

# Internal Analysis: Resources, Capabilities, and Core Competencies

## Chapter Outline

- 4.1 Core Competencies**
- 4.2 The Resource-Based View**
  - Two Critical Assumptions*
  - The VRIO Framework*
  - Isolating Mechanisms: How to Sustain a Competitive Advantage*
- 4.3 The Dynamic Capabilities Perspective**
- 4.4 The Value Chain Analysis**
- 4.5 Implications for the Strategist**
  - Using SWOT Analysis to Generate Insights from External and Internal Analysis*

## Learning Objectives

- LO 4-1** Differentiate among a firm's core competencies, resources, capabilities, and activities.
- LO 4-2** Compare and contrast tangible and intangible resources.
- LO 4-3** Evaluate the two critical assumptions behind the resource-based view.
- LO 4-4** Apply the VRIO framework to assess the competitive implications of a firm's resources.
- LO 4-5** Evaluate different conditions that allow a firm to sustain a competitive advantage.
- LO 4-6** Outline how dynamic capabilities can enable a firm to sustain a competitive advantage.
- LO 4-7** Apply a value chain analysis to understand which of the firm's activities in the process of transforming inputs into outputs generate differentiation and which drive costs.
- LO 4-8** Conduct a SWOT analysis to generate insights from external and internal analysis and derive strategic implications.

## Dr. Dre's Core Competency: Coolness Factor

**IN 2014, DR. DRE**—whose real name is Andre Young—became the first hip-hop billionaire after Apple acquired Beats Electronics for \$3 billion. Dr. Dre has a long track record as a successful music producer, rapper, and entrepreneur. Known for his strong work ethic, he expects nothing less than perfection from the people he works with—similar to some of the personality attributes ascribed to the late Steve Jobs, co-founder and long-time CEO of Apple.

Although Dr. Dre created and subsequently sold several successful music record labels, as an entrepreneur he is best known as co-founder of Beats Electronics with Jimmy Iovine, also an entrepreneur and record and film producer. Both are considered to be some of the best-connected businesspeople in the music industry, with personal networks spanning hundreds of both famous and up-and-coming artists. Founded in 2008, Beats Electronics is known globally for its premium consumer headphones, Beats by Dr. Dre, which he claims allows the listeners to “hear all the music.” Since early 2014, the company also offers the streaming music subscription service Beats Music. Beats’ vision is to “bring the energy, emotion, and excitement of playback in the recording studio to the listening experience and introduce an entirely new generation to the possibilities of premium sound entertainment.”<sup>1</sup> Many acoustics experts maintain, however, that playback of digitally compressed MP3 audio files is inferior in comparison to high fidelity. Moreover, the sound quality of Beats headphones is considered poor in comparison to other premium-brand headphones such as those by Bose, JBL, Sennheiser, and others.



Dr. Dre, right, and Jimmy Iovine, center, cofounders of Beats Electronics, with Luke Wood, president, on left.  
© Kevin Mazur/Getty Images

Why then would Apple pay \$3 billion to acquire Beats Electronics? This was by far the largest acquisition in Apple's history. Two main reasons: First, Apple is hoping that some of Beats' coolness will spill over to its brand, which has become somewhat stale. Apple's iPhones, for example, have become a standardized commodity given the successful imitation by Samsung, Xiaomi, and others. Second, although Apple is the world's largest music vendor with 800 million accounts on iTunes Store, the industry is being disrupted. Content delivery, especially in music but also video (think Netflix), is moving rapidly from ownership via downloads to streaming on demand. As a consequence, music downloads have been declining in the past few years.

### BEATS COOLNESS FACTOR

Beats by Dr. Dre achieved an unprecedented coolness factor with celebrity endorsements not only from music icons but also athletes, actors, and other stars. Prior to Beats, no musician endorsed audio headphones in the same way as a basketball player such as Michael Jordan endorsed his line of Nike shoes, Air Jordan. Dr. Dre was the first legendary music producer to endorse premium headphones. In addition, he created custom Beats for stars such as Justin Bieber, Lady Gaga, and Nicki Minaj. Other music celebrities including Skrillex, Lil Wayne, and will.i.am endorsed Beats by wearing them in their music videos and at live events and mentioning them on social media. But Beats did not stop at musicians. Famous athletes—basketball superstars LeBron James and Kobe Bryant, tennis player Serena Williams, and soccer stars Cristiano Ronaldo and Neymar Jr.—are all wearing Beats by Dr. Dre in public and endorse the brand in advertisements.

### DISRUPTION IN CONTENT DELIVERY

Content delivery is rapidly moving from ownership through downloads to renting via online streaming. This disruption in the business model is most visible in movies as the success of Netflix demonstrates, but is also gaining steam in music. Apple is a laggard in music streaming when compared to leaders such as Pandora with 250 million users and Spotify with 60 million users. Apple's attempt at online music

streaming service, iTunes Radio created in 2013, has been falling flat. After disrupting the music download space with iTunes in 2003, Apple is now being disrupted by others that lead in music streaming. It is hoping that by acquiring Beats Music it can become a leader in the music streaming space.<sup>2</sup>

You will learn more about Beats Electronics by reading this chapter; related questions appear on page 132.

**ONE OF THE KEY** messages of this chapter is that a firm's ability to gain and sustain competitive advantage is partly driven by *core competencies*—unique strengths that are embedded deep within a firm. Core competencies allow a firm to differentiate its products and services from those of its rivals, creating higher value for the customer or offering products and services of comparable value at lower cost. So what are core competencies of Beats by Dr. Dre? Beats succeeds not because it provides the best possible acoustic experience, but because it functions as a fashion statement that communicates coolness.<sup>3</sup> The iconic headphones are worn by celebrities from music, movies, and sports. Even fashion designer Marc Jacobs had models wear Beats headphones during runway shows. The extent to which Beats succeeds at product placements with celebrities across the world is unprecedented. The genius behind Beats is creating a perception that if you want to be as cool as one of your heroes, you need to shell out hundreds of dollars to wear plastic headphones in public.

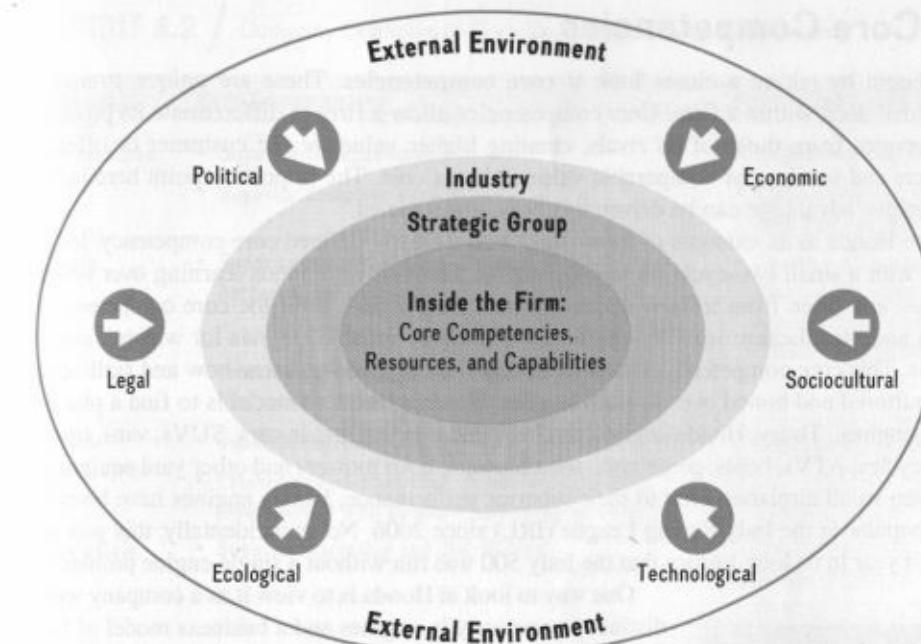
Beats' unique strengths in establishing a brand that communicates coolness is built upon Dr. Dre's intuition and feel for music and cultural trends; Dr. Dre is one of music's savviest marketing minds. Although the sound quality of Beats headphones is good enough, they mainly sell as a fashion accessory for their coolness factor and brand image. Dr. Dre relies on gut instinct in making decisions, while shunning market research. This approach is quite similar to Apple's late co-founder Steve Jobs who made no secret of his disdain for market research because he believed that consumers don't really know what they want until someone else shows it to them.

Beats' core competency in marketing allows the company to differentiate its products from rival offerings because it is able to create higher perceived value for its customers. In turn, Beats' core competency affords the firm a competitive advantage. It is hugely successful: Beats holds some 65 percent market share in the premium headphone market, priced at \$100 and up. Beats' competitive advantage was rewarded with a \$3 billion acquisition by Apple.

