stream in the Middle East and Asia as a result of downstream investments by the national oil companies (NOCs). Excess capacity and thin margins were also the norm in gasoline retailing.

TABLE 2 Oil and gas production and reserves by country

	Oil production (mn barrels/day)			Gas production (bn cubic meters)			Oil reserves (bn barrels)	Gas reserves (tn cubic meters)
	2016	2007	1991	2016	2007	1991	2016	2016
Saudi Arabia	11.5	10.4	8.8	103	76	35	266	8.2
Russia	10.8	10.0	9.3	605	607	600	93	31.3
US	10.0	6.9	9.1	688	546	510	44	9.3
China	4.2	3.7	2.8	117	69	15	18	3.3
Canada	3.9	3.3	2.0	155	184	105	174	2.0
Iran	3.6	4.4	3.5	167	112	26	157	33.8
UAE	3.6	2.9	2.6	56	49	24	98	6.1
Kuwait	3.1	2.6	0.2	16	13	1	102	1.8
Iraq	3.1	2.1	0.3	1	1	n.a.	150	3.6
Mexico	2.9	3.5	3.1	57	46	28	11	0.3
Venezuela	2.6	2.6	2.5	28	29	22	298	5.6
Norway	2.1	2.6	1.9	109	90	27	9	2.0
Nigeria	1.8	2.4	1.9	36	28	4	37	5.1
Brazil	2.1	1.8	0.8	21	14	6	16	0.5
Qatar	2.0	1.3	0.5	159	63	12	25	24.7
Kazakhstan	1.8	1.5	0.5	19	15	4	30	1.5
Angola	1.8	1.7	0.2	—	—	—	13	—
Algeria	1.6	2.0	1.4	79	83	53	12	4.5

Notes:
mn = million; bn = billion; tn = trillion.
n.a. = not available.
Source: BP Statistical Review of World Energy, 2008 and 2017.

Downstream Gas and Power

Unlike Eni, whose origins lay in gas rather than oil, the other petroleum majors were relative newcomers to natural gas. The rising demand for natural gas caused all the majors to reorient their upstream activities toward gas, while the privatization and liberalization of downstream gas and power markets offered opportunities to market gas to end users and to become generators of electricity. However, the downstream gas and power did not offer the petroleum majors rates of return comparable to those earned upstream.

Chemicals

Petrochemicals have similar structural features to oil refining: capital-intensive processes producing commodity products, many competitors, and a tendency toward

TABLE 3 Capital expenditures among the majors, 2003–2017

	Average annual capex ($ bn)			Capex on E&P as % of total		
	2003–2007	2008–2012	2013–2017	2003–2007	2008–2012	2013–2017
ExxonMobil	17.0	31.5	25.4	78.2	82.6	78.5
Royal Dutch/Shell	16.4	28.6	26.2	68	78.2	81.6[a]
BP	17.9	24.6	18.8	69.3	79.1	81.3
Total	12.2	24.1	23.5	72.3	65.2	69.4
Chevron	10.8	23.0	27.6	77.0	90.2	89.5
Conoco Phillips	11.4	12.1	10.5	57.9	86.7	98.7
Eni	9.6	16.0	13.7	65.7	69.8	90.2

Note:
[a]Includes upstream and integrated gas.
Source: Company annual reports.

excess capacity (mainly resulting from new investment by Asian and Middle Eastern producers). Competitive advantage in chemicals depended upon scale economies, technological advantages (such as patented products and processes), and low costs of feedstock. Low feedstock costs give Middle Eastern and North American producers a big advantage over European producers. Among the oil and gas majors, there were two distinct views about chemicals. Some, such as Eni and BP, saw chemicals as a fundamentally unattractive industry and believed that chemical plants were better run by chemical companies. Others (including ExxonMobil, Shell, and Total) viewed chemicals as part of their core business and believed that integration between refining and petrochemicals offered them significant advantages.

The Companies

The petroleum sector featured three main types of company:

- The *oil and gas majors* were characterized by their age, size, international scope, and vertical integration. Between 1998 and 2002, a wave of mergers and acquisitions resulted in the emergence of an elite group of "super majors" comprising ExxonMobil, BP, Royal Dutch Shell, Chevron, ConocoPhillips, and Total (Table 4). The extent of economic benefits from these mergers and acquisitions remains unclear. The costs of developing oil and gas fields and building LNG facilities were huge, but typically these were undertaken as joint ventures, not by single firms. The main benefits of a large portfolio of upstream projects were spreading risks and infrastructure costs and accelerating learning. However, there was little evidence that scale economies continued up to the size of companies such as ExxonMobil or Shell. The majors differed in the geographical and sector balance of their businesses. Although all the majors had shifted their capital expenditure upstream, only ConocoPhillips had gone as far as spinning off its downstream businesses entirely.
- The *national oil companies* were state-owned enterprises created by producer governments to manage their countries' petroleum reserves. In terms of

TABLE 4 Mergers and acquisitions among the petroleum majors, 1998–2017[a]

Major oil companies, 1995	Revenues, 1995 ($bn.)	Date merged	Major oil companies, 2017	Revenues, 2017 ($bn.)
Royal Dutch Petroleum	66		Royal Dutch Shell	257
Shell Transport & Trading	44	2004		
Enterprise Oil	1	2002		
BG Group plc	14	2015		
Exxon	124	1999	Exxon Mobil Corp.	233
Mobil	75			
British Petroleum	56		BP	200
Amoco	28	1998		
Arco	16	2000		
Total	28		Total	137
Petrofina	18	1999		
Elf Aquitaine	37	2000		
Chevron	31		Chevron	119
Texaco	36	2001		
Eni	36		Eni	68
Repsol	21	1999 (*de-*	Repsol	44
YPF	5	*merged 2012*)		
Conoco	15		ConocoPhillips	33
Philips Petroleum	13	2002		
Tosco	14	2001		

Note:
[a]Only includes acquisitions of companies with revenues exceeding $1 billion.
Source: Reports in the financial press.

production and reserves, they dominated the industry (Table 5). Most had been created between 1965 and 1982 by nationalizing the assets of the majors. During 2000–17, the relationship between the majors and the NOCs shifted substantially. High crude prices and growing nationalism among oil-producing countries resulted in the desire for greater control over their countries' hydrocarbon resources and bigger shares of production and revenues. In Venezuela, Bolivia, and Russia, foreign oil companies were forced to transfer upstream assets to the national government or to NOCs. Elsewhere higher taxes were imposed and participation agreements renegotiated. Different NOCs followed different strategies. Petróleo Brasileiro SA (Petrobras), Statoil, PetroChina, and CNOOC became important international players. Others, such as Saudi Aramco, Kuwait Petroleum, and Petróleos de Venezuela SA (PDVSA), invested heavily in refining and petrochemical businesses. With the help of oil service companies, many NOCs became less dependent upon the majors for technology and know-how.

- *Independents*: At each vertical stage, specialist companies played an important role. In exploration and production, companies such as Devon Energy, Anadarko Petroleum, Cairn Energy, and Woodside Petroleum were important

TABLE 5 The world's top-30 petroleum companies by size of reserves

Company	State ownership	Reserves (BOE bn)
National Iranian Oil Company (Iran)	100%	300
Saudi Arabian Oil Company (Saudi Arabia)	100%	303
Petróleos de Venezuela SA (Venezuela)	100%	129
Qatar General Petroleum Corporation (Qatar)	100%	170
Iraq National Oil Company (Iraq)	100%	134
Abu Dhabi National Oil Company (UAE)	100%	126
Petróleos Mexicanos (Mexico)	100%	111
Kuwait Petroleum Corporation (Kuwait)	100%	95
Nigerian National Petroleum Corporation (Nigeria)	100%	68
National Oil Company (Libya)	100%	51
Sonatrach (Algeria)	100%	39
OAO Gazprom (Russia)	50%	29
OAO Rosneft (Russia)	75%	23
PetroChina Co. Ltd. (China)	87%	22
BP Corporation (United Kingdom)	0%	18
Egyptian General Petroleum Corporation (Egypt)	100%	18
Exxon Mobil Corporation (US)	0%	21
OAO Lukoil (Russia)	0%	13
Royal Dutch/Shell (Netherlands)	0%	13
Petróleo Brasileiro SA (Brazil)	37%	13
Sonangol (Angola)	100%	11
Chevron Corporation (US)	0%	11
Petroleum Development Oman LLC (Oman)	100%	11
Total (France)	5%	19
ConocoPhillips (US)	0%	7
Eni (Italy)	30%	7
Petróleos de Ecuador (Ecuador)	90%	7
Petronas (Malaysia)	100%	6
Statoil (Norway)	67%	5
Suncor Energy Inc. (Canada)	0%	5

Note:
BOE: barrels of oil-equivalent.

players, some concentrated on exploring frontier regions, others on onshore production. Their operational and financial success contradicted the arguments of the majors that huge size was an essential requirement in the petroleum industry. In refining, independent refiners such as Valero in

the US, grew as the majors sold off downstream assets. (Table A4 lists the world's largest publicly listed oil and gas companies.)

Vertical Integration Strategies

Vertical integration throughout the value chain from exploration through to retailing refined products was a key feature of the strategies of majors. The rationale for vertical integration had been to secure supply and market outlets. However, in the case of oil, the development of a global infrastructure of transportation and storage, competitive markets for both crude and refined products, and the presence of specialist companies at every stage of the value chain had reduced (if not eliminated) the advantages of vertical integration. Most majors remained vertically integrated, but few had close operational linkages between their oilfields and refineries, and all had withdrawn from some stages of the value chain (e.g., outsourcing oilfield services and marine transportation). When ConocoPhillips spun off its downstream businesses into a separate company, Phillips 66, in 2011, CEO Jim Mulva stated:

> Looking forward over time, we believe that pure play companies will deliver greater value because the complex, integrated business model is no longer a strategic advantage in gaining resource and market acc… repositioning into two separate companies will be the best way to compete and grow and to attract, retain and develop talent.[13]

In gas, the situation was different. The physical difficulties of transporting and storing gas meant that monetizing gas reserves required dedicated investments in transportation, liquefaction, and storage to link production to consumption. The lack of an integrated global market in gas was indicated by the wide geographical price differences—prices in Asia were often five times those in the US. The desire to exploit their upstream gas resulted in all the majors making substantial investment in LNG.

The Outlook for Eni in 2018

Despite the profound challenges that the political and economic environment presented for Eni's long-term strategy, Claudio Descalzi's presentation of Eni's strategy for 2018–21 on March 16, 2017 was marked by confidence and optimism in Eni's future. Upstream, Eni would continue to capitalize on its strength in exploration with a target of adding 2 billion barrels of oil-equivalent within four years. Upstream expansion would be combined with strong cash generation through Eni's "dual exploration model": aggressively exploring for hydrocarbons, then making early sales of minority stakes in newly-discovered fields. Eni's upstream cash flows would be boosted by its speed in developing new fields: the company claimed that its "time-to-market" (between discovery and start-up) was 4.5 years, compared to the 9 years that was typical in the industry. During 2018–21, E&P would account for about 82% of Eni's capital expenditures.

In Gas and Power, a key theme was increased integration with upstream—especially through Eni's increased commitment to LNG. By 2012, Eni would rely heavily on its equity gas for its LNG, the principal market for which would be Asia. It's target for LNG sales was 14 million tonnes per annum by 2015.

Across the company as a whole, two strategic themes would be prominent:

- ***Environmental sustainability.*** Initiatives included reducing emissions from upstream operations, increasing the output of biofuels, expanding Versalis's efforts in biochemicals, and increasing solar and wind generation—including the use of derelict industrial sites for solar power.
- ***Digitization*** would be the basis for process improvement increasing efficiency, speed, and reliability in projects that extended from enhanced seismic imaging in exploration to applications of blockchain in trading, to developing a car-sharing scheme.

Underlying Eni's strategy for 2018–21 were several assumptions. Explicit assumptions concerned key external variables, the price of Brent crude was assumed to rise from $60 in 2018 to $72 in 2021, a US$/Euro exchange rate rising from 1.17 to 1.25 over the same period, and a refining margin of $5 per barrel. There were assumptions about Eni's own internal strengths, these are summarized in Exhibit 1.

In view of the uncertain geopolitical situation, continuing growth in the production of tight oil and gas, especially in the US, and the depressed state of Eni's home market, were these forecasts unduly optimistic, and did Eni need to reconsider the fundamentals of its strategic direction?

EXHIBIT 1
Eni's strengths

1 *Exploration: an unbeatable success*
- Eni is the unrivalled sector leader in exploration: 13 bn boe discovered since 2008 at a unit cost of about $1.2/boe.
- 2017–20 plan targets: 2–3 bn boe of new resources with 120 wells in more than 20 countries.

2 *An integrated development model*
- Quick time-to-market and low operating & production costs thanks to organic discoveries.
- High operatorship allowing for timing framework and development costs optimization.

3 *An attractive upstream project portfolio*
- +3% per year of organic production growth. New project start-ups will account for +850 kboe/day by 2020. 2019–20 cash flow at $29/boe.
- Eni's "dual exploration mobn": $9bln of resources sold since 2013.

4 *The relaunch of the G&P business*
- G&P: structural breakeven in 2017; 2017–20 cumulative operating cash flow at € 2.6 b.
- Growing LNG portfolio player integrated with upstream: 10 MTPA by 2025.

5 *A value-creating downstream business*
- Refining margin breakeven at $3/bbl in 2018.
- Versalis: €1.3 b of cumulative operating cash flow in 2017–20.

6 *A robust but flexible financial strategy*
- Low leverage (net debt/equity) at <20% pro-forma Zohr and Mozambique deals by end of 2016.
- CAPEX and dividend coverage at $60/bbl by 2018.

7 *A competitive and transparent distribution policy*
- Progressive distribution policy in line with underlying earnings growth and scenario.
- For 2017, we confirm our commitment to pay a full cash dividend of €0.8 per share.

Source: https://www.eni.com/en_IT/investors/strategy/enis-strengths.page (Accessed May 8, 2017).

Appendix

TABLE A1 Eni's financial highlights, 2009–2016 (€billions unless otherwise indicated)

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Exchange rate ($/€)	1.394	1.326	1.393	1.285	1.328	1.329	1.11	1.107	1.13
Net sales from operations	83.2	98.5	109.6	127.1	114.7	109.8	72.3	55.8	71
Operating profit	12.1	16.1	17.4	15.2	8.9	7.9	(3.1)	2.2	8.0
Adjusted operating profit	13	17.5	17.9	20.7	12.6	11.6	1.1	(0.2)	5.8
Net profit	4.4	6.3	6.9	7.8	5.1	1.3	(8.8)	(1.5)	3.4
Adjusted net profit	5.2	6.9	7.0	7.3	4.4	3.7	0.8	(0.3)	2.4
Net cash from operating activities	11.1	14.7	14.4	12.4	11.0	15.1	11.6	7.7	10.1
Capital expenditures	13.7	13.9	13.4	13.5	12.8	12.2	11.3	9.2	9.0
R&D expenditure	0.29	0.29	0.27	0.2	0.18	0.17	0.18	0.16	0.19
Total assets at year-end	117.5	131.9	142.9	140.2	138.3	146.2	139	124.5	115
Shareholders' equity (including minority interests)	46.1	51.2	55.5	62.4	61.0	62.2	57.4	53.1	48.1
Short- and long-term debt	24.8	27.8	29.6	24.2	25.6	25.9	27.8	27.2	24.7
Leverage	0.46	0.47	0.46	0.24	0.25	0.22	0.29	0.28	0.23
Net capital employed	73.1	81.8	88.4	78.2	76.6	75.9	74.2	67.9	59.1
Average share price (€)	16.6	16.4	16.0	17.2	17.6	17.8	15.5	13.4	13.9
Adjusted ROACE (%)	12.3	16.0	17.2	17.6	13.5	12.7	0.6	0.2	4.7

TABLE A2 Eni's operating data, 2009–2017

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Employees	71,461	73,768	72,574	77,838	82,289	84,405	34,196	33,536	33,126
Proved hydrocarbon reserves (million BOE)	6571	6843	7086	7166	6535	6602	6890	7490	6990
Reserve life index (years)	10.2	10.3	12.3	11.5	11.1	11.3	10.7	11.6	10.5
Hydrocarbon production (thousand BOE/day)	1769	1815	1581	1701	1619	1598	1760	1759	1816
Worldwide gas sales (bn m^3)	103.7	97.1	96.8	95.3	93.2	89.2	90.9	88.9	80.8
Finding and development cost per BOE ($)	28.9	19.3	18.8	17.4	19.2	21.5	19.3	13.2	13.8
Electricity sold (TWH)	34.0	39.5	40.3	42.6	35.1	33.6	34.9	37.1	35.3
Refinery throughput (mn tonnes)	34.6	34.8	32.0	30.1	27.4	25.0	26.4	24.5	24.0
Refinery capacity (m barrels/day)	747	757	767	767	787	617	548	488	480

(continues)

TABLE A2 Eni's operating data, 2009–2017 (*continued*)

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Retail sales of petroleum products (mn. tonnes)	12.0	11.7	11.4	10.9	9.7	9.2	8.9	8.5	8.4
Number of service stations	5986	6167	6287	6384	6386	6220	5846	5622	5450
Av. service station throughput (mn. liters/year)	2477	2353	2206	2064	1828	1725	1754	1742	1698

TABLE A3 Eni's financial performance by business segment, 2012–17

	2012	2013	2014	2015	2016	2017
Sales (€bn.)						
E&P	35.9	31.3	28.5	21.5	16.1	19.5
Gas & Power	36.2	32.2	73.4	52.1	41	50.6
Refining & Marketing and Chemicals	62.5	57.2	29.0	22.6	18.7	22.7
Corporate and other	6.4	5.9	1.4	1.5	1.3	1.5
Operating profit (€bn.)						
E&P	18.5	14.6	11.6	(1.0)	2.6	5.1
Gas & Power	(3.1)	(3.0)	0.2	(1.3)	(0.4)	0.2
Refining & Marketing and Chemicals	(1.9)	(2.2)	(2.8)	(1.6)	0.7	1.0
Corporate and other	n.a.	n.a.	1.5	1.2	(0.1)	(0.5)
Operating margin (%)						
E&P	51.5	46.8	40.5	(4.5)	16	26.2
Gas & Power	(8.6)	(9.2)	0.6	(2.4)	(1)	0.4
Refining & Marketing and Chemicals	(2)	(2.6)	(4)	(6.9)	3.9	4.4
Net capital employed (€bn.)						
E&P	42.4	45.7	51	54	57.9	49.8
Gas & Power	10.6	9.2	9	5.8	4.1	3.4
Refining & Marketing and Chemicals	8.9	11.4	9.7	7	7	7.4
Operating profit/Capital employed (%)						
E&P	43.6	32	24.2	(1.8)	4.4	10.2
Gas & Power	(29.5)	(32.3)	2.4	(21.7)	(9.5)	5.9
Refining & Marketing and Chemicals	(14.2)	(18.6)	27.9	(22.4)	10.4	13.5

TABLE A4 World's leading publicly traded oil and gas companies, 2017 (ranked by stock market capitalization on March 2, 2018)

Company	Country	Market value ($bn)	Sales ($bn)	Operating margin (%)
ExxonMobil	US	320	237	5.1
Royal Dutch Shell	Netherlands	261	305	5.4
PetroChina	China	218	240	3.6
Chevron	US	213	135	3.9
Total	France	119	174	7.1
Sinopec	China	116	246	3.5
BP	UK	115	249	2.6
Reliance Industries	India	93	58	4.4
Petrobras	Brazil	90	88	18.0
Statoil	Norway	74	61	22.6
ConocoPhillips	US	65	30	(7.7)
Eni	Italy	60	82	12.0
Rosneft	Russia	61	85	10.0
CNOOC	China	63	23	17.7
Gazprom	Russia	59	100	13.3
EOG Resources	US	59	11	8.2
Lukoil	Russia	57	86	8.0
Suncor Energy Inc.	Canada	52	24	14.2
PTT PCL	Thailand	51	60	11.8
Occidental Petroleum	US	50	13	5.6
Phillips 66	US	46	103	1.9
Valero	US	40	94	3.8
Oil & Natural Gas Corp.	India	36	22	13.0
Anadarko Petroleum	US	31	11	(6.1)
Indian Oil	India	28	57	2.6

Source: Financial Times/Thomson Reuters.

Notes

1. "The OPL245 Affair: Drillers in the Dock," *Economist* (March 3, 2018).
2. D. Yergin, *The Prize* (Simon & Shuster, New York, 1992): 23.
3. Ibid.
4. D. Votaw, *The Six-Legged Dog: Mattei and ENI: A Study in Power* (University of California Press, Berkeley, CA, 1964): 71.
5. *Franco Bernabè at Eni*, Harvard Business School Case 9-498-034 (April 7, 1998).
6. "Eni Savors the Taste of Freedom," *Financial Times* (June 9, 1994).
7. Eni SpA, Securities and Exchange Commission, Form 20F (1996).
8. Ibid.: 3.
9. S. LeVine, *The Oil and the Glory: The Pursuit of Empire and Fortune on the Caspian Sea* (New York: Random House, 2007).
10. "How Italy's ENI Vastly Boosted Oil Output," *Business Week* (April 20, 2009).
11. Eni SpA Gas seminar conference call (December 1, 2006).
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13. "Creating Two Leading Energy Companies," *Spirit Magazine* (ConocoPhillips, 3rd quarter, 2011): 6.

Case 15 Zara: Super-Fast Fashion

With sales of €25.3 billion in the 12 months to January 31, 2018, Inditex, based in Arteixo, Galicia, in the north-west corner of Spain, was the world's biggest apparel supplier. Its founder and controlling shareholder, Amancio Ortego, was estimated by *Forbes* to be the world's sixth richest person (after Jeff Bezos, Bill Gates, Warren Buffett, Bernard Arnault, and Mark Zuckerberg).

Inditex is famous mainly for its biggest business, Zara, which accounted for 66% of the Group's sales in 2017. In January 2018, there were 2251 Zara stores—the great majority company-owned and operated—in 96 different countries. The Group's other businesses (ranked by sales) were Pull & Bear, Massimo Dutti, Bershka, Stradivarius, Zara Home, and Oysho. Except for Zara Home (furnishings and tableware), all the businesses are engaged in the design, manufacture, and retailing of fashion clothing (together with footwear and accessories), although each operates independently with a distinctive brand personality and a different target customer segment.

As well as being the core business of Inditex Group, Zara is also the primary exponent of Amancio Ortega's unique approach to the fashion clothing business. Zara's strategy defies most of the fashion world's conventional wisdom: it spends almost nothing on advertising, employs no super-star designers, seeks no celebrity endorsements, and undertakes most of its manufacture in Spain rather than offshoring it to low-wage locations. Instead, Zara has created a unique business system that is quick to recognize and exploit emerging fashion trends through a vertically-integrated supply chain that supports unparalleled speed and market responsiveness.

A Brief History[1]

Amancio Ortego was born in Galicia in 1936. He left school at the age of 11 and by the age of 13 was working for a local shirt-maker. In his early 20s, he began producing copies of popular designer garments using inexpensive fabrics; at age 29, he opened his first Zara store selling modestly-priced, fashionable women's clothing. Here, Ortego introduced the novel idea of a continuously changing collection of garments, in contrast to the two-season per year collections that were traditional in the clothing business. As Ortego opened additional stores, he developed his "instant fashion" model involving designers replicating emerging trends, then using close integration of factories, distribution centers, and retail stores to compress the design-to-store cycle. The first Zara store outside Spain was in Portugal in 1988, and in 1989, Zara entered the United States.

By 2000, Zara had created a business system unlike that of any other fashion brand. Zara's designers, based at Inditex's Arteixo headquarters, sourced design ideas from fashion shows, celebrities, streetwear, and—most of all—feedback from the stores. Fabrics for Inditex brands were purchased by its subsidiary, Comditel, which also undertook most dying and printing of the fabric.

This case was prepared by Robert M. Grant. ©2019 Robert M. Grant.

Initially, most of Zara's garments were produced in-house. As its product range and volume grew, the proportion of Zara's sales produced by third-party manufacturers increased to about half.

Zara's distribution center, at Arteixo, served Zara stores throughout the world with twice-weekly deliveries, each taking a maximum of three days. Garments were shipped with price-tags attached, on rails, ready for immediate display within the stores. Each store's shipment would comprise only 3–5 units of each size and each design.

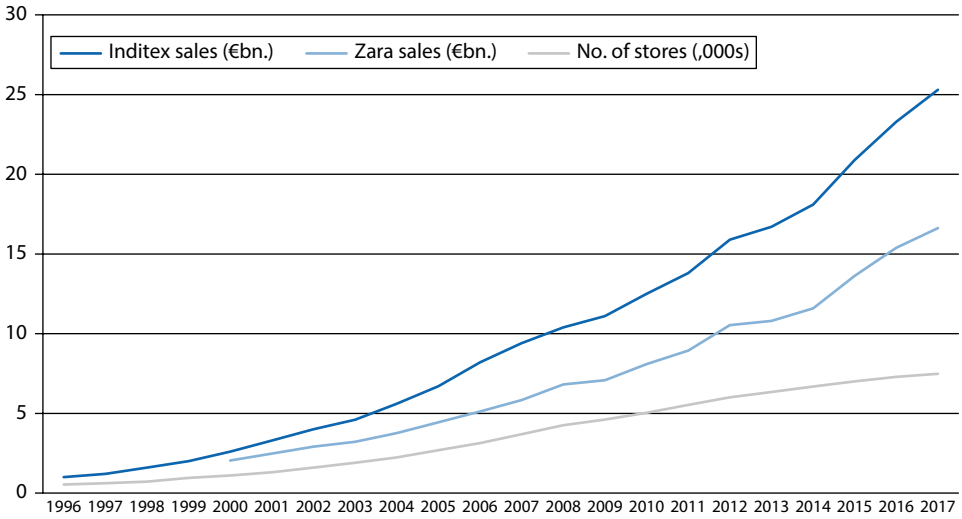
Zara's stores featured a uniform design and product presentation. Store managers oversaw ordering and providing weekly feedback. Prices were determined centrally and varied between countries according to transport costs and what the market would bear. Compared to Spain, Zara's prices were 70% higher in North America and 100% higher in Japan.

Zara's international expansion involved setting up new stores in prime locations. Zara's initial entry was often through joint venture—in Italy and Japan, joint ventures helped gain access to prime real estate; in Germany and India, joint ventures gave access to local market knowledge. However, joint venture partners were usually bought out at a later stage—according to Inditex's head of corporate development: "We don't mind investing in joint ventures to learn but prefer to go alone."[2]

The time from a product's design to its arrival in a retail store could be as little as two weeks.

Figure 1 shows Inditex and Zara's growth from 1996 to 2017.

FIGURE 1 Growth of Inditex and Zara's sales and store numbers, 1996–2017



Source: Inditex.

Zara in 2018[3]

Zara's strategy is based upon supplying cutting-edge fashion at reasonable prices—or, as the *New York Times* explained: ". . . trendy and decently made but inexpensive products sold in beautiful, high end-looking stores. Zara's prices are similar to those of the Gap: coats for $200, sweaters for $70, T-shirts for $30."[4] The success of the strategy is indicated by its financial performance (see Table 1).

TABLE 1 Financial performance of Zara and Inditex

	2017	2016	2015	2014	2013	2012	2011
Sales (€bn.)							
Zara	16.6	15.4	13.6	11.6	10.8	10.5	9.0
Inditex	25.3	23.3	20.9	18.1	16.7	15.9	13.8
EBIT (€bn.)[a]							
Zara	3.02	2.76	2.45	2.12	2.09	2.23	1.73
Inditex	4.31	4.02	3.68	3.20	3.07	3.12	2.52
EBIT/Sales (%)							
Zara	18	18	18	18	19	21	19
Inditex	17	17	18	18	18	20	18
ROCE (%)[b]							
Zara	30	30	30	29	31	37	32
Inditex	33	33	34	33	35	39	37
ROE%							
Inditex	26	26	26	25	27	30	28

Notes:
[a]Earnings Before Interest and Tax.
[b]EBIT/Average capital employed.
Source: Inditex Annual Accounts.

Design

Designers form part of Zara headquarters' "commercial team," together with country managers and buyers. Designers tend to be young—mostly in their late 20s and early 30s and work collaboratively in an egalitarian environment. Designers are organized into three groups—women's wear, men's wear, and children's wear—each group occupying a large, open-plan hall, within which there are separate areas for different product groups. Buyers and county managers sit around a long table in the middle of each hall.

Design is a collaborative process involving numerous meetings. A product group head explains: "For new collections we meet to decide which trends we are going to follow, then how to put the collection together, then select which items to prototype, which items to produce, and in what quantity . . . the design team may come up with 500 design ideas . . . we may arrive at 40 designs to move forward, and we may actually choose to go ahead with only a few of them."[5]

In common with the rest of the fashion industry, Zara designers create collections for both fall/winter and spring/summer seasons—but typically these items cover only about 15% to 20% of Zara's sales (compared to 80% to 100% for most branded fashion companies). The pre-planned collections are continuously augmented and adapted—mainly on the basis of feedback from store managers.

The country managers play an important role in linking the stores within their country with design and production decisions. Based mainly at headquarters, they are in constant communications with their store managers.

The buyers manage sourcing, procurement, and the allocation of production to different plants and to third-party suppliers.

Production

Zara had historically concentrated its production in its own production plants close to its Arteixo base. However, as its sales have grown and its international scope widened, it has relied increasingly on a global network of about 1600 third-party suppliers—located mainly in Eastern Europe (including Turkey) and Asia.

Zara's own manufacturing plants concentrate upon products that are most sensitive to time to market. Basic items which are designed pre-season and whose sales are predictable are typically outsourced to Asia. For in-house production, Zara's plants concentrate on fabric cutting; sewing is mostly undertaken by about 200 contractors located mainly around La Coruña and elsewhere in north-west Spain. Sewn garments are then returned to Zara for quality inspection, labeling, and transfer to the main distribution center.

Distribution

By 2018, Zara had three major distribution centers: its original distribution center at Arteixo, plus its centers at Zaragoza, for women's garments, and at Meco, near Madrid, mainly for children's wear. The distribution centers are highly automated. The introduction of RFID (radio frequency identification) technology in 2014 has enabled tracking of every garment from factory to point of sale. For European stores, each store's shipment is consolidated at the Zaragoza center, and then shipped within a 24-hour window by trucks (third-party carriers, but in Zara liveried trucks). Stores outside outside Europe? have their shipments airfreighted, usually by scheduled air service, with 48- to 72-hour shipment time. As soon as shipments arrive, they are put on display at the stores—retail stores have no back inventory.

Retailing

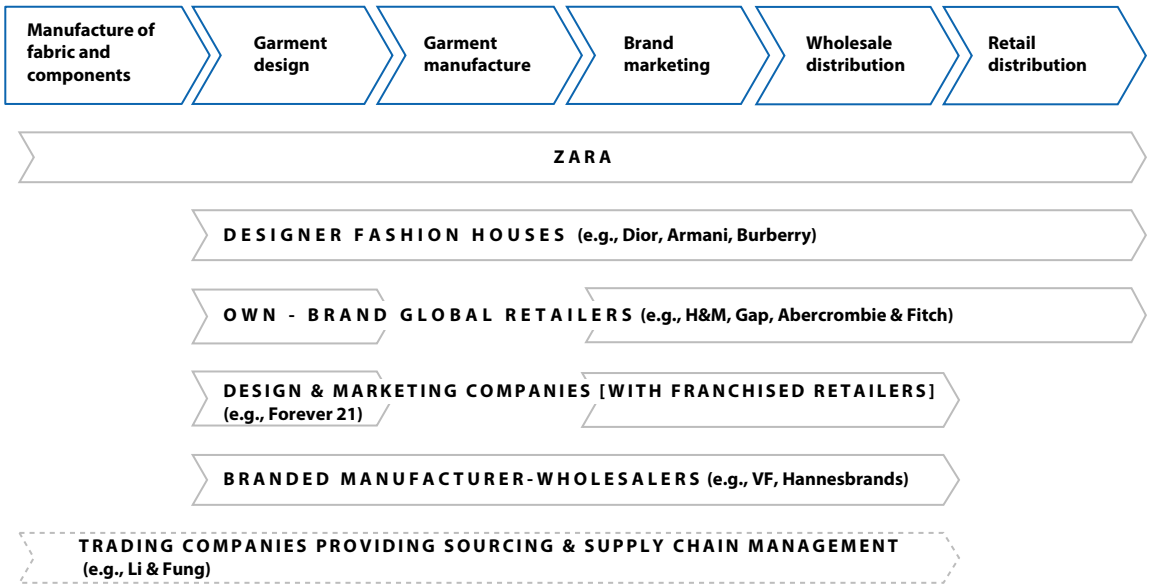
Stores place orders and receive shipments twice-weekly at specified times. Because of the constant stream of new products, a large proportion of orders are for new items—hence the need for frequent discussion between the store manager and country head. Typically, each item spends less than two weeks in a retail store. If an item is still in a store after two or three weeks, it is removed and sent to a store within the same country where that particular item is selling faster—or even sent back to Spain for relabeling for a store in a different country.