In this chapter, we study analytical tools to explain why differences in firm performance exist even within the *same* industry. For example, why does Beats Electronics outperform Audio-Technica, Bose, JBL, Skullcandy, Sennheiser, and Sony in the high-end, premium headphone market? Since these companies compete in the same industry and face similar external opportunities and threats, the source for some of the observable performance difference must be found *inside the firm*. When discussing industry, firm, and other effects in explaining superior performance, we noted that up to 55 percent of the overall performance differences is explained by firm-specific effects (see Exhibit 1.1). Looking inside the firm to analyze its resources, capabilities, and core competencies allows us to understand the firm's strengths and weaknesses. Linking these insights from a firm's internal analysis to the ones derived in Chapter 3 on external analysis allows managers to determine their

### EXHIBIT 4.1

Inside the Firm:  
Competitive  
Advantage based on  
Core Competencies,  
Resources, and  
Capabilities



strategic options. Ideally, firms want to leverage their internal strengths to exploit external opportunities, and to mitigate internal weaknesses and external threats.

Exhibit 4.1 depicts how and why we move from the firm's external environment to its internal environment. To formulate and implement a strategy that enhances the firm's chances of gaining and sustaining competitive advantage, the firm must have certain types of resources and capabilities that combine to form core competencies. The best firms conscientiously identify their core competencies, resources, and capabilities to survive and succeed. Firms then determine how to manage and develop internal strengths to respond to the challenges and opportunities in their external environment. In particular, firms conduct the evaluation and development of internal strengths in the context of external PESTEL forces and competition within its industry and strategic group.

The firm's response is dynamic. Rather than creating a onetime and thus a static fit, the firm's internal strengths need to change with its external environment in a *dynamic* fashion. At each point the goal should be to develop resources, capabilities, and competencies that create a *strategic fit* with the firm's environment. The forward motion of those environmental forces must also be considered. The chapter will provide a deeper understanding of the sources of competitive advantage that reside within a firm.

To gain a better understanding of why and how firm differences explain competitive advantage, we begin this chapter by taking a closer look at *core competencies*. Next, we introduce the *resource-based view* of the firm to provide an analytical model that allows us to assess resources, capabilities, and competencies and their potential for creating a sustainable competitive advantage. We discuss the *dynamic capabilities perspective*, a model that emphasizes a firm's ability to modify and leverage its resource base to gain and sustain a competitive advantage in a constantly changing environment. We then turn our attention to the *value chain analysis* to gain a deeper understanding of the internal activities a firm engages in when transforming inputs into outputs. We conclude with "Implications for the Strategist," with a particular focus on how to use the *SWOT analysis* to obtain strategic insights from combining external and internal analysis.

**LO 4-1**

Differentiate among a firm's resources, capabilities, core competencies, and activities.

## 4.1 Core Competencies

Let's begin by taking a closer look at **core competencies**. These are unique strengths, embedded deep within a firm. Core competencies allow a firm to differentiate its products and services from those of its rivals, creating higher value for the customer or offering products and services of comparable value at lower cost. The important point here is that competitive advantage can be driven by core competencies.<sup>4</sup>

Take Honda as an example of a company with a clearly defined core competency. Its life began with a small two-cycle motorbike engine. Through continuous learning over several decades, and often from lessons learned from failure, Honda built the core competency to design and manufacture small but powerful and highly reliable engines for which it now is famous. This core competency results from superior engineering know-how and skills carefully nurtured and honed over several decades. Honda's business model is to find a place to put its engines. Today, Honda engines can be found everywhere: in cars, SUVs, vans, trucks, motorcycles, ATVs, boats, generators, snowblowers, lawn mowers and other yard equipment, and even small airplanes. Due to their superior performance, Honda engines have been the most popular in the Indy Racing League (IRL) since 2006. Not coincidentally, this was also the first year in its long history that the Indy 500 was run without a single engine problem.

One way to look at Honda is to view it as a company with a distinct competency in engines and a business model of finding places to put its engines. That is, underneath the products and services that make up the *visible* side of competition lies a diverse set of *invisible* competencies that make this happen. These invisible core competencies reside deep within the firm. Companies, therefore, compete as much in the product and service markets as they do in developing and leveraging core competencies. Although invisible by themselves, core competencies find their expression in superior products and services. Exhibit 4.2 identifies the core competencies of a number of companies, with application examples.

Since core competencies are critical to gaining and sustaining competitive advantage, it is important to understand how they are created. Companies develop core competencies through the interplay of resources and capabilities. Exhibit 4.3 shows this relationship. **Resources** are any assets such as cash, buildings, machinery, or intellectual property that a firm can draw on when crafting and executing a strategy. Resources can

be either tangible or intangible. **Capabilities** are the organizational and managerial skills necessary to orchestrate a diverse set of resources and to deploy them strategically. Capabilities are by nature intangible. They find their expression in a company's structure, routines, and culture.

As shown in Exhibit 4.3, such competencies are demonstrated in the company's activities, which can lead to competitive advantage, resulting in superior firm performance. **Activities** are distinct and fine-grained business processes such as order taking,



Honda promotes its expertise with engines by sponsoring racecar driver Danica Patrick.

© AP Photo/Julio Cortez

**core competencies**  
Unique strengths, embedded deep within a firm, that are critical to gaining and sustaining competitive advantage.

**resources**  
Any assets that a firm can draw on when formulating and implementing a strategy.

**capabilities**  
Organizational and managerial skills necessary to orchestrate a diverse set of resources and deploy them strategically.

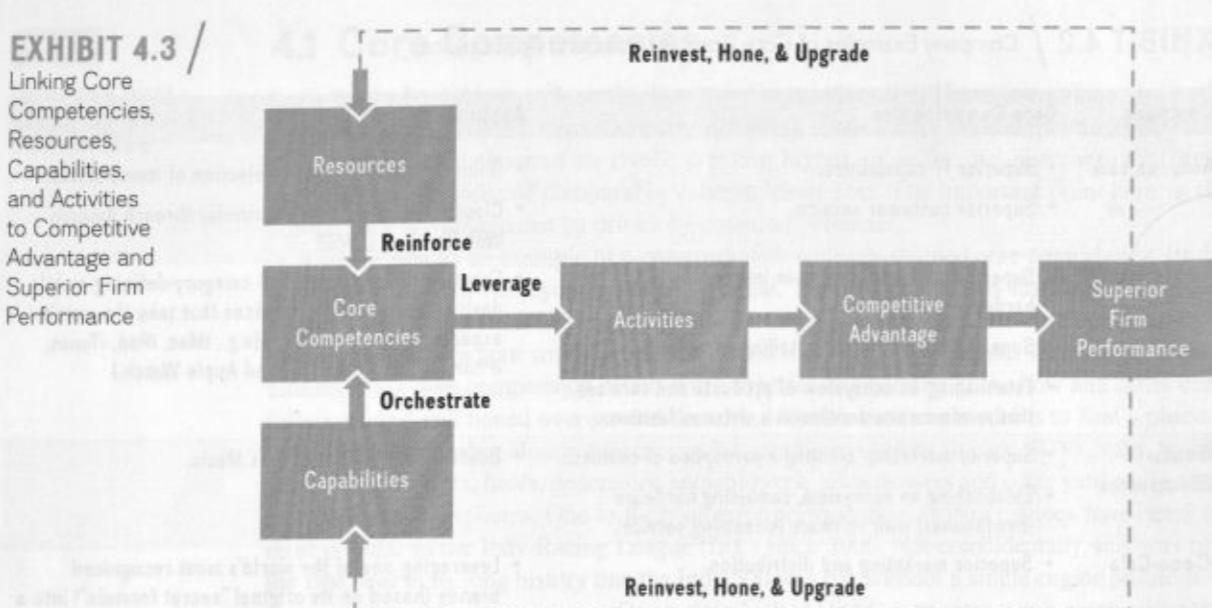
**activities**  
Distinct and fine-grained business processes that enable firms to add incremental value by transforming inputs into goods and services.

## EXHIBIT 4.2 / Company Examples of Core Competencies and Applications

Company	Core Competencies	Application Examples
Amazon.com	<ul style="list-style-type: none"> <li>• Superior IT capabilities.</li> <li>• Superior customer service.</li> </ul>	<ul style="list-style-type: none"> <li>• Online retailing: Largest selection of items online.</li> <li>• Cloud computing: Largest provider through Amazon Web Services (AWS).</li> </ul>
Apple	<ul style="list-style-type: none"> <li>• Superior industrial design in integration of hardware and software.</li> <li>• Superior marketing and retailing experience.</li> <li>• Establishing an ecosystem of products and services that reinforce one another in a virtuous fashion.</li> </ul>	<ul style="list-style-type: none"> <li>• Creation of innovative and category-defining mobile devices and software services that take the user's experience to a new level (e.g., iMac, iPod, iTunes, iPhone, iPad, Apple Pay, and Apple Watch.)</li> </ul>
Beats Electronics	<ul style="list-style-type: none"> <li>• Superior marketing: creating a perception of coolness.</li> <li>• Establishing an ecosystem, combining hardware (headphones) with software (streaming service).</li> </ul>	<ul style="list-style-type: none"> <li>• Beats by Dr. Dre and Beats Music.</li> </ul>
Coca-Cola	<ul style="list-style-type: none"> <li>• Superior marketing and distribution.</li> </ul>	<ul style="list-style-type: none"> <li>• Leveraging one of the world's most recognized brands (based on its original "secret formula") into a diverse lineup of soft drinks.</li> <li>• Global availability of products.</li> </ul>
ExxonMobil	<ul style="list-style-type: none"> <li>• Superior at discovering and exploring fossil-fuel-based energy sources globally.</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on oil and gas (fossil fuels only, not renewables).</li> </ul>
Facebook	<ul style="list-style-type: none"> <li>• Superior IT capabilities to provide reliable social network services globally on a large scale.</li> <li>• Superior algorithms to offer targeted online ads.</li> </ul>	<ul style="list-style-type: none"> <li>• Connecting 1.5 billion social media users worldwide.</li> <li>• News feed, timeline, and graph search.</li> </ul>
General Electric	<ul style="list-style-type: none"> <li>• Superior expertise in industrial engineering, designing and implementing efficient management processes, and developing and training leaders.</li> </ul>	<ul style="list-style-type: none"> <li>• Providing products and services to solve tough engineering problems in energy, health care, and aerospace, among other sectors.</li> </ul>
Google	<ul style="list-style-type: none"> <li>• Superior in creating proprietary algorithms based on large amounts of data collected online.</li> </ul>	<ul style="list-style-type: none"> <li>• Software products and services for the Internet and mobile computing, including some mobile devices (Chromebook).</li> <li>• Online search, Android mobile operating system, Chrome OS, Chrome web browser, Google Play, AdWords, AdSense, Google docs, Gmail, etc.</li> </ul>
Honda	<ul style="list-style-type: none"> <li>• Superior engineering of small but powerful and highly reliable internal combustion engines.</li> </ul>	<ul style="list-style-type: none"> <li>• Motorcycles, cars, ATVs, sporting boats, snowmobiles, lawn mowers, small aircraft, etc.</li> </ul>
IKEA	<ul style="list-style-type: none"> <li>• Superior in designing modern functional home furnishings at low cost.</li> <li>• Superior retail experience.</li> </ul>	<ul style="list-style-type: none"> <li>• Fully furnished room setups, practical tools for all rooms, do-it-yourself.</li> </ul>
McKinsey	<ul style="list-style-type: none"> <li>• Superior in developing practice-relevant knowledge, insights, and frameworks in strategy.</li> </ul>	<ul style="list-style-type: none"> <li>• Management consulting; in particular, strategy consulting provided to company and government leaders.</li> </ul>
Netflix	<ul style="list-style-type: none"> <li>• Superior in creating proprietary algorithms-based individual customer preferences.</li> </ul>	<ul style="list-style-type: none"> <li>• DVD-by-mail rentals, streaming media (including proprietary) content, connection to game consoles.</li> </ul>
Tesla Motors	<ul style="list-style-type: none"> <li>• Superior engineering expertise in designing high-performance battery-powered motors and power trains.</li> </ul>	<ul style="list-style-type: none"> <li>• Tesla Model S, Tesla Model X, and Tesla Model 3.</li> </ul>
Uber	<ul style="list-style-type: none"> <li>• Superior mobile-app-based transportation and logistics expertise focused on cities, but on global scale.</li> </ul>	<ul style="list-style-type: none"> <li>• Uber, UberX, UberBlack, UberLUX, UberSUV, etc.</li> </ul>

**EXHIBIT 4.3**

Linking Core Competencies, Resources, Capabilities, and Activities to Competitive Advantage and Superior Firm Performance



the physical delivery of products, or invoicing customers. Each distinct activity enables firms to add incremental value by transforming inputs into goods and services. In the interplay of resources and capabilities, resources reinforce core competencies, while capabilities allow managers to orchestrate their core competencies. Strategic choices find their expression in a set of specific firm activities, which leverage core competencies for competitive advantage. The arrows leading back from performance to resources and capabilities indicate that superior performance in the marketplace generates profits that can be reinvested into the firm (retained earnings) to further hone and upgrade a firm's resources and capabilities in its pursuit of achieving and maintaining a strategic fit within a dynamic environment.

We should make two more observations about Exhibit 4.3 before moving on. First, core competencies that are not continuously nourished will eventually lose their ability to yield a competitive advantage. And second, in analyzing a company's success in the market, it can be too easy to focus on the more *visible* elements or facets of core competencies such as superior products or services. While these are the outward manifestation of core competencies, what is even more important is to understand the *invisible* part of core competencies. As to the first point, we consider the consumer electronics industry. For some years, Best Buy outperformed Circuit City based on its strengths in customer-centricity (segmenting customers based on demographic, attitudinal, and value tiers, and configuring stores to serve the needs of the customer segments in that region), employee development, and exclusive branding. Although Best Buy outperformed Circuit City (which filed for bankruptcy in 2009), more recently Best Buy did not hone and upgrade its core competencies sufficiently to compete effectively against Amazon.com, the world's largest online retailer. Amazon does not have the overhead expenses associated with maintaining buildings or human sales forces; therefore, it can undercut in-store retailers on price. When a firm does not invest in continual upgrading or improving core competencies, its competitors are more likely to develop equivalent or superior skills, as did Amazon. This insight will allow us to explain differences between firms in the same industry, as well as competitive dynamics, over time. It also will help us identify the strategy

with which firms gain and sustain a competitive advantage and weather an adverse external environment.

As to the second point, we will soon introduce tools to help bring more opaque aspects of a firm's core competencies into the daylight to be seen with clarity. We start by looking at both tangible and intangible resources.

**LO 4-2**

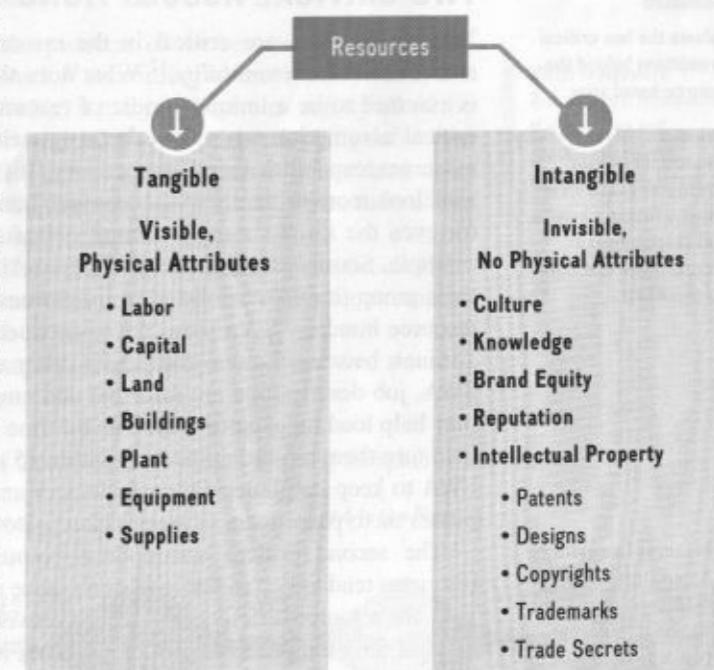
Compare and contrast tangible and intangible resources.

**4.2 The Resource-Based View**

To gain a deeper understanding of how the interplay between resources and capabilities creates core competencies that drive firm activities leading to competitive advantage, we turn to the **resource-based view** of the firm. This model systematically aids in identifying core competencies.<sup>5</sup> As the name suggests, this model sees resources as key to superior firm performance. As Exhibit 4.4 illustrates, resources fall broadly into two categories: tangible and intangible. **Tangible resources** have physical attributes and are visible. Examples of tangible resources are labor, capital, land, buildings, plant, equipment, and supplies. **Intangible resources** have no physical attributes and thus are invisible. Examples of intangible resources are a firm's culture, its knowledge, brand equity, reputation, and intellectual property.