Zara's retail stores play a critical role in Zara's brand identity. Zara targets premier retail locations: Fifth Avenue in New York, Regent Street in London, the Champs-Élysées in Paris. According to one fashion journalist:

> The high street is really divided according to brand value. Prada wants to be next to Gucci, Gucci wants to be next to Prada. The retail strategy for luxury brands is to try to keep as far away from the likes of Zara. Zara's strategy is to get as close to them as possible.[6]

Zara's merchandising is designed to create a unique retail dynamic for the brand. Because Zara ships limited quantities of each product and is continually changing its

FIGURE 2 Positioning along the fashion clothing value chain



collection, it has incentivized impulse buying—buy it now or there may not be another chance! Equally, the fast-revolving collection encourages frequency of store visits.

The retail stores are important listening posts for Zara designers. Retail staff are encouraged to elicit and note customer reactions concerning what they like and dislike about specific products. Store managers report this information to their country heads so that it can be incorporated within headquarters, where it is then transmitted to designers.

The Fashion Clothing Business

The quest for cost efficiency has resulted in the value chain of the world clothing industry becoming globally distributed. The leading producing countries for fabric and components (buttons, zippers, trim, etc.) are China, the European Union, India, the United States, Turkey, and South Korea. Garment manufacture is concentrated in countries where labor costs are low, notably China, Bangladesh, Vietnam, and India. Table 2 shows the leading exporters and importers of clothing.

The complexities of managing across borders and the strategic differences between the different stages of the value chain result in different companies specializing in different stages of the chain (see Figure 2). Fabrics, both woven and knitted, are almost entirely produced by specialized textile companies. Most garment production is undertaken by cut-and-sew specialists, mainly contract manufacturers whose products are sold under their customers' brand names. Although some clothing manufacturers design clothes for sale under their own brands (e.g. VF and Hanesbrands), the biggest retailers of clothing—e.g., Walmart, Target, Macy's and TJX Companies—are mainly just retailers, with limited backward integration into previous stages of the value chain.

In the case of fashion clothing, however, the importance of branding means that there are advantages in coordination between design and retailing—not least to ensure consistency between the garments and the retail environment within which they are

TABLE 2 Major exporting and importing countries of clothing, 2015

Exports	$bn.	Imports	$bn.
China	175	European Union	96
European Union	28	US	96
Bangladesh	26	Japan	29
Vietnam	22	Hong Kong (mainly from China)	15
Hong Kong (re-exports)	18	Canada	10
India	18	South Korea	9
Turkey	15	Australia	7
Indonesia	7	China	7
Cambodia	6	Switzerland	6
US	6	Russia	6

Source: World Bank.

presented. Thus, mass market fashion retailers such as the Gap, H&M, Next, and Fast Retailing (Uniqlo) are primarily retailers, but also undertake design and brand marketing. Some of these companies limit their involvement in retailing to franchising (e.g., Forever 21). Table 3 shows the world's leading suppliers of branded apparel.

TABLE 3 The world's leading apparel companies, 2017[a]

Company	Country	Sales ($bn.)	Total assets ($bn.)	Operating margin (%)	ROE[b] (%)	Inventory[c] turnover	Market value ($bn.)
Christian Dior	France	49.4	87.3	18.8	18.2	4.0	77.1
Inditex	Spain	28.6	24.2	17.0	25.7	9.7	94.9
H&M	Sweden	23.4	13.1	9.4	23.5	6.1	23.7
Gap	US	15.9	8.0	9.3	29.2	8.3	11.7
Fast Retailing	Japan	14.6	10.3	10.7	16.5	6.7	46.2
VF Corp.	US	11.8	10.3	12.7	27.4	7.4	30.6
PVH Corp.	US	8.9	11.9	7.1	7.0	6.1	12.2
Hanesbrands	US	6.5	6.9	11.2	54.6	3.5	6.5
Michael Kors Holdings	UK	4.7	4.1	15.9	34.0	8.2	10.0
Burberry Group	UK	3.5	3.1	14.6	20.9	4.7	9.5

Notes:
[a]Excludes diversified companies such as LVMH and Kering.
[b]Net income/Shareholder's average equity.
[c]Sales/Average inventory.
Source: Companies' financial statements.

The situation is different for the up-market designer houses such as Dior, Prada, Gucci, Chanel, Yves Saint Laurent, Versace, and Armani. The importance of quality and image there requires much closer control of their value chains; hence they tend to be highly vertically integrated, undertaking much of their production in-house and directly owning and managing their retail outlets. However, their product development cycles are very long compared to the fast fashion companies. The February/March fashion shows held in New York, London, Milan, and Paris show fall and winter collections; in September, the spring and summer collections are showcased. This implies a period of about nine months from initial design sketch to retail store. Attempts to shorten cycle time include Burberry's pioneering of "see-now, buy-now" system of immediate online availability of garments from its catwalk shows.

Hence, Zara is an outlier. Its vertical integration is reminiscent of the luxury fashion houses, yet it is competing in the mass market with the likes of Gap, H&M, and Next, whose affordable pricing favor outsourcing production to contract manufacturers in southern Asia and other low-cost locations.

Meeting current and future challenges

Zara's ability to defy the conventional wisdom of the mass-market, fashion clothing business is the result of a business system whose components complement one another and are closely aligned to the company's capabilities. Zara's production of short runs of a large number of products in its own Spanish plants appear to be a recipe for high costs. However, these cost disadvantages are offset by efficiencies elsewhere in the Zara system. Zara's compressed cycles and short runs also mean that markdowns (price reductions for slow-moving products) are a fraction of those typical in fashion retailing. Small runs and frequent new changes in the collection also increase the frequency of customer visits and boost sales. A short design-to-store cycle and responsiveness to customer demand result in Inditex turning over its inventory much faster than its competitors—despite being more vertically integrated, which typically means higher levels of inventory and work in progress. Finally, the system only works because of Zara's management systems as well as its culture, which allows good communication and supports responsiveness across geographical and functional boundaries.

The effectiveness of Zara's internal communications is indicated by an incident reported by the *Financial Times*. A week before her wedding to Prince William in April 2011, a Zara store manager informed Zara headquarters that Kate Middleton had been trying on a £49.99 blue dress at the manager's London store. Eight days later, when Miss Middleton was spotted leaving Buckingham Palace in Zara dress, Zara was ready to rush additional copies of the dress to its stores worldwide.[7]

In the following year, a visiting *New York Times* reporter observed the continuous interaction at Zara's headquarters between country managers, designers, and production heads. As country managers received calls from their store managers that the same item was selling well in multiple stores in different countries, they could readily identify the emergence of a global trend and alert their designers and production managers. Similarly, if an item was not selling well, they could get feedback from customers and retail staff as to how the design might be revamped.[8]

However, as Zara grew in size, geographical scope, and product range, so its closely integrated business system and collaborative management style was threatened by the increasing complexity of the business. Consider, for example, Zara's supply chain.

Three distribution centers in Spain rather than one require that products must be shipped from the Arteixo and Meco distribution centers for consolidation at the Zaragoza center. With increased sourcing from suppliers in Asia, Zara's supply chains are increasingly stretched—most outsourced production is air freighted or shipped to the Zaragoza distribution center.

The development of online retailing further complicates Zara's business model—by 2017, Zara was offering online sales in most of the countries in which it operated stores. In January 2018, it opened its first click n' collect store. Inditex's commitment to environmental sustainability and corporate social responsibility also created additional complexity. In 2017, Zara rolled out a clothes recycling service providing collection bins in its stores. In Spain, it also provided a home collection service for used clothing.

Finally, there was the issue of whether increasing numbers of employees—particularly at headquarters—would reduce the effectiveness of Zara's informal, collaborative, non-hierarchical management model. By January 2018, Inditex had 171,839 employees representing 87 different nationalities and speaking 54 languages. Advances in information and communication technology could augment Zara's alertness to changing circumstances, but it was not clear that it could substitute for the qualitative judgments, subjective insights, and alertness to weak signals that were vital components of the Zara's management capability.

Notes

1. This section draws heavily upon "Inditex: 2000" (Harvard Business School, Case No. 9-713-538, revised March 5, 2014).
2. K. Ferdows, J, Machuda, M.A. Lewis, "Zara: The World's Largest Fashion Retailer" (The Case Centre, Case No. 615-059-1, 2015): 3.
3. This section draws upon two previous cases: Ferdows et al, op cit and "Zara: Fast Fashion," (Harvard Business School, Case No. 9-704-497, December 21, 2006).
4. "How Zara Grew Into the World's Largest Fashion Retailer," *New York Times* (November 10, 2012).
5. Ferdows et al, op cit: 8.
6. "How Zara Grew Into the World's Largest Fashion Retailer," op cit.
7. "Inditex keeps its finger on the pulse," *Financial Times* (May 23 2011).
8. "How Zara Grew Into the World's Largest Fashion Retailer," op cit.

Case 16 Manchester City: Building a Multinational Soccer Enterprise

In August 2008, Manchester City Football Club (MCFC) was acquired for £210 million (€262m) by Sheikh Mansour bin Zayed Al Nahyan, a businessman and member of Abu Dhabi's ruling family. The change in ownership marked the beginning of a new era for Manchester City and its long-suffering fans. Between August 2008 and January 2018, Manchester City spent £1,350 million on acquiring new players and £250 million on new facilities—a level of investment unmatched by any other European club. In 2012, MCFC was crowned champion of the English Premier League—the first time in 44 years—and from 2012 to 2018, it was the most successful club in British soccer.

However, the rise of Manchester City has not simply a story of a super-star team built on Middle Eastern wealth. Between 2008 and 2018, Manchester City's owners created an organizational structure and management system that was unlike that of any other soccer club. City Football Group Ltd. (CFG) was formed in May 2013, initially to take ownership of MCFC, but also to act as a holding company for a global portfolio of football investments. By 2018, CFG had equity stakes in six football clubs on five continents, alliances with seven other football clubs, and a management system for leveraging these relationships. The key question, both for CFG and for those football clubs that lacked such scope, was: could such a global portfolio, backed by an international management system, really enhance the competitiveness of the individual soccer clubs?

Manchester City Football Club

MCFC was founded in 1894, but for most of its history lived in the shadow of its neighbors, Manchester United. In 2007, former prime minister of Thailand, Thaksin Shinawatra, purchased the club but, amidst intensifying legal difficulties, he sold the club to Sheikh Mansour in 2008.

Mansour, who had been considering the purchase of an English Premier League club for several years, was attracted to Manchester City because of its location, its history, its new stadium (built with government finance to host the Commonwealth Games in 2004), and the real estate potential of the derelict land surrounding the stadium. In addition, Abu Dhabi's national airline, Etihad, had started flying to Manchester in 2006 and was considering expanding its presence there.

From the outset, it was clear that Mansour was a hard-headed investor rather than an indulgent football enthusiast. At the same time, Mansour's vision for MCFC was not limited to financial return—he was inspired by FC Barcelona whose emphasis on

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values, youth development, and community involvement, as well as its artistic, attacking football, had conferred upon it a unique status as a club.

With Mansour's business partner, Haldon Al Mubarak, installed as chairman of MCFC, the initial stages of a turnaround program were implemented:

- *New players.* Beginning with the purchase of Robinho for £32.5 million, MCFC invested £188 million in players and other assets during the first year under the new ownership. By the end of the 2011–12 season, £452 million ($695 million) had been spent on acquiring 22 new players (at an average price of £22 million).
- *New coaches.* In seeking a coaching staff capable of integrating MCFC's star-studded squad into one of Europe's most successful teams, Mansour and Al Mubarak employed a succession of internationally experienced coaches with successful track records: Mark Hughes (June 2008–December 2009), Roberto Mancini (December 2009–May 2013), Manuel Pellegrini (June 2013–June 2016), and Pep Guardiola (from July 2016).
- *Facilities.* Soon after buying MCFC, Mansour and Al Mubarak began planning a fully integrated training, entertainment, and administrative complex alongside the stadium. Brian Marwood, a former Arsenal player and Nike executive, designed the new training facilities by adopting the best features of other clubs' facilities and drawing, in particular, on AC Milan's Milanello training complex. The Etihad Campus was opened in 2014. It housed training facilities for all the club's teams, from age-group sides to men's and women's senior squads. It included 16 football pitches, a 7000-seat stadium for academy and women's teams, a 50-seat auditorium for reviewing video, 4-star accommodation for players and their families, retail stores, and CFG's administrative headquarters. The first-team's facilities feature a hypoxic chamber where players can run at altitude or in extreme temperatures, a hydrotherapy area for treating injuries, and a hydro treadmill with underwater cameras. The complex also accommodates the Beswick Community Hub whose facilities include a leisure center for local residents, a sixth form college, and the Manchester Institute of Health and Performance. The addition of a third tier to the South and North stands of the main stadium increased its capacity to 61,000.

City Football Group Ltd.

The Abu Dhabi United Group, which Mansour created as a vehicle for acquiring MCFC, became its parent company. However, Mansour's interests in football were not limited to Manchester City. By 2012, he was already looking elsewhere for investment and development opportunities. To manage these interests, City Football Group Ltd. (CFG) was created as a holding company, headquartered at Manchester City's Etihad campus, to manage Abu Dhabi United Group's worldwide footballing investments.

Internationalization began in 2013 with in the creation of a new US Major League Soccer franchise—New York City FC. Manchester City executives pioneered the initiative and CFG took an 80% equity stake. In 2014, CFG acquired the Australian A-League club, Melbourne Heart (which was renamed Melbourne City FC), a 20% stake in Japan's Yokohama F. Marinos, and Club Atlético Torque in Montevideo, Uruguay. In 2017, Girona FC in Spain's La Liga was acquired. Table 1 shows the football clubs owned by CFG and those with which the CFG has co-operation agreements.

TABLE 1 Clubs owned by or allied with City Football Group

Manchester City FC (England)	Acquired in 2004. Average home attendance 53,600 (women's team 2300) Three-time winners of Premier League since 2010.
New York City FC (US)	Founded in 2014 with CFG holding 80% equity. Finished 2nd In Eastern Conference In 2017. Average attendance 23,000.
Melbourne City FC (Australia)	Acquired in 2014, became wholly owned in 2015. Has finished in top 5 of A-league during past 3 seasons ((2015–17). Average attendance 10,700.
Yokohama F. Marinos (Japan)	20% equity stake acquired in May 2014. The remaining 80% owned by Nissan Motor Co. Plays in Japan's J1 league. Average attendance 24,000.
Club Atlético Torque (Uruguay)	Acquired by CFG in March 2017. Promoted to Uruguay Primera Division in 2017.
Girona FC (Spain)	44.3% acquired by CFG in August 2017. Another 44.3% held by Girona Football Group, led by Pere Guardiola, the brother of Pep Guardiola. Promoted to La Liga in 2017.
ALLIANCES	
NAC Breda (Netherlands)	Agreement to loan youth players—primarily to gain EU citizenship
Long Island Rough Riders (US)	Agreement with New York City FC to assist in player development
San Antonio FC (US)	Agreement with New York City FC to co-operate on training, scouting, and player loans
Atletico Venezuela	Agreement with CFG to share scouting data and provide coaching support. Atletico midfielder Yandel Herrera signed for Man City and was loaned to New York City FC
CF Pearled	Feeder club for Girona FC
Ghana Football Association	Training collaboration. Also, CFG has agreement with the Right to Dream Academy in Accra, Ghana, for recruiting its graduates

Strategy

In creating a multiteam, multinational enterprise, CFG is unusual in football (and in most other professional sports). Historically, football clubs—like most sports clubs—were local in their fan base, their players, and their sources of finance. When Glasgow Celtic won the European Cup in 1967, all the players and the manager had been born within 30 miles of the stadium, and the club's owners were also from Glasgow. But since then, the teams, their fans, and their financing have internationalized. In English football, the new owners came from Russia (Roman Abramovitch and Chelsea, Maxim Demin and Bournemouth), the United States (Malcolm Glazer and Manchester United, John Henry and Liverpool, Steve Kaplan and Swansea), and China (Gao Jisheng and Southampton, Guochuan Lai and West Bromwich Albion).

CFG was not the first sports enterprise to own clubs in different countries: Stan Kroenke is majority owner of Arsenal and the Colorado Rapids; Vichai Srivaddhanaprabha owns both Leicester City and OK Leuven. The soft drinks company Red Bull owns football

clubs in the United States, Brazil, Germany, and Austria. However, CFG is unique in creating a multinational operating company to run its football clubs, the principal activity of which is "the operation of professional football clubs as well as providing football and commercial services to other organizations."[1] In operating different clubs in different countries, CFG has sought to create a common identity for its clubs. This is evident in the naming of its three principle clubs as "City Football Club" and its choice of sky blue for its teams' strip.

This common identity extends beyond a unified brand presence. CFG has also promoted the "City Way," a concept whereby all the City teams adopt a style of football based on passing, possession and a commitment to attack. This style of play was developed at Barcelona and then transferred to MCFC by its team manager Pep Guardiola and CEO Ferran Soriano. The same style of football is practiced not only in the various CFG first teams but also women's and academy teams right down to the youngest age groups. In April 2015, Soriano outlined the City approach:

> There is a core of values, a core of beliefs that we all have. We win and we lose, but we never leave these values. We always play attacking football, we try to keep the ball, we play with a high defensive line and we apply pressure to recover the ball. These are very simple things that all our teams do and, hopefully, when you see our teams in Melbourne and Manchester play and you will see the same kind of football. This doesn't mean we'll win. At the weekend, Manchester City had 73 per cent possession in a game we lost. But we never, ever renounce our values of the way we play football … because all organizations need some set of basic values that people believe in.[2]

The Management Team

Although Mansour is the majority owner of CFG (through his ownership of its parent company, Abu Dhabi United Group), he has no formal role in the management of CFG or its member clubs. The key executives within the group are shown in Table 2.

CFG's business model has been shaped primarily by the vision of Soriano. While at FC Barcelona, he developed the concept of a football organization with the capability to build a highly successful team while also creating shareholder value. Central to this concept was a global brand and a global system for sourcing and developing players. At a presentation at Birkbeck College, London, in February 2006, Soriano outlined his vision for turning FC Barcelona into a "global entertainment brand" through product management, human resource development, cost control and value chain management, revenue growth, and globalization.[3] However, it was CFG that was to give Soriano the opportunity to realize that vision.

Player Sourcing, Assessment, and Development

At the heart of CFG's approach to combining team success with financial success is its global system for finding and nurturing world-class players. Early on, Soriano recognized that UEFA's new financial fair play rules (introduced in 2009) meant that the old "benefactor model" of clubs being bankrolled by billionaire owners was no longer viable. A major implication of the new rules was that clubs could no longer rely on recruiting superstar players at vast expense—they would have to grow their own talent.

TABLE 2 Key members of CFG board and executive team

Khaldoon Khalifa Al Mubarak, Chairman and CEO, CFG; Chairman of MCFC (also CEO of Mubadala Development Co., an Abu Dhabi state-owned investment company)	Born in Abu Dhabi 1976. Educated at Tufts University. Appointed to Abu Dhabi Executive Council. Trusted adviser to the Abu Dhabi royal family.
Li Ruigang, CFG Board Member; Chairman of China Media Capital	Born in China, 1969. Created China's most global media company, China Media Capital, which owns 16% of CFG. Regarded as "China's most connected media mogul."
Martin Edelman, CFG Board Member, vice-chairman NY City FC	US lawyer specializing in international law and real estate development.
Simon Pearce, CFG Board Member, Vice Chairman Melbourne City FC	Business associate of Mansour and Al Mubarak, who worked for Abu Dhabi government to build the Abu Dhabi brand, develop tourism, and attract business partners
Ferran Soriano, CEO of CFG, also CEO of MCFC	Born in 1967 in Barcelona, Spain. After a career in consumer goods management consulting, elected vice president and CFO of Barcelona FC in 2003, then resigned in 2008. CEO of MCFC from August 2012.
Pep Guardiola, Team Manager, MCFC	Born in 1971 in Catalonia, Spain. Played as midfielder for Barcelona FC and Spain. Coach at Barcelona (2007–12) and Bayern Munich (2012–16).
Patrick Vieira, Football Development Executive 2012–15; Head Coach New York City FC 2016–18	Born in Senegal, 1976. Playing career spanned Arsenal, Inter Milan, MCFC. At MCFC responsible for youth development and Community involvement.
Brian Marwood, Managing Director, City Football Services (since October 2015)	Born in 1960 in Durham, England. Played for Sheffield Wednesday and Arsenal. Marketing Manager for Nike, then Director of Football at MCFC (2008–12) and in charge of developing its academy.

For CFG, one of the key drivers of globalization was the priority given to locating young talent, wherever it might be in the world. By owning multiple clubs and having collaborations with other clubs across the world, CFG is reckoned to have the world's biggest and most effective talent-spotting network. Its international spread alleviates some of the problems of work permits and immigration restrictions that bedevil professional football. This international scope also increases CFG's appeal to young talent: "The fact that the CFG's tentacles stretch so far makes it easier to attract young players particularly, because recruitment staff can make the case that if life does not work out for them in Manchester, they might later find their level in other appealing cities."[4]

In terms of scouting, CFG's global network represents a massive extension in the talent-finding capability of the individual clubs. In 2014, CFG employed 36 scouts, of

whom 14 were based in South America. Announcing CFG's acquisition of Club Atlético Torque and agreement with Atletico Venezuela, Soriano observed:

> The investment in CA Torque enables our organization to build on existing connectivity in Uruguay and helps to expand the options for identifying and developing local and South American talent. This move also provides us with an administrative hub for our pre-existing scouting operations in the region and provides a footprint for City Football Group in South America. I am also delighted to start a working partnership with Atletico Venezuela to the benefit of both clubs. The collaboration agreement allows us to share knowledge, insights and hard data, all of which enables us to further complement and increase our scouting and recruitment operations on the continent.[5]

Two players exemplify the merits of CFG'S global approach to player assessment and deployment.

- Yangel Herrera was signed by MCFC from its affiliate, Atlético Venezuela, in January 2017 for about £1.7 million and immediately loaned to New York City FC, where he became one of the stars of the team. During 2018, CFG will assess Herrera's performance and prospects and determine whether he stays at New York City, joins MCFC, or is sold to another club.[6]
- Bruno Fornaroli captains Melbourne City FC. Despite his early promise in Uruguay's top youth team, his subsequent performance in both Italian and Greek leagues was disappointing. However, back in Uruguay and aged 27, a report from one of CFG's scouts recommended a fuller analysis of Fornaroli. On the basis of additional analysis, CFG acquired Fornaroli's registration for Melbourne City FC. At Melbourne, Fornaroli became the club's leading goal scorer and has also won most of the A League's individual awards.[7]

Having different teams in different countries helps player development. Soriano refers to a "development gap" that is especially problematic for English clubs. "If the player is top quality, he needs to play competitive football to develop. It's not only for the technical aspect of the game, but also for the pressure. The under-21 or under-19 competitions in England don't provide this, because games aren't in front of a lot of fans and there isn't enough competitive tension."[8] However, in Europe, clubs such as Barcelona, Real Madrid, and Bayern Munich all have reserve teams that play in their countries' second or third division against other professional clubs—not in a separate league, as English youth teams do. Hence, according to Academy chief, Brian Marwood, the importance to MCFC of loaning its young players to other clubs: "We did some research last year and discovered that in the last 10 years, 83% of players who featured in the quarter-final stage of the Champions League had played first team football at 17 … That's why you'll find more than 30 Blues on loan …"[9]

CFG's investment in its academies has centered on its Manchester campus, where its training and youth development facilities are reckoned to be among the best in the world. However, in 2015, a new academy was unveiled at Melbourne City FC, and in 2018 New York City FC opened its new academy. The features of both were based on those of the Manchester academy and both were designed by the same architect, Rafael Viñoly.

Inspired by the tradition of FC Barcelona and its renowned La Masia academy, CFG placed a massive emphasis on youth development. According to Academy director, Mark Allen:

> Our focus remains on style of play. Every single side, from the under-nines right up to the elite development squad team, play the game in the same way … Coaches

> focus on the technical and tactical side of the game as soon as a youngster joins the academy, with the physical development seen as secondary … Last season saw success at almost every level. The under-10s became national champions … The under-13s are national champions. The under-15s are the Floodlit Cup national winners. And the under-18s reached the FA Youth Cup for the second consecutive season.[10]

CFG's commitment to youth development is apparent from the Group's investment in facilities for its younger teams at the Manchester Academy: "Two-thirds of the 16. pitches on site are primarily used for youth football, and the wider development of the young players is supported by tailored coaching and education facilities, medical and sports science services, sleeping accommodation and parents' facilities."[11]A common style of football ("The City Way") assists young players to rise up the hierarchy. In addition, youth development takes a holistic approach: City's academy collaborates with a local independent school, St. Bede's, which allows City's youth players to enroll on an integrated football and education program designed by the club and the school.

CFG's involvement in developing young players is also apparent in the residential soccer camps offered by its member clubs (including MCFC's intensive football and language immersion program) and its joint venture with Goals Soccer Centres PLC to develop a chain of dedicated, five-a-side pitches and training facilities across North America. The sites will be jointly City and Goals branded, with the new identity to be launched later this year.

Technology

Information technology has had a huge impact on football management over the past decade. Although statistical analysis has long been applied in training, team selection, and recruiting in US professional sports,[12] its application to soccer was delayed by the intensely interactive nature of the game. In English football, Bolton Wanderers FC was an early convert to data analytics—it was there that Gavin Fleig, who would become head of performance analysis at MCFC, gained early experience.

Following the Mansour takeover, data analysis has played a growing role in team performance at MCFC. Initial applications included postgame analysis using the detailed player tracking data supplied by Opta and Prozone and player recruitment. Under Brian Marwood (MCFC Director of Football, 2008–12), player recruitment relied increasingly on quantitative data. For youth recruits, 30-page, color-coded reports were the norm, while for major signings, the dossiers would run to 40 or 50 pages.[13]

In 2015, CFG signed a partnership agreement with SAP to use SAP's cloud and analytics technology across its backroom operations and on-field activities, and replaced CFG's paper-based systems with SAP's cloud-based system. The SAP platform includes components for team management, training, player fitness, and performance analysis, all of which can be used to customize training, create tactics, and create individual player development plans. SAP's software for postmatch analysis integrates Opta and Prozone data. In monitoring youth squads, the system integrates videoed coaching sessions, GPS data, biometrics including heart rate, and sleep data.[14]

Digital technology also plays a growing role both in deepening the City clubs' relationships with their fans and in expanding the fan base. CityTV creates video content for all the City clubs, which is then distributed via the Web, mobile apps, and different social media platforms. In addition, CFG has been a leader in launching enhanced game-viewing through providing real-time analytics, chat bots, hackathons, and virtual reality—including participation in eSports.[15]

Marketing

In terms of generating commercial revenues—licensing, sponsorship, and retail sales—MCFC has lagged far behind its cross-town rival, Manchester United, long regarded as football's most commercially successful club. In 2006/7, MCFC's commercial revenues were £14.1 million; Manchester United's were £56.1 million. Building MCFC's commercial revenues initially involved other Abu Dhabi businesses. In July 2011, MCFC announced a £400 million sponsorship deal with Etihad Airways that covered 10-year naming rights for the stadium and financial support for MCFC's Etihad Campus. This was followed in 2013 by a six-year kit sponsorship deal with Nike worth £72 million ($109 million).

With the creation of CFG, marketing was established as a global unit—City Football Marketing—based in its own London offices in order to allow the different clubs to access the same marketing assets. Omar Berrada (Commercial Director of City Football Marketing, 2015–16) emphasized the benefits to clients from the global approach CFG's family of clubs offered: "It allows brands to have the best of both worlds: a consistent global marketing platform in terms of the assets and inventory they can use to engage with our fans, as well as the ability to deliver messages that are very specific to the local markets of our clubs around the world."[16]

In 2014, Nissan entered into a global marketing relationship with CFG when it became the official automotive partner of all four City clubs. Similarly, Etihad Airways extended its kit sponsorship of Manchester City to include both New York City and Melbourne City.

Community Involvement and Corporate Social Responsibility

Despite the efforts to create a unified, global, brand presence for the City clubs and to agree with global sponsorship and licensing deals, Tom Glick, President of New York City FC (previously Chief Commercial and Operating Officer for MCFC), stressed that it was vital to sustain and build the individual character of each club, in a way which respects the tribal loyalties of each fanbase: "… the most important thing is that each one of our clubs is connected to its local city and the fans of that city."

To build engagement, the CFG clubs have sought to involve fans in club decisions. In both New York and Melbourne, fans participated in the design of the new club badges. In Melbourne, this resulted in the inclusion of the city's municipal flag in the design.[17]

CFG's emphasis on developing and exploiting its global reach has been balanced with close attention to the cultivation of the local fan base of its clubs and responsibility to the local communities within which its clubs are located. As a result, CFG has been able to avoid the hostility directed by the fans of Manchester United, Liverpool, and Hull City toward the foreign acquirers of their clubs.

At MCFC, CFG has worked closely with Manchester City Council in its development strategy for the club. This was mandated by the City Council's ownership of the stadium and the need for CFG to obtain planning permits for developing the Etihad complex and other real estate developments adjacent to the stadium. More generally, however, CFG and the City Council have viewed themselves as partners in developing an economically depressed area of Manchester, while also providing opportunities for additional investment by Abu Dhabi in the city (e.g., increased flights by Etihad Airways from Manchester Airport).

As one fan observed: "The other major benefit [of CFG's ownership of MCFC] is the vast improvement in the area around the stadium. This was largely a toxic, deprived and neglected post-industrial area prior to the arrival of the Abu Dhabi owners and much money and work has gone into transforming it, with a lot more regeneration still on the cards. This is all being done within the framework of a strategic partnership with the city council."[18]

Organizational Structure

Fundamental to CFG's strategy has been the notion that competitive advantage in professional football can be achieved simply through the application of standard business principles to the often-chaotic and personalized world of football club management. Following the acquisition of MCFC, Al Mubarak remarked: "One of the big surprises was how amateurish it was … I found it shocking in the famous Premier League, to be without such basic functions."[19] A key feature of CFG's introduction of professional management to MCFC was creating an organizational structure that was consistent with its corporate strategy.

The structure of CFG embodies two distinctive characteristics. First, there is a consistent organization structure for all the member clubs. At each of the City clubs, there is a CEO (or President), a Director of Football, a Technical Director, and a Head Coach (or Team Manager at MCFC), and then there are directors for communication, operations, community relations, and other areas; Al Mubarak is Board Chairman. Second, CFG is organized around different functional areas that provide support for the different clubs. CFG's academies and technical services to its members' clubs are provided by a subsidiary of CFG, City Football Services Ltd., headed by Brian Marwood. In May 2016, City Football Services had 63 employees. Marketing services are provided by City Football Marketing Ltd., whose "services include partnership sales and activation, content production and distribution, retail and licensing and fan relationship management for all of CFG's clubs."[20] In May 2016, City Football Marketing had 92 employees. Figure 1 shows the ownership structure of the CFG. Figure 2 shows its management structure.

FIGURE 1 City Football Group Ltd.: Group structure

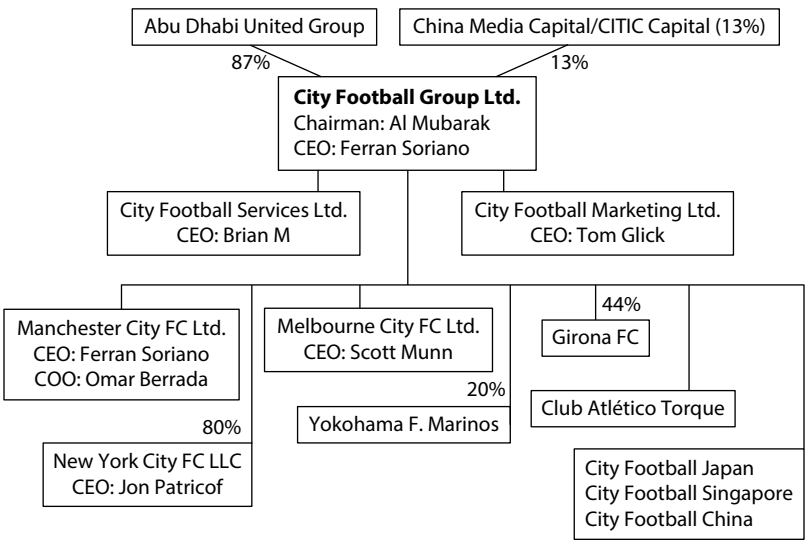
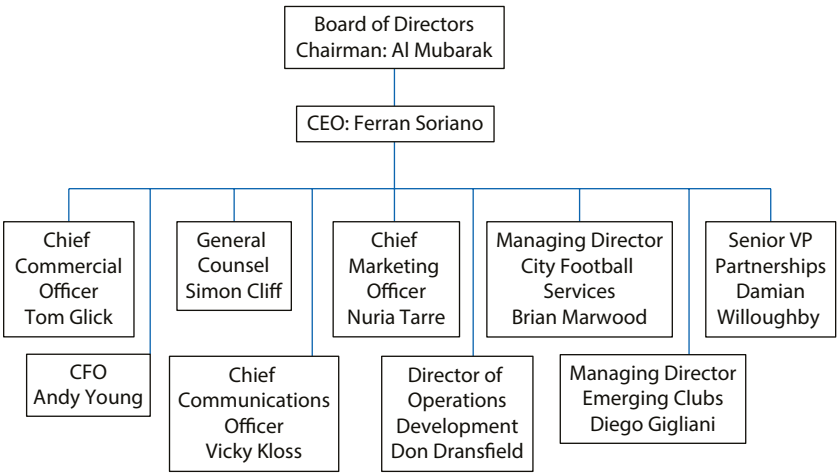


FIGURE 2 City Football Group Ltd.: Corporate management team



Finance

The finance to MCFC and CFG made available by Mansour through his Abu Dhabi United Group has allowed both companies to rack up massive losses while not taking on any debt. Table 3 shows CFG's financial results. Table 4 and Figure 3 shows MCFC's financial performance.

TABLE 3 City Football Group Ltd.: Financial Data

	2017[a]	2016	2015	2014
Revenue	514.3	423.2	368.7	347.1
—Matchday	68.5	64.7	50.1	48.2
—Broadcasting: UEFA	47.9	61.2	32.9	31.3
—Broadcasting: other	160.7	103.2	104.1	101.9
—Other commercial activities	237.1	194.1	181.7	165.6
Operating profit (loss)	(70.1)[b]	(33.7)	(28.9)	(57.9)
Net profit (loss)	(74.7)	(38.4)	(34.9)	(63.4)
Property, plant, equipment	431.2	410.2	403.3	343.9
Intangibles and other noncurrent assets	427.3	349.9	287.5	298.4
Current assets	442.4	414.7	244.0	186.8
Total assets	1300.9	1175.8	937.8	832.1
Current liabilities	335.5	193.5	142.6	156.9
Noncurrent liabilities	116.9	131.9	119.9	109.1
Shareholders' equity	848.5	850.4	675.3	566.1
Cash flow from operating activities	91.9	25.8	56.0	(13.2)

(Continues)

TABLE 3 *(Continued)*

	2017[a]	2016	2015	2014
Cash flow from investing activities	(186.6)	(92.8)	(140.8)	(199.6)
—of which, transfer fees less receipts	(146.9)	(72.3)	(13.9)	n.a.

Source: City Football Group Limited: Directors' Report and Financial Statements.
Notes:
[a] 13 months to end-June 2017.
[b] Operating loss before profit on disposal of player registrations was £105.7.

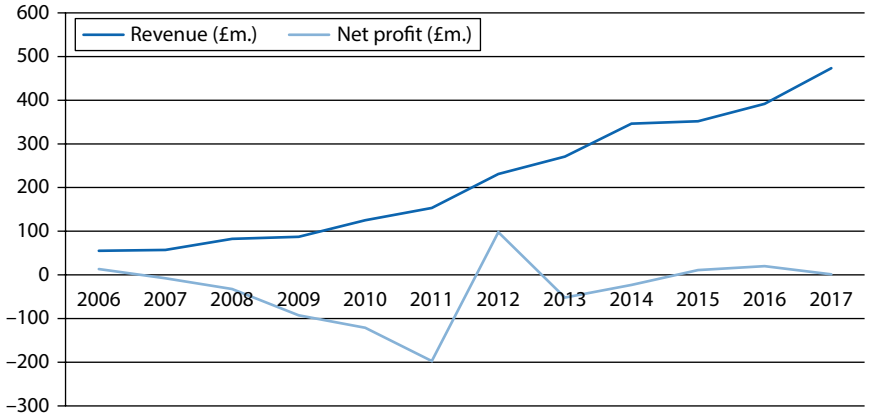
TABLE 4 Manchester City Football Club.: Financial Data (£ millions)

	2017[a]	2016
Revenue	473.4	398.8
—Matchday	51.9	52.5
—Broadcasting: UEFA	47.9	61.2
—Broadcasting: other	155.6	100.1
—Other commercial activities	218.0	177.9
Operating profit (loss)	(121.7)[b]	(33.7)
Net profit (loss)	1.1[c]	20.5
Tangible fixed assets	412.6	268.6
Intangibles and other noncurrent assets	335.5	268.6
Current assets	312.7	271.9
Total assets	1060.7	939.1
Current liabilities	294.4	160.7
Noncurrent liabilities	88.2	101.2
Shareholders' equity	678.2	677.1
Total number of employees	325	320
—of which, football staff (including players)	153	(72.3)

Source: City Football Group Limited: Directors' Report and Financial Statements.
Notes:
[a] 13 months to end-June 2017.
[b] Operating profit before loss on disposal of player registrations was £91.6.
[c] If the loss on disposal of players is excluded, net profit would have been £88.3.

The only external financing used by CFG $40 (£265 million) in December 2015 from the sale of 13% of CFG to a consortium of Chinese investors led by Chinese media giant China Media Capital and its chairman, Ruigang Li. This valued CFG at $3 billion. The deal was seen as an opportunity for CFG to partner with China Media Group in exploiting the huge potential market for football in China.

FIGURE 3 Manchester City Football Club Ltd.: Revenue and profit (financial years ending May 31)



Although chairman Al Mubarak has claimed that CFG's global model has been a means of reconciling world-class team performance with sound financial performance, other European clubs have complained that the international structure of CFG is a means by which MCFC can circumvent UEFA financial fair play rules.

Notes

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Case 17 Haier Group: Internationalization Strategy

The transformation of the bankrupt Qingdao General Refrigerator Factory into the Haier Group, the world's biggest supplier of household appliances, is an epic tale that symbolizes China's rise to become the world's dominant manufacturing economy. In the process, Haier's CEO, Zhang Ruimin, has become a national hero and internationally-renowned business leader who has been ranked among the world's top-50 management thinkers.[1]

Since 2012, Euromonitor has recognized Haier as the world's leading white goods producer in terms of units sold. In terms of revenues, the ranking is less clear (see Table 1). This is due to the complex legal structure of the Haier Group: financial data is only available for Haier's listed subsidiaries, Qingdao Haier and Haier Electronics. However, with Haier's acquisition of General Electric's appliance division in 2016, it appears that Haier has become the world's biggest domestic appliance company in terms of both output and revenues.

Yet, Haier's rise to global leadership, while inspiring, has also been baffling. Its internationalization has flouted almost all conventional thinking concerning strategies for building global competitive advantage. Indeed, the whole history of Haier has involved unusual—even quirky—management principles and practices.

To what extent does Haier's unconventional approach to strategy and management also offer lessons for the leaders of Western multinational corporations?

And what about the future of Haier? Its global presence has been built upon a combination of opportunism, ambition, and determination. As it consolidates its position as a leading multinational corporation, does Haier need a more orderly and integrated approach to global strategy?

Building Leadership in the Home Market

When Zhang Ruimin was appointed general manager of the Qingdao General Refrigerator Factory in 1984, it was a cooperative enterprise with about 800 workers operating under the control of the Qingdao city government. Zhang's early efforts involved eliminating the obvious sources of inefficiency and poor quality and collaborating with foreign appliance makers—including Liebherr of Germany, Merloni of Italy, and Mitsubishi and Sanyo of Japan—to improve product design and process technology. In 1985, Qingdao Refrigerator formed a joint venture with Liebherr for producing refrigerators for the Chinese market.

Zhang Ruimin has viewed Haier's development as a sequential process with each phase lasting about seven years (see Figure 1). In the first phase, the key challenge was

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TABLE 1 The world's leading domestic appliance companies, 2018

Rank[a]	Company	Country	Sales ($bn.)	Profits ($bn.)	Assets ($bn.)	Market Value ($bn.)	Employees[b]
#245	Midea Group	China	37.8	2.7	40.1	55.7	96,418
#294	Gree Electric Appliances	China	23.9	3.6	34.7	45.1	71,610
#565	Qingdao Haier[c]	China	24.6	1.1	24.6	17.3	74,570
#748	LG Corp	South Korea	9.1	2.1	20.2	13.3	16,096
#1042	Whirlpool	US	21.4	0.3	20.3	11.0	93,000
#1254	Electrolux Group	Sweden	14.5	0.6	10.7	7.6	53,889
#1631	SEB SA	France	7.3	0.4	8.0	9.5	24,927

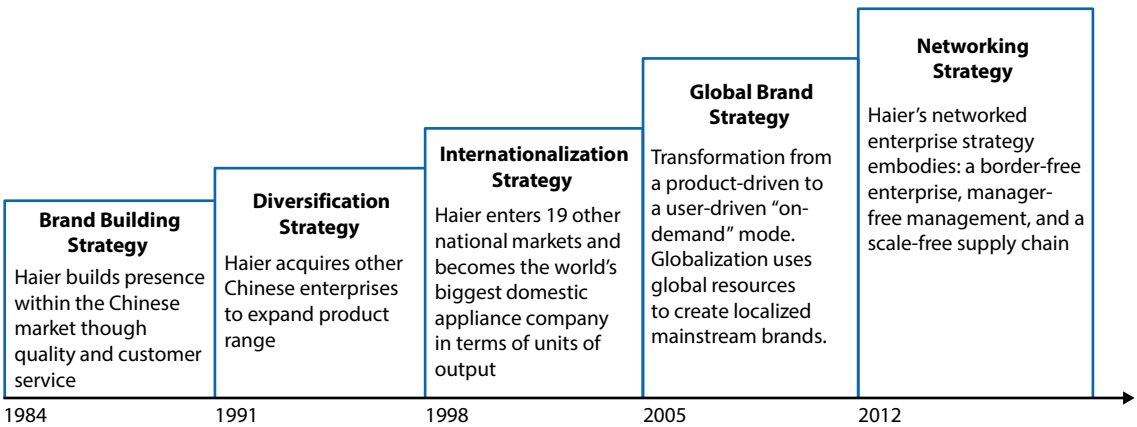
Notes:
[a]Ranking on Forbes 2000 listing of the world's largest public companies.
[b]Employment data is for 2016.
[c]Not including Haier Electronics or other parts of the Haier Group.
Source: Forbes Global 2000, 2018.

changing employees' attitudes to product quality. In one—now famous—intervention, Zhang ordered defective refrigerators to be removed from the production line and smashed to pieces.[2] Haier's quest for quality improvement was driven, first, by Zhang's constant emphasis on the consumer's experience and the decision in 1992 to apply for ISO9001 authentication, which provided a major impetus for the reformulation and upgrading of processes.[3]

Between 1984 and 1989, revenues climbed from 3.5 mn. to 410 mn. yuan and in 1992, a new factory complex and head office were built on the outskirts of Qingdao. In 1995, its refrigerator division was listed on the Shanghai Stock Exchange and in 2005 its subsidiary, Haier Electronics Group, was listed on the Hong Kong Stock Exchange.

Haier's successful turnaround resulted in government pressure for it to acquire other failing state enterprises. During the 1990s, Haier acquired 16 other Chinese companies broadening its range of domestic appliances and diversifying its product range into televisions, telecom equipment, and pharmaceuticals.

FIGURE 1 Haier Group: Strategy phases, 1984–2015



Source: www.haier.net/en/about_haier/haier_strategy/, accessed July 20, 2015.

Haier's Management System

Governance

Formally, Haier was a collective under the supervision of Qingdao municipal government. In practice, the ownership, organizational structure, and governance of the Haier Group Corporation were unclear.[4] Financial information was available only for the group's two listed subsidiaries, Qingdao Haier Company Ltd listed in Shanghai and Haier Electronics Group Company Ltd listed in Hong Kong. No consolidated financial statements were available for the group. The Haier website gave the group's revenues as 242 bn. yuan in 2017 (202 bn. yuan in 2016). Haier's two listed subsidiaries, Qingdao Haier and Haier Electronic, accounted for about 90% of the group total.[5] Table 2 shows financial data for Haier's two listed subsidiaries; Table 3 shows their major shareholders.

Zhang Ruimin

Despite its opaque governance structure—or perhaps because of it—power within the Haier Group was concentrated in the hands of Zhang Ruimin. This power derived partly from his formal position as chairman and CEO, partly from his reputation as the architect of Haier's remarkable development, and partly from his political ties. In addition to being the secretary of the Communist Party Committee of the Haier Group, he was also a member of the party's Central Committee. His political connections gave

TABLE 2 Selected financial data for Qingdao Haier and Haier Electronics

	2010	2011	2012	2013	2014	2015	2016	2017
Qingdao Haier								
Revenue ($million)	9743	11,638	12,628	14,102	14,422	13,838	17,230	20,709
Operating margin (%)	4.90	5.50	6.60	7.08	8.72	7.19	5.98	6.42
Net margin (%)	3.36	3.65	4.09	4.82	5.62	6.68	5.58	5.71
ROE (%)	28.45	32.26	29.38	20.85	27.5	12.94	14.23	23.1
Return on capital employed (%)	17.93	18.35	17.23	16.94	29.34	16.22	20.41	19.4
Employees	53,412	59,814	57,977	55,726	54,286	57,447	74,570	76,878
Haier Electronics Group								
Revenues ($billion)	5802	7893	8819	9659	10.5	9681	9241	10328
Operating margin (%)	4.01	3.75	4.18	4.36	4.89	4.23	4.23	5.53
Net margin (%)	2.69	2.82	3.05	3.27	3.74	4.35	4.36	4.47
ROE (%)	48.30	42.80	35.48	30.72	25.47	24.62	15.17	17.50
Return on capital employed (%)	47.58	39.07	31.74	28.11	23.05	23.17	18.72	20.85
Employees	18,204	18,406	17,304	16,506	15,637	15,491	15,476	15,240

Sources: Annual reports of Qingdao Haier Company Ltd. and Haier Electronics Group Co., Ltd.

TABLE 3 Biggest shareholders of Qingdao Haier Co. Ltd. and Haier Electronics Group Co. Ltd., December 31, 2016

Name of shareholder	Number of shares held (millions)	Percentage (%)
Qingdao Haier Co. Ltd.		
Haier Electric Appliances International Co., Ltd.	1259	20.64
Haier Group Corporation	1073	17.59
KKR Home Investment S.A R.L.	606	9.94
Hong Kong Securities Clearing Co., Ltd.	430	7.05
China Securities Finance Corporation Limited	168	2.76
Qingdao Haier Venture & Investment Information Co., Ltd	161	2.63
Haier Electronics Group Co. Ltd.		
Qingdao Haier Co. Ltd.	1562	55.95
Haier Shareholdings (Hong Kong) Ltd.	832	29.79
HCH (HK) Investment Management Co. Ltd.	337	12.06
JP Morgan Chase & Co.	140	5.02

Sources: Annual reports of Qingdao Haier Company Ltd. and Haier Electronics Group Co., Ltd.

Haier independence from municipal interference and valuable support from central and provincial governments and state banks.

Zhang was born in Qingdao in 1949. Despite a lack of formal education, he was an avid reader. His ideas about management developed during his career at Haier, where he began as deputy plant manager at the age of 33. His management philosophy draws upon Chinese traditions from Confucius and Sun Tzu to Mao Zedong and Western ideas derived from Joseph Schumpeter, Peter Drucker, and contemporary management thinkers.[6] At the same time, Zhang is dismissive of the management practices of many Western multinationals.

Zhang's management thinking developed in parallel with his strategy for Haier. His early focus was on building Haier's capabilities in relation to quality management, customer focus, brand building, and new product development. Gradually, Zhang's priorities shifted toward fundamentally rethinking Haier's structure and management systems. For example, customer orientation became the principle of "market chains" around which Haier's internal relationships were reformulated.

The idea behind "market chains" was that, in the same way that Haier's fundamental purpose was to serve its final customers, all interactions within the company could be redefined around supplier–customer relationships:

> Every unit, every operation and everyone was linked to a customer and every unit/operation/body was someone else's customer. In this way everyone within the enterprise, no matter how deeply inside the firm, felt market pressure directly.[7]

Developments in information and communications technology, especially the Internet, greatly influenced Zhang's thinking about internal organization. Increasingly, he

devoted himself to moving Haier from a hierarchy to a decentralized, team-based structure. For example, Haier's sales organization for China was completely restructured:

> We used to have a pyramid-style structure for our sales in China. The people in charge of sales had to manage business at the national, provincial, and city level. After the arrival of the Internet age, we realized that under this triangular hierarchical structure, people had a difficult time adapting to the requirements of the times. So we reorganized ourselves as an entrepreneurial platform. We flattened everything out, taking out all the middle management…
>
> We are using digital technology to connect everyone… there is no "inside" the company versus "outside" anymore. As a Haier executive, my goal is no longer to be a maker of home appliances, but to be an agent of interaction and networking among people who might be anywhere. I want to turn the company into an Internet-based company, a company unrestricted by borders. Whoever is capable, come and work with us… In the long run, there won't be any company employees to speak of—only the Haier platform.[8]

Zhang's interest in communicating his management thinking and willingness to engage with western consultants and business schools established him as a management guru and visionary. He has lectured at Harvard and Stanford universities, received Yale School of Management's "Legend in Leadership Award," and been interviewed in *Harvard Business Review, McKinsey Quarterly, and MIT Sloan Management Review*.

Performance Management

A central feature of Haier's management system is rigorous performance management based upon accountability and individual incentives.

In the early years of this century, Haier introduced its "OEC" system. According to Haier's head of human resources, Wang Yingmin: "O stands for Overall; E stands for Everyone, Everything, and Everyday; C stands for Control and Clear. OEC means that every employee has to accomplish the target work every day. The OEC management-control system aims at overall control of everything that every employee finishes on his or her job every day with a 1% increase over what was done the previous day."[9]

OEC became part of a performance management system that began each December with performance targets set by corporate headquarters for every division. Each division submits a divisional action program that monitors actual performance against target performance on a month-by-month basis. Monthly divisional targets were disaggregated into daily targets for each employee. Each day began with team leaders briefing team members and ended with workers completing a self-checking assessment against OEC criteria. Assessments were linked to compensation through bonuses and penalties.

With decentralization, the basis for performance measurement and compensation shifted to the notion of creating value for users. According to Zhang:

> Now, compensation is determined by how much value is created for the user. When employees create value, they get paid. If they don't create measurable value, they don't get paid. Ultimately, if they don't create value, they have to leave.[10]

Innovation and New Product Development

Haier's product development was driven primarily by responding to customer needs Haier required its engineers to visit customers to learn of their experiences at first

hand. In rural China, Haier engineers discovered that washing machines breakdowns often resulted from their being used to clean vegetables. Haier adapted its design and provided advice on using washing machines to clean vegetables and peanuts.[11]

To meet the preferences of specific customer groups, Haier adopted flexible modular designs. According to Zhang Ruimin, "Our products are based on modules and subsystems, and on basic platforms that we can vary. Periodically we will add some new features, but the basic model is there."[12]

Haier was an industry leader in providing Internet connectively for its appliances. In 2014, it launched its "Smart Living" appliances with embedded wireless connectivity allowing customers to monitor and control their appliances remotely. In the same year, it became the first home appliance maker to join Apple's Homekit platform.

In 2018, Haier launched its "Smart Home Solution" system which provided: "comprehensive solutions for air, water, clothes care, security, voice control, health and information … [and] allows users to customize the smart home experience to best suit their needs."[13]

Smart Home Solution uses Haier's COSMOPlat cloud-based Internet platform that links with users to permit large-scale customization. "It means that every user can participate in the process of the product design, developing, manufacturing, logistics and distribution. It's done through the creation of the 'internet factory' that is visual and transparent for every consumer. Every user would also have a chance to customize Haier's products and, thus, exercise one's own creative vision."[14] In 2017, COSMOPlat won Gartner's "Supply Chainnovator Award" for supply chain innovation.

Building the Networked Enterprise

Zhang Ruimin's ideas about market responsiveness, entrepreneurial initiative, and team-based organization eventually became crystallized in his concept of the networked enterprise. Central to the transformation of Haier into a new type of organization was the creation of some 2000 self-managed teams called "ZZJYTs"—an acronym for Zi Zhuu Jing Ying Ti, meaning "autonomous business unit." Professor Bill Fischer and colleagues described the ZZJYTs as follows:

> Each comprises a team of 10 to 20 people—sometimes located in one place, other times virtual—who come from various functional roles and are brought together for a specific mission, and who are given profit and loss responsibility and accountability. They have their own independent accounting systems and complete autonomy in hiring and firing employees, setting internal rules about expenses and determining bonus distribution, and making almost any operational decision that typically would be made by an independent functional organization … Everyone, whatever their function, is expected to talk to consumers regularly.[15]

These principles of autonomy, individual and team responsibility, and customer focus eventually led to Haier's transformation into a network of microenterprises, each responsible for its own success. Zhang Ruimin called this management model *rendanheyi*:

> *Rendanheyi* has three main attributes:
>
> 1. The enterprise is transformed from a closed system to an open system, a network of self-governing microenterprises with free-flowing communication among them and mutually creative connections with outside contributors.

2 Employees are transformed from executors of top-down directions to self-motivated contributors, in many cases choosing or electing the leaders and members of their teams.
3 Purchasers of our offerings are transformed from customers to lifetime users of products and services designed to solve their problems and increase their satisfaction.

In effect, implementing the *rendanheyi* model meant tearing apart the walls of our enterprise and changing our structure into a collection of entrepreneurial ventures. The Haier platform now connects more than 2000 microenterprises in various locations around the world. The leaders of each microenterprise have the type of power that would ordinarily accrue to the CEO of a company, not to a division leader …

The microenterprises are part of global Haier organizations, which maintain common functions for research and development, production, and sales. Each Haier branch is thus grounded in local markets. Rather than trying to compete with homogeneous products, we design our businesses to respect the differences between customers in different markets. We try to assimilate into each local culture, while maintaining a global approach that fosters human dignity and aspiration …

We have deployed this business model not just in our home country, China, but everywhere else we do business. For example, in 2016, Haier acquired GE Appliances (GEA). In the beginning, the *rendanheyi* model was not understood in GEA, and it was difficult to change the long-standing bureaucracy and linear management mind-set. But we persevered. GEA first tried out the *rendanheyi* model in the water heater department, and found that … it stimulated employees' enthusiasm and creativity. GEA has since been split into seven microenterprises representing its seven appliance groups… In 2017, GEA began to select its microenterprise leaders through open elections, forming a management committee of three executives elected by their colleagues.[16]

Internationalization

International Strategies in Domestic Appliances

Internationalization in the domestic appliance industry has attracted considerable interest from business school scholars. In an influential article, Harvard professor Ted Levitt argued that the success of Italian appliance manufacturers such as Indesit and Merloni was the result of the economies of scale they were able to exploit through producing large volumes of standardized models for world markets.[17] Subsequent research, however, showed not only that scale economies were modest in appliance manufacture but also that the most profitable producers were typically those that differentiated their products and their marketing strategies to meet the preferences of individual national markets.[18]

By the beginning of the 21st century, the domestic appliance industry was dominated by multinational firms whose operations spanned most continents of the world: Electrolux (of Sweden), Whirlpool (of the US), LG and Samsung (of South Korea), and Bosch-Siemens (of Germany). However, there were also major players whose size was the result of huge domestic sales-these included the main Chinese appliance firms Midea, Haier, and Gree electric appliances, China). All the world's leading appliance firms have grown through acquisition. Whirlpool led the consolidation trend. Its acquisitions included, in 2005, Maytag (US) for $1.7 bn. and, in 2014, Hefei Sanyo (China) for $552 mn. and Indesit (Italy) for $1.0 bn.

Haier's Initial Internationalization

Haier began its internationalization in a seemingly haphazard fashion. Between 1992 and 1997, Haier entered a number of overseas markets:

- In South-East Asia, initially Indonesia, Philippines, and Malaysia, Haier established joint ventures with local companies to manufacture and sell refrigerators and air conditioners.
- In the United States, Haier began supplying compact refrigerators to an importer, Welbilt Appliances, initially for sale under a retailer's brand, subsequently under the Haier brand. Compact refrigerators were followed by wine coolers. Sales were concentrated on large chains—notably Walmart.
- In 1997, Haier began exporting appliances to Germany, the Netherlands, and Italy for sale by importers mainly under the Haier brand name. Haier achieved significant sales in Germany, where its joint-venture partner, Liebherr, was its sales agent.

From the outset, Zhang was clear that Haier's goal in expanding overseas was not to seek export revenues through exploiting Haier's low manufacturing costs but to build a global brand: "making Haier the most respected brand in the world is the most important goal in the global strategy."[19] In doing so, Haier would be forced to raise its standards of product development, manufacturing, marketing, and customer service to world-class levels. Yet, building a global brand would be achieved through focusing on local markets: "All success relies on one thing in overseas markets—creating a localized brand name," noted Mr. Zhang. "We have to make Americans feel that Haier is a localized US brand rather than an imported Chinese brand. The same goes for the European market."[20]

Haier's "locally designed, locally made, locally sold" approach involved three stages: first, using local distributors to break into an overseas market; second, establishing manufacturing plants and building market share; and finally, establishing research and product development activities.

Rather than following conventional wisdom and focusing on entering nearby markets, which were at a similar (or lower) stage of economic development than China, Haier chose to tackle developed markets with sophisticated consumers—North American, Europe, and Japan. As Mr. Zhang remarked: "If one wants to improve one's chess skills, then one must play with the top players."[21]

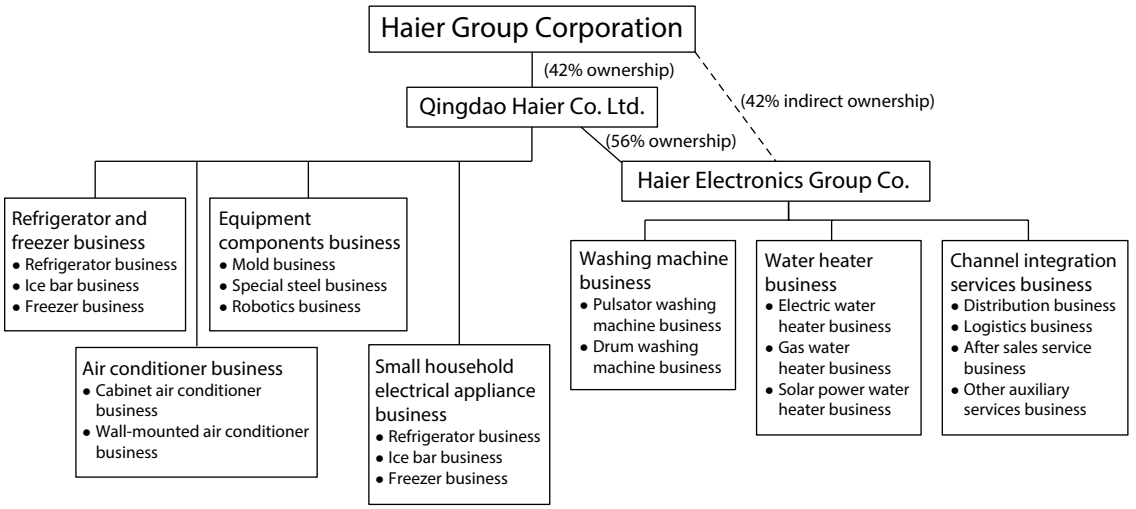
Success in these markets required hiring experienced local managers to head Haier's overseas subsidiaries. "We want to use local people and local thinking to satisfy the needs of the customer," explained Yang Mianmian. Haier typically targeted experienced executives who had worked with leading appliance companies to head up its foreign operations. Chinese expatriates were primarily technical staff sent from headquarters.

Haier America

Haier America was established at the initiative of Michael Jemal, part-owner of Haier's US distributor, Wellbilt Appliances. Under Jemal's leadership Haier penetrated niche markets—notably small refrigerators for offices and students' dorm rooms and wine coolers—before expanding into window air conditioners and full-size appliances. In 2000, it opened a manufacturing plant in South Carolina and in 2001 moved into its New York headquarters on Broadway.

Haier's main focus was refrigerators, which it sold at similar price points as the market leaders but sought differentiation advantage through innovative design features targeted at specific customer needs.

FIGURE 2 Haier corporate structure



Note: Other companies within the Haier Group are not shown. These include: Haier Electric Appliances International Co., Ltd., Haier Finance Co., Ltd., Qingdao Haier Logistics Co., Ltd., Qingdao Haier Venture & Investment Information Co., Ltd., and many other companies.

Source: http://www.haier.net/en/invester_relations/haier/gc/. Accessed April 6, 2018.

In 2006, Haier introduced its upmarket range of Italian-designed appliances under the Casarte brand name. The Casarte line was subsequently introduced into other markets, including China.

In 2012, Haier America established its own research and product development center and, in 2014, appointed Adrian Micu, formerly head of engineering with Whirlpool, as its CEO. Despite Haier's success in small fridges, it made limited progress in major appliances. One estimate put Haier's share of the total US home appliance market at a mere 1.1%.[22]

The Acquisition of GE Appliances

In January 2016, Haier's international presence was transformed by its acquisition of General Electric's home appliances division for $5.6 bn. With GE Appliance's 14% US market share, Haier's US market share would at least quadruple.[23] In 2015, GE Appliances had revenues of $5.9 bn. and earned an operating margin of about 6%. Haier was licensed to use the GE brand name for 40 years.

The deal also included a "long-term strategic partnership" between Haier and General Electric to collaborate in high-tech manufacturing areas such as healthcare and the industrial internet. on technologies relating to healthcare, the Internet, and advanced manufacturing systems. Given that both companies were positioning themselves as leaders in the internet-of-things, Haier attached great strategic importance to the agreement.[24]

Haier Europe

In 2000, Haier established a European sales office in Varese in the north of Italy. In the following year, it acquired Meneghetti Equipment, which owned a refrigerator plant in Padua and a distribution network.