Consider Google. Its tangible resources, valued at \$16 billion, include its headquarters (The Googleplex)<sup>6</sup> in Mountain View, California, and numerous server farms (clusters of computer servers) across the globe.<sup>7</sup> The Google brand, an intangible resource, is valued at roughly \$160 billion (number one worldwide)—10 times higher than the value of its tangible assets.<sup>8</sup>

Google's headquarters provides examples of both tangible and intangible resources. The Googleplex is a piece of land with a futuristic building, and thus a tangible resource. The *location* of the company in the heart of Silicon Valley is an *intangible resource* that provides access to a valuable network of contacts and gives the company several benefits. It allows Google to tap into a large and computer-savvy work force and access graduates and knowledge spillovers from a large number of universities, including San Francisco State University, San Jose State University, Santa Clara University, Stanford, and the University of California, Berkeley, among others, which

**EXHIBIT 4.4** / Tangible and Intangible Resources**resource-based view**

A model that sees certain types of resources as key to superior firm performance.

**tangible resources**

Resources that have physical attributes and thus are visible.

**intangible resources**

Resources that do not have physical attributes and thus are invisible.

adds to Google's technical and managerial capabilities.<sup>9</sup> Another benefit stems from Silicon Valley's designation as having the largest concentration of venture capital in the United States. This proximity benefits Google because venture capitalists tend to prefer local investments to ensure closer monitoring.<sup>10</sup> Google received initial funding from the well-known venture capital firms Kleiner Perkins Caufield & Byers and Sequoia Capital, both located in Silicon Valley.

Competitive advantage is more likely to spring from intangible rather than tangible resources. Tangible assets, such as buildings or computer servers, can be bought on the open market by any comers who have the necessary cash. However, a brand name must be built, often over long periods of time. Google (founded in 1998) and Amazon.com (founded in 1994) accomplished their enormous brand valuation fairly quickly due to a ubiquitous Internet presence, while the other companies in the global top-10 most valuable brands—Apple, IBM, Microsoft, McDonald's, Coca-Cola, Visa, AT&T, and Marlboro—took much longer to build value and have it recognized in the marketplace.<sup>11</sup>

Note that the resource-based view of the firm uses the term *resource* much more broadly than previously defined. In the resource-based view of the firm, a resource includes any assets as well as any capabilities and competencies that a firm can draw upon when formulating and implementing strategy. In addition, the usefulness of the resource-based view to explain and predict competitive advantage rests upon two critical assumptions about the nature of resources, to which we turn next.

#### LO 4-3

Evaluate the two critical assumptions behind the resource-based view.

**resource heterogeneity**  
Assumption in the resource-based view that a firm is a bundle of resources and capabilities that differ across firms.

**resource immobility**  
Assumption in the resource-based view that a firm has resources that tend to be "sticky" and that do not move easily from firm to firm.

## TWO CRITICAL ASSUMPTIONS

Two assumptions are critical in the resource-based model: (1) *resource heterogeneity* and (2) *resource immobility*.<sup>12</sup> What does this mean? In the resource-based view, a firm is assumed to be a unique bundle of resources, capabilities, and competencies. The first critical assumption—**resource heterogeneity**—comes from the insight that bundles of resources, capabilities, and competencies differ across firms. This insight ensures that analysts look more critically at the resource bundles of firms competing in the *same* industry (or even the same strategic group), because each bundle is unique to some extent. For example, Southwest Airlines (SWA) and Alaska Airlines both compete in the same strategic group (low-cost, point-to-point airlines, see Exhibit 3.5). But they draw on different resource bundles. SWA's employee productivity tends to be higher than that of Alaska Airlines, because the two companies differ along human and organizational resources. At SWA, job descriptions are informal and employees pitch in to "get the job done." Pilots may help load luggage to ensure an on-time departure; flight attendants clean airplanes to help turn them around at the gate within 15 minutes from arrival to departure. This allows SWA to keep its planes flying for longer and lowers its cost structure, savings that SWA passes on to passengers in lower ticket prices.

The second critical assumption—**resource immobility**—describes the insight that resources tend to be "sticky" and don't move easily from firm to firm. Because of that stickiness, the resource differences that exist between firms are difficult to replicate and, therefore, can last for a long time. For example, SWA has enjoyed a sustained competitive advantage, allowing it to outperform its competitors over several decades. That resource difference is not due to a lack of imitation attempts, though. Continental and Delta both attempted to copy SWA, with Continental Lite and Song airline offerings, respectively. Neither airline, however, was able to successfully imitate the resource bundles and firm capabilities that make SWA unique. Combined, these insights tell us that resource bundles differ across firms, and such differences can persist for long periods. These two assumptions about resources are critical to explaining superior firm performance in the resource-based model.

Note, by the way, that the critical assumptions of the resource-based model are fundamentally different from the way in which a firm is viewed in the perfectly competitive industry structure introduced in Chapter 3. In perfect competition, all firms have access to the *same* resources and capabilities, ensuring that any advantage that one firm has will be short-lived. That is, when resources are freely available and mobile, competitors can move quickly to acquire resources that are utilized by the current market leader. Although some commodity markets approach this situation, most other markets include firms whose resource endowments differ. The resource-based view, therefore, delivers useful insights to managers about how to formulate a strategy that will enhance the chances of gaining a competitive advantage.

## THE VRIO FRAMEWORK

Our tool for evaluating a firm's resource endowments is a framework that answers the question of what resource attributes underpin competitive advantage. This framework is implied in the resource-based model, identifying certain *types of resources* as key to superior firm performance.<sup>13</sup> For a resource to be the basis of a competitive advantage, it must be

Valuable

Rare

Costly to Imitate.

And finally, the firm itself must be

Organized to capture the value of the resource.

Following the lead of Jay Barney, one of the pioneers of the resource-based view of the firm, we call this model the **VRIO framework**.<sup>14</sup> According to this model, a firm can gain and sustain a competitive advantage only when it has resources that satisfy all of the VRIO criteria. Keep in mind that resources in the VRIO framework are broadly defined to include any assets *as well as* any capabilities and competencies that a firm can draw upon when formulating and implementing strategy. So to some degree, this presentation of the VRIO model summarizes all of our discussion in the chapter so far.

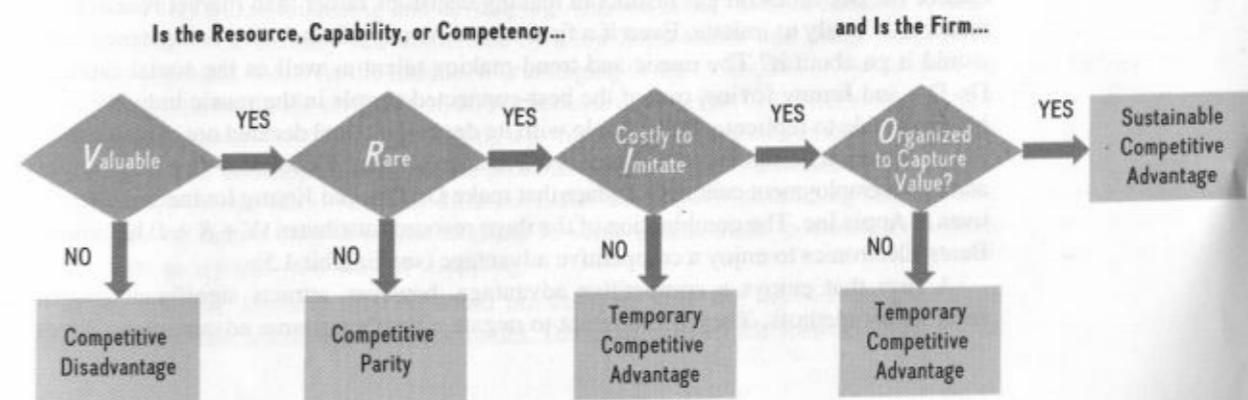
Exhibit 4.5 captures the VRIO framework. You can use this decision tree to decide if the resource, capability, or competency under consideration fulfills the VRIO requirements. As you study the following discussion of each of the VRIO attributes, you will see that the attributes accumulate. Only if a firm's managers are able to answer "yes" four times to

#### LO 4-4

Apply the VRIO framework to assess the competitive implications of a firm's resources.

**VRIO framework**  
A theoretical framework that explains and predicts firm-level competitive advantage.

### EXHIBIT 4.5 / Applying the Resource-Based View: A Decision Tree Revealing Competitive Implications



the attributes listed in the decision tree is the resource in question a core competency that underpins a firm's sustainable competitive advantage.

**valuable resource**  
One of the four key criteria in the VRIO framework. A resource is valuable if it helps a firm exploit an external opportunity or offset an external threat.