Over time, Haier repositioned itself from the lower price band to the middle of the market, where it sought to capture market share through aesthetics and design—drawing upon its Italian design center (in Varese) and German R & D center (in Frankfurt). In refrigerators, Haier Europe put a special emphasis on three-door models and novel color options. In 2010, Haier Europe moved its headquarters to Paris and, in 2015, Yannick Fierling, another recruit from Whirlpool, was named CEO of Haier Europe.

Haier in Asia-Pacific

Haier established joint ventures with local companies to enter most Asian markets. Its most important collaboration was with Sanyo Electric Company of Japan. In 2012, Haier acquired Sanyo's domestic appliance business from its parent, Panasonic, for $132 mn. However, Sanyo's traditions of collective responsibility and deference to seniority conflicted with Haier's emphasis on individual performance targets backed by individual incentives.[25]

Later in 2012, Haier acquired New Zealand-based Fisher & Paykel, an upmarket appliance maker specializing in dishwashers, washing machines, and cookers, for $751 mn. Fisher & Paykel had plants in New Zealand, Australia, United States, Thailand, Mexico and Italy.

Haier's Future as a Global Company

For all Haier's remarkable success under Zhang Ruimin's leadership, the effectiveness of its international strategy remained in question. Much of Haier's success can be attributed to the phenomenal opportunity provided by the rapid rise in the living standards of the Chinese since Zhang Ruimin's arrival at the Qingdao Refrigerator Factory in 1984. Indeed, China continued to account for the overwhelming majority of Haier's sales and profits.

Haier's international performance remained patchy. Despite pockets of success—for example, compact refrigerators and wine coolers in the US—Haier has struggled to achieve organic growth in overseas market. International growth has been achieved primarily through its acquisitions of Sanyo, Fisher & Paykel, and GE Appliances.

This raises the issue of whether Haier's radically decentralized, consumer-focused management model is appropriate to a multinational home appliances company. Despite Haier's emphasis on customer service and brand building, anecdotal evidence suggests that Haier's brand awareness and brand reputation outside of China are low. Haier is not listed among the world's top-500 brands.[26] In 2016, Haier Japan changed its name to Aqua (one of Sanyo's former brands) to distance itself from its Chinese ownership, has reverted to Sanyo's. The mixed performance of Haier, especially outside China, raised questions as to the suitability of the company's radically decentralized, *rendanheyi* management model for an international supplier of home appliances.

Yet, given that so much of Haier's actions, policies, and performance are cloaked secrecy, the reality of Haier's strategy and management system is difficult to discern. Almost all that is known about Haier has come from the company itself—especially the writings and speeches of the chairman and CEO, Zhang Riumim. It is unclear how far his aspirations and radical management ideas are translated into reality at Haier. As one academic study concluded: "The rhetoric here implies considerable employee autonomy, which does not appear evident in some of its proclaimed HRM policies and practices."[27]

Notes

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3. See "Yang Mianmian: President of Haier," CEIBS Case No. 307-015 (2007): 5.
4. Haier's corporate governance is discussed in N. Kumar and J.-B. E. M. Steenkamp, *Haier: The Quest to Become the First Chinese Global Consumer Brand* (University of North Carolina, Kenan-Flagler Business School, December 2013): 4–5.
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20. Ibid.: 14.
21. "Haier's Aim: Develop Our Brand Overseas," *Bloomberg Business Week* (March 30, 2003), http://www.bloomberg.com/bw/stories/2003-03-30/online-extra-haiers-aim-develop-our-brand-overseas, accessed July 20, 2015.
22. Estimates of Haier's share of the US appliance market prior to its acquiring GE Appliances varied greatly. CNET put it at 1.1%; Euromonitor at 5.6%.
23. https://www.cnet.com/news/its-official-ge-appliances-belongs-to-haier/
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25. "Case Studies: How Haier Handled Foreign Traditions," *Financial Times* (April 1, 2013): 3.
26. The only home appliance brand appearing in the top-500 was Haier's Chinese rival, Medea at #405. See: http://brandirectory.com/league_tables/table/global-500-2017. Accessed April 8, 2018.
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Case 18 The Virgin Group in 2018

On July 18, 2018, Sir Richard Branson celebrated his 68th birthday. Yet, 52 years after starting his first business, Branson's entrepreneurial vigor seemed little dimmed. His recent ventures included the launch of a Virgin cruise line, a US chain of Virgin hotels, the startup of Virgin Orbit providing launch services for small satellites, and Virgin Sport, which held its "first mass participation sports events" in London, Oxford, and San Francisco in 2017.

However, the Virgin Group as a whole was no longer a collection of young, entrepreneurial businesses—increasingly it was a portfolio of long-established businesses in mature sectors such as airlines, train services, banking, and healthcare. Moreover, in recent years, Virgin's investments in new businesses had been dwarfed by its divestments. Increasingly, the Virgin Group had only minority stakes or even no ownership in the companies operating under the Virgin brand name.

The changing character of the Virgin Group and the maturing of its founder and leader, Richard Branson—who was increasingly committed to charitable rather than business ventures—raised troubling questions for the identity and future direction of the group. Was Virgin still an incubator of new businesses, or had it transitioned to a more conventional financially-based holding company along the lines of Warren Buffet's Berkshire Hathaway or the Wallenberg family's Investor AB group? As it divested businesses, while retaining control of the Virgin brand, perhaps it was primarily a brand licensing company?

Development of the Virgin Group, 1968–2017

Richard Branson dropped out of boarding school at the age of 16 and started a magazine, *Student*, which was first published on January 26, 1968. The magazine displayed features that would characterize many of Branson's subsequent entrepreneurial initiatives. It targeted the baby-boomer generation; embodied the optimism, irreverence, and anti-authoritarianism; combined fashion, popular music, and avant-garde culture; and filled a "gaping hole in the market."

Virgin Records

Branson's next venture, mail-order record sales, saw the birth of the Virgin brand name. In 1971, Virgin Records opened its first retail store, on London's busy Oxford Street and, in 1973, Virgin created its own record label. Its first release, *Tubular Bells*, by an

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unknown musician, Mike Oldfield, was a huge hit, eventually selling over five million copies. Virgin Records went on to sign up a series of new artists: Phil Collins, Human League, Simple Minds, and Boy George's Culture Club—including several that had been shunned by the major record companies, notably the Sex Pistols.

Virgin Atlantic Airways

Virgin Atlantic began with a phone call from Randolph Fields, a Californian lawyer, suggesting a transatlantic, budget airline. To the horror of his colleagues at Virgin Records, Branson was enthralled with the idea. On June 24, 1984, Branson appeared in a First World War flying outfit to celebrate the inaugural flight of Virgin Atlantic in a second-hand 747 bought from Aereolíneas Argentinas. Unlike Branson's other businesses, the airline business was capital-intensive, heavily regulated, and required collaboration with governments, banks, and aircraft manufacturers.

Virgin Atlantic's financing needs pushed Branson to the stock market. In 1985, 35% of Virgin Group PLC was listed on the London and NASDAQ stock markets and Branson became the chairman of a public corporation—a role that ill-fitted his personality and leadership style. Following the October 1987 stock market crash, Branson took the opportunity to raise £200 million to buy out external shareholders.

Virgin Everywhere

Between 1988 and 2004, Virgin launched a near-continuous stream of new businesses. These were concentrated around a few main areas of opportunity:

- *Travel.* The success of Virgin Atlantic encouraged Branson to launch other airlines. The Virgin approach was to mesh the business model of the low-cost carriers with Virgin's distinctive approach to enhancing customers' experience in novel ways. New airlines included the Brussels-based Virgin Express, Virgin Australia (originally Virgin Blue and Pacific Blue), and Virgin America. Other aviation ventures included Vintage Air Tours, Virgin Lightships (blimp advertisements), Virgin Galactic, and Virgin Balloons. Virgin Rail was established in 1997 to operate two passenger rail franchises awarded in the privatization of Britain's rail system.
- *Holidays.* Linked to Virgin's airline interests were investments in hotels and vacation services, including a lodge and wildlife park in South Africa and Branson's own Necker Island resort in the Caribbean.
- *Retailing.* Virgin's record stores provided a platform for internationally expanding retail interests. The Our Price chain of UK record stores was a joint venture between Virgin and WHSmith. Virgin Megastores pioneered "experience-based retailing"—not just in the United Kingdom but also in Japan, the United States, Australia, and Europe. Virgin Bride was a UK chain of bridal stores.
- *E-commerce.* The Internet provided opportunities for Virgin to expand into online retailing of cars, motorcycles, wine, and music downloads.
- *Telecom.* In wireless communication, Virgin Mobile, a joint venture with Deutsche Telecom, was an early virtual network operator: buying network access from other providers to offer cellular service. Virgin.net, a joint venture with cable operator NTL, was an Internet service provider that became absorbed into Virgin Media.

- *Financial services.* Virgin Money (originally Virgin Direct) began as a joint venture with Norwich Union offering credit cards and personal financial products. It expanded greatly in 2012 when it acquired Northern Rock, the failed British bank.
- *Leisure and entertainment.* From its origins in music and magazine publishing, Virgin entered video games (Virgin Games, 1991), book publishing (Virgin Publishing, 1991), radio broadcasting (Virgin Radio, 1992), cinemas (Virgin Cinemas, 1995), and health clubs (Virgin Active, 1998).
- *International expansion:* Virgin's expansion outside the United Kingdom began with its Megastores. After 2000, Virgin replicated several of its successful UK businesses overseas, including Virgin Mobile, Virgin Active, and Virgin Money. In most of these international ventures, Virgin Group was a minority partner, and in some, Virgin owned no equity and simply licensed its brand.

Other new ventures defied categorization; they were the result of opportunism and Branson's whims. These included biofuels (Virgin Fuels, Virgin Bioverda), video games (Virgin Interactive), beverages (Virgin Drinks, Virgin Cola), clothing (Victory Corporation), cosmetics (Virgin Vie), and Virgin Health Bank, where parents could store the stem cells from their newly born babies. Other new ventures reflected Branson's growing commitment to environmental and charitable causes. Virgin Unite, Branson's charitable foundation, was established in 2004 to provide opportunities and support for Virgin Group employees to partner with different charitable organizations.

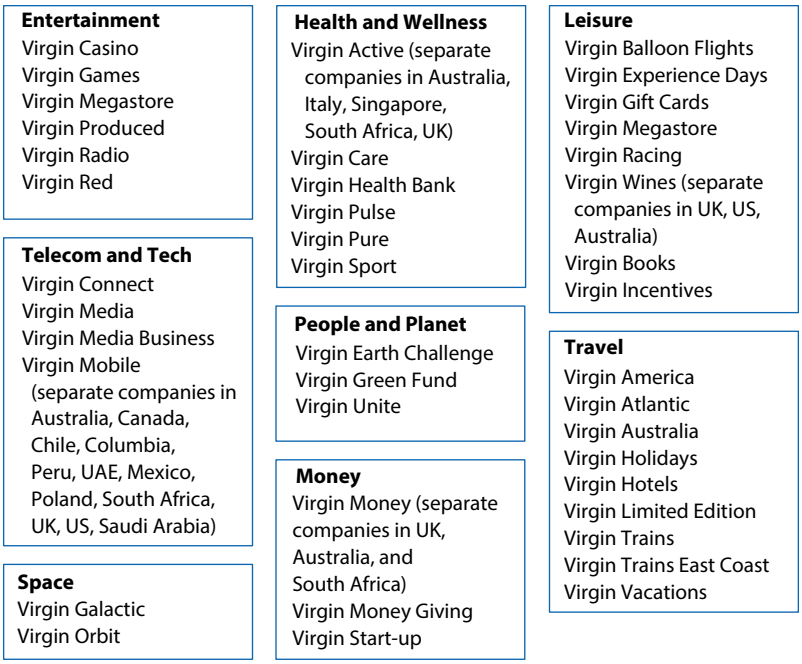
Focusing and Divestment

Throughout its history, Virgin has divested businesses, either wholly or partially, in order to release equity for other business ventures or simply to cash in the value it had created. In 1992, it sold its music business to EMI; in 1998 it sold 49% of Virgin Rail to Stagecoach, a UK travel operator; and, in 1999, sold 49% of Virgin Atlantic to Singapore Airlines. From 2005, the pace of divestment increased with the sale or closure of financially unsuccessful businesses—such as Virgin Vie, Virgin Cosmetics, Virgin Cars, Virgin Bikes, Virgin Brides, Virgin Cola, Virgin Drinks, and Virgin Money USA—and the sale or floatation of some of its most successful businesses. Virgin Mobile and Virgin.net (an Internet service provider) were sold to the UK cable company, NTL, which, in 2007, changed its name to Virgin Media. In 2013, US cable company, Liberty Media acquired Virgin Media for $23.3 billion. Virgin America launched its initial public offering of shares in 2014, seven years after its inaugural flight. In 2016 it was acquired by Alaska Airlines for $4 billion (including debt and aircraft leases). Virgin Money—a full-fledged bank with the acquisition of Northern Rock—floated its shares on the London Stock Exchange in 2014, then in 2018 was acquired by the Clydesdale Yorkshire Banking Group.

The Virgin Group of Companies in 2018

The Virgin website lists 58 "Virgin companies" which it groups into seven categories. These are shown in Figure 1. By 2018, few of these companies were wholly or even majority owned by Virgin Group. The group's biggest shareholdings were

FIGURE 1 Virgin's business portfolio[a]



Note:
[a] Includes only those companies listed on the Virgin website.
Sources: http://www.virgin.com/company

51% of Virgin Rail Group (the owner of Virgin Trains), 34% of Virgin Money Holdings plc, 20% of Virgin Atlantic, and 20% of Virgin Active. Virgin Media, Virgin Mobile, and Virgin Wines had been sold off entirely, licensing the brand to the new owners.

Ownership Structure and Financial Performance

In March 2018, there were 306 Virgin companies registered at Britain's Companies House (113 of which had been identified as "converted/closed" or "recently dissolved"). In addition, there were Virgin companies registered in about 28 other countries. The Virgin companies were linked through a complex network of parent–subsidiary relations—many of the Virgin companies listed at Companies House were identified as "investment companies" or "holding companies."

For example, West Coast Trains Ltd., Virgin's main UK rail franchise, was owned by Virgin Rail Group, which was owned by Virgin Rail Group Holdings Ltd., the majority of which was owned by Virgin Holdings Ltd., which was a subsidiary of Virgin Group Holdings Ltd.

For most of the Virgin-owned companies, the ultimate parent was Virgin Group Holdings Ltd., a private company registered in the British Virgin Islands and owned by a series of family trusts, the beneficiaries of which were Richard Branson and his family.

TABLE 1 Financial data for Virgin Holdings Ltd. (£million)

	2016	2015
Revenue	1553	1449
Operating profit	115	602
Profit (loss) on disposal of businesses	(7)	439
Pretax profit	117	608
Net profit	60	626
Fixed assets	880	853
Cash and cash equivalents	650	671
Total assets	1226	1040
Long-term debt	103	164
Net assets (liabilities)	272	186
Shareholders' equity	272	186

Source: Virgin Holdings Ltd. and Subsidiary Companies: Annual Report and Financial Statements (December 31, 2016).

Given this complexity, it was inevitable that financial reporting by the Virgin companies was fragmented, hard to locate, and difficult to interpret. The Virgin website claimed that Virgin businesses earned £16.7 billion ($21.7) and employed 69,000 people.[1] However, companies owned and controlled by the Virgin Group accounted for only a small fraction of these totals. No consolidated accounts were available for the group as a whole, and tracking financial results for individual companies was complicated by Virgin's tendency to transfer its investments in operating companies between its holding companies. Among the Virgin companies filing their financial statements with the UK's Companies House, those filed by Virgin Holdings Ltd. cover rail transport, hotels, healthcare, and brand licensing (see Tables 1 and 2).

Doubts had frequently been expressed about the overall financial health of the group.[2] Branson was dismissive of such speculation, claiming that analysts and journalists misunderstood his business empire, emphasizing that the financial performance goals of a private company are different from those of a public corporation: "Short-term taxable profits with good dividends are a prerequisite of public life. Avoiding short-term taxable profits and seeking long-term capital growth is the best approach to growing private companies."[3] It appears that, since 2005 most of the Virgin's group's profits have come from the sale and flotation of its businesses rather than from operating profits. Also, the accounts for UK companies did not take account of the cash drain from Virgin Galactic. Galactic had absorbed over $600 million by November 2014, $380 million of which was provided by Abu Dhabi's state investment agency.[4]

The Virgin Brand

The Virgin brand was the group's greatest single asset. Compared to most other consumer brands, it was unusual in the range of products it encompassed. Could a

TABLE 2 Segment financial data for Virgin Holdings Ltd. (£million)

	Revenue		Net profit	
	2016	2015	2016	2015
Air travel[a]	–	1570	–	n.a.
Rail	1109	1090	45	62
Hotels	44	46	(7)	(14)
Healthcare	262	230	(7)	(4)
Other trading	22	30	8	10
Brand licensing	n.a.	n.a.	66	45
Other trading and management services	58	55	3	0

Note:
[a] Virgin's airline interests were transferred to another Virgin holding company at the end of 2015.
Source: Virgin Holdings Ltd. and Subsidiary Companies: Annual Report and Financial Statements (December 31, 2016).

brand that extended from rail travel to streamed music have any meaningful identity? The Virgin website offered the following explanation:

> All the markets in which Virgin operates tend to have features in common: they are typically markets where the customer has been ripped off or under-served, where there is confusion and/or where the competition is complacent. In these markets, Virgin is able to break into the market and shake it up. Our role is to be the consumer champion, and we do this by delivering to our brand values, which are:
>
> - Value for Money.
> - Good Quality.
> - Brilliant Customer Service.
> - Innovative.
> - Competitively Challenging.
> - Fun.[5]

These attributes were conveyed to customers through Virgin's distinctive approach to differentiation. For example, Virgin Atlantic pioneered a range of innovative customer services (principally for its business class passengers). These included inflight massages, hair stylists, aromatherapists, and limousine and motorcycle transportation to and from the airport—even a speedboat service along the Thames from Heathrow to the London financial center. British Airways provided the ideal adversary against which Virgin Atlantic could position itself as the plucky upstart with customers' interests at heart.

Some of Branson's ventures seemed to be inspired more by a sense of fun and eagerness to "stick it to the big boys" than by commercial logic. When Virgin Cola was introduced in 1994, the goal, according to Branson, was to "drive Coke out of the States."[6] By 1997, Virgin Cola was losing £5 million on revenues of £30 million.

The Virgin brand was inseparable from Richard Branson's persona as entrepreneur, joker, and the "acceptable face of capitalism." The affection of the British public for Branson, and the appeal of the Virgin brand, reflected the alignment between

Branson's values and sense of fair play with some of the traditional values that defined the British character. In battling huge, anonymous corporations, Branson recalled the legendary heroes of yesteryear who fought tyranny and evil: King Arthur, Robin Hood, and St. George. His willingness to appear in outlandish attire reflected a British propensity for eccentric dressing-up. Though it also raised issues as to whether Branson and the Virgin brand could achieve a similar rapport with consumers outside of Britain.

Virgin's diversity presented several risks to the Virgin brand. In some markets, Virgin was unable to offer distinctive differentiation. In others, Virgin had limited control over its licensees use of the Virgin brand. And there was the ever-present danger that customer dissatisfaction in a single business might contaminate the entire brand. Moreover, Branson's popular appeal appeared to be waning. A critical biography highlighted some of the contradictions in Branson's image and behavior: flying his private jet to climate change summits, lecturing on transparency and accountability while presiding over an impenetrably opaque business empire, promoting the interests of the underprivileged while protecting his own wealth in offshore family trusts.[7]

The Virgin Business Development Model

Most of Virgin businesses were start-ups. From the founding of *Student* magazine through to the formation of Virgin Galactic, Branson's strength as a businessman was in conceiving and implementing new business ideas—even if the ideas behind most of Virgin's new business ventures came from other people. Branson acted as a magnet for would-be entrepreneurs from both inside and outside the Virgin Group. Virgin's website encouraged the submission of new business ideas to its corporate development office.

Virgin's approach to business start-ups reflected Branson's attributes of innocence, innovation, and irreverence for authority. His business ventures, just like his sporting exploits, reflected a "just live life" attitude and a "bigger the challenge, greater the fun" belief. He was particularly drawn to markets where stodgy, incumbent firms resulted in underserved customers and Virgin could offer a better alternative. On its website, Virgin explained its purpose as: "Virgin is known for challenging the status quo—taking on industry giants and championing people and the planet. Disruption is in our DNA and we've made sure this is captured in our purpose, the reason Virgin exists. Virgin Group's purpose is changing business for good."

Over time, Virgin's approach to business development had become more systematized:

> When we start a new venture, we base it on hard research and analysis. Typically, we review the industry and put ourselves in the customer's shoes to see what could make it better. We ask fundamental questions: Is the customer confused or badly served? Is this an opportunity for restructuring a market and creating competitive advantage? What are the competitors doing? Is this an opportunity for building the Virgin brand? Can we add value? Will it interact with our other businesses? Is there an appropriate trade-off between risk and reward?
>
> We are also able to draw on talented people from throughout the Group. New ventures are often steered by people seconded from other parts of Virgin, who bring with them the trademark management style, skills and experience. We frequently create partnerships with others to combine industry specific skills, knowledge, and operational expertise ...[8]

Typically, Virgin was able to use the Virgin brand and Branson's celebrity status to obtain 51% or more of the equity of new ventures while contributing a minority of the equity capital.

The Virgin Group's Management Style

Branson's approach to management reflected his values and personality. Informality and disrespect for convention were central to Branson's way of business. He resisted any separation among work, family, and leisure, reflecting a view of business as part of life, which, like life, should involve excitement, creativity, and fun. Equally he was happy to involve cousins, aunts, childhood friends, and dinner-party acquaintances in business relationships. His hands-off approach to his business empire was based upon giving autonomy and incentives to managers he trusted. Once a new Virgin business was up and running, it was handed over to a trusted managing director and financial controller. The top management team were rewarded with equity stakes or options and expected to develop the company.

Much of Virgin's entrepreneurial success can be traced to Branson's ability to embody the spirit of the "New Britain"—a country which, at the end of the 20th century, was identified more by its vibrant culture than by its colonial heritage and rigid class system. In a country where business leaders were conventionally part of "the establishment," Branson was the "people's capitalist."

Branson's antipathy toward authority and convention was also reflected in his disrespect for conventional business principles. He argued that Virgin's network of small companies combined "small is beautiful" with "strength through unity." Claiming to have never read a management book, he developed his own principles of management. His business maxims have included: "Staff first, then customers and shareholders," "Shape the business around the people," "Be best, not biggest," "Pioneer, don't follow the leader," "Capture every fleeting idea," and "Drive for change."

Increasingly, Branson's freewheeling management philosophy was at odds with the growing formalization of the Virgin Group's management structure. This included:

- Establishing Virgin Management Ltd. as the center for the group's management capability. As the Virgin website explained:

  > At the center, Virgin Management Ltd. (VML) provides advisory and managerial support to all of the different Virgin companies and our specialist Sector teams around the world. Our people in London, New York and Sydney offer regional support and between us and the Sector teams we manage Virgin's interests across the whole of the Virgin Group.
  >
  > VML's fastidious number-crunchers get to manage Virgin's financial assets in the group, our witty marketeers and intelligent communicators get to protect and maximise the value of the Virgin brand and our touchy-feely people teams ensure Virgin is an employer of choice.[9]

- Sector teams, each headed by a managing partner, provided oversight to companies within a particular area of business: "The specialists keep our companies on their toes and ensure we keep developing better experiences and world beating products."[10]
- Centralizing ownership and control of the Virgin brand within Virgin Enterprises Ltd. Neil Hobbs, intellectual property lawyer for Virgin Enterprises, explained: "Our role is both to optimize and enhance the value of the brand and to protect that by ensuring that value is not diminished through infringement by third parties."[11] During 2016, royalties from licensing the Virgin brand to members of the group and to other companies amounted to £95 million yielding a net, after tax profit of £66 million.

TABLE 3 Virgin's senior executives, 2018

Executive	Role at Virgin	Prior career
Josh Bayliss	CEO since 2011, previously Virgin's General Counsel	Lawyer (Slaughter & May)
Peter Norris	Group Chairman since 2009	Investment banker (Goldman Sachs, Barings)
Patrick McCall	Senior Managing Director with responsibilities for Virgin Active, Virgin Money, Virgin Galactic, and Virgin Trains, previously with Virgin Rail and Virgin Active	Investment banker (S.G. Warburg)
Evan Lovell	Managing Director of Investments, responsible for Virgin's North American investment portfolio	Private equity (TPG)
Amy Stirling	Chief Financial Officer of the Virgin Group	CFO The Prince's Trust, CFO TalkTalk
Lisa Thomas	Managing Director of Virgin Enterprises	M&C Saatchi Group
Ian Woods	Partner, General Counsel and COO	Lawyer (Slaughter & May)

Source: www.virgin.com/virgingroup/content/our-senior-team.

- Establishing a top-management team. The appointment of Peter Norris as non-executive chairman of Virgin Group Holdings in 2009 was followed, in July 2011, with the appointment of Josh Bayliss, formerly Virgin's general counsel, as CEO.

Yet, despite this formalization, the critical components of the Virgin management system remained its entrepreneurial culture and personal relationships.

The group's senior management team is shown in Table 3. Richard Branson's only formal role was as president of Virgin Atlantic.

Looking to the Future

By 2018, it was clear that the identity and the strategic direction of the Virgin Group had shifted. While Sir Richard continued to espouse—and pioneer—bold entrepreneurial ventures, the businesses owned and controlled by the Virgin Group were primarily established ventures in regulated industries: airlines, trains, and healthcare. The group's profit was increasingly dependent not on its own business operations but on brand royalties, dividends from associated companies, and capital gains from disposals.

This raised the issue of the appropriate business model for Virgin Group. For much of its history, Virgin had been primarily a business incubator, initiating and developing entrepreneurial new ventures. Virgin had previously described itself as a "branded venture capital organization"; however, the typical venture capital firm invested in other entrepreneurs' start-ups: Virgin created its own businesses, typically using other people's money.

As the company established a number of major businesses in the travel, entertainment, and retail sectors, Virgin increasingly became a diversified holding company—along the lines of Berkshire Hathaway, Koch Industries, or the Tata Group. Branson himself had likened Virgin to a Japanese *keiretsu*—like Mitsubishi or Mitsui, the Virgin

Group featured equity linkages, interlocking directorships, collaboration between member companies, and a focus on long-term development.

However, as Virgin increasingly sold off or floated majority equity stakes in its core businesses, so it increasingly looked more like a private equity fund. Certainly, the preponderance of investment bankers and lawyers among Virgin's top executive team was reminiscent of private equity firms. The group's transition from being an entrepreneurial and operating company into an investment company was acknowledged in its own "About us" description: "We are a family-owned growth capital investor, with a globally recognised and respected brand."[12]

Yet, what distinguished Virgin from the typical private equity firm was the central role of the Virgin brand. In markets where brand differentiation has proved elusive—airlines, rail travel, wireless communication, and healthcare—the Virgin brand was widely viewed as conferring substantial value. So, perhaps Virgin should conceive of itself as a brand licensing company. Yet, this too was problematic: the Virgin brand, because it was linked to an individual rather than to a particular product or business enterprise, was vulnerable. "Every day that Richard gets older the issue of the Virgin brand becomes a bigger one because so much of it is tied to him," noted Jez Frampton, chief executive of Interbrand, the brand consultancy.[13] Using high-profile new ventures to expand Virgin's brand awareness had proved problematic. Virgin Galactic was intended as a vehicle for boosting Virgin's US brand awareness. However, the crash of Galactic's SpaceShipTwo in October 2014 had wide repercussions. According to the *Financial Times*: "Sir Richard had hoped Galactic would have a 'halo effect' on the rest of the company. The risk is that it will have the opposite impact and threaten the value of the brand upon which the whole edifice depends."[14]

Whichever strategic model Virgin followed, it seemed likely that it would need to continue to make changes to its structure and management system. The informal, collaborative approach that had allowed the Virgin Group to survive and develop despite a turbulent economic environment had depended greatly upon Richard Branson and his personal leadership. Inevitably, his role within the group would diminish over time.

Notes

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8. "The Virgin Brand," http://www.virgin.com/about-us, accessed September 27, 2012. Reproduced with permission.
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Case 19 Google Is Now Alphabet—But What's the Corporate Strategy?

On August 10, 2015, Google's CEO, Larry Page, announced that Google Inc. would become Alphabet Inc., a holding company of which Google (comprising the company's search and Internet businesses) would be the biggest operating company. Extracts of the announcement are reproduced in Exhibit 1. The organizational structure of Alphabet is shown in Figure 1.

The creation of Alphabet was widely viewed as Google's top management finally conceding to investors' demands for greater transparency by separating Google's primary source of profits, its search business, from Google's other businesses. It was also a confirmation by Google's founders, Larry Page and Sergey Brin, that their company was no longer simply a search company. The announcement was a reaffirmation of the company's commitment to developing and commercialization of revolutionary technologies. This quest had already led Google beyond search, beyond the provision of information, and beyond software into mobile devices, home appliances, life sciences, self-driving cars, broadband services, digital eyewear, and a host of other ventures.

Soon after its founding, Google had proclaimed "Ten Things We Know To Be True"—a set of business principles that would guide the company's development. Second on the list was, "It's best to do one thing really, really well," to which the response was: "We do search."[1]

Google—now Alphabet—was no longer a search company. But what was it?

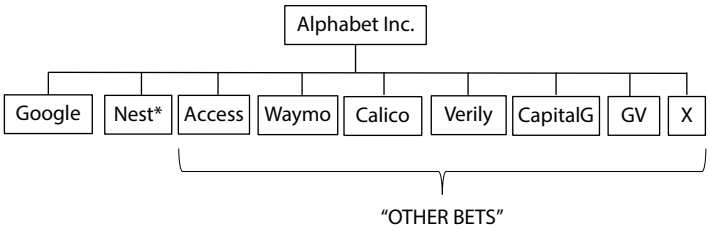
Founders Brin and Page had consistently emphasized that the essence of their company was applying technology to improving the lives of people. Page had declared, "The societal goal is our primary goal," the challenge being to: "... use all these resources ... and have a much more positive impact on the world?"[2]

If Alphabet was to be described by technology—then which technologies? From the beginning Google/Alphabet has been about algorithms. Initially, its PageRank algorithm, but increasingly artificial intelligence algorithms that model the functioning of the human brain. By combining machine learning and artificial intelligence, Alphabet is identifying areas where machine intelligence can be superior to human intelligence. The scope of these applications—from autonomous driving to medical diagnosis, to facial recognition, to education—seems limitless.

The diversity of Alphabet's business and technological initiatives also fueled suspicions about the motivations of the founders, Brin and Page. Despite their proclamations to pursue the good of society and to "do no evil," it seemed to some that Google was locked in battle with Apple, Amazon, Facebook, and Microsoft for the control of cyberspace.

This case was prepared by Robert M. Grant. ©2019 Robert M. Grant.

FIGURE 1 Alphabet Inc.: Organization structure, March 2018



* Nest was transferred to become part of Google in February 2018

EXHIBIT 1

Google Announces Plans for New Operating Structure August 10, 2015

As Sergey and I wrote in the original founders' letter 11 years ago, "Google is not a conventional company. We do not intend to become one." ... From the start, we've always strived to do more, and to do important and meaningful things with the resources we have.

We did a lot of things that seemed crazy at the time. Many of those crazy things now have over a billion users, like Google Maps, YouTube, Chrome, and Android. And we haven't stopped there. We are still trying to do things other people think are crazy but we are super excited about.

We've long believed that over time companies tend to get comfortable doing the same thing, just making incremental changes. But in the technology industry, where revolutionary ideas drive the next big growth areas, you need to be a bit uncomfortable to stay relevant.

Our company is operating well today, but we think we can make it cleaner and more accountable. So we are creating a new company, called Alphabet. I am really excited to be running Alphabet as CEO with help from my capable partner, Sergey, as President.

What is Alphabet? Alphabet is mostly a collection of companies. The largest of which, of course, is Google. This newer Google is a bit slimmed down, with the companies that are pretty far afield of our main internet products contained in Alphabet instead. What do we mean by far afield? Good examples are our health efforts: Life Sciences (that works on the glucose-sensing contact lens), and Calico (focused on longevity). Fundamentally, we believe this allows us more management scale, as we can run things independently that aren't very related.

Alphabet is about businesses prospering through strong leaders and independence. In general, our model is to have a strong CEO who runs each business, with Sergey and me in service to them as needed. We will rigorously handle capital allocation and work to make sure each business is executing well. We'll also make sure we have a great CEO for each business ...

Larry Page, CEO, Alphabet

Source: https://abc.xyz/investor/news/releases/2015/0810.html, accessed March 21, 2018.

Yet, in terms of its revenue model, Google is an advertising company. In 2017, advertising accounted for 86% of Alphabet's revenues. Common to almost all Alphabet's businesses is that they are either vehicles for carrying advertising or they are sources of information that could be utilized to better target advertising.

The confusion over Alphabet's corporate strategy was no recent phenomenon. In 2009, the *Mercury News* reported:

> Google increasingly feels like a company running in a thousand different directions at once ... The problem is that in expanding into so many different areas, the identity of Google itself has become muddled ... it's getting harder every day to articulate what Google is. Is it a Web company? A software company? Something else entirely?[3]

Although comparisons have been made with other diversified giants—the *Economist* proclaimed Alphabet to be "the new General Electric" and Alphabet's Chairman Eric Schmidt drew parallels with Berkshire Hathaway—ultimately, it seemed that Alphabet truly was "a different kind of company."[4] Hence, the creation of Alphabet had done little to answer the question that had tormented Google-watchers for years: What was the corporate strategy of the company formerly known as Google?

The History of Google, 1996–2018

The Google Search Engine

Larry Page and Sergey Brin met as PhD students at Stanford University. Their investigation of the linkage structure of the World Wide Web led them to develop a page-ranking algorithm that used backlink data (references by a Web page to other Web pages) to measure the importance of any Web page. They called their search engine "Google" and in September 1998 incorporated Google Inc. in Menlo Park, California. Google's "PageRank" algorithm received a patent on September 4, 2001.

Search engines met the need of the growing number of people who were turning to the World Wide Web for information and commercial transactions. As the number of websites grew, locating relevant content became essential. Early Web search engines included WebCrawler, Lycos, Excite, Infoseek, Inktomi, Northern Light, and AltaVista. Several of them became *portal sites*—websites that offered users their first port of entry to the web. Other portals, such as Yahoo! and AOL, soon recognized the need to offer a search facility.

The Google search engine attracted a rapidly growing following because of its superior page ranking and simple design. In 2000, Google began selling advertisements—paid Web links associated with search keywords. Its Adwords placed "sponsored links"—brief, plain text ads with a click-on URL—which appeared alongside Web search results for specific keywords. Advertisers bid for keywords; it was these "cost-per-click" bids weighted by an ad's click-through rate (CTR) that determined the order in which the paid listings would appear. By 2004, Google became the US market leader in Web search; by 2009 its share had reached 65.6%.

Google became a public company on August 19, 2004: an IPO of about 7% of Google's shares raised $1.67 bn., valuing Google at $23 bn.

Organizing the World's Information

Google's expansion beyond Web search was a reflection of its mission "to organize the world's information and make it universally accessible and useful." Google's IPO prospectus elaborated this intent:

> We serve our users by developing products that enable people to more quickly and easily find, create and organize information. We place a premium on products that

> matter to many people and have the potential to improve their lives, especially in areas in which our expertise enables us to excel.
>
> Search is one such area. People use search frequently and the results are often of great importance to them. Delivering quality search results requires significant computing power, advanced software and complex processes—areas in which we have expertise and a high level of focus.

The result was a series of new products that allowed access to information from diverse sources. These sources of information included images (Google Image Search), maps (Google Maps), academic articles (Google Scholar), books (Google Book Search), satellite imagery (Google Earth), panoramic street photographs of most of the world's cities (Google StreetView), news (Google News), patents (Google Patent Search), video (YouTube), finance (Google Finance), Web logs (Google Blog Search), and many more.

However, Google's entrepreneurial and technological dynamism led it well beyond the accessing and organizing of information. Beginning with Gmail in 2004, Google introduced a widening array of software and services for communicating, creating and manipulating images, producing documents, creating Web pages, managing time, and social networking.

These new products expanded Google's advertising revenues by providing additional opportunities for carrying ads and improving Google's targeting of ads. Google's primary source of advertising revenue was AdWords, launched in 2000. Advertisers specify the keywords that should trigger their ads and the maximum amount they are willing to pay per click. When a user searches google.com, short text advertisements appear on the screen. The rank ordering of ads is determined by advertiser's cost-per-click bid and the "ad quality" (its relevance to the user). The advertiser then pays Google according to the number of clicks on the advertisement.

AdSense uses an advertisement placement technology developed by Applied Semantics (acquired in 2003) that allows Google to place ads on third-party websites. Table 1 shows Alphabet's revenues from advertising and other sources.

In 2007 and 2008, Google's diversification efforts took a dramatic new turn with Google's entry into mobile telephony and Web browsers.

TABLE 1 Alphabet's revenue sources, 2008–2017 ($billion)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Google advertising revenues (total)	21.1	22.9	28.2	36.5	46.0	51.1	59.6	67.4	79.4	95.4
—Google properties	14.4	15.7	19.4	26.1	31.2	37.4	45.1	52.4	63.8	77.8
—Google network members' properties	6.7	7.2	8.8	10.4	12.5	13.1	14.0	15.0	15.6	17.6
Google other revenues	0.7	0.8	1.1	1.4	2.4	5.0	6.9	7.2	10.1	14.3
Google total revenues	21.8	23.7	29.3	37.9	46.0	55.5	66.0	74.5	89.5	109.7
Other Bets revenues[a]	–	–	–	–	–	–	–	0.4	0.8	1.2
Total revenues	21.8	23.7	29.3	37.9	46.0	55.5	66.0	75.0	90.3	110.9

Notes:

[a] Revenues from Other Bets businesses were included in "Google total revenues" prior to 2015.

Source: Google Inc. and Alphabet Inc 10-K reports.

Android and Mobile Telephony

Google acquired Android Inc. in 2005 and in November 2007 launched the development of its Android software platform, a Linux-based operating system for mobile devices. According to Google:

> "Android is being developed ... with the goal of providing consumers a less expensive, richer and more powerful mobile experience."[5] Most observers thought that Google's primary concern was the threat that the shift from desktop to mobile devices posed to Google's advertising revenues.

Android was a spectacular success: in establishing market leadership (Table 2), it prevented Apple from dominating the smartphone and tablet market. By offering Android as a free, open-source, mobile operating system, it was able to attract a large number of handset manufacturers (the most important being Samsung) and an army of application developers—by 2018, there 1.76 million Android apps.

Chrome

Google's Chrome Web browser announced on September 2, 2008 generated huge publicity, but little surprise. Google's then head of product development (later CEO of Google within Alphabet), Sundar Pichai, explained: "Google's entire business is people using a browser to access us and the web." Google's website added: "Google Chrome is a browser that combines a minimal design with sophisticated technology to make the web faster, safer, and easier." By contrast, Microsoft's Internet Explorer (IE) was constrained by the legacy of its 15-year history.

Google's goal for Chrome was not simply a superior user experience. Version 8 of Microsoft's IE launched in 2008 allowed an "InPrivate" protection mode that would delete cookies, making it more difficult to track users' browsing habits. This would limit Google's ability to use such information to target consumers with advertising.

Others saw Google's primary intention as not so much to protect its search engine but more to attack Microsoft's dominance of personal computing and to speed the

TABLE 2 Shipments of smartphones: Market share by operating system

	2018[a] (%)	2015[a] (%)	2013[a] (%)	2011[a] (%)
Android (Google)	86.1	78.0	75.5	36.1
iOS (Apple)	13.7	18.3	15.9	18.3
Blackberry OS (RIM)	–	0.3	2.9	13.6
Windows (Microsoft)	–	2.7	3.2	2.6
Other	0.2[b]	0.7	1.5	29.4[c]
TOTAL	100.0	100.0	100.0	100.0

Notes:
[a] The data are for the first quarter of each year.
[b] Includes Blackberry and Windows.
[c] In 2011, "Other" comprised Symbian with 26.0%, Linux with 3.1% and other systems 0.3%.
Source: IDC.

transition of computing to a new online environment. *Wired* magazine viewed it as: "an aggressive move destined to put the company even more squarely in the crosshairs of its rival Microsoft.[6]

The announcement ten months later that Google would add an operating system to its Chrome browser was seen as confirmation of Google's aggressive intent toward Microsoft.

Google in Hardware

As Internet access transitioned toward mobile devices, Google sought to reinforce its proprietary technology in that sphere. Its acquisition of the struggling handset maker Motorola Mobility in 2012 for $12.5 bn., was primarily to acquire its rich portfolio of patents relating to wireless communication.

Owning Motorola would also permit Google closer integration of hardware and software development in smartphones and tablet computers, thereby enhancing the user experience.

However, becoming a handset maker put Google into competition with some of its major customers, notably Samsung, which was already developing its own operating system. In 2012, Google sold Motorola to Lenovo, but continued to develop and market mobile devices, including the Nexus brand of smartphones (build by HTC) and a range of notebook and tablet computers based upon its Chrome operating system. In January 2018, Google deepened its relationship with HTC when it paid HTC $1.1 bn. for patent licenses and an engineering unit.

Subsequent diversifications also increased Google's involvement in hardware:

- Google Glass, an Internet-enabled, optical head-mounted display controlled by natural language voice commands, was marketed on an experimental basis between April 2013 and January 2015.
- With the acquisition of Nest in January 2014, Google became a supplier of home security and control devices—including thermostats and smoke detectors. The goal was to build Google's position as a central player in the "smart home." In May 2015, Google announced Project Brillo, an operating system to link home devices, such as door locks, light bulbs, and security cameras, while Project Weave would allow these devices to communicate with other products and web services.[7]
- Google Home, launched in October 2016, and the Home Mini, launched 12 months later, were Google's entrants to the fast-growing market for voice-activated, smart speakers. Despite selling about 2 million smart speakers per month in the closing months of 2017, Google remained a distant second to Amazon in this market.
- Google's involvement in smart TV has included its Google TV and Android TV software programs and its Chromecast plug-in devices, first launched in 2013, which allow video streaming on TV receivers.

Google+

Google's foray into social networking began with Orkut in January 2004 and continued with Google Friend Connect and Google Buzz. However, all were eclipsed by Facebook. When, in March 2010, Facebook overtook Google as the most visited website

within the United States, Google became fully aware of the threat posed by Facebook to its online advertising revenue:

> If you were an advertiser, who would you rather place your ads with? On the one hand, you have a company that will attempt to gear ads to things like the search history of users. On the other hand, you have a company that knows where its users went to college, where they work, who they are friends with, what they're reading and sharing, and their favorite bands, books, foods, and colors. Advertisers want to target their ads to the people most likely to be receptive to them, and information is the key to targeting. The more information available, the better the targeting.[8]

Launched in June 2011, Google+, the company's fourth venture into online social networking, had 540 million users by October 2013. However, by the end of 2017, it was clear that, yet again, Google had failed to build a viable competitor to Facebook—although YouTube was widely viewed as a social media platform.

Waymo

Google began developing autonomous driving systems in 2009 with applications both to existing production cars and its own prototype cars, which lacked all driver controls. By 2017, Waymo had a fleet of self-driving vehicles in Phoenix, AZ, being driven without a person behind the wheel. However, it was competing with at least 12 other companies in developing self-driving systems and any commercial revenues within the next five years seemed unlikely. In February 2018, Alphabet received $244 million in Uber equity, settling a legal suit over Uber's alleged theft of Waymo's technology.

Life Sciences

Alphabet's research activities in life sciences were organized into two businesses. Calico's mission is "to harness advanced technologies to increase our understanding of the biology that controls lifespan." In 2014, Calico formed an R&D alliance with AbbVie to develop new therapies for age-related diseases, including neurodegeneration and cancer. Verily's mission to make the world's health data useful so that people enjoy healthier lives. It makes a smart contact lens that measures blood sugar. In January 2017, Temasek, a Singapore-based investment company, paid $800 million for a non-controlling equity stake in Verily.

Broadband

Alphabet's Access subsidiary combines several broadband projects whose goal is to expand access to the Internet. The major component of Access is Google Fiber, which offers broadband and TV service in several locations with in the United States. It also includes Webpass, a gigabit Internet provider acquired in 2016.

Venture Capital

Google Capital was established in 2013 to make late-stage venture capital investments in technology companies. In 2016, it was renamed CapitalG. In addition to finance, CapitalG provides companies within its portfolio access to technological and strategic

advice from Google's executives. Its investments include Survey Monkey, Lending Club, Airbnb, Snap Inc., Stripe, Looker, and Lyft.

GV, formerly Google Ventures, is Alphabet's other venture capital subsidiary. It invests in life sciences, artificial intelligence, robotics, and cybersecurity companies, mainly in the early stages of their development.

X

X, formerly Google X, is a corporate lab for developing experimental technologies known as "moonshots." According to *The Atlantic* magazine: "X is perhaps the only enterprise on the planet where regular investigation into the absurd is not just permitted but encouraged, and even required."[10] Because of the secrecy surrounding X, only a few of the projects being undertaken are known. During early 2018, these included:

- Project Loon—high altitude balloons providing internet connectivity in areas lacking broadband infrastructure;
- Project Wing—package delivery via airborne drones;
- Makani Power—generating electrical power through wind turbines mounted on tethered kites;
- development of a revolutionary, miniature battery for powering mobile devices;
- various robotics projects.

Alphabet's Management and Capabilities

Google—now Alphabet—had created a management system that was unique, even by the unorthodox standards of Silicon Valley. Some of the key features of this system included:

- *Hiring policy:* From its earliest days, Google committed itself to hiring only the "brightest of the bright." Google's targets were not simply the highly intelligent. They were "smart creatives"—people who were "not confined to specific tasks ... not adverse to taking risks ... not hemmed in by role definitions ... don't keep quiet when they disagree ... get bored easily and shift jobs a lot ... combine technical depth with business savvy and creative flair."[9] As founders Page and Brin explained: "Our employees, who have named themselves Googlers, are everything. Google is organized around the ability to attract and leverage the talent of exceptional technologists and business people ... Because of our employee talent, Google is doing exciting work in nearly every area of computer science ... Talented people are attracted to Google because we empower them to change the world."[11]
- *A "dramatically flat, radically decentralized" organization:* Google structure and systems were designed around the simple notion of "What do smart creatives need in order to be productive?" The answer was primarily about the aspects of traditionally managed organizations that should be avoided: authority, rules, formality, defined job roles, and hierarchical privileges. Google was a flat organization because its smart creatives needed easy access to key decisions in order to get things done. To minimize hierarchy, Google used a "rule of seven": each manager must have at least seven direct reports.
- *Small, self-managing teams:* The majority of Google's employees, including all those involved in product development, worked in small teams. Most engineers

were in teams of three or four. Team size was limited by the "two-pizza rule"—teams should be small enough to be fed by two pizzas. Teams appointed their own leaders, and engineers could switch teams without the need for permission from the HR department.

- *An environment that fosters creativity:* For employees to be productive required a working environment that stimulated and fostered their interaction. Google's workplaces were designed to minimize separation among colleagues. Google's opulent eating and sports facilities were similarly designed to increase human interaction. Creativity and innovation were institutionalized through Google's "70–20–10" rule, which stipulated that Google would devote 70% of its engineering resources to developing the core business, 20% to extend that core into related areas, and 10% allocated to fringe ideas. As a result, Google employees were able to spend time working on pet projects of their own choosing.
- *Rapid, low-cost experimentation:* According to Gary Hamel: "Evolutionary adaptation isn't the product of a grand plan, but of relentless experimentation ... Google's 'just-try-it' philosophy is applied to even the company's most daunting projects, like digitizing the world's libraries ... That kind of step-wise, learn-as-you-go approach has repeatedly helped Google to test critical assumptions and avoid making bet-the-farm mistakes."[12]

Underlying Alphabet's capacity for innovation and the effective implementation of new initiatives was a set of resources that few other technology-based companies could match. With an operating cash flow of $37 bn. in 2017 and a cash pile of $103 bn., Alphabet was a financial powerhouse that could buy its way into almost any market or area of technology. (Table 3 shows financial data for Alphabet.) However, most of

TABLE 3 Alphabet Inc.: Selected financial data, 2008–2017 ($ bn.)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Revenues	21.8	23.7	29.3	37.9	43.7	50.5	59.1	75.0	90.3	110.9
Cost of revenues	8.6	8.8	10.4	13.2	17.2	22	25.7	28.2	35.1	45.6
R & D	2.8	2.8	3.8	5.2	6.1	7.1	9.8	12.3	13.9	16.6
Sales and marketing expense	1.9	2.0	2.8	4.6	5.5	6.6	8.1	9.0	10.5	12.9
General and admin. expense	1.8	1.7	2.0	2.7	3.5	4.4	5.9	6.1	7.0	6.9
Income from operations	6.6	8.3	10.4	11.7	13.8	15.4	16.5	19.4	23.7	26.1[a]
Other income	0.3	0.1	0.4	0.6	0.6	0.5	0.8	0.3	0.4	1.0
Income before income taxes	5.9	7.1	10.8	12.3	14.5	15.9	17.3	19.7	24.2	27.2
Net income	4.2	6.5	8.5	9.7	10.7	12.9	14.4	16.3	19.5	12.7
Cash and marketable securities	28.4	24.5	35.0	44.6	48.1	58.7	64.4	73.1	86.3	101.9
Long-term liabilities	1.2	1.7	1.6	5.5	7.7	7.7	9.8	7.8	11.7	20.6
Total stockholders' equity	28.2	36.0	46.2	58.1	71.7	87.3	104.5	120.3	139.0	152.5

Notes:
[a] Operating income was reduced in 2017 by a European Union fine of $2.7 bn.
Source: Alphabet Inc. and Google Inc. 10K reports.

the time it was content to make small acquisitions. Owning one of the world's most valuable brands (Google) and the world's two most visited websites (google.com and youtube.com), Alphabet commanded attention in any market it chose to enter.

The holding company structure of Alphabet would allow greater autonomy and flexibility for the individual subsidiaries, but would the loss of integration undermine the organizational capabilities that had made the company so successful?

Commenting on the transition from Google to Alphabet, the *Financial Times* observed: "Further down the organization, life gets more compartmentalized. It is not obvious that working in a silo at Company XYZ, 'an Alphabet subsidiary', is as attractive as working on complex issues across today's Google."[13] Two years later, *Fortune* confirmed these fears, noting that the creation of Alphabet has "changed what it means to work for Google. Some grumble that their role now is to subsidize innovation at their sister companies, rather than to innovate themselves. ...That's a striking shift, especially for high-performing employees accustomed to moving about the company almost at will."[14]

The Future of Alphabet

Soon after Google's reincarnation as Alphabet, *Forbes* contributor, Ken Favaro, argued that Alphabet had failed to address the fundamental question of corporate strategy: "How does the company itself add value to its particular businesses and ventures?" As a result, Alphabet's "strategy remains as opaque as ever." In terms of the managerial effectiveness, lack of strategic clarity may translate into loss of "coherence, insight, and resilience" such that corporate development will "inevitably amount to a random walk that can only be rationalized ex post."[15]

These issues were especially pertinent in relation to Alphabet's "Other Bets." *Business Insider's* Steve Kovach noted:

> The hope was that one of these Other Bets would become the next multibillion-dollar tech company and help diversify parent company Alphabet's revenue sources beyond Google's digital ads business. But this grand vision was always laden with some unanswered and uncomfortable questions: What does a successful Other Bet look like? When will one of those companies graduate from a mere "bet" to a winner that can stand on its own? Are they supposed to reach a point where they're big enough to spin out into a separate company outside Alphabet?[16]

Revealing the dire financial performance of Alphabet's Other Bets (see Table 4) had increased the tensions between Alphabet's technological ambitions and responsibilities to investors. These tensions appear to have been a factor in the high turnover of senior managers in the Other Bet companies:

> [T]he heads of some of Alphabet's Other Bets, or of divisions that were on track to become Other Bets, were frustrated by the Alphabet structure... They signed up with the promise of being CEOs running their own startups, but were instead constrained from the top by Alphabet's CFO Ruth Porat, who controlled funding, as well as by the whims of Google cofounders Larry Page and Sergey Brin...The vision of Alphabet was to create nimble startups, but many of the entrepreneurs tasked with leading these startups concluded that they had better prospects of accomplishing their goals outside Alphabet than within.[17]

TABLE 4 Alphabet Inc.: Financial results of business segments, 2015–2017

		2015	2016	2017
Google	Revenues	74,544	89,463	109,652
	Operating income	23,319	27,892	32,908
	Capital expenditures	8868	9417	12,605
Other Bets	Revenues	445	809	1203
	Operating income	(3456)	(3578)	(3355)
	Capital expenditures	850	1385	507

Source: Alphabet Inc. 10K report for 2017.

In principle, the holding company structure had conferred greater autonomy to the businesses, giving them greater freedom to develop and grow. This would resolve many of the problems arising from Google's increasing size and complexity. By 2018, Google had 88,110 employees, up from 16,805 ten years earlier—inevitably this strained Google's famously informal management processes. Yet, the impact of the decentralization in taking pressure off top management would be offset by the increasing external pressures that Alphabet faced in 2018.

Concerns over Google's market power had resulted in antitrust investigations in the European Union, India, South Korea, Brazil, and Argentina. In 2017, the European Commission imposed a fine of €2.42 bn. for anticompetitive practices regarding Google's display and ranking of shopping search results. It was also investigating Android distribution practices and Google's syndication of AdSense.

Privacy issues were another area where Alphabet faced regulatory and legal threats. Privacy advocates and political activists have long expressed concern that Google's ability to track individuals' search and browsing behavior, the content of their Gmail messages, and, through Android, their cell phone usage and locations, represented a threat to individual privacy. Initiatives to restrict Alphabet's use of individuals' data included the European Court's "right to be forgotten" judgement in 2014, which allowed individuals to require that Google removed search results about them, the European General Data Protection Regulation to protect personal data, and a similar measure under consideration in California. Alphabet's vulnerability to concerns over privacy was highlighted by the crisis that engulfed Facebook in March 2018 over its release of personal data to Cambridge Analytica.[18]

One indication of growing regulatory and political pressures that Alphabet faced was its growing presence in Washington, DC. In 2017, Alphabet spent more on lobbying than any other company.

Competition provided another dimension of Alphabet's increasingly complex external environment. As the company diversified from search into an ever-increasing range of activities, so it came into competition with a widening range of rivals. In advertising, Facebook was its closest competitor; in mobile platforms and online payment systems, it was Apple; in browsers, computer operating systems, and office software, Microsoft; in home automation, Amazon and Honeywell; in autonomous driving, Tesla, Uber, Ford, and General Motors; in cloud computing, all the major IT companies. Competing with multiple companies on multiple fronts meant that Alphabet could not operate as a set of quasi-autonomous companies.

The new structure would also facilitate adding new businesses—either by acquisition or internal development—thereby setting the scene for further diversification. This raised concerns among investors as to whether the new company would provide greater opportunity for Page and Brin to pursue their ambitions of using technology to change the world. In an interview with the *Financial Times* in October 2014, Larry Page declared, "The societal goal is our primary goal," and outlined the main challenge as: "How do we use all these resources ... and have a much more positive impact on the world?" The answer seemed to be to use the money generated by Google's search advertising business to make bets on technologies that offered long-term solutions to some of the world's most pressing problems. Many of these initiatives grew out of the curiosity and personal interests of the two founders. For example, the inspiration for Calico came from the interests of Larry Page's wife, Lucy, in bioinformatics and the diseases of old age.

Beyond the notion of creating a "21st century, technology-based conglomerate," there was little indication of the boundaries that would be established around Alphabet's ambitions or its activities. *Forbes* contributor Dan Diamond pointed to healthcare as a major area of future growth for Alphabet.

The implications of the new company for Google's core search and advertising business were far from clear. While investors hoped the holding company structure would allow greater transparency and bottom-line focus for management, there was limited evidence to support this optimism. The new Google subsidiary would include YouTube and Android; there was no indication that financial data would be available for the individual lines of businesses within Google.

Nor was it clear what the new structure would mean for the company's ability to address the challenges it faced from competitors and regulators. One regulatory challenge was antitrust: Google's dominant share of Internet search and Android's share of mobile operating systems meant it was a monopoly in terms of the competition laws of many countries of the world. The other was privacy: concerns included the scanning of emails sent through Gmail, the use of cookies to track an individual's search history, the aggregation of an individual's data across Google's various services, the depiction of private residences on Google's StreetView, and the release of user data to national government agencies.

Given the breadth of the challenges Google faced, had the time come for Google's leading trio—CEO and founder Larry Page, founder and director Sergey Brin, and executive chairman Eric Schmidt—to scale back Google's ambitions and draw boundaries around Google's corporate strategy?

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Case 20 Restructuring General Electric

The appointment of Larry Culp as the chairman and CEO of the General Electric Company (GE) on October 1st, 2018 was a clear indication of the seriousness of the problems that had engulfed the company. Culp, the former CEO of the highly-successful conglomerate, Danaher Corporation, had been appointed a GE director only six months previously and was the first outsider to lead GE—every one of GE's previous CEOs had been a career manager at the company. On the same day as Culp's appointment, GE abandoned its earning guidance for the year and announced a $23 billion accounting charge arising from a write-down of goodwill at its troubled electrical power division.[1]

Culp's predecessor, John Flannery had been CEO for a mere 14 months—a sharp contrast to GE's two previous CEOs: Jeff Immelt (16 years) and Jack Welch (20 years). Flannery's tenure at GE has coincided with of the company's most difficult periods in its entire 126-year history. In November 2017, amidst deteriorating financial performance, Flannery announced a halving of GE's quarterly dividend, the proposed sale of its lighting and locomotive units—two of GE's oldest businesses—and the elimination of 12,000 jobs in the power division.

In 2018, the situation worsened. In January, GE announced that it would be paying $15 bn. to cover liabilities at insurance companies it had sold 12 years previously. In February, GE confirmed suspicions over its dubious accounting practices by restating its revenues and earnings for the previous two years, while also announcing the likelihood of legal claims arising from its its subprime mortgage lending over a decade earlier.

The outcome was a precipitous fall in GE's share price (see Figure 1) that culminated in GE's dismissal from the Dow Jones Industrial Average (DJIA). Until June 2018, GE was the sole surviving member of the DJIA when it was created in 1896.

The crisis at GE presented the board with two central questions. First, should GE be broken up? Second, if GE was to continue as a widely-diversified company, how should it be managed?

As a diversified corporation that extended from jet engines, to oil and gas equipment, to healthcare products, to financial services, GE was an anomaly. For three decades, conglomerates—diversified companies comprising unrelated or loosely related businesses—had been deeply unfashionable. CEOs, Jack Welch and Jeff Immelt, had claimed that, by virtue of its integrated management system and knowledge sharing among its businesses, GE was not a conglomerate. The stock market seemed to agree—for decades GE was able to defy the "conglomerate discount" that had been the trigger for many widely-diversified companies to unbundle. GE's ability to flout conventional wisdom rested on its status as one of the world's best-managed companies. In the first 10 years of *Fortune*'s ranking of the world's most admired companies (1998–2007), GE topped the list seven times. By 2018, GE's dismal financial performance (see Table 1), poor top-level decision-making, and dubious financial practices have reduced that reputation to tatters.

During summer 2018, Flannery provided a partial answer to the question of whether the company should be broken up: GE would spin off its Transportation and Healthcare divisions and its oilfield services business, Baker Hughes, A GE Company (BHGE).

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FIGURE 1 General Electric share price, March 1998 to March 2018 ($)

Sources: General Electric Shareowners Meeting, April 25, 2012 and Annual Letter to GE Shareholders: 2014.

TABLE 1 General Electric: Selected financial data, 2010–2017 ($bn unless otherwise indicated)

	2017[a]	2016[a]	2015[a]	2014[b]	2013[b]	2012[b]	2011[b]	2010[b]
GE consolidated								
Revenues	122.1	123.7	117.4	148.6	146.0	146.7	147.3	150.2
Net earnings	(7.8)	8.8	(6.1)	15.3	15.2	14.6	14.2	11.6
R & D expenditure[a]	4.8	4.8	4.2	4.2	4.6	4.5	5.4	4.9
Cash flow from operating activities	10.4	(0.2)	19.9	27.5	29.0	31.0	33.4	36.1
Cash from (used in) investing activities	2.3	49.2	59.5	(5.0)	29.1	11.3	19.9	32.4
Return on average equity	(8.7%)	10.9%	1.6%	11.6%	12.2%	12.1%	11.9%	12.1%
Stock price range ($)	17.25–31.84	27.10–33.00	19.37–31.49	27.94–23.69	28.09–20.68	23.18–18.02	21.65–14.02	19.70–13.75
Total assets	377.9	365.2	493.1	648.3	656.6	681.7	717.2	747.8
Long-term borrowings	108.6	105.1	144.7	200.4	221.7	236.1	243.5	293.3
Total employees (thousands)	313	295	333	305	307	305	301	287
GE data (industrial businesses)								
Short-term borrowings	14.5	20.5	19.8	3.9	1.8	6.0	2.2	0.5
Long-term borrowings	67.0	58.8	83.3	12.5	11.5	11.4	9.4	9.6
Shareowners' equity	64.3	75.8	98.3	128.2	130.6	123.0	116.4	118.9
Total capital invested	166.8	159.5	205.7	145.3	144.8	141.3	129.0	133.1
Return on average capital invested	2.7%	25.4%	16.9%	10.6%	11.3%	11.7%	11.6%	11.8%

(Continues)

TABLE 1 *(Continued)*

	2017[a]	2016[a]	2015[a]	2014[b]	2013[b]	2012[b]	2011[b]	2010[b]
Borrowings as % of capital invested	48.9%	49.7%	50.1%	11.2%	9.2%	12.4%	9.0%	7.6%
GE capital data (financial services)								
Revenues	9.1	10.9	10.8	42.7	44.1	45.4	49.1	49.9
Net earnings	(7.1)	(2.2)	(15.8)	7.2	6.2	6.2	16.5	2.2
Shareowner's equity	13.5	24.7	46.2	87.5	82.7	81.9	77.1	69.0
Total borrowings	95.2	117.3	180.2	349.5	371.1	397.0	443.1	470.5
Ratio of debt to equity	7.06:1	4.75:1	3.90:1	3.99:1	4.49:1	4.85:18	5.75:1	6.82:1
Total assets	156.7	183.0	316.0	500.2	516.8	539.4	584.5	605.3

Notes:
[a] As reported in 2017 financial statements.
[b] As reported in 2014 financial statements.

Although Culp had endorsed this restructuring of GE's business portfolio, the board's decision to fire Flannery and appoint him CEO was a clear indication that these measures were not enough. Culp would need to answer the fundamental questions relating to the identity and strategic rationale of GE. If GE really did add value to its constituent businesses, why divest these major divisions? If the synergies among GE's businesses really were illusory, then why not break up GE entirely?