**VALUABLE.** A **valuable resource** is one that enables the firm to exploit an external opportunity or offset an external threat. This has a positive effect on a firm's competitive advantage. In particular, a valuable resource enables a firm to increase its economic value creation ( $V - C$ ). Revenues rise if a firm is able to increase the perceived value of its product or service in the eyes of consumers by offering superior design and adding attractive features (assuming costs are not increasing). Production costs, for example, fall if the firm is able to put an efficient manufacturing process and tight supply chain management in place (assuming perceived value is not decreasing). Beats Electronics' ability to design and market premium headphones that bestow a certain air of coolness upon wearers is a valuable resource. The profit margins for Beats designer headphones are astronomical: The production cost for its headphones is estimated to be no more than \$15, while they retail for \$150 to \$450, with some special editions over \$1,000. Thus, Beats' competency in designing and marketing premium headphones is a valuable resource in the VRIO framework.

**rare resource**  
One of the four key criteria in the VRIO framework. A resource is rare if the number of firms that possess it is less than the number of firms it would require to reach a state of perfect competition.

**RARE.** A resource is **rare** if only one or a few firms possess it. If the resource is common, it will result in perfect competition where no firm is able to maintain a competitive advantage (see discussion in Chapter 3). A resource that is valuable but not rare can lead to competitive parity at best. A firm is on the path to competitive *advantage* only if it possesses a valuable resource that is also rare. Beats Electronics' ability and reach in product placement and celebrity endorsements that build its coolness factor are certainly rare. No other brand in the world, not even Apple or Nike, has such a large number of celebrities from music, movies, and sports using its product in public. Thus, this resource is not only valuable but also rare.

**costly-to-imitate resource**  
One of the four key criteria in the VRIO framework. A resource is costly to imitate if firms that do not possess the resource are unable to develop or buy the resource at a comparable cost.

**COSTLY TO IMITATE.** A resource is **costly to imitate** if firms that do not possess the resource are unable to develop or buy the resource at a reasonable price. If the resource in question is valuable, rare, and costly to imitate, then it is an internal strength and a core competency. If the firm's competitors fail to duplicate the strategy based on the valuable, rare, and costly-to-imitate resource, then the firm can achieve a temporary competitive advantage.

Beats' core competency in establishing a brand that communicates coolness is built upon the intuition and feel for music and cultural trends of Dr. Dre, one of music's savviest marketing minds. Although the sound quality of Beats headphones is good enough, they mainly sell as a fashion accessory for their coolness factor and brand image. Because its creator Dr. Dre relies on gut instinct in making decisions rather than market research, this resource is costly to imitate. Even if a firm wanted to copy Beats' core competency—how would it go about it? The music and trend-making talent as well as the social capital of Dr. Dre and Jimmy Iovine, two of the best-connected people in the music industry, might be impossible to replicate. Even Apple with its deep talent pool decided not to build its own line of premium headphones but rather opted to acquire Beats Electronics' line for \$3 billion, and to put employment contracts in place that make Dr. Dre and Jimmy Iovine senior executives at Apple Inc. The combination of the three resource attributes ( $V + R + I$ ) has allowed Beats Electronics to enjoy a competitive advantage (see Exhibit 4.5).

A firm that enjoys a competitive advantage, however, attracts significant attention from its competitors. They will attempt to negate a firm's resource advantage by directly

imitating the resource in question (*direct imitation*) or through working around it to provide a comparable product or service (*substitution*).

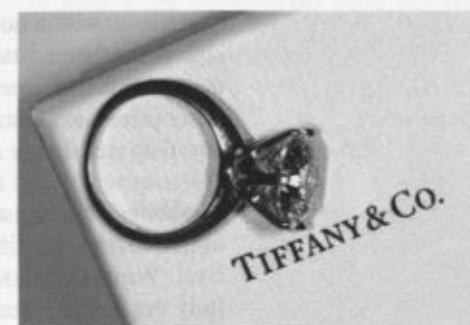
**Direct Imitation.** We usually see direct imitation, as a way to copy or imitate a valuable and rare resource, when firms have difficulty protecting their advantage. (We discuss barriers to imitation shortly.) Direct imitation is swift if the firm is successful and intellectual property (IP) protection such as patents or trademarks, for example, can be easily circumvented.

Crocs, the maker of the iconic plastic clog, fell victim to direct imitation. Launched in 2002 as a spa shoe at the Fort Lauderdale, Florida, boat show, Crocs experienced explosive growth, selling millions of pairs each year and reaching over \$650 million in revenue in 2008. Crocs are worn by people in every age group and walk of life, including celebrities Sergey Brin, Matt Damon, Heidi Klum, Adam Sandler, and even Kate Middleton, the Duchess of Cambridge. To protect its unique shoe design, the firm owns several patents. Given Crocs' explosive growth, however, numerous cheap imitators have sprung up to copy the colorful and comfortable plastic clog. Despite the patents and celebrity endorsements, other firms were able to copy the shoe, taking a big bite into Crocs' profits. Indeed, Crocs' share price plunged from a high of almost \$75 to less than \$1 in less than 13 months.<sup>15</sup>

This example illustrates that competitive advantage cannot be sustained if the underlying capability can easily be replicated and can thus be *directly imitated*. Competitors simply created molds to imitate the shape, look, and feel of the original Crocs shoe. Any competitive advantage in a fashion-driven industry, moreover, is notoriously short-lived if the company fails to continuously innovate or build such brand recognition that imitators won't gain a foothold in the market. Crocs was more or less a "one-trick pony." Beats Electronics, on the other hand, created an ecosystem of hardware (Beats by Dr. Dre) and software (Beats Music) that positively reinforce one another. Beats by Dr. Dre are the installed base that drives demand for Beats Music. As Beats Music's music streaming and celebrity-curated playlists become more popular, demand for Beats headphones further increases. With increasing demand, Beats Music services also become more valuable as its proprietary algorithms have more data to work with. Continuous innovation by churning out new headphone designs combined with the unique coolness factor of Dr. Dre make direct imitation attempts more or less futile.

**Substitution.** The second avenue of imitation for a firm's valuable and rare resource is through *substitution*. This is often accomplished through *strategic equivalence*. Take the example of Jeff Bezos launching and developing Amazon.com.<sup>16</sup> Before Amazon's inception, the retail book industry was dominated by a few large chains and many independent mom-and-pop bookstores. As the Internet was emerging in the 1990s, Bezos was looking for options in online retail. He zeroed in on books because of their non-differentiated commodity nature and easiness to ship. In purchasing a printed book online, customers knew exactly what they would be shipped, because the products were identical, whether sold online or in a brick-and-mortar store. The only difference was the mode of transacting and delivery. Taking out the uncertainty of online retailing to some extent made potential customers more likely to try this new way of shopping.

Bezos realized, however, that he could not compete with the big-box book retailers directly and needed a different business model. The emergence of the Internet allowed him



Tiffany & Co. has developed a core competency—elegant jewelry design and craftsmanship delivered through a superior customer experience—that is valuable, rare, and costly for competitors to imitate. The company vigorously protects its trademarks, including its Tiffany Blue Box, but it never trademarked the so-called "Tiffany setting" for diamond rings, used now by many jewelers. The term has been co-opted for advertising by other retailers (including Costco), which now maintain it is a generic term commonly used in the jewelry industry. © Lucas Oleniuk/Getty Images

to come up with a new distribution system that negated the need for retail stores and thus high real-estate costs. Bezos' new business model of ecommerce not only substituted for the traditional fragmented supply chain in book retailing, but also allowed Amazon to offer lower prices due to its lower operating costs. Amazon uses a strategic equivalent substitute to satisfy a customer need previously met by brick-and-mortar retail stores.

**Combining Imitation and Substitution.** In some instances, firms are able to combine direct imitation and substitution when attempting to mitigate the competitive advantage of a rival. With its Galaxy line of smartphones, Samsung has been able to imitate successfully the look and feel of Apple's iPhones. Samsung's Galaxy smartphones use Google's Android operating system and apps from Google Play as an alternative to Apple's iOS and iTunes Store. Samsung achieved this through a combination of *direct imitation* (look and feel) and *substitution* (using Google's mobile operating system and app store).<sup>17</sup>

More recently, both Apple and Samsung are feeling the pressure from low-end disruptor Xiaomi, a Chinese smartphone company.<sup>18</sup> As a result of its explosive growth, Xiaomi is now the world's third-largest maker of smartphones. Xiaomi has been spectacularly successful in its Chinese home market where it is selling more smartphones than Apple or even Samsung.<sup>19</sup> Xiaomi also uses Google's Android system on its low-priced models that mimic the look and feel of both the Apple iPhone as well as the Samsung Galaxy line of phones.