The History of GE

GE was created in 1892 from the merger of Thomas Edison's Electric Light Company with the Thomas Houston Company. Its business was based upon exploiting Edison's patents relating to electricity generation and distribution, light bulbs, and electric motors. Throughout the 20th century, GE was not only one of the world's biggest industrial corporations but also "a model of management—a laboratory studied by business schools and raided by other companies seeking skilled executives."[2] Each of GE's chairmen contributed to the development of GE's management system, and these contributions diffused well beyond GE's corporate boundaries:

- Charles Coffin (1892–1922) married Edison's industrial R&D laboratory to a business system capable of turning scientific discovery into marketable products.
- Ralph Cordiner (1950–63), assisted by Peter Drucker, established GE's Crotonville management development institute and decentralized GE's operational management to 120 departmental general managers.
- Fred Borsch (1963–72), devised GE's corporate planning system based on strategic business units and guided by portfolio management techniques, which became a model for most diversified corporations.
- Reg Jones (1972–81) integrated strategic planning with financial control to create a comprehensive system for the corporate headquarters to manage its businesses.

- Jack Welch (1982–2001) had energized GE by stripping out layers of hierarchy, introducing a rigorous, and demanding performance management system based on stretch targets and powerful incentives for their achievement, and spearheaded a series of initiatives designed to root out complacency and to drive change.[3] Welch reformulated GE's business portfolio through exiting low-growth extractive and manufacturing businesses and by expanding services—financial services in particular. By the time he retired, GE was "a bank disguised as an industrial conglomerate."[4]
- Jeff Immelt (2001–17) returned GE to its manufacturing roots through divesting its financial service and entertainment businesses, and increasing integration among the industrial businesses through sharing technology, increasing global presence, and exploiting synergies in sales and marketing.

GE's Business Portfolio

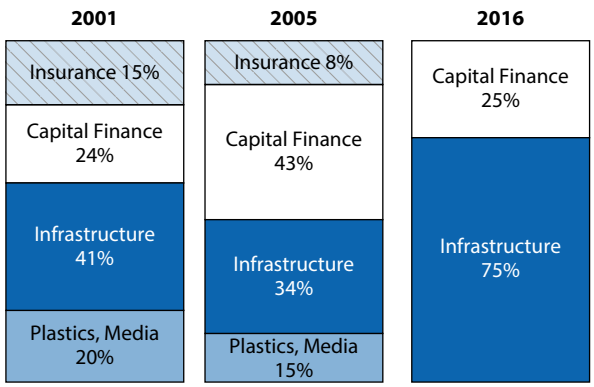
In a world of turbulence, GE had always viewed its diversified portfolio of businesses as a source of stability over the business cycle. In 2015, Jeff Immelt stated: "Diversity provides strength through disruptive events and commodity cycles," thereby constituting a key "source of value from a multibusiness company."[5]

The guiding theme of Immelt's restructuring of GE's portfolio of businesses was exploitation of profitable opportunities for long-term growth. Immelt identified four global trends of key importance to GE:

- *Demography*: The aging of the world's population would create opportunities for goods and services required by older people—healthcare especially.
- *Infrastructure*: GE anticipated massive investments in infrastructure including energy, water, and transportation.
- *Emerging markets* would offer rates of GDP growth around three times those of the world as a whole.
- *Environment*: The problems of global warming, water scarcity, and conservation required new technologies and innovative business responses.

The outcome was to recreate GE as an infrastructure company—a diversified corporation directed toward global needs for aviation, rail transportation, power generation and distribution, oil and gas production, and medical hardware. Figure 2 shows

FIGURE 2 The changing balance of General Electric's business portfolio



Immelt's depiction of GE's changing business composition. During his 16-year tenure, Immelt reconfigured GE through the acquisition of infrastructure-related companies and the divestment of consumer and financial service businesses. Table 2 shows GE's principal acquisitions and divestitures during 2004–17.

TABLE 2 General Electric's principal acquisitions and disposals, 2004–17

Year	Acquisitions	Disposals
2004	Acquires entertainment assets of Vivendi Universal for $12 bn. to form NBC Universal (80% owned by GE). GE Healthcare buys Amersham PLC for $9.5 bn. GE Capital acquires Dillard's credit card unit for $1.25 bn. GE Security acquires InVision Technologies (airport security equipment).	Life and mortgage insurance spun off as Genworth Financial.
2005	GE Commercial Finance acquires the financial service business of Bombardier for $1.4 bn.	
2006	GE Healthcare acquires IDX Systems, a medical software firm, for $1.2 bn. GE Water & Process Technologies acquires Zenon Environmental Systems for $758 mn.	GE Advanced Materials sold for $3.8 bn. GE Insurance Solutions and GE Life sold for $6.5 bn.
2007	GE Aviation acquires Smiths Aerospace for $4.6 bn. GE Oil & Gas acquires VetcoGray for $1.4 bn.	GE Plastics is sold to Saudi Arabia Basic Industries for $11.7 bn.
2008	NBC Universal buys Weather Channel for $3 bn. GE Capital acquires Merrill Lynch Capital, CitiCapital, and Bank BPH.	
2010	GE Healthcare acquires Clarient for $0.6 bn.	
2011	GE Oil and Gas acquires Dresser Inc. ($3 bn.), Wellstream PLC ($1.3 bn.), and the well support division of John Wood Group PLC ($2.9 bn.).	51% of NBC Universal sold to Comcast for $13.8 bn. GE Capital sells Mexican assets to Santander.
2012	GE Capital acquires $7 bn. bank deposits from MetLife.	
2013	Buys oilfield pump maker, Lufkin Industries, for $3.1 bn.	Remaining 49% of NBC Universal sold to Comcast for $16.7 bn.
2015	Acquires Alstom S.A.'s power business for $13.1 bn.	GE Antares Capital (private equity) $12.0 bn. GE Capital (vehicle services) $6.9 bn. GE Capital (transport finance) $8.9 bn. GE Capital (lending & leasing) to Wells Fargo for $26.5 bn. Synchrony (credit cards) for $21.6 bn.
2016		Sale of GE Appliances to Qingdao Haier for $5.4 bn.
2017	Acquires 62.5% of Baker Hughes (for $32.4 bn.), merges it with GE Oil and Gas.	GE Water & Process Technologies sold to Suez for $3.4 bn.

Sources: General Electric press releases and *Wall Street Journal*.

Shrinking GE Capital was a massive challenge given its size and contribution to GE's profitability. Despite Immelt's commitment to downsizing GE Capital, it continued to grow during 2001–07. In 2006 and 2007, GE Capital accounted for almost half of GE's total net profit (up from 25% in 2001). Only after the financial crisis of 2008–09 did GE take drastic action to divest financial services. The designation of GE Capital as a "systemically important financial institution" in 2013, which raised its capital reserve requirements, eliminated any competitive advantages it had derived from being a nonbank supplier of financial services.[6] The only businesses that GE Capital retained were "vertical financial businesses"—those linked to GE's core industrial businesses.

At the beginning of 2018, GE comprised eight major sectors. Table 3 shows these sectors' financial performance. Exhibit 1 describes their business activities.

TABLE 3 General Electric segment financial results, 2013–2017

	2017	2016	2015	2014	2013
Revenues ($mn.)					
Power	35,990	36,795	28,903	27,746	26,770
Renewable Energy	10,280	9033	6273	6399	4824
Oil & Gas	17,231	12,898	16,450	19,085	17,341
Aviation	27,375	26,261	24,660	23,990	21,911
Healthcare	19,116	18,291	17,639	18,299	18,200
Transportation	4178	4713	5933	5650	5885
Lighting(a)	1987	4823	8751	8404	8338
Total industrial segment revenues	116,157	112,814	108,609	109,574	103,269
GE Capital	9070	10,905	10,801	11,320	11,267
Total segment revenues	125,227	123,719	119,410	120,894	114,536
Segment profit					
Power	2786	5091	4772	4731	4437
Renewable Energy	727	576	431	694	485
Oil & Gas	220	1392	2427	2758	2357
Aviation	6642	6115	5507	4973	4345
Healthcare	3448	3161	2882	3047	3048
Transportation	824	1064	1273	1130	1166
Lighting	93	199	674	431	381
Total industrial segment profit	14,740	17,598	17,966	17,764	16,220
GE Capital	(6765)	(1251)	(7983)	1209	401
Total segment profit	7975	16,347	9983	18,973	16,621

(Continues)

TABLE 3 *(Continued)*

	2017	2016	2015	2014	2013
Operating Margins (%)					
Power	7.74	13.84	16.51	17.05	16.57
Renewable Energy	7.07	6.38	6.87	10.85	10.05
Oil & Gas	1.28	10.79	14.75	14.45	13.59
Aviation	24.26	23.29	22.33	20.73	19.83
Healthcare	18.04	17.28	16.34	16.65	16.75
Transportation	19.72	22.58	21.46	20.00	19.81
Lighting[(a)]	4.68	4.13	7.70	5.13	4.57
Total industrial segment	12.69	15.60	16.54	16.21	15.71
GE Capital	–74.59	–11.47	–73.91	10.68	3.56
Total	6.37	13.21	8.36	15.69	14.51

Note:
[(a)] Lighting includes Appliances before 2017.
Source: General Electric, 10K report for 2017.

EXHIBIT 1
General Electric's business segments, January 2018

GE Power. The acquisition of Alstom had made GE the world's biggest supplier of equipment for generating and distributing electricity. GE Power was also GE's biggest division with 83,500 employees in 2017. It supplied gas turbines, steam power systems, power plants, maintenance and service solutions for power generation, industrial gas engines for power generation, nuclear reactors and fuel (GE Hitachi Nuclear), electricity transmission and distribution systems, and electric motors. During 2017, GE Power was hit by a decline in worldwide demand and made a loss of $0.9 bn. arising from a write-down of inventory.

GE Renewable Energy employed 24,000 people in 2017 and was one of the world's top-five suppliers to the wind power industry, supplying wind turbines and related hardware, software, and services for both onshore and offshore generation. GE was a world-leader in wind generation technology: its Haliade-X wind turbine, launched in March 2018, is 260-m tall and can generate 12MW. GE Renewable Energy also supplies products and services to the hydropower industry.

GE Oil and Gas, with 64,000 employees in 2017, had been built by multiple acquisitions between 2007 and 2016. By merging with Baker Hughes, it created Baker Hughes, A GE Company (BHGE), the world's second biggest oilfield services supplier after Schlumberger. Its products include drilling equipment, oilfield fluids and chemicals, pumps, pressure control equipment, subsea production systems, flexible pipeline systems, equipment for production platforms, and products for refining and petrochemicals. Oilfield services include well evaluation, drilling, downhole completion, wellbore intervention, wireline services, and decommissioning. Profits declined in 2017 due to reduced capital expenditure by oil and gas companies and restructuring costs arising from the acquisition.

GE Aviation, with 44,500 employees in 2017, was the world's leading supplier of jet engines (together with avionics systems and after-market services). GE Aviation's 40-year-old joint venture with Safran of France, CFM International, supplies its highly successful LEAP engine for which there was an order backlog of 12,550 at the beginning of 2018. GE's GE9X engine, built using lightweight carbon fiber and 3-D printing, which is to be launched in 2018, is the world's biggest turbofan engine.

GE Healthcare, with 52,000 employees, is the world's leading supplier of diagnostic imaging systems using X-rays, digital mammography, computed tomography, magnetic resonance, molecular imaging, and ultrasound. It also provides systems for patient monitoring, infant incubation, respiratory care, anesthesia, and cellular and gene therapy.

GE Transportation, with 8000 employees in 2017, supplies diesel-electric locomotives together with support services, parts, software solutions, and data analytics. It also supplies diesel engines and drive systems to the shipping and mining industries. Despite GE's technical leadership in locomotives, the world market was dominated by CNR and CSR of China. Following them was CLW of India and Bombardier of Canada. In May 2018, the merger of GE Transportation with US rail equipment manufacturer, Wabtec Corp, was announced. The combined company would be owned 49.9% by Wabtec shareholders, 40.2% by GE shareholders, and 9.9% by GE.

GE Lighting, with 7500 employees in 2017, is comprised of a consumer lighting business focused on LED lighting; and Current, which provided lighting solutions for commercial, industrial, and municipal customers. At the end of 2017, the business was put up for sale and a management buyout had been agreed upon for GE Lighting's business in Europe, Middle East, and Africa.

GE Capital, with 4000 employees in 2017, had been reduced to financial services that were closely aligned with GE's industrial businesses. These included Industrial Finance, providing equipment financing for the healthcare and additive businesses; Energy Financial Services, which offers financial solutions and underwriting for Power, Renewable Energy, and Oil & Gas; and GE Capital Aviation Services, the world's biggest aircraft leasing company. During 2018, its Industrial Finance and Energy Financial Services would be shrunk considerably. However, it continued to be haunted by its past—during 2008–14, it would pay $15 billion to top-up the reserves deficiencies of previously-owned insurance companies.

Planning for a New General Electric

During his 14 months as CEO, John Flannery had taken a systematic approach to GE's restructuring, making it clear that a wide range of strategic options for GE were under consideration: "That assessment is continuing and focuses on maximizing value, all options on the table, no sacred cows." The corporate review "could result in many, many different permutations, including separately traded assets really in any one of our units, if that's what made sense."[7] Any restructuring of GE would need to address two major questions: What were the sources of GE's current problems? and, did GE add value to its constituent businesses or destroy it?

The Sources of GE's Problems

Analyses of what had gone wrong at GE were plentiful. Most of these focused on the role of Flannery's predecessor, Jeff Immelt, and some traced the problems further back to the Welch era.

It was clear that Immelt was guilty of decision-making errors—particularly with regard to timing. Criticisms focused in particular on the following:

- Ill-judged acquisitions. Several commentators pointed to GE overpaying for the companies it acquired. The principal evidence of this related to Alstom. During the long delay in gaining approval for the acquisition, the market for power-generating equipment took a downturn, and GE was forced to offer more concessions to Alstom and the French government. Hence, by the time the acquisition closed, Alstom was worth considerably less than the price GE was paying. Timing was also amiss for several of GE's acquisitions in oilfield services: Dresser, Wellstream, John Wood, and Lufkin were all bought when oil prices were booming. Scott Davis of Melius Research estimated that GE's total return on Immelt's acquisitions were less than half of what GE would have earned by simply investing in stock index mutual funds.[8] *The Economist* estimated that GE was paying much more for the businesses it bought than what it received for those it sold.[9]
- Poor cash flow management. During the 21st century, GE lost its reputation for financial conservatism along with its triple-A credit rating. At the core of concerns over its financial management has been an erratic approach to cash-flow management. The financial crisis was, of course, unexpected, but the fact that GE was forced to obtain $3 bn. in emergency funding from Warren Buffett's Berkshire Hathaway Inc. and $139 bn. in loan guarantees from the federal government appears not to have alerted GE to the risks inherent in GE Capital. Particular criticism has been directed at GE's stock buyback program: in the three years prior to the dividend cut in 2017, GE spent $49 bn. on buying its own stock.[10] According to the *Financial Times*, GE's free cash flows from its industrial businesses failed to cover its dividend during 2015–17.[11]
- Over-optimism. GE's failure to guard itself against risk and pay adequate attention to early warning signs have been interpreted by some GE-watchers as symptoms of top-management's overconfidence and reckless optimism. According to some current and former GE executives, Immelt and his top deputies engaged in "success theater"—they "projected an optimism about GE's businesses and its future that didn't always match the reality of its operations or its markets."[12] In particular, during 2017, when signs of flagging sales and mounting inventory were emerging at GE Power, Immelt was slow in acknowledging the problems.
- Problems with GE's financial accounting. If GE had been slow to recognize and react to emerging problems, one factor might have been its accounting practices, which for decades had been designed to impress Wall Street, but may also have insulated management from the reality of business performance. Under Jack Welch's leadership, GE Capital became a valuable tool for managing GE's quarterly earnings: "Unlike a factory, GE Capital's highly liquid assets could be bought or sold at the ends of quarters to ensure the smoothly-rising earnings that investors loved."[13] Dubious accounting practices also surfaced in GE's industrial businesses. At GE Power, sales of upgrades to make existing gas turbines run more efficiently were booked as current revenues, without taking into account the effects of these sales would have on reducing future service revenues.[14]

Does GE Add Value to Its Businesses?

Ultimately, the question of whether or not GE should be broken up rested on the issue of whether GE's corporate umbrella added or subtracted value from the businesses. At the time Culp was appointed CEO, with its share price depressed and facing a slew of legal and regulatory problems, it was likely that GE would be worth more if it was broken up and its constituent businesses either sold or floated as independent companies. In January 2018, the *Financial Times* valued GE's constituent businesses as: Aviation at $85 bn., Healthcare at $56 bn., and Power at $36 bn. Adding other smaller businesses and subtracting debt and other liabilities (including pensions) gave a sum-of-the-parts valuation of costs, the result was something close to $158 bn. Although this was greater than GE's market capitalization, the *Financial Times* cautioned that: "It does not look as though there is a pot of gold there waiting to be uncovered."[15]

Previous CEOs, Immelt and Welch, had argued that GE created value for its businesses through several mechanisms. These were:

1. ***Reducing risk.*** According to Immelt: "The GE portfolio was put together for a purpose—to deliver earnings growth through every economic cycle. We're constantly managing these cycles in a business where the sum exceeds the parts."[16] To the extent that GE's business diversity did smooth its overall cash flows, then it seemed that the major benefit of this was giving GE greater independence from external financing.
2. ***Portfolio management.*** Both Welch and Immelt had radically changed and reconstituted GE's business portfolio. Welch had built a huge financial services business; Immelt had re-created GE as an industrial corporation heavily focused on infrastructure. The rationale was to exit slow-growing, low-margin sectors to exploit the growth and profit opportunities of more attractive industries. In building GE's presence in jet engines, medical equipment, and systems for generating and distributing electricity, Immelt was widely perceived as having aligned GE's businesses with long-term global growth trends. However, *The Economist*'s Schumpeter column doubted the effectiveness of portfolio management in creating value: "The cost of churning capital in predictable ways can be significant ... GE has paid a multiple of 13 times gross operating profits for the businesses it has bought and got 9 times for those it sold. Some nine-tenths of its industrial capital is now comprised of goodwill, or the premium that a firm paid above book value for its acquisitions."[17]

   For portfolio management to work well, corporate management must be willing to exit businesses whose long-term prospects are deteriorating. This is easier for a private equity firm than for a diversified industrial corporation where long-established businesses are likely to be protected by sentimental attachment and entrenched political power. A feature of Immelt's leadership was the long length of time it took to exit from financial services and domestic appliances.
3. ***Exploiting synergies.*** A central theme of Immelt's 16-year tenure as CEO was building and exploiting linkages among GE's different businesses. While Welch had been a passionate advocate of knowledge sharing within GE, Immelt's emphasis was on putting in place the systems for such sharing to take place. Sharing technology was the priority. Under Immelt's leadership, GE built a network of eight Global Research Centers. By 2015, GE had 37,000 technologists

engaged in R & D within its businesses and its corporate research centers. Corporate-level research programs addressed technologies with applications to multiple businesses. These included molecular imaging and diagnostics, nanotechnology, energy conversion, advanced propulsion, sustainable energy, and security technologies. The greatest importance was attached to establishing GE's leadership in "the Internet of things"—the "interface of the physical and digital worlds ... through combining data and physics." This involved the use of the continuous data from embedded sensors on jet engines, locomotives, oil and gas equipment, medical diagnostic, electricity generators, and so on, as an input to the software that managed maintenance schedules, fuel optimization, accident prevention, factory automation, and enterprise management.

In 2011, GE opened a new software center in San Ramon, CA to develop applications of big data and artificial intelligence that would lead GE's digital transformation. The new software center formed the centerpiece of GE Digital, a new business division created in September 2015 that "brings together all of the digital capabilities from across the company into one organization."[18] GE Digital's efforts focused on the development of its Predix platform, a cloud-based operating system for industrial applications that uses sensor-generated data within a next-generation industrial automation system. However, during 2016 and 2017, problems with the Predix platform had increased its development costs and slowed its rollout to third-party customers. As a result, in February 2018, Flannery announced narrowing the focus of GE's digital business and targeting existing customers with its Predix operating system.[19]

Sales and marketing provided another rich area for cross-business synergies. Increasingly, GE bundled products and support services to offer customized "customer solutions." In the case of a new hospital development, for example, there might be opportunities not just for medical equipment but also for lighting, turbines, and financing. Such opportunities were particularly important internationally. In 2009, GE launched its "Company-to-Country" strategy to build relationships with host governments across multiple infrastructure development projects. This strategy involved looking beyond China, India, and Brazil; in 2012, GE announced that "Nigeria should be our next billion-dollar country."[20]

4 ***The GE management system.*** The management system that Larry Culp inherited was—despite its restructuring by Jack Welch and reformulation by Jeff Immelt—a product of 120 years of continuous development. Many of its processes were so deeply embedded within GE's culture that they were integral to its identity and world view. At the core of GE's management system were management development—its "talent machine"—and its system of performance management.

GE's commitment to leadership development was indicated by its reliance on internally developed senior executives. Its effectiveness in developing leaders had given it the status of a "CEO factory"—former GE managers are chief executives of companies throughout the world. Key components of its management development system were its corporate university at Crotonville, New York, and its "Session C" system for tracking managers' performance, planning their careers, and formulating succession plans for every management position at GE from department heads upward. Did Culp's appointment as CEO imply that GE had lost faith in its management development capability?

GE's performance management system was based heavily on objective, quantitative performance measures: "Nothing happens in this company without an output metric," observed Immelt. Managers were set demanding performance targets, then given strong incentives for their attainment. However, while many performance variables—revenue, profits, quality, safety—where conducive to quantification, many of the performance variables that had been emphasized by Immelt—innovation, cross-selling, knowledge sharing—were much more difficult to quantify and monitor. If, as Immelt had claimed, GE's performance depended upon integration—"Our managers have to work cross-function, cross-region, cross-company"[21]—then its performance management system needed to provide the right incentives for such collaboration.

Which Corporate Model for GE?

As Larry Culp considered the restructuring initiatives that were currently underway—the merger of GE's Transportation division with US railroad equipment producer, Wabtech Corporation to create a jointly-owned company and the spin off of GE Heathcare and BHGE (Baker Hughes) as separately quoted companies with their shares distributed to GE shareholders—he pondered the type of company that GE should become. The obvious model was that of Danaher. Danaher was a widely-diversified, technology-based company built through acquisition. Its strong performance was the result of the application of a common set of management principles and processes based upon lean production and continuous improvement (*kaisen*)—the "Danaher Business System"—to carefully selected acquisitions. Although Danaher's portfolio of over 100 businesses were clustered in four main areas: life sciences, diagnostics, dental, water quality, and product identification, Danaher did not attempt to create the huge integrated divisions that GE possessed.[22]

An alternative model was the business system created by Siemens AG. The German giant had a similar background and profile to GE: it was founded in the late 19th century and its biggest businesses were power generation systems (including wind power), medical equipment, and industrial automation. However, unlike GE, Siemens had moved toward greater decentralization rather than GE's path of closer integration. Siemens' CEO, Joe Kaeser, described the Siemens model as a "fleet of ships" with divisions becoming semiautonomous and separately listed. Siemens' medical equipment unit, Healthineers, was listed in March 2018. Like GE, Siemens' had suffered from the sharp reduction in world demand for gas turbines—however, the fall in revenues and profits in its power division was much less than that experienced by GE. During the three years to June 2018, Siemens share price increased by 22%; that of GE's fell by 48%.

APPENDIX: Extracts from General Electric Company Update, June 26, 2018

As you know, we have been working to determine the appropriate longer term strategic focus for GE. There are three essential elements of this strategy: one is focusing our portfolio for growth and shareholder value creation; the second is strengthening our balance sheet; and the third is a market shift in how we run the company. With respect to our portfolio, our Aviation, Power and Renewables businesses will be the core of GE going forward. These are three formidable franchises where we've

built leadership positions over many decades. These businesses also have significant strategic linkages. They share technologies, digital and additive strategies, and business models.

While our core Aviation, Power and Renewable businesses can thrive inside of the current GE framework, we think substantial value can be created by moving other businesses outside of GE. To implement that strategy, we are creating a separate stand-alone Healthcare company and we also intend to fully separate BHGE. These are two strong and competitive businesses with leading positions and strong growth prospects but they both have various constraints operating inside the current GE construct. We believe these businesses can achieve greater results for employees, customers, and our owners as stand-alone companies. The pending merger of our Transportation business with Wabtec was driven by the same strategic approach. We will begin the process of separating our Healthcare business immediately. We will monetize approximately 20% and approximately 80% of Healthcare will be distributed tax free to our shareholders through a spin or split ... Oil & Gas was separated from GE in July of 2017 when we made the strategic decision to combine it with Baker Hughes. There's strong industrial logic for the transaction, the companies are much stronger together and shareholders are getting the benefit of significant synergies both on the revenue and cost side as well as benefiting from substantial combined technology. We expect to pursue an orderly separation of the company within 2–3 years with a focus on maximizing value for BHGE and GE.

Strengthening the balance sheet of the company is a top priority for us. This will allow us the flexibility and capacity to invest in growing our core businesses going forward. We will reduce our net debt by about $25 billion, and this will bring our net debt-to-EBITDA below 2.5 times by 2020. We will run the company with a substantially higher cash balance and reduce our use of commercial paper.

Our strategy with regard to GE Capital is clear, we're making it smaller and more focused. We are reducing assets by $25 billion, and we'll bring our debt to equity to less than 4 times by 2020. We are aggressively working on actions and alternatives to mitigate, reduce or eliminate our exposure to long-term care insurance.

As I outlined at EPG, we will run GE Company in a fundamentally different way going forward. Our businesses will be the center of gravity and will run on a new operating system that we believe will improve our operations and cash performance. These changes will reduce corporate costs by at least $500 million by 2020. We expect this number to grow over time as this velocity is applied across all levels of the company. This is in addition to cost actions already announced in 2017 and 2018.

In conjunction with previous actions, today's announcement marks the emergence of a new GE, a high-tech industrial GE. A simpler, stronger and more focused company at the core, a strengthened balance sheet, a new operating system and a bright future for our Healthcare and BHGE businesses. This is a GE that is equipped to fight for the future.

... As I've said previously, the steps we're taking are really a means to an end, the end being a simpler, stronger and more focused company where our quality assets can reach their true potential and flourish in the decades ahead. We sought to position the businesses in an environment guided by 4 basic principles: the maximum ability to pursue their organic and inorganic investment strategies; strong alignment for management incentives linking performance and reward; reducing complexity and cost, while improving decision-making speed; and making sure any central essential services are subject to a market test by the business units. We are fundamentally inverting the company to make the business units the center of gravity. I want to focus the businesses externally into the market.

We'll have a much smaller corporate focused on strategy and execution, capital allocation, talent development and governance. The entire fabric of the company will be one of continuous improvement driven by operating leaders using well-proven tools, like Lean and Six Sigma. Digital and Additive strategies will continue to drive customer value and performance. We believe that these changes will yield substantial improvements in performance over time. There will be improved focus, better accountability, clear capital allocation decisions, more strategic optionality and better alignment of compensation. Our plan will create a strong, exciting and growing GE built on operational execution and robust industrial logic. Going forward, GE will be comprised of Aviation, Power and Renewables, supported by Digital, Additive and the financing expertise of GE Capital.

These are leading businesses solving the world's toughest problems for our customers. By combining these strong franchises with a healthy balance sheet, we see numerous avenues to invest for growth. We see sustained strength and growth in Aviation going forward. We see growth in the overall Renewables market and in our expansion of market share into new areas, like offshore wind and storage. We see earnings growth in the turnaround of our Power business with 1/3 of the world's electricity from our installed base and 2 of every 3 flights on our engines, GE is a high-tech industrial company that forms the backbone of a connected and electrifying world in every sense of those words. In addition to the strength of GE going forward, we're also unlocking substantial value for our shareholders. GE Healthcare is a leader in the drive to more effective and more efficient health-care outcomes. BHGE is uniquely positioned across the value chain as a full stream, oil & gas company. Our merger with Wabtec creates a global leader in the rail industry. As focused pure plays, they'll have greater strategic flexibility and more resources to pursue strategies dedicated to their industries.

I want to spend a minute touching on each of these franchises. Our Aviation business is a market-leading business with industry firsts spanning back decades and our technology stack has never been stronger. Both the commercial and military businesses are strong. Our fleet is young, with 61% of our engines not yet at their second shop visit. That bodes well for our service business. We're managing well through the LEAP ramp. Despite the LEAP growth, we're maintaining 20%-plus margins through the launch. Our military portfolio is broad and we see opportunities for growth with our next-gen technologies both in the US and internationally. We were encouraged by the strong first quarter performance, especially in services. And finally, across the whole business, we're leveraging the strength of Additive, which is a game-changer for high-tech component manufacturing. Additive is allowing us to reset our supply chain cost entitlement and we're seeing proof points across parts, systems and products. Aviation is a premier asset with over $200 billion in backlog and good visibility to long-term growth. We want to continue to invest and grow this franchise.

Next is Power. While our results here have been unacceptable, this is a fundamentally strong franchise with leading technology, a valuable installed base and expansive global reach. GE generates about 1/3 of the world's electricity and has about 1600 gigawatts of installed capacity. Gas, which is our largest segment, remains a key part of the world's long-term power generation mix. GE has approximately 7000 gas turbines in our installed base and we have a 20-year plus track record that demonstrates we can improve output, reliability and performance of those assets when we service them. We are a big player in grid, equipping 90% of transmission utilities worldwide. There are certainly macro and secular challenges to this business, but we are taking actions to remediate the issues that we saw in 2017 and to right-size our cost structure for a lower heavy-duty gas turbine market in the near term. This is a turnaround story, and we are confident in our ability to improve the future operating performance. We have

a well-thought-out and detailed plan to reach the 10%-plus margins outlined at EPG. Overall, this is valuable franchise that will be run better moving forward.

Our Renewables business is an important part of the energy mix. Sixty-seven percent of 2017 global power capacity additions were from renewable sources, with some sources estimating 70% of 2018–21 additions from renewable sources. We are a leading player in onshore wind, gaining market share in 2017. We are making inroads into offshore wind and have a strong hydro business. Renewables is a competitive and evolving industry but one, we think, we're positioned well in going forward.

Aviation, Power and Renewables are businesses that we feel are best positioned together to deliver results and drive shareholder value. These are all businesses marked by deep and complementary technology investment and differentiation and using that investment to grow our installed base and build high-value service stream annuities. Whether generating electricity on land or thrust in propulsion in the skies, the machines from these segments share a common core set of technologies, service platforms and global markets that make them stronger together than they would be if innovated in isolation. In fact, the first US jet engine created by GE evolved from the industrial gas turbine. While one is for power and one for flight, they both share a common architecture and operating environment that allow them to naturally have a common set of technology needs.

Wind turbines, too, share many common traits. They are large spinning machines that generate megawatts of torque and power. That's very familiar to GE. I'll give you two examples of technology synergies. First, edge controls. For decades, we've developed industrial controls for gas turbines, jet engines and more recently, wind turbines to ensure each operates safely and at the highest levels of performance and efficiency possible. With the exponential growth of computing power in the past decade, we're now combining controls with digital technologies in a very powerful way to further optimize the way we operate and maintain these machines. At our global research center, we developed a common industrial operating system called [Edge OS], which works in a wind turbine, jet engine or gas turbine.

A second example is material science. The LEAP engine was the first to have a revolutionary new material called ceramic matrix composites, or CMCs. It's a lightweight ceramic material engineered to be as strong as metal but able to withstand much hotter temperatures. It has been a real difference maker in our LEAP product offering. The development of CMCs actually started as a project in our gas turbine business. In fact, it was because the material performed so well in the field testing with gas turbines that led us to discover it could work in jet engines as well. With polymer matrix composites, or PMCs, GE Aviation first introduced lightweight composite fan blades in the GE90 engine, and we took that knowledge and quickly adapted it for Renewable Energy's wind blades.

On the services side, we had a massive installed base across all three businesses with 65,000 aircraft engines, 7000 gas turbines, and 35,000 wind turbines. These products all have long lives and our services business model provides a very profitable recurring revenue stream. We realized many common synergies around how to execute and manage these long-term service contracts. The markets are similar, they're global and this is where we can tap into GE's deep global network and experience.

Digital and Additive are substantial opportunities across all 3 segments that provide benefits to enhance growth and lower cost.