**ORGANIZED TO CAPTURE VALUE.** The final criterion of whether a rare, valuable, and costly-to-imitate resource can form the basis of a sustainable competitive advantage depends on the firm's internal structure. To fully exploit the competitive potential of its resources, capabilities, and competencies, a firm must be **organized to capture value**—that is, it must have in place an effective organizational structure and coordinating systems. (We will study organizational design in detail in Chapter 11.) Before Apple or Microsoft had any significant share of the personal computer market, Xerox's Palo Alto Research Center (PARC) invented and developed an early word-processing application, the graphical user interface (GUI), the Ethernet, the mouse as a pointing device, and even the first personal computer. These technology breakthroughs laid the foundation of the desktop-computing industry.<sup>20</sup> Xerox's invention competency built through a unique combination of resources and capabilities was clearly valuable, rare, and costly to imitate with the potential to create a competitive advantage.

Due to a lack of appropriate organization, however, Xerox failed to appreciate and exploit the many breakthroughs made by PARC in computing software and hardware. Why? Because the innovations did not fit within the Xerox business focus at the time. Under pressure in its core business from Japanese low-cost competitors, Xerox's top management was busy pursuing innovations in the photocopier business. Xerox was not organized to appreciate the competitive potential of the valuable, rare, and inimitable resources generated at PARC, if not in the photocopier field. Such organizational problems were exacerbated by geography: Xerox headquarters is on the East Coast in Norwalk, Connecticut, across the country from PARC on the West Coast in Palo Alto, California.<sup>21</sup> Nor did it help that development engineers at Xerox headquarters had a disdain for the scientists engaging in basic research at PARC. In the meantime, both Apple and Microsoft developed operating systems, graphical user interfaces, and application software.

If a firm is not effectively organized to exploit the competitive potential of a valuable, rare, and costly-to-imitate (VRI) resource, the best-case scenario is a temporary competitive

**organized to capture value**  
One of the four key criteria in the VRIO framework. The characteristic of having in place an effective organizational structure, processes, and systems to fully exploit the competitive potential of the firm's resources, capabilities, and competencies.

advantage (see Exhibit 4.5). In the case of Xerox, where management was not supportive of the resource, even a temporary competitive advantage would not be realized even though the resource meets the VRI requirements.

In summary, for a firm to gain and sustain a competitive advantage, its resources and capabilities need to interact in such a way as to create unique core competencies (see Exhibit 4.3). Ultimately, though, only a few competencies may turn out to be those *specific* core competencies that fulfill the VRIO requirements.<sup>23</sup> A company cannot do everything equally well and must carve out a unique strategic position for itself, making necessary trade-offs.<sup>24</sup> Strategy Highlight 4.1 demonstrates application of the VRIO framework.

## Strategy Highlight 4.1

### Applying VRIO: The Rise and Fall of Groupon

After graduating with a degree in music from Northwestern University, Andrew Mason spent a couple of years as a web designer. In 2008, the then 27-year-old founded Groupon, a daily-deal website that connects local retailers and other merchants to consumers by offering goods and services at a discount. Groupon creates marketplaces by bringing the brick-and-mortar world of local commerce onto the Internet. The company basically offers a "group-coupon." If more than a predetermined number of Groupon users sign up for the offer, the deal is extended to all Groupon users. For example, a local spa may offer a massage for \$40 instead of the regular \$80. If more than say 10 people sign up, the deal becomes reality. The users prepay \$40 for the coupon, which Groupon splits 50-50 with the local merchant. Inspired by how Amazon.com has become the global leader in ecommerce, Mason's strategic vision for Groupon was *to be the global leader in local commerce*.

Measured by its explosive growth, Groupon became one of the most successful recent Internet startups, with over 260 million subscribers and serving over 500,000 merchants in the United States and some 50 countries. Indeed, Groupon's success attracted a \$6 billion buyout offer by Google in early 2011, which Mason declined. In November 2011, Groupon held a successful initial public offering (IPO), valued at more than \$16 billion with a share price of over \$26. But a year later, Groupon's share price had fallen 90 percent to just \$2.63, resulting in a market cap of less than \$1.8 billion. In early 2013, Mason posted a letter for Groupon employees on the web, arguing that it would leak anyway, stating, "After four and a half intense and wonderful years as CEO of Groupon, I've decided that I'd like to spend more time with my family. Just kidding—I was fired today."

Although Groupon is still in business, it is just one competitor among many, and not a market leader. What went wrong? The implosion of Groupon's market value can be explained using the VRIO framework. Its competency to drum up more business for local retailers by offering lower prices for its users was certainly *valuable*. Before Groupon, local merchants used online and classified ads, direct mail, yellow pages, and other venues to reach customers. Rather than using one-way communication, Groupon facilitates the meeting of supply and demand in local markets. When Groupon launched, such local market-making competency was also *rare*. Groupon, with its first-mover advantage, seemed able to use technology in a way so valuable and rare it prompted Google's buyout offer. But was it costly to imitate? Not so much.

The multibillion-dollar Google offer spurred potential competitors to reproduce Groupon's business model. They discovered that Groupon was more of a sales company than a tech venture, despite perceptions to the contrary. To target and fine-tune its local deals, Groupon relies heavily on human labor to do the selling. Barriers to entry in this type of business are nonexistent because Groupon's competency is built more on a tangible resource (labor) than on an intangible one (proprietary technology). Given that Groupon's valuable and rare competency was *not hard to imitate*, hundreds of new ventures (so-called Groupon clones) rushed in to take advantage of this opportunity. Existing online giants such as Google, Amazon (via LivingSocial), and Facebook also moved in. The spurned Google almost immediately created its own daily-deal version with Google Offers.

Also, note that the ability to imitate a rare and valuable resource is directly linked to barriers of entry, which is one of the key elements in Porter's five forces model (*threat of new entrants*). This relationship allows linking internal analysis using the resource-based view to external analysis

(continued)

with the five forces model, which also would have predicted low industry profit potential given low or no barriers to entry.

To make matters worse, these Groupon clones are often able to better serve the needs of local markets and specific population groups. Some daily-deal sites focus only on a specific geographic area. As an example, Conejo Deals meets the needs of customers and retailers in Southern California's Conejo Valley, a cluster of suburban communities. These hyper-local sites tend to have much deeper relationships and expertise with merchants in their specific areas. Since they are mostly matching local customers with local businesses, moreover, they tend to foster more repeat business than the one-off bargain hunters that use Groupon (based in Chicago). In addition, some daily-deal sites often target specific groups. They have greater expertise in matching their users with local retailers (e.g., Daily Pride serving LGBT communities; Black Biz Hookup serving

African-American business owners and operators; Jdeal, a Jewish group-buying site in New York City; and so on).

"Finding your specific group" or "going hyper local" allows these startups to increase the perceived value added for their users over and above what Groupon can offer. Although Groupon aspires to be the *global leader*, there is really no advantage to global scale in serving local markets. This is because daily-deal sites are best suited to market *experience goods*, such as haircuts at a local barber shop or a meal in a specific Thai restaurant. The quality of these goods and services cannot be judged unless they are consumed. Creation of experience goods and their consumption happens in the same geographic space.

Once imitated, Groupon's competency to facilitate local commerce using an Internet platform was neither valuable nor rare. As an application of the VRIO model would have predicted, Groupon's competitive advantage as a first mover would only be temporary at best (see Exhibit 4.5).<sup>22</sup>

#### LO 4-5

Evaluate different conditions that allow a firm to sustain a competitive advantage.

### ISOLATING MECHANISMS: HOW TO SUSTAIN A COMPETITIVE ADVANTAGE

Although VRIO resources can lay the foundation of a sustainable competitive advantage, no competitive advantage can be sustained indefinitely. Several conditions, however, can offer some protection to a successful firm by making it more difficult for competitors to imitate the resources, capabilities, or competencies that underlie its competitive advantage.<sup>23</sup>

- Better expectations of future resource value.
- Path dependence.
- Causal ambiguity.
- Social complexity.
- Intellectual property (IP) protection.

**isolating mechanisms**  
Barriers to imitation that prevent rivals from competing away the advantage a firm may enjoy.

These *barriers to imitation* are important examples of **isolating mechanisms** because they prevent rivals from competing away the advantage a firm may enjoy.<sup>24</sup> This link ties isolating mechanisms directly to one of the criteria in the resource-based view to assess the basis of competitive advantage: costly to imitate. If one, or any combination, of these isolating mechanisms is present, a firm may strengthen its basis for competitive advantage, increasing its chance to be sustainable over a longer period of time.

**BETTER EXPECTATIONS OF FUTURE RESOURCE VALUE.** Sometimes firms can acquire resources at a low cost, which lays the foundation for a competitive advantage later when expectations about the future of the resource turn out to be more accurate.