We are certain that with focus and a strong balance sheet, GE will be a technology-driven growth story again in the coming years.

As I said before, we've been methodically reviewing the portfolio and looking at the best structure or structures to maximize value and position our businesses for success. We are excited about the future of GE Transportation, Baker Hughes GE, and GE Healthcare.

We announced the merger of Wabtec and GE Transportation last month. We are contributing Transportation at an attractive multiple and realizing $2.9 billion of cash proceeds, while our shareholders will benefit from the compelling long-term prospects and synergies of the combined platform.

The industrial logic of this deal is strong and there are good growth opportunities with GE's installed base and services offering combining with Wabtec's portfolio.

We are beginning the process of separating Healthcare immediately and expect to complete it in the next 12–18 months. We plan to monetize approximately 20%. We expect it to have a capital structure and capital allocation aligned to its peers. As part of the transaction, we will transfer approximately $18 billion of debt and pension obligations to Healthcare. With respect to the impact this will have on future dividends, it's our intention to maintain the current $0.48 dividend until the time Healthcare is established as a stand-alone entity. At that time, both GE and GE Healthcare will determine their future dividends with an intended payout ratio in line with their respective industry peers. Given the typically lower payout ratios in the health-care industry, this will likely lead to a reduction in the aggregate GE dividend at that time.

We like the BHGE combination. Customer reception has been positive and we're gaining traction across product lines. The realization of synergies, both top and bottom line, was premised upon GE's sharing of significant technology and expertise with BHGE. This was contracted for at the time of the merger and is going well. BHGE is well positioned to thrive as an independent company. As I said earlier, we expect to substantially exit our direct ownership of this business within 2–3 years.

Running the businesses as the center of gravity is the third major point of our announcement today. We're implementing a new way to run the company. We will focus all of our activity in the company around our businesses with a much smaller corporate headquarters. Corporate will focus on strategy, capital allocation, talent and governance, and we will reduce the size of corporate significantly with at least $500 million of additional corporate cost-out by 2020. As we apply the same principle to our businesses, we expect incremental cost savings in the businesses during this period of time.

As you know, we have historically run several organizations centrally. This will change. Centrally, run activities in shared services will be placed back in the hands of the businesses. Our business leaders will have full accountability for and ownership of their operations, and everything we do will be subject to a market test. There will be no central residual cost. Global research will now align under David Joyce. Our Global Growth Organization will be significantly smaller and focused on government relations and developing markets where we need strong resources to play its scale and manage risk. And GE Ventures will be refocused. It'll be focused on only the most urgent markets and new technologies as determined and paid for by our business leaders. Our digital strategy continues to focus on our core industries in our installed base, and we expect no cost drag from digital by 2020. We believe these actions will result in better execution, increased speed and additional cost reductions of at least $500 million. This is incremental to the more than $2 billion of cost-out we're actioning in 2018.

Source: https://www.ge.com/investor-relations/sites/default/files/ge_webcast_transcript_06262018_0.pdf

Notes

1. "GE Ousts CEO John Flannery in Surprise Move After Missed Targets," *Wall Street Journal* (October 2, 2018); Lex column, "General Electric: Culp-able," *Financial Times* (October 2, 2018).
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12. "Success Theater Masked Rot at GE," *Wall Street Journal* (February 21, 2018).
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Case 21 Walt Disney, 21st Century Fox, and the Challenge of New Media

On July 19th, 2018, Comcast Inc. withdrew from the battle to acquire Rupert Murdoch's 21st Century Fox, leaving the field clear for the Walt Disney Company. Disney's initial bid of $54 bn. (plus the assumption of Fox's debt of $14 bn.) had been accepted by 21st Century Fox on December 14, 2017. However, a higher bid from Comcast had thrown the deal into doubt and was only resolved when Disney raised its bid to $71 bn., making the deal worth $85 bn.

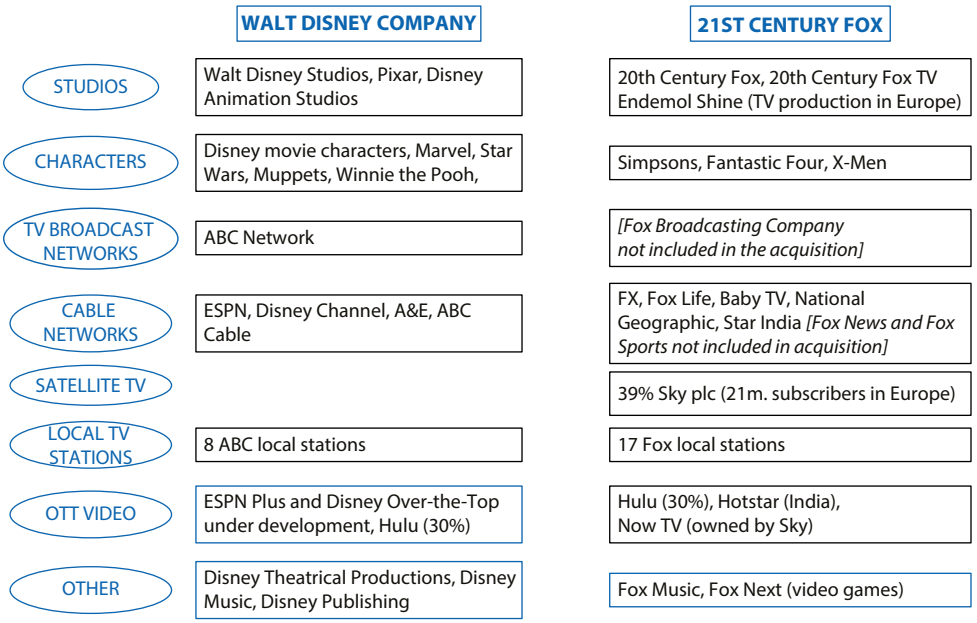
For Disney's CEO, Bob Iger, the acquisition would reinforce Disney's position as America's leading entertainment provider. For 87-year-old Rupert Murdoch—Fox's controlling shareholder—it signaled his intention to dissolve the multimedia empire that had been his life's work. For both companies, it was an acknowledgement of the technological changes that were sweeping the media sector, in particular, the potential for video streaming to undermine existing channels for distributing video entertainment: these included cinemas, broadcast TV, cable TV, satellite TV, and DVDs. These changes had been highlighted by the rise of Netflix and the entry of technology giants such as Amazon, Alphabet, Apple, Facebook, and Microsoft into the market for video-based entertainment.

A major motivation for the deal—according to Disney's CEO, Bob Iger—was to bolster Disney's efforts to adapt to these changes occurring in video entertainment. During 2018–19, Disney intended to rapidly build its presence in OTT ("over-the-top") video streaming: the direct provision of video content to consumers via Internet connection. Yet, Fox's businesses were more "old media" than "new media": its main involvement in OTT was its 30% stake in Hulu; its Internet streaming service, Hotstar; and Sky's OTT service in Europe (Fox held a 39% controlling stake in Sky). For the most part, therefore, the acquisition would augment Disney's existing businesses in movie and TV production, cable channels, and broadcasting, while also adding Sky's European satellite broadcasting network (another distribution channel threatened by video streaming). Figure 1 shows the main businesses of the two companies. The Appendix shows their financial performance.

Given the size of the acquisitions—far bigger than any other of Disney's many acquisitions in recent decades—and the sustained top management efforts that would be required to integrate Fox into Disney's vast entertainment empire—industry observers were divided over the wisdom of the deal for Disney. Would the acquisition reinforce Disney's efforts to address the technological and competitive challenges of the new era, or would it hamper Disney's efforts to transition to new modes of entertainment distribution?

This case was prepared by Robert M. Grant. ©2019 Robert M. Grant.

FIGURE 1 The media businesses of Walt Disney and 21st Century Fox



Note: Non-media businesses such as theme parks and retail stores are not shown in this figure.

Walt Disney Company

Walt Disney began making cartoon movies in 1920. His breakthrough came in 1928 with *Steamboat Willie*, which launched Mickey Mouse. Disney's transition from cartoon shorts to full-length animated movies produced a string of international hits: *Snow White* (1937), *Cinderella* (1950), *Sleeping Beauty* (1959), *101 Dalmatians* (1961), and *Jungle Book* (1967). These provided the basis for diversification into live action movies (*Davy Crockett*, 1955; *Mary Poppins*, 1964; *The Love Bug*, 1968), TV production, film distribution, theme parks (Disneyland, 1955; Walt Disney World, 1967), and a lucrative licensing business.

Under the leadership of Michael Eisner (CEO 1984–2005), Disney became America's biggest studio in terms of movie releases, expanded its productions for TV, and revitalized animation—its animated movies included *Little Mermaid* (1989), *Beauty and the Beast* (1991), and *Lion King* (1998). Disney also grew internationally with the opening of Disneyland theme parks in Tokyo (1983), Paris (1992), and Hong Kong (2005)—Disneyland Shanghai followed in 2016.

Walt's preference for control and self-sufficiency was reflected in his company's vertically-integrated approach to building the business. Early on, Disney had taken control over the distribution of its films to cinemas. As new distribution channels for video content emerged, Disney forward integrated into them. These included video cassettes and DVDs, TV syndication, and cable TV (the Disney Channel). Disney also sought to exploit its characters and movie themes through books, video games, live theaters, and retail stores.

Much of Disney's vertical integration was through acquisition. The takeover of ABC in 1995 gave Disney ownership of one of America's big-3 TV networks as well as establishing Disney as America's leading cable provider of sports through ESPN. In building the intellectual property to support its animated productions, Disney acquired the Star

TABLE 1 Walt Disney Company main acquisitions 1995–2017

Acquired company	Activities	Consideration	Year
ABC	TV broadcast and cable networks	$19.0bn.	1995
Fox Family Worldwide	Cable TV channels	$5.3bn.	2001
Muppets	Acquired from Jim Henshaw Company	Not known	2004
Pixar Animation Studios	Animated productions	$7.4bn.	2006
Marvel Entertainment	Characters and film production	$3.8bn.	2009
Playdom	Video games	$0.8 bn.	2010
Lucasfilm	Studios and movie library	$4.1B	2012
A&E Television Network (50%)	Cable channels	$3.0bn.	2013
Maker Studios	YouTube video content	$0.5bn.	2014
BAMTECH Media	Video streaming technology	$1.6bn.	2017
21st Century Fox	Movie and TV production and distribution	$66.1bn.	2018[a]

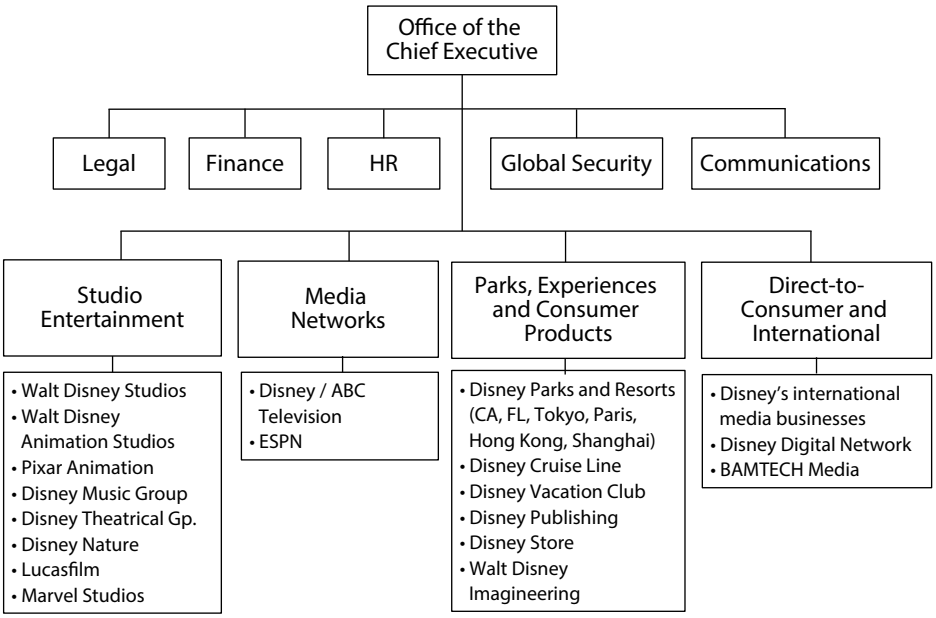
Note:
[a] In July 2018 the acquisition was awaiting approval from the Dept. of Justice.

Wars and Marvel characters, and the Muppets. Other acquisitions extended Disney's technical capabilities into computer-generated animation (Pixar), video games (Playdom, Rocket Pack, and Tapulous), and video streaming (BAMTECH, Maker Studios). Table 1 shows Disney's biggest acquisitions.

Disney's acquisitions attracted mixed reviews. Prior to its bid for Fox, Disney's biggest acquisition was ABC—one of America's leading TV networks and the owner of several cable TV channels and local TV stations. The acquisition was criticized over the dubious benefits of vertical integration between studio production and TV broadcasting, and the declining audience for network broadcasting. Four years after the takeover, the *Economist* declared it "a disaster"[1]—while acknowledging that the sports channel ESPN had proved to be an unexpected goldmine for Disney. In addition, some smaller acquisitions failed to prosper—for example, after making several acquisitions, Disney had abandoned video game development. However, for its other major acquisitions, Disney has demonstrated sound judgment in assessing its potential to add value to its target companies and effectiveness in integrating them within its organization and infusing them with the Disney culture. In the case of Pixar, Marvel, and Lucasfilm, Disney was perceived as having overpaid for its acquisitions—yet, its subsequent success with these characters and movie franchises, both in developing new blockbuster movies and generating further revenue streams from its theme parks, stores, and licensing—points to its effectiveness in using its diversified business model to exploit synergies. Figure 2 shows the Disney's organizational structure and span of its businesses.

The acquisition of Marvel in 2009 had a massive impact on Disney's revenues and profits. According to the *Financial Times*, Marvel's 5000 characters, ranging from The Incredible Hulk to Ant-Man, "gave Disney access to a demographic that had previously been hard to reach—teenage boys—and a library of storylines and characters that lent themselves to sequels and spin-offs. They all had "franchise" potential and, so far, each release ... has hit the mark."[2]

FIGURE 2 Walt Disney Company: Organizational structure, April 2018



A key part of Disney's acquisition effectiveness results from an astute assessment of the resources and capabilities that its acquired companies possess and their value-adding potential. This has required careful nurturing of the acquired resources—especially, the human ones. With Pixar, Disney appointed the Pixar management team to run its entire animation business and replaced its existing development process with that used by Pixar. Sustaining the capabilities of acquired companies requires respecting the people and the culture of the acquired companies. At Pixar, the acquisition was preceded by a premerger agreement protecting the rights of Pixar employees and the creative culture of Pixar—commitments that were honored once the acquisition had been completed. Disney was also willing to ignore conventional wisdom on mergers and acquisitions. Bob Iger stated: "There is an assumption in the corporate world that you need to integrate swiftly. My philosophy is exactly the opposite. You need to be respectful and patient."[3]

Under its successive CEOs, Michael Eisner and Bob Iger, Disney honed a systematized and integrated approach to exploit its creative content. At the heart of this system were movies. In the case of *Frozen*, Disney's blockbuster hit of 2013, the $1.8 bn. in box office revenues were only the starting point for a cascade of revenue-generating activities including music, DVDs, streaming, sequels (*Frozen II* will be released in 2019), theme park attractions, theatrical performances (Frozen on Ice, Frozen the Musical), and consumer product licensing. Bob Iger is reported to have told the Disney board: "As animation goes, so goes our company. A hit animated film is a big wave, and the ripples go down to every part of our business—from characters in a parade, to music, to parks, to video games, TV, internet, consumer products. If I don't have wave makers, the company is not going to succeed."[4]

21st Century Fox

21st Century Fox, based in New York City, was established in 2013 when Rupert Murdoch's News Corporation decided to separate its newspapers from its other media

interests following the phone-hacking scandal in the UK, which had severely damaged the reputation of News Corp.

At the core of the 21st Century Fox group was 20th Century Fox, the movie production company that Rupert Murdoch had acquired in 1984 and became the foundation for creating Fox Broadcasting Network, the Fox News channel, and other US-based entertainment and media businesses. When 21st Century Fox was spun off from News Corp., it included News Corp's non-newspaper businesses outside the US, notably its Star TV group in Asia and Endemol Shine in Europe.

Fox's successful movie franchises include *Avatar*, *Wolverine*, *Deadpool*, *Alien*, and *Planet of the Apes*—each of which has generated a series of sequels. Its most successful TV productions are *X-Files* and *The Simpsons*.[5]

Fox's assets also included a 39% stake in Sky plc—a European operator of satellite television providers and pay channels in the UK and Ireland, Austria, Germany, and Italy. Sky was one of Murdoch's most successful and profitable start-up ventures that used its sports channel, Sky Sports, as its key weapon to penetrate TV markets in several European countries.

Changes within the Media and Entertainment Sector

The market for video entertainment had traditionally been segmented into home and out-of-home viewing: the home segment traditionally comprised television, while the out-of-home, cinema.

In both segments, the Hollywood studios play a central role. The big-6 Hollywood studios—Disney, Warner Brothers, Universal, 20th Century Fox, Columbia Pictures, and Paramount—accounted for an average of 77% of US box office takings since 2000, and they lead the world movie-making industry. In addition, they are major producers of shows for television. Despite changes in their ownership and the entry of new production companies, the big-6 have dominated Hollywood for the past four decades. Table 2 shows their US market shares.

Ever since the advent of television, the demise of the cinema had been predicted. Yet, despite declining cinema attendance, box office revenues had been relatively stable in America and growing worldwide (see Figure 3).

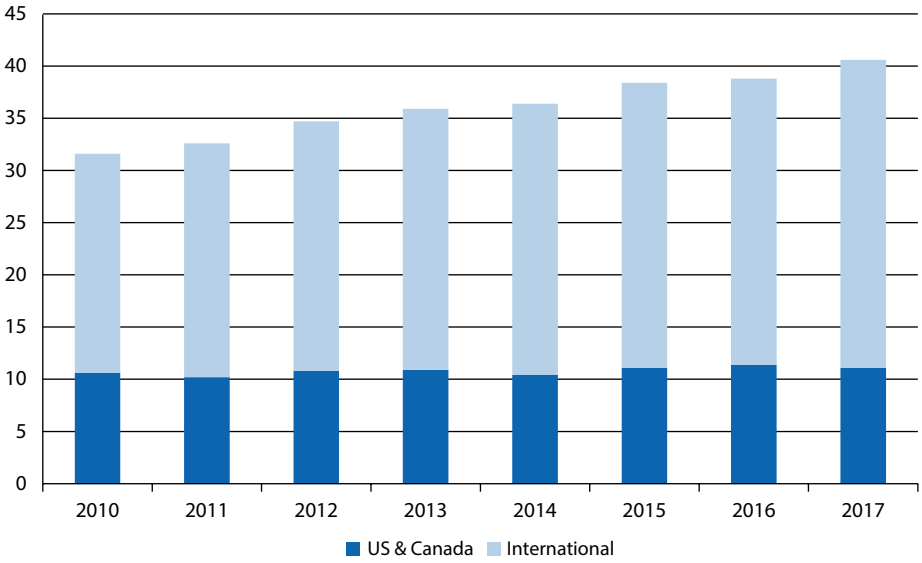
However, the economics of movie production had changed: all the industry's profits were generated by a few blockbusters. By 2017, 27% of box office revenues were generated by the top-grossing 1% of movies, double what it had been 20 years earlier.

TABLE 2 Market shares of US box office takings by studio (%)

	2017	2016	2015	2014	2013	2012
Disney	21.8	26.3	19.8	14.9	14.9	13.9
Warner Brothers	18.4	16.7	13.9	14.4	16.2	14.9
Universal	13.8	12.4	21.3	10.3	12.4	11.9
20th Century Fox	12.0	12.9	11.3	16.5	9.2	9.2
Sony/Columbia	9.6	8.0	8.4	11.6	9.9	16.1
Paramount	4.8	7.7	5.9	9.7	8.4	8.2
Lionsgate	8.0	5.8	5.9	6.8	9.3	11.1

Source: www.boxofficemojo.com.

FIGURE 3 Global box office revenues ($ bn.)



Notes: The biggest international markets in 2017, ranked by box office revenues were: 1. China, 2. Japan, 3. UK, 4. India, 5. South Korea, 6. France, 7. Germany, 8. Russia, 9. Australia, 10. Mexico.

Source: MPAA Annual Reports.

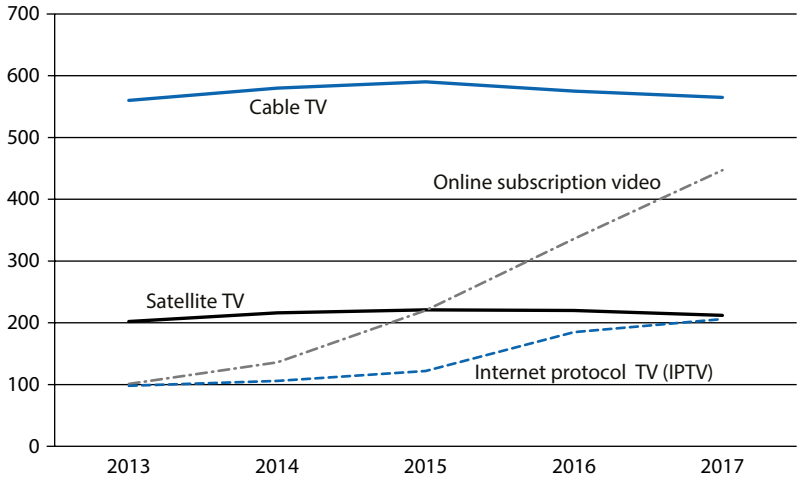
If movie production and distribution were havens for stability, technology had made home entertainment an arena of perpetual turbulence. The once-dominant major networks—ABC, CBS, and NBC (joined in 1986 by the Fox Broadcast Network)—had been disrupted by cable TV, satellite TV, video cassette recorders, and DVDs, and—most recently—the Internet. Each technological wave brought new competitors. Cable TV saw the rise of Comcast, Liberty Media, and Viacom, while the advent of the Internet allowed telecom providers such as AT&T and Verizon to offer online video.

The potential for Internet distribution of video entertainment also encouraged the entry of digital technology companies into the sector. These included giants such as Apple, Alphabet, Microsoft, and Amazon, as well start-up enterprises. Most prominent has been Netflix, which began a mail order service for DVDs and then became a world leader in subscription-based video streaming. At the end of March 2018, it had 125 million subscribers worldwide. Netflix is a major distributor of both Disney and Fox movies and TV shows, and in April 2018 had a market capitalization $142 bn., compared to Disney's $151 bn. Figure 4 shows the rise of subscription-based video streaming relative to both cable TV and satellite TV.

Initially, it appeared that the Internet would lead to the end of "mass entertainment": the ability to serve niche market segments and specialist tastes would cause broadcasting to be replaced by "narrowcasting." However, the "blockbuster effect"—the propensity for audiences to converge around the same products—appears to dominate specialist preferences. For example, Spotify and YouTube each offer many millions of products, yet user interest concentrates on a tiny fraction. Netflix has about 6000 movies and TV series available to US subscribers, but viewing has concentrated around a few wildly popular series: *House of Cards*, *The Crown*, *Orange is the New Black*.[6]

Although Netflix is the global leader in OTT, the field is becoming increasingly crowded. In the US and in some Europe countries, Amazon's Prime service is second in terms of subscriptions, followed by Hulu, HBO Go and Now, and Sony's PlayStation

FIGURE 4 Global pay TV and online video subscriptions (millions)



Source: MPAA

Vue. In addition, there are a number of nonsubscription services including Alphabet's YouTube and Google Play, mainly targeting mobile devices. During 2018, Apple was developing original content in anticipation of the launch of its streaming service.

The arrival of new players into video distribution was accompanied by a surge of mergers and acquisitions. Some of these were horizontal—notably the merging of cable providers into just three dominant providers: Comcast, Charter, and AT&T. Others were vertical between production companies and distribution companies: the Disney-ABC and AOL-Time Warner mergers were among the first of these, the most recent was that between AT&T and Time Warner. These vertical mergers raise important issues for antitrust authorities—including the reduced opportunities for specialist production companies to distribute their own content, and the reduced access to content for specialized distribution companies.[7] Table 3 shows the biggest mergers and acquisitions in the media and entertainment sector.

The main beneficiaries of these mergers and acquisitions appear to be the shareholders of the acquired companies. Media acquisitions tend to be motivated less by

TABLE 3 Biggest media mergers and acquisitions in the US

Acquirer	Acquired company	Consideration	Year
AOL	Time Warner	$162 bn.	2000
AT&T	Time Warner	$108.7 bn.	2016[a]
Walt Disney Co.	21st Century Fox	$85 bn.	2017
Comcast	AT&T Broadband	$72 bn.	2011
Charter Communications	Time Warner Cable	$65.5 bn.	2016
Viacom	CBS	$35.6 bn.	1999
Walt Disney Co.	ABC	$19.0 bn.	1995
Clear Channel	AMFM	$16.0 bn.	1999

Note:
[a] In July 2018, the acquisition was awaiting court approval.

TABLE 4 Leading companies in the US telecommunication services, broadcasting, and cable industries

Company	Sales ($bn.)	Profits ($bn.)	Assets ($bn.)	Market value ($bn.)
AT&T	163.8	13.0	403.8	249.3
Verizon Communications	126.0	13.1	244.2	198.4
Comcast	80.4	8.7	180.5	193.5
Walt Disney	54.9	9.0	91.6	178
Time Warner	29.3	3.9	66	76.2
Charter Communications	29.0	3.5	153.2	101.6
21st Century Fox	28.1	3.1	49.2	57.5
Liberty Global	20.0	1.7	68.7	31.2
CenturyLink	17.5	0.6	47.0	13.4
DISH Network	15.1	1.4	28.2	29.1
CBS	13.2	1.3	24.2	29.5
Viacom	12.7	1.4	23.3	18.0
Live Nation Entertainment	8.4	(0.1)	6.8	6.4
Level 3 Communications	8.2	0.7	24.9	21.1
Discovery Communications	6.5	1.2	15.8	16.8

Source: Forbes "The World's Biggest Public Companies" (2017).

strategic logic, and more by the empire-building urges of media moguls such as John Malone (Liberty Media), Sumner Redstone (Viacom), and Brian Roberts (Comcast). For the owners of telecom and cable companies—essentially utility businesses—there is also the glamour of owning movie studios. The inflated acquisition prices for media companies has resulted in intensive acquirers accumulating large amounts of goodwill on their balance sheets, thereby depressing their rates of return. For example, during 2015–17, the average return on capital employed was 3.6% for AT&T, 4.2% for Liberty Media, 9.2% for Comcast, and 12.9% for Viacom.[8] Table 4 shows the leading companies in the US media and telecom sector.

Rationale for the Merger

Fox's Motives

For 21st Century Fox, the decision to sell to Disney seemed straightforward: "old media" companies were threatened by "new media" companies. "From a strategic point of view this is the right [time to sell]," Mr. Murdoch said in an interview with the *Financial Times*. "We are living in an age of enormous disruption."[9] Although content would be in demand, whatever changes occurred within distribution, the general opinion of industry experts was that, unlike Disney, Fox lacked the size, scope, and bargaining power needed to adapt to the changes reshaping the sector. According to one banker: "Companies in the

middle risk getting squeezed in their economics by the very large guys unless they can figure out their comparative advantage."[10]

There was also the issue of family succession. It had been widely assumed that Rupert Murdoch's empire building had been driven by the goal of creating a media dynasty. His four marriages yielded six children, but his relationships with his adult children had been fraught. His two sons led 21st Century Fox—Lachlan as co-chairman (with Rupert) and James as CEO (James was also chairman of Sky plc). In April 2018, it appeared that Lachlan would manage Fox's remaining news and sports businesses, while James might take up an executive position with Disney.

Rupert Murdoch was ambivalent about his future business activities: "Are we retreating? Absolutely not," he said. "We are pivoting at a pivotal moment." Rupert and Lachlan Murdoch would continue to run the remaining Fox assets—including the Fox News channel—which will be spun off to Fox shareholders as a new company. The spin-off would be "a growth company" centered on live news and sport. "Those of you who know me know that I am a news man with a competitive spirit," said Murdoch.[11] Press speculation suggested that that new company might be a vehicle for renewed acquisitions.

Disney's Motives

For Disney, the acquisition was viewed as being entirely consistent with the company's strategic trajectory. At a Morgan Stanley conference in February 2018, Bob Iger outlined three strategic objectives for Disney and pointed to how the acquisition of Fox would contribute to each:

> We've been a company that has emphasized ... the value of high-quality, branded entertainment. And the acquisitions of Pixar, Marvel, and Lucasfilm/Star Wars, obviously were a reflection of that core strategy. [Fox] gives us a larger portfolio of high-quality branded content. When you think about FX, ... about National Geographic, about a number of the franchises that Fox has created, including their Marvel franchises and Avatar, and other product, we believe that this fits beautifully into a strategy to continue to invest in entertainment, particularly in a world that seems to be growing in terms of its appetite to consume entertainment.
>
> Secondly, we've been talking a lot about using technology to reach consumers in more modern, more efficient, and effective ways. That certainly has changed significantly. When I talk about a dynamic marketplace, I think it's most evident in how people access entertainment, how they consume entertainment, and this acquisition gives us the ability not only to have essentially more product, more intellectual property, but to bring it to the consumer in more compelling ways and ways we think the consumer wants their entertainment more and more. The Star and Sky assets and the Hulu assets give us an opportunity to do that.
>
> And then lastly, we've talked a lot about wanting to grow our company globally. ... This gives us the ability to have a far more global footprint and to diversify the company's interest from a geographic perspective.[12]

Iger also emphasized that the acquisition was not just about adding Fox's existing businesses:

> [I]t comes with the people that operate those businesses and the experience that they have. ... If you look at what they've done, as for instance, in India, ... they have expertise that our company will take full advantage of. And our intention ... is creating a structure of the company that is aimed at basically being more modern and aimed at

> integrating these assets in a far more effective way—one of the things we want to do is we want to look across our company and share best practices. Many—particularly as it relates to distribution—of those best practices will come from the people and the assets that we are acquiring here.[13]

Iger acknowledged that many of the businesses that Disney was acquiring were cable channels, but he looked beyond their existing distribution modes:

> [W]e've looked at channels less as channels and more as brands ... what's more important to us is the quality of the brand and intellectual property that fits under that brand umbrella. And our intention is to—as the world shifts in terms of distribution and consumption we talked about earlier—is to migrate those brands and those products in the more modern direction from a distribution and consumption perspective ... What we've tried to do is design a company that is capable of thriving in a fully disrupted world, or a world that doesn't look anything like the media world that we currently live in.[14]

During the early months of 2018, Disney's initiatives to establish itself in OTT moved into a higher gear. In March, Disney created a new division to house direct-to-consumer and international businesses. The new division would comprise its forthcoming streaming services in the US and abroad, global advertising sales for ESPN, ABC, and other Disney-owned channels and, once the Fox merger was consummated, Fox's streaming services and Hulu. The division would be led by Kevin Mayer, Disney's much-admired chief strategy officer and architect of the acquisitions of Pixar, Lucasfilm, and Marvel.

In April 2018, Disney launched its ESPN+ subscription streaming service offering a vast array of live sports events and a range of add-on, interactive services. However, its major effort was developing the streaming service it will launch in 2019, which will carry the full range of Disney content. Once this service is launched, Disney will no longer offer its content to Netflix and other third-party streaming services.