A real estate developer illustrates the role that the future value of a resource can play. She must decide when and where to buy land for future development. Her firm may gain a competitive advantage if she buys a parcel of land for a low cost in an

undeveloped rural area 40 miles north of San Antonio, Texas—in anticipation that it will increase in value with shifting demographics. Let's assume, several years later, that an interstate highway is built near her firm's land. With the highway, suburban growth explodes as many new neighborhoods and shopping malls are built. Her firm is now able to develop this particular piece of property to build high-end office or apartment buildings. The value creation far exceeds the cost, and her firm gains a competitive advantage. The resource has suddenly become valuable, rare, and costly to imitate, gaining the developer's firm a competitive advantage. Other developers could have bought the land, but once the highway was announced, the cost of the developer's land and that of adjacent land would have risen drastically, reflecting the new reality and thus negating any potential for competitive advantage. The developer had better expectations than her competitors of the future value of the resource, in this case the land she purchased. If this developer can repeat such "better expectations" over time, she will have a sustainable competitive advantage. If she cannot, she was simply lucky. Although luck can play a role in gaining an initial competitive advantage, it is not a basis for a sustainable competitive advantage.

**PATH DEPENDENCE.** **Path dependence** describes a process in which the options one faces in a current situation are limited by decisions made in the past.<sup>25</sup> Often, early events—sometimes even random ones—have a significant effect on final outcomes. The U.S. carpet industry provides an example of path dependence.<sup>26</sup> Roughly 85 percent of all carpets sold in the United States and almost one-half of all carpets sold worldwide come from carpet mills located within 65 miles of one city: Dalton, Georgia. While the U.S. manufacturing sector has suffered in recent decades, the carpet industry has flourished. Companies not clustered near Dalton face a disadvantage because they cannot readily access the required know-how, skilled labor, suppliers, low-cost infrastructure, and so on needed to be competitive.

But why Dalton? Two somewhat random events combined. First, the boom after World War II drew many manufacturers South to escape restrictions placed upon them in the North, such as higher taxation or the demands of unionized labor. Second, technological progress allowed industrial-scale production of tufted textiles to be used as substitutes for the more expensive wool. This innovation emerged in and near Dalton. Thus historical accident explains why today almost all U.S. carpet mills are located in a relatively small region, including world leaders Shaw Industries and Mohawk Industries.

Path dependence also rests on the notion that time cannot be compressed at will. While management can compress resources such as labor and R&D into a shorter period, the push will not be as effective as when a firm spreads out its effort and investments over a longer period. Trying to achieve the same outcome in less time, even with higher investments, tends to lead to inferior results, due to *time compression diseconomies*.<sup>27</sup>

Consider GM's problems in providing a competitive alternative to the highly successful Toyota Prius, a hybrid electric vehicle. Its problems highlight path dependence and time compression issues. The California Air Resource Board (CARB) in 1990 passed a mandate for introducing zero-emissions cars, which stipulated that 10 percent of new vehicles sold by carmakers in the state must have zero emissions by 2003. This mandate not only accelerated research in alternative energy sources for cars, but also led to the development of the first fully electric production car, GM's EV1. GM launched the car in California and Arizona in 1996. Competitive models followed, with the Toyota RAV EV and the Honda EV. In this case, regulations in the legal environment fostered innovation in the automobile industry (see discussion of PESTEL forces in Chapter 3).

**path dependence**  
A situation in which the options one faces in the current situation are limited by decisions made in the past.

Companies not only feel the nudge of forces in their environment but can also push back. The California mandate on zero emissions, for example, did not stand.<sup>30</sup> Several stakeholders, including the car and oil companies, fought it through lawsuits and other actions. CARB ultimately gave in to the pressure and abandoned its zero-emissions mandate. When the mandate was revoked, GM recalled and destroyed its EV1 electric vehicles and terminated its electric-vehicle program. This decision turned out to be a strategic error that would haunt GM a decade or so later. Although GM was the leader among car companies in electric vehicles in the mid-1990s, it did not have a competitive model to counter the Toyota Prius when its sales took off in the early 2000s. The Chevy Volt (a plug-in hybrid), GM's first major competition to the Prius, was delayed by over a decade because GM had to start its electric-vehicle program basically from scratch. Not having an adequate product lineup during the early 2000s, GM's U.S. market share dropped below 20 percent in 2009 (from over 50 percent a few decades earlier), the year it filed for bankruptcy. GM subsequently reorganized under Chapter 11 of the U.S. bankruptcy code, and relisted on the New York Stock Exchange in 2010.

While GM sold about 40,000 Chevy Volts worldwide, Toyota sold over 3.5 million Prius cars. Moreover, Nissan introduced its all-electric Leaf in 2010; GM did not have an all-electric vehicle in its lineup. In the meantime, Nissan sold over 200,000 Leafs worldwide, while GM is hoping to introduce its first all-electric vehicle, the Chevy Bolt, in the 2017 model year. Once the train of new capability development has left the station, it is hard to jump back on because of path dependence. Moreover, firms cannot compress time at will; indeed, learning and improvements must take place over time, and existing competencies must constantly be nourished and upgraded.

Strategic decisions generate long-term consequences due to path dependence and time-compression diseconomies; they are not easily reversible. A competitor cannot imitate or create core competencies quickly, nor can one buy a reputation for quality or innovation on the open market. These types of valuable, rare, and costly-to-imitate resources, capabilities, and competencies must be built and organized effectively over time, often through a painstaking process that frequently includes learning from failure.

**causal ambiguity**  
A situation in which the cause and effect of a phenomenon are not readily apparent.

**CAUSAL AMBIGUITY.** **Causal ambiguity** describes a situation in which the cause and effect of a phenomenon are not readily apparent. To formulate and implement a strategy that enhances a firm's chances of gaining and sustaining a competitive advantage, managers need to have a hypothesis or theory of how to compete. This implies that managers need to have some kind of understanding about what causes superior or inferior performance. Understanding the underlying reasons of observed phenomena is far from trivial, however. Everyone can see that Apple has had several hugely successful innovative products such as the iMac, iPod, iPhone, and iPad, combined with its hugely popular iTunes services. These successes stem from Apple's set of *V, R, I, and O* core competencies that supports its ability to continue to offer a variety of innovative products and to create an ecosystem of products and services.

A deep understanding, however, of exactly *why* Apple has been so successful is very difficult. Even Apple's managers may not be able to clearly pinpoint the sources of their success. Is it the visionary role that the late Steve Jobs played? Is it the rare skills of Apple's uniquely talented design team around Jonathan Ive? Is it the timing of the company's product introductions? Is it Apple CEO Tim Cook who adds superior organizational skills and puts all the pieces together when running the day-to-day operations? Or is it a combination of these factors? If the link between cause and effect is ambiguous for Apple's managers, it is that much more difficult for others seeking to copy a valuable resource, capability, or competency.

**SOCIAL COMPLEXITY.** **Social complexity** describes situations in which different social and business systems interact. There is frequently no causal ambiguity as to how the *individual* systems such as supply chain management or new product development work in isolation. They are often managed through standardized business processes such as Six Sigma or ISO 9000. Social complexity, however, emerges when two or more such systems are *combined*. Copying the emerging complex social systems is difficult for competitors because neither direct imitation nor substitution is a valid approach. The interactions between different systems create too many possible permutations for a system to be understood with any accuracy. The resulting social complexity makes copying these systems difficult, if not impossible, resulting in a valuable, rare, and costly-to-imitate resource that the firm is organized to exploit.

Look at it this way. A group of three people has three relationships, connecting every person directly with one another. Adding a fourth person to this group *doubles* the number of direct relationships to six. Introducing a fifth person increases the number of relationships to 10.<sup>31</sup> This gives you some idea of how complexity might increase when we combine different systems with many different parts.

In reality, firms may manage thousands of employees from all walks of life. Their interactions within the firm's processes, procedures, and norms make up its culture. Although an observer may conclude that Zappos' culture, with its focus on autonomous teams in a flat hierarchy to provide superior customer service, might be the basis for its competitive advantage, engaging in reverse social engineering to crack Zappos' code of success might be much more difficult. Moreover, an organizational culture that works for online retailer Zappos, led by CEO and chief happiness officer Tony Hsieh, might seed havoc for an aerospace and defense company such as Lockheed Martin, led by CEO Marillyn Hewson. This implies that one must understand competitive advantage within its organizational and industry context. Looking at individual elements of success without taking social complexity into account is a recipe for inferior performance, or worse.