Among the design parameters that Iger outlined for Disney's new streaming service were the following: it would be tailored for viewing on mobile devices, it would permit binge viewing, and it would offer the flexibility of short subscription periods. It would be launched, first, in the US, then rolled out internationally. In terms of content, it would allow exclusive access to Disney's new movies, access to Disney and Fox's vast studio libraries, some 5000 episodes of Disney TV series, and several specially created TV series. In terms of Disney's position vis-à-vis Netflix, Disney would emphasize quality over variety: "We are going to be in the business of less volume but more branded product—so Marvel, Star Wars, Pixar, Disney as part of that. Those brands are in enough demand and will have enough quality that we believe it will enable us to take a product to market with less volume."[15]

The Debate over the Merger

Commentary on the acquisition revealed one area of consensus: for Rupert Murdoch, the sale of 21st Century Fox to Disney was a sound decision.

However, in relation to Disney, opinions were divided.

The majority of investment analysts and investment bloggers were positive on the benefits of the merger to Disney citing the following:

- Disney's potential for an increased flow of "tentpole" movie releases with the themes and characters obtained from Fox;

- Cost savings from Disney's increased scale;
- The boost to Disney's proposed streaming service that would result from Fox's back catalog and Fox's ability to contribute to the creation of new content; and
- The benefit of Fox and Sky's international presence—especially, in Asia and Europe.

The stock market was generally supportive of Disney's move. Between November 4, 2017, when talks between Disney and Fox were first reported, and December 19, three business days after the merger announcement, Disney's share rose from $98.37 to $111.80.

Others were critical, pointing to the following:

- Disney was acquiring businesses that were in their initial phases of long-term decline. According to one investment analyst: "Buying Fox and Sky cements Disney in the past, because it adds networks that are tied to the legacy ecosystem."[16] In the past, bundling multiple cable channels in a package to sell to cable operators improved bargaining power, but as users are increasingly "cutting the cable," that strategy will yield diminishing returns.
- Netflix and Amazon's early-mover advantage in video streaming, their buzz-generating content, and superb technology makes it difficult for Disney to make inroads into their user base.
- The merger's greatest potential for value creation would probably be from combining the two companies' studios. However, their combined market share of about 34% might well alarm the Department of Justice, causing it to mandate divestments.

Summer 2018

In June 2018, Comcast Corp.—America's biggest cable company and owner of TV and movie giant, NBC Universal—joined the fray with a $65 bn. bid for 21st Century Fox. In the following week, Disney responded by upping its bid for Fox's assets from $52 bn. to $71 bn.—with the assumption of Fox's debt, Disney would be paying $85 bn. It also received confirmation from the Department of Justice that the US government would not challenge the merger. Comcast's decision on July 19 to walk away was widely attributed to its weaker balance sheet—if Comcast sought to outbid Disney, it risked losing its investment-grade rating for its debt.

However, Comcast was not giving up on its growth ambitions—just shifting the focus of its attention. One of 21st Century Fox's "crown jewels" was its ownership of 39% of the equity of Sky, the UK-based satellite broadcaster and broadband provider. For several years, 21st Century Fox had attempted to acquire the remaining 61% of Sky. However, in April 2018, Comcast announced a $22 bn. bid for Sky, about 16% higher than Fox's bid. The bidding war between Fox and Comcast was resolved on September 22, 2018 when Comcast's offer of $40 bn. for Sky was accepted by the British regulator. It was widely assumed l that Disney and Comcast would then do a deal in which Disney traded Fox's 39% stake in Sky for Comcast's 30% stake in Hulu (together with a cash transfer to make up for different values of the two shareholdings).[17]

APPENDIX

TABLE A1 Walt Disney Company: Financial data, $ millions

(Year ended September 30)	2017	2016	2015	2014	2013
Revenues	55,137	55,632	52,465	48,813	45,041
Net income	9366	9790	8852	8004	6636
Total assets	95,789	92,033	88,182	84,141	81,197
Long-term obligations	26,710	24,189	19,142	18,573	17,293
Disney shareholders' equity	41,315	43,265	44,525	44,958	45,429
Net cash from operating activities	12,343	13,136	11,385	10,148	9,495
Net cash from investing activities	(4111)	(5758)	(4245)	(3345)	(4676)

TABLE A2 21st Century Fox: Financial data, $ millions

(Year ended June 30)	2017	2016	2015	2014	2013
Revenues	28,500	27,326	28,987	31,867	27,675
Net income	2952	2755	8306	4514	7097
Total assets	50,724	48,193	49,868	54,628	50,785
Debt	19,913	19,553	18,868	18,893	16,299
Shareholders' equity	15,722	13,661	17,220	17,418	16,998
Net cash from operating activities	3785	3048	3617	2964	3002
Net cash from investing activities	(752)	(1638)	6736	(935)	86

Notes

1. "Two Sharks in a Fishbowl," *Economist* (November 18, 2017).
2. "Disney: Let It Grow," *Financial Times* (May 22, 2015).
3. M. Reeves, J. Harnoss, and R. Bergman, "Using M&A to Increase Your Capacity for Growth," *Harvard Business Review* (July 13, 2016).
4. W. Isaacson, *Steve Jobs* (Simon & Schuster, 2011): 239.
5. Although Disney had acquired Marvel Entertainment and its portfolio of characters, Fox had licensing agreements for
6. "Winner Takes All," *Economist* (February 11, 2017).
7. "AT&T and Time Warner: Dropped Connection," *Economist* (November 11, 2017).
8. "A Deal That Donald Dislikes," *Economist* (November 18, 2017).
9. "Rupert Murdoch and the Disruption of a Dynasty," *Financial Times* (December 15, 2017).
10. https://www.ft.com/content/efa4c728-0a50-11e8-839d-41ca06376bf2, accessed April 19, 2018.
11. "Disney to Buy 21st Century Fox Assets in $66bn Deal," *Financial Times* (December 14, 2017).
12. The Walt Disney Company at the Morgan Stanley Technology, Media & Telecom Conference (Walt Disney Co., February 26, 2018). [Transcript]: 3–4.
13. Ibid: 4–5.
14. Ibid: 5.
15. Ibid: 8.
16. https://www.bloomberg.com/view/articles/2017-12-14/disney-will-rue-its-merger-with-fox, accessed April 22, 2018.
17. "Comcast carries off Sky," *Economist* (September 28, 2018)

Case 22 W. L. Gore & Associates: Rethinking Management

> If a man could flow with the stream, grow with the way of nature, he'd accomplish more and he'd be happier doing it than bucking the flow of the water.
>
> —W. L. GORE

Malcolm Gladwell (author of *The Tipping Point* and *Outliers*) described his visit to W. L. Gore & Associates (Gore) as follows:

> When I visited a Gore associate named Bob Hen at one of the company's plants in Delaware, I tried, unsuccessfully, to get him to tell me what his position was. I suspected, from the fact that he had been recommended to me, that he was one of the top executives. But his office wasn't any bigger than anyone else's. His card just called him an "associate." He didn't seem to have a secretary, one that I could see anyway. He wasn't dressed any differently from anyone else, and when I kept asking the question again and again, all he finally said, with a big grin, was, "I'm a meddler."[1]

The absence of job titles and the lack of the normal symbols of hierarchy are not the only things that are different about Gore. Since its founding in 1958, Gore has deliberately adopted a system of management that contrasts sharply with that of other established corporations. While the styles of management of all start-up companies reflect the personality and values of their founders, the remarkable thing about Gore is that, as a $3.2 billion company with 9500 employees ("associates") in 25 countries of the world, its organizational structure and management systems continue to defy the principles under which corporations of similar size and complexity are managed.

The Founding of Gore

Wilbert L. (Bill) Gore left DuPont in 1958 after 17 years as a research scientist. At DuPont, Gore had been working on a new synthetic material called polytetrafluoroethylene (PTFE), which it had branded "Teflon." Gore was convinced that DuPont's commitment to supplying large industrial markets with basic chemical products had

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This case was prepared by Robert M. Grant. ©2019 Robert M. Grant.

caused it to overlook new applications for PTFE. When Bill Gore and his wife, Vieve, formed their own business in 1958, they were keen, not only to explore these novel applications, but also to create the energy and passion that he had experienced when working in small research teams at DuPont on those occasions when they were given the freedom to pursue innovation.

Working out of their home in Newark, Delaware, and with the help of their son, Bob, the Gores' first product was Teflon-insulated cable. However, their breakthrough was Bob Gore's discovery of the potential of Teflon to be stretched and laced with microscopic holes. The resulting fabric shed water droplets but was also breathable. Gore-Tex received a US patent in 1976. Not only did it have a wide range of applications for outdoor clothing, the fact that Gore-Tex was chemically inert and resistant to infection made it an excellent material for medical applications such as artificial arteries and intravenous bags. The potential to vary the size of the microscopic holes in Gore-Tex also made it ideal for a wide range of filtration applications.

Since then, continuous innovation has resulted in a growing array of consumer products (such as guitar strings, dental floss, footwear components, and vacuum cleaner bags), industrial products (such as fuel cell components, electronic components, fire safety fabrics, and rope fibers), and medical products (such as implantable medical devices, pharmaceutical tubing products, and sealants).

Origins of the Gore Management Philosophy

FundingUniverse.com describes the development of Bill Gore's management ideas as follows:

> From their basement office, the Gores expanded into a separate production facility in their hometown of Newark, Delaware. Sales were brisk after initial product introductions. By 1965, just seven years after the business had started, Gore & Associates was employing about 200 people. It was about that time that Gore began to develop and implement the unique management system and philosophy for which his company would become recognized. Gore noticed that as his company had grown, efficiency and productivity had started to decline. He needed a new management structure, but he feared that the popular pyramid management structure that was in vogue at the time suppressed the creativity and innovation that he valued so greatly. Instead of adopting the pyramid structure, Gore decided to create his own system.
>
> During World War II, while on a task force at DuPont, Gore had learned of another type of organizational structure called the *lattice system*, which was developed to enhance the ingenuity and overall performance of a group working toward a goal. It emphasized communication and cooperation rather than hierarchy of authority. Under the system that Gore developed, any person was allowed to make a decision as long as it was fair, encouraged others, and made a commitment to the company. Consultation was required only for decisions that could potentially cause serious damage to the enterprise. Furthermore, new associates joined the company on the same effective authority level as all the other workers, including Bill and Vieve. There were no titles or bosses, with only a few exceptions, all commands were replaced by personal commitments.
>
> New employees started out working in an area best suited to their talents, under the guidance of a sponsor. As the employee progressed there came more responsibility,

and workers were paid according to their individual contribution. "Team members know who is producing," Bill explained in a February 1986 issue of the *Phoenix Business Journal*. "They won't put up with poor performance. There is tremendous peer pressure. You promote yourself by gaining knowledge and working hard, every day. There is no competition, except with yourself." The effect of the system was to encourage workers to be creative, take risks, and perform at their highest level.[2]

Bill Gore's ideas about management were influenced by Douglas McGregor's *The Human Side of Enterprise*, published when Gore was starting up his own company. In it, McGregor identifies two models of management: the conventional model of management, rooted in Taylor's scientific management, and Weber's principles of bureaucracy, which McGregor termed "Theory X." At its core is the assumption that work is unpleasant, that employees are motivated only by money, and that management's principal role is to prevent shirking. "Theory Y" was McGregor's alternative theory rooted in the work of the human relations school of management, which assumes that individuals are self-motivated, anxious to solve problems, and capable of working harmoniously on joint tasks.

Bill Gore's dominant concern was the limits to organizational size. He believed that the need for interpersonal trust would result in organizations declining in effectiveness once they reached about 200 members. Hence, in 1967, rather than expand their Delaware facility, Bill and Vieve decided to build a second manufacturing facility in Flagstaff, Arizona. From then on, Gore built a new facility each time an existing unit reached 200 associates.

According to Malcolm Gladwell, Gore's insistence upon small organizational units is an application of a principle developed by anthropologist Robin Dunbar. According to Dunbar, social groups are limited by individuals' capacity to manage complex social relationships. Among primates, the size of the typical social group for a species is correlated with the size of the neocortex of that species' brain. For humans, Dunbar estimates that 148 is the maximum number of individuals that a person can comfortably have social relations with. Across a range of different societies, Dunbar found that 150 was the typical maximum size of tribes, religious groups, and army units.[3]

Organization Structure and Management Principles

The Gore organization does include elements of hierarchy. For example, as a corporation, it is legally required to have a board of directors—this is chaired by Bob Gore. There is also a CEO, Terri Kelly. The company is organized into four divisions (fabrics, medical, industrial, and electronic products), each with a recognized "leader." Within these divisions there are specific business units, each based upon a group of products. There are also specialized, company-wide functions such as human resources and information technology.

What is lacking is a codified set of ranks and positions. Gore associates are expected to adapt their roles to match their skills and aptitudes. The basic organizational units are small, self-managing teams.

Relationships within teams and between teams are based upon the concept of a lattice rather than a conventional hierarchy. The idea of a lattice is that every organizational member is connected to every other organizational member within the particular facility. In the lattice, communication is peer to peer, not superior to subordinate. For Bill Gore, this was a more natural way to organize. He observed that in

most formal organizations it was through informal connections that things actually got done: "Most of us delight in going around the formal procedures and doing things the straightforward and easy way."[4]

New associates are assigned to a "sponsor" whose job is to introduce the new hire to the company and guide him or her through the lattice. The new hire is likely to spend time with several teams during the first few months of employment. It is up to the new associate and a team to find a good match. An associate is free to find

EXHIBIT 1
What we believe

Founder Bill Gore built the company on a set of beliefs and principles that guide us in the decisions we make, in the work we do, and in our behavior toward others. What we believe is the basis for our strong culture, which connects Gore associates worldwide in a common bond.

FUNDAMENTAL BELIEFS

Belief in the individual: If you trust individuals and believe in them, they will be motivated to do what's right for the company.

Power of small teams: Our lattice organization harnesses the fast decision-making, diverse perspectives, and collaboration of small teams.

All in the same boat: All Gore associates are part owners of the company through the associate stock plan. Not only does this allow us to share in the risks and rewards of the company, it gives us an added incentive to stay committed to its long-term success. As a result, we feel that we are all in this effort together and believe we should always consider what's best for the company as a whole when making decisions.

Long-term view: Our investment decisions are based on long-term payoff and our fundamental beliefs are not sacrificed for short-term gain.

GUIDING PRINCIPLES

- *Freedom*: the company was designed to be an organization in which associates can achieve their own goals best by directing their efforts toward the success of the corporation; action is prized; ideas are encouraged; and making mistakes is viewed as part of the creative process. We define freedom as being empowered to encourage each other to grow in knowledge, skill, scope of responsibility, and range of activities. We believe that associates will exceed expectations when given the freedom to do so.
- *Fairness*: everyone at Gore sincerely tries to be fair with each other, our suppliers, our customers, and anyone else with whom we do business.
- *Commitment*: we are not assigned tasks; rather, we each make our own commitments and keep them.
- *Waterline*: everyone at Gore consults with other associates before taking actions that might be "below the waterline"—causing serious damage to the company.

Working in Our Unique Culture

Our founder Bill Gore once said, "The objective of the Enterprise is to make money and have fun doing so." And we still believe that, more than 50 years later.

Because we are all part owners of the company through the associate stock plan, Gore associates expect a lot from each other. Innovation and creativity; high ethics and integrity; making commitments and standing behind them. We work hard at living up to these expectations as we strive for business success. But we also trust

a new sponsor if desired. Typically, each associate works on two or three different project teams.

Annual reviews are peer based. Information is collected from at least 20 other associates. Each associate is then ranked against every other associate within the unit in terms of overall contribution. This ranking determines compensation.

The company's beliefs, management principles, and work culture are articulated on its website (Exhibit 1).

and respect each other and believe it's important to celebrate success.

Gore is much less formal than most workplaces. Our relationships with other associates are open and informal and we strive to treat everyone respectfully and fairly. This type of environment naturally promotes social interaction and many associates have made lifelong friends with those they met working at Gore.

Do Something You're Passionate About

At Gore, we believe it's important to have passion for what you do. If you're passionate about your work, you are naturally going to be highly self-motivated and focused. If you feel pride and ownership, you will want to do whatever it takes to be successful and have an impact. So when you apply for an opportunity at Gore, be sure you're going to be passionate about the work you'll be doing.

The Lattice Structure and Individual Accountability

Gore's unique "lattice" management structure, which illustrates a nonhierarchical system based on interconnection among associates, is free from traditional bosses and managers. There is no assigned authority, and we become leaders based on our ability to gain the respect of our peers and to attract followers.

You will be responsible for managing your own workload and will be accountable to others on your team. More importantly, only you can make a commitment to do something (e.g., a task, a project, or a new role)—but once you make a commitment, you will be expected to meet it. A "core commitment" is your primary area of concentration. You may take on additional commitments depending on your interests, the company's needs, and your availability.

Relationships and Direct Communication

Relationships are everything at Gore—relationships with each other, with customers, with vendors and suppliers, and with our surrounding communities. We encourage people to build and maintain long-term relationships by communicating directly. Of course, we all use e-mail, but we find that face-to-face meetings and phone calls work best when collaborating with others.

Sponsors

Everyone at Gore has a sponsor, who is committed to helping you succeed. Sponsors are responsible for supporting your growth, for providing good feedback on your strengths and areas that offer opportunities for development and for helping you connect with others in the organization.

Source: www.gore.com/en_xx/careers/whoweare/about-gore.html, W. L. Gore & Associates: Beliefs, Principles and Culture. Reproduced by permission of W. L. Gore & Associates.

Leadership

Leadership is important at Gore, but the basic principle is that of natural leadership: "If you call a meeting and people show up—you're a leader."[5] Teams can appoint team leaders; they can also replace their team leaders. As a result, every team leader's accountability is to the team. "Someone who is accustomed to snapping their fingers and having people respond will be frustrated," says John McMillan, a Gore associate. "I snap my fingers and nobody will do anything. My job is to acquire followership, articulate a goal and get there … and hope the rest of the people think that makes sense."[6]

CEO Terri Kelly compares the conventional approach to leadership with Gore's "distributed leadership model":

> The model of the single powerful leader who operates through command and control is attractive in its simplicity … In reality, it is impractical to expect the single leader to have all the answers, and history has shown that relying upon rigid control mechanisms will not prevent catastrophic outcomes. It's far better to rely upon a broad base of individuals and leaders who share a common set of values and feel personal ownership for the overall success of the organization. And as organizations grow in size and complexity, it becomes even more critical to distribute the leadership load … The capacity of the organization increases when it distributes the leadership load to competent leaders on the ground who can make the best knowledge-based decisions.[7]

She argues that talented newcomers to the workforce adapt much more easily to the distributed leadership than to traditional modes of management. Young people recognize that they have choices, are not wedded to a single organization, and will move to where they perceive the best opportunities. As a result, companies that persevere with traditional management models will find it difficult to retain the best talent. At the same time, warns Kelly, making the shift to a distributed leadership model is a challenge to top management. It requires a fundamental change in the values, attitudes, and reward systems that are deeply embedded in most organizations:

> It will require a shift within the organization from valuing a key few to valuing the unique contributions of many. Individuals will need to feel they have a voice and can be heard. Leaders will need to recognize that their primary role is to empower others versus build their own power. They will no longer stand behind a title with assumed authority to tell people what to do.
>
> Leaders' focus will shift to creating the right environment and instilling the right values that can enable capable leaders to emerge. They will recognize that they are only leaders if they have willing followers, and that this needs to be earned every day. Ultimately, their contributions will be judged by the people they lead.
>
> Most rewards systems depend upon higher level management to assess the effectiveness of the leader. This view can be somewhat limited and biased by the fact the managers were often the ones who put the leader in the role in the first place. Those who know their leaders best are typically the individuals they lead. If you want individuals to have a voice in the organization, they must also have a voice in selecting and evaluating their leaders.

> In our company, we have found it very useful to adopt a peer ranking system. All associates get the opportunity to rank members of their team, including their leaders. They are asked to create a contribution list in rank order based on who they believe is making the greatest contribution to the success of the enterprise. This approach serves as an excellent form of "checks and balances" when it comes to who is truly recognized for their contributions as well as for overall leadership.[8]

Innovation

The success of Gore's unusual management system is its capacity for innovation. Between 1976 and 2017, Gore received 1428 US patents; in each year between 2012 and 2018 it was awarded between 70 and 108 patents. Even more remarkable has been its ability to extend its existing technological breakthroughs to a wide variety of new applications. Central to Gore's ability to innovate is its willingness to allow individuals the freedom to pursue their own projects: each associate is allowed a half day each week of "dabble time." New product ideas typically originate with customers or individual employees and are then developed by a self-directed team. Gore's Elixir guitar strings began when several amateur guitarists in the research department began experimenting with different coatings for guitar strings, then sent samples to musicians to try.

The source of Gore's innovations is not so much its brilliant technologists and engineers as a management system that attracts top talent and provides an environment that inspires creativity and collaboration. Gary Hamel closes his discussion of Gore with the following challenge:

> Bill Gore was a 40-something chemical engineer when he laid the foundations for his innovation democracy. I don't know about you, but a middle-aged polytetrafluoroethylene-loving chemist isn't my mental image of a wild-eyed management innovator. Yet, think about how radical Gore's vision must have seemed back in 1958. Fifty years later, postmodern management hipsters throw around terms like complex adaptive systems and self-organizing teams. Well, they're only a half century behind the curve. So ask yourself, am I dreaming big enough yet? Would my management innovation agenda make Bill Gore proud?[9]

Notes

1. M. Gladwell, The Tipping Point (Little, Brown & Co., London, 2000).
2. "W. L. Gore & Associates, Inc. History," http://www.fundinguniverse.com/company-histories/WL-Gore-amp;-Associates-Inc-Company-History.html, accessed July 20, 2015.
3. Gladwell, op. cit.: 177–181.
4. Quoted by G. Hamel with B. Breen, The Future of Management (Harvard Business School Press, Boston, MA, 2007, p. 87).
5. Reprinted by permission of Harvard Business School Press from The Future of Management by Gary Hamel. Boston, MA, 2007, p. 100 Copyright © 2007 by the Harvard Business School Publishing Corporation; all rights reserved.
6. "W. L. Gore & Associates, Inc.: Quality's Different Drummer," IMPO Magazine, January 14, 2002, http://www.impomag.com/articles/2002/01/wl-gore-associates-inc-qualitys-different-drummer, accessed July 20, 2015.
7. Terri Kelly, "No More Heroes: Distributed Leadership," Management Innovation eXchange (April 8, 2010), http://www.managementexchange.com/blog/no-more-heroes, accessed July 20, 2015.
8. Ibid.
9. Reprinted by permission of Harvard Business School Press from The Future of Management by Gary Hamel. Boston, MA, 2007, p. 100. Copyright © 2007 by the Harvard Business School Publishing Corporation; all rights reserved.

GLOSSARY

acquisition (or takeover) The purchase of one company by another.

activity system A conceptualization of the firm as a set of interrelated activities.

agency problem An agency relationship exists when one party (the principal) contracts with another party (the agent) to act on behalf of the principal. The agency problem is the difficulty of ensuring that the agent acts in the principal's interest.

alliance See **strategic alliance**.

ambidextrous organization An organization that can simultaneously exploit existing competences while exploring new opportunities for future development.

balanced scorecard A tool for linking strategic goals to performance indicators. These performance indicators combine performance indicators relating to financial performance, consumer satisfaction, internal efficiency, and learning and innovation.

barriers to entry Disadvantages that new entrants to an industry face in relation to established firms.

barriers to exit Costs and other impediments that prevent capacity from leaving an industry.

benchmarking A systematic process for comparing the practices, processes, resources, and capabilities of other organizations with one's own.

blue-ocean strategy The discovery or creation of uncontested market space.

bottom of the pyramid This refers to the poorest people in the world: typically the 3 billion people who live on less than $2 per day.

bounded rationality The principle that the rationality of human beings is constrained ("bounded") by the limits of their cognition and capacity to process information.

business ecosystem The network of organizations with which a business enterprise interacts.

business model The overall logic of a business and the basis on which it generates revenues and profits.

business strategy (aka competitive strategy) This refers to how a firm competes within a particular industry or market.

capability More precisely referred to as *organizational capability*, is an organization's capacity to perform a particular task or function.

causal ambiguity The difficulty facing any observer of diagnosing the sources of the competitive advantage of a firm with superior performance. It means that potential rivals face the problem of *uncertain imitability*.

comparative advantage A country's ability to produce a particular product at a lower relative cost than other countries.

competency trap The barrier to change that results from an organization developing high levels of capability in particular activities.

competitive advantage A firm possesses a competitive advantage over its direct competitors when it earns (or has the potential to earn) a persistently higher rate of profit.

consumer surplus The value that a consumer receives from a good or service minus the price that he or she paid.

contingency theory Postulates that there is no single best way to design and manage an organization. The optimal structure and management systems for any organization are contingent upon its context—in particular, the features of its business environment and the technologies it utilizes.

corporate governance The system by which companies are directed and controlled.

corporate planning A systematic approach to resource allocation and strategic decisions within a company over the medium to long-term (typically 4–10 years).

corporate restructuring Radical strategic and organizational change designed to improve performance through cost reduction, employment reduction, divestment of assets, and internal reorganization.

corporate social responsibility (CSR) The social responsibilities of a business organization.

corporate strategy A firm's decisions and intentions with regard to the scope of its activities (its choices in relation to the industries, national markets, and vertical activities within which it participates) and the resource allocation among these.

customer relationship management (CRM) A set of tools, techniques, and methodologies for understanding the needs and characteristics of customers in order to better serve them.

dominant design A product architecture that defines the look, functionality, and production method for the product and becomes accepted by the industry as a whole.

dynamic capabilities Organizational capabilities that allow an organization to reconfigure its resources and modify its operating capabilities in order to adapt and change.

economic profit Pure profit: it is the surplus of revenues over all the costs of producing that revenue inputs (including the costs of capital).

economic value added (EVA) A measure of economic profit. It is the excess of net operating profit after tax over the cost of the capital used in the business.

economies of scale These exist when increases in the scale of a firm or plant result in reductions in costs per unit of output.

economies of scope These exist when using a resource across multiple products or multiple markets uses less of that resource than when the activities are carried out independently.

ecosystem See **business ecosystem**.

emergent strategy The strategy that results from the actions and decisions of different organizational members as they deal with the forces that impinge upon the organization.

experience curve The relationship between unit costs and accumulated production. Typically unit costs decline by 15–30% every time cumulative output doubles.

first-mover advantage The competitive advantage that accrues to the firm that is first to occupy a new market or strategic niche, or to exploit a new technology. First-mover advantage is a special case of *early-mover advantage*.

functional structure Organization around specialized business functions such as accounting, finance marketing, operations, and so on.

game theory A body of theory that analyzes and predicts the outcomes of competitive (and cooperative) situations where each player's choice of action depends on the choices made by the other players in the game. Game theory has applications to business, economics, politics, international relations, biology, and social relations.

global strategy A strategy that treats the world as a single, if segmented, market.

globalization The process through which differences between countries diminish and the world becomes increasingly integrated.

hypercompetition Competition that is characterized by rapid and intensive competitive moves where competitive advantage is quickly eroded and firms are continually seeking new sources of competitive advantage.

industry life cycle The pattern of industry evolution from introduction to growth to maturity to decline.

innovation The initial commercialization of invention by producing and marketing a new good or service, or by using a new method of production.

institutional isomorphism The tendency for organizations that are subject to common social norms and pressures for legitimacy to develop similar organizational characteristics.

intellectual property Intangible goods that have no physical presence and that are "creations of the mind." It includes ideas, names, symbols, designs, artwork, and writings.

intended strategy The strategy conceived by top management with the intention of implementing it within the organization.

invention The creation of new products and processes through the development of new knowledge or from new combinations of existing knowledge.

isolating mechanisms Barriers that protect the competitive advantage of firms from imitative competition.

key success factors Sources of competitive advantage within an industry.

knowledge-based view of the firm This regards the firm as a pool of knowledge assets where the primary challenge for management is to integrate the specialized knowledge of organizational members into the production of goods and services.

matrix structures Hierarchies that comprise multiple dimensions; these typically include product (or business) units, geographical units, and functions.

merger The amalgamation of two or more companies to form a new company. In a merger, the owners of the merging companies exchange their shares for shares in the new company.

multidivisional structure A company structure comprising separate business units, each with significant operational independence, coordinated by a corporate head office that exerts strategic and financial control.

network effects (or **network externalities**) Linkages between the users of a product or technology that result in the value of that product or technology being positively related to the number of users.

open innovation An approach to innovation where a firm seeks solutions from organizations and individuals outside the firm and shares its technologies with other organizations.

organizational ambidexterity see **ambidextrous organization**.

organizational culture An organization's values, traditions, behavioral norms, symbols, and social characteristics.

organizational ecology (aka **organizational demography** and the **population ecology of organizations**) This studies the organizational population of industries and the processes of founding and selection that determine entry and exit.

organizational routines Patterns of coordinated activity through which an organization is able to perform tasks regularly and predictably.

parenting advantage A parent company's ability to create more value from owning a particular business than could any other parent company.

path dependency The simple fact that history matters; more specifically, it implies that an organization's strategy and structure and management's options for the future are determined by it's past decisions and actions.

platform A product, technology, or system that provides a foundation for a number of complementary products (or applications). In business, platforms that form an interface between two-sided markets (comprising application suppliers and final users) occupy an especially important role in several technology-based sectors.

prisoner's dilemma A simple game theory model that shows how lack of cooperation results in an outcome that is inferior to that which could have been achieved with cooperation.

profit The surplus of revenues over costs available for distribution to the owners of the firm.

real option analysis This identifies and values possibilities for investment in uncertain opportunities. The two major types of real option are investments in flexibility and investment in growth opportunities.

realized strategy The actual strategy that the organization pursues; it is the outcome of the interaction of intended strategy with emergent strategy.

regime of appropriability The conditions that determine the extent to which a firm is able to capture profits from its innovations.

resources The assets of the firm including tangible assets (such as plant, equipment, land, and natural resources), intangible resources (such as technology, brands, and other forms of intellectual property) and human resources.

resource-based view of the firm A conceptualization of the firm as a collection of resources and capabilities that form the basis of competitive advantage and the foundation for strategy.

scenario analysis A technique for integrating information and ideas on current trends and future developments into a small number of distinctly different future outcomes.

segmentation The process of disaggregating industries and markets into more narrowly defined submarkets on the basis of product characteristics, customer characteristics, or geography.

self-organization The tendency for complex systems, both natural and biological, to spontaneously achieve order and adaptation though decentralized interactions without any centralized direction or control.

seller concentration This measures the extent to which a market is dominated by a small number of firms. The concentration ratio measures the market share of the largest firms; for example the four-firm concentration ratio (CR4) is the combined market share of the four biggest firms.

stakeholder value maximization This proposes that the firm should maximize the value created by all its stakeholders (owners, employees, customers, suppliers, and society). Top management has the task of balancing and integrating these different interests.

state capitalism A market-based economy where a large proportion of leading enterprises are owned by the government.

strategic alliance A collaborative arrangement between two or more firms involving their pursuit of certain common goals.

strategic fit The consistency of a firm's strategy with its external environment and with its internal environment, especially with its goals and values, resources, and capabilities, and structure and systems.

strategic group A group of firms within an industry that follow similar strategies.

strategic intent The goal of an organization in terms of a desired future strategic position.

SWOT framework The SWOT framework classifies the factors relevant for a firm's strategic decision making into four categories: strengths, weaknesses, opportunities, and threats.

technical standard A specification or requirement or technical characteristic that becomes a norm for a product or process thereby ensuring compatibility.

transaction costs The costs incurred in researching, negotiating, monitoring, and enforcing market contracts.

value Within management terminology, value is used to refer to two very different concepts. In its plural form, *values* typically refer to ethical precepts and principles. In its singular form it typically refers to *economic value:* the monetary worth of a product or asset.

value added Sales revenue minus the cost of bought-in goods and services; it is equal to all the firm's payments to factors of production (i.e., wages and salaries + interest + rent + royalties and license fees + taxes + dividends + retained profit).

value chain A sequence of vertically related activities undertaken by a single firm or by a number of vertically related firms in order to produce a product or service.

vertical integration A firm's ownership of adjacent vertical activities.

winner-takes-all markets Markets where a single firm is able to capture the great majority of sales and/or profits.

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