**social complexity**  
A situation in which different social and business systems interact with one another.

**INTELLECTUAL PROPERTY PROTECTION.** **Intellectual property (IP) protection** is a critical intangible resource that can also help sustain a competitive advance. Consider the five major forms of IP protection: patents, designs, copyrights, trademarks, and trade secrets.<sup>32</sup>

The intent of IP protection is to prevent others from copying legally protected products or services. In many knowledge-intensive industries that are characterized by high research and development (R&D) costs, for example smartphones and pharmaceuticals, IP protection provides not only an incentive to make these risky and often large-scale investments in the first place, but also affords a strong isolating mechanism that is critical to a firm's ability to capture the returns to investment. Although the initial investments to create the first version of a new product or service is quite high in many knowledge-intensive industries, the *marginal cost* (i.e., the cost to produce the next unit) after initial invention is quite low. For example, Microsoft spends billions of dollars to develop a new version of its Windows operating system; once completed, the cost of the next "copy" is close to zero because it is just software code distributed online in digital form. In a similar fashion, the costs of developing a new prescription drug, a process often taking more than a decade, are estimated to be over \$2.5 billion.<sup>33</sup> Rewards to IP-protected products or services, however, can be high. During a little over 14 years on the market, Pfizer's Lipitor, the world's best-selling drug, accumulated over \$125 billion in sales.<sup>34</sup>

IP protection can make direct imitation attempts difficult, if not outright illegal. A U.S. court, for example, has found that Samsung infringed in some of its older models

**intellectual property (IP) protection**  
A critical intangible resource that can provide a strong isolating mechanism, and thus help to sustain a competitive advantage.

resources, capabilities, and core competencies  
differ in important ways.  
resources can be  
reduced to fit the firm's needs  
but cannot necessarily  
be increased to fit the firm's needs  
resources can be  
modified, reconfigured, upgraded, or leveraged over time  
but cannot necessarily be increased to fit the firm's needs

on Apple's patents and awarded some \$600 million in damages.<sup>35</sup> In a similar fashion, Dr. Dre attracted significant attention and support from other artists in the music industry when he sued Napster, an early online music file-sharing service, and helped shut it down in 2001 because of copyright infringements.

IP protection does not last forever, however. Once the protection has expired the invention can be used by others. Patents, for example, usually expire 20 years after a patent is filed with the U.S. Patent and Trademark Office. In the next few years, patents protecting roughly \$100 billion in sales of proprietary drugs in the pharmaceutical industry are set to expire. Once this happens, producers of generics (drugs that contain the same active ingredients as the original patent-protected formulation) such as Teva Pharmaceutical Industries of Israel enter the market, and prices fall drastically. Pfizer's patent on Lipitor expired in 2011. Just one year later, of the 55 million Lipitor prescriptions, 45 million (or more than 80 percent) were generics.<sup>36</sup> Drug prices fall by 20 to 80 percent once generic formulations become available.<sup>37</sup>

Taken together, each of the five isolating mechanisms discussed here (or combinations thereof) allow a firm to extend its competitive advantage. Although no competitive advantage lasts forever, a firm may be able to protect its competitive advantage (even for long periods of time) when it has consistently better expectations about the future value of resources, when it has accumulated a resource advantage that can be imitated only over long periods of time, when the source of its competitive advantage is causally ambiguous or socially complex, or when the firm possesses strong intellectual property protection.

#### LO 4-6

Outline how dynamic capabilities can enable a firm to sustain a competitive advantage.

### 4.3 The Dynamic Capabilities Perspective

A firm's external environment is rarely stable (as discussed in Chapter 3). Rather, in many industries, change is fast and ferocious. Firms that fail to adapt their core competencies to a changing external environment not only lose a competitive advantage but also may go out of business.

We've seen the merciless pace of change in consumer electronics retailing in the United States. Once a market leader, Circuit City's core competencies in efficient logistics and superior customer service lost value because the firm neglected to upgrade and hone them over time. As a consequence, Circuit City was outflanked by Best Buy and online retailer Amazon, and went bankrupt. Earlier in the chapter we saw how Best Buy encountered the same difficulties competing against Amazon just a few years later. Core competencies might form the basis for a competitive advantage at one point, but as the environment changes, the very same core competencies might later turn into *core rigidities*, retarding the firm's ability to change.<sup>38</sup> A core competency can turn into a **core rigidity** if a firm relies too long on the competency without honing, refining, and upgrading as the environment changes.<sup>39</sup> Over time, the original core competency is no longer a good fit with the external environment, and it turns from an asset into a liability.

This is the reason reinvesting, honing, and upgrading resources and capabilities are so crucial to sustaining any competitive advantage (see Exhibit 4.3). This ability lies at the heart of the dynamic capabilities perspective. At the beginning of this chapter, we defined *capabilities* as the organizational and managerial skills necessary to orchestrate a diverse set of resources and to deploy them strategically. Capabilities are by nature intangible. They find their expression in a company's structure, routines, and culture.

The dynamic capabilities perspective adds, as the name suggests, a *dynamic* or time element. In particular, **dynamic capabilities** describe a firm's ability to create, deploy,

modify, reconfigure, upgrade, or leverage its resources over time in its quest for competitive advantage.<sup>40</sup> Dynamic capabilities are essential to move beyond a short-lived advantage and create a sustained competitive advantage. For a firm to sustain its advantage, any fit between its internal strengths and the external environment must be dynamic. That is, the firm must be able to change its internal resource base as the external environment changes. The goal should be to develop resources, capabilities, and competencies that create a *strategic fit* with the firm's environment. Rather than creating a static fit, the firm's internal strengths should change with its external environment in a *dynamic* fashion.

Not only do dynamic capabilities allow firms to adapt to changing market conditions, but they also enable firms to *create market changes* that can strengthen their strategic position. These market changes implemented by proactive firms introduce altered circumstances, to which more reactive rivals might be forced to respond. Apple's dynamic capabilities allowed it to redefine the markets for mobile devices and computing, in particular in music, smartphones, and media content. For the portable music market through its iPod and iTunes store, Apple generated environmental change to which Sony and others had to respond. With its iPhone, Apple redefined the market for smartphones, again creating environmental change to which competitors such as Samsung, BlackBerry, Google (with its Motorola Mobility unit), or Microsoft (with its Nokia unit) must respond. Apple's introduction of the iPad redefined the media and tablet computing market, forcing competitors such as Amazon and Microsoft to respond. With the introduction of the Apple Watch it is attempting to shape the market for computer wearables in its favor. Dynamic capabilities are especially relevant for surviving and competing in markets that shift quickly and constantly, such as the high-tech space in which firms such as Apple, Google, Microsoft, and Amazon compete. Strategy Highlight 4.2 shows how IBM developed dynamic capabilities to transform itself from a hardware company focused on mainframe computers to a global services company addressing major disruptions in the business world.

### Strategy Highlight 4.2

#### Dynamic Capabilities at IBM



Virginia Rometty, CEO of IBM  
© Jewel Samad/AFP/Getty Images

**Microsoft operating system (MS-DOS).** Ironically, in the years following, IBM nearly vanished after experiencing the full force of that revolution, because its executives believed that the future of computing lay in mainframes and minicomputers that would be produced by fully integrated companies. However, with an open standard in personal computing, the entire industry value chain disintegrated, and many new firms entered its different stages. This led to a strategic misfit for IBM, which resulted in a competitive disadvantage.

Rather than breaking up IBM into independent businesses, newly installed CEO Lou Gerstner refocused the company on satisfying market needs, which demanded sophisticated IT services. Keeping IBM together as one entity allowed

(continued)

Gerstner to integrate hardware, software, and services to provide sophisticated solutions to customers' IT challenges. IBM was quick to capitalize on the emergence of the Internet to add further value to its business solutions. The company also moved quickly to sell its PC business when substitution from tablet computers was just beginning to impact demand. More recently, IBM also sold its server business, further shedding its legacy in hardware.

Exhibit 4.6 shows IBM's dynamic capability to successfully transform itself multiple times over its more than 100-year history—a history with periods of major disruptions in the data information industry, from mechanical calculators to the Internet. In contrast to IBM, note how at the bottom of Exhibit 4.6, strong competitors in one period drop from significance when a new wave of technology emerges.

Led by CEO Virginia Rometty, the IBM of today is an agile and nimble IT services company.<sup>41</sup> Rometty was promoted to CEO in 2012 from her position as senior vice president of sales, marketing, and strategy. Rather than just facing one technological transformation, IBM and its clients are currently facing three disruptions at once:

- Cloud computing:** By providing convenient, on-demand network access to shared computing resources such as networks, servers, storage, applications, and services, IBM attempts to put itself at the front of a trend now readily apparent in services that include Google Drive, Dropbox, or Microsoft 365. Increasingly, businesses are renting computer services rather than owning hardware and software and running their own networks. One of the largest cloud computing providers for businesses is Amazon Web Services (AWS), which beat out IBM in winning a high-profile CIA contract. This was seen as a major embarrassment given IBM's long history of federal contracts.
- Systems of engagement:** IBM now helps businesses with their systems of engagement, a term the company uses broadly to cover the transition from enterprise systems to decentralized systems or mobility. IBM identifies the traditional enterprise system as a "system of record" that passively provides information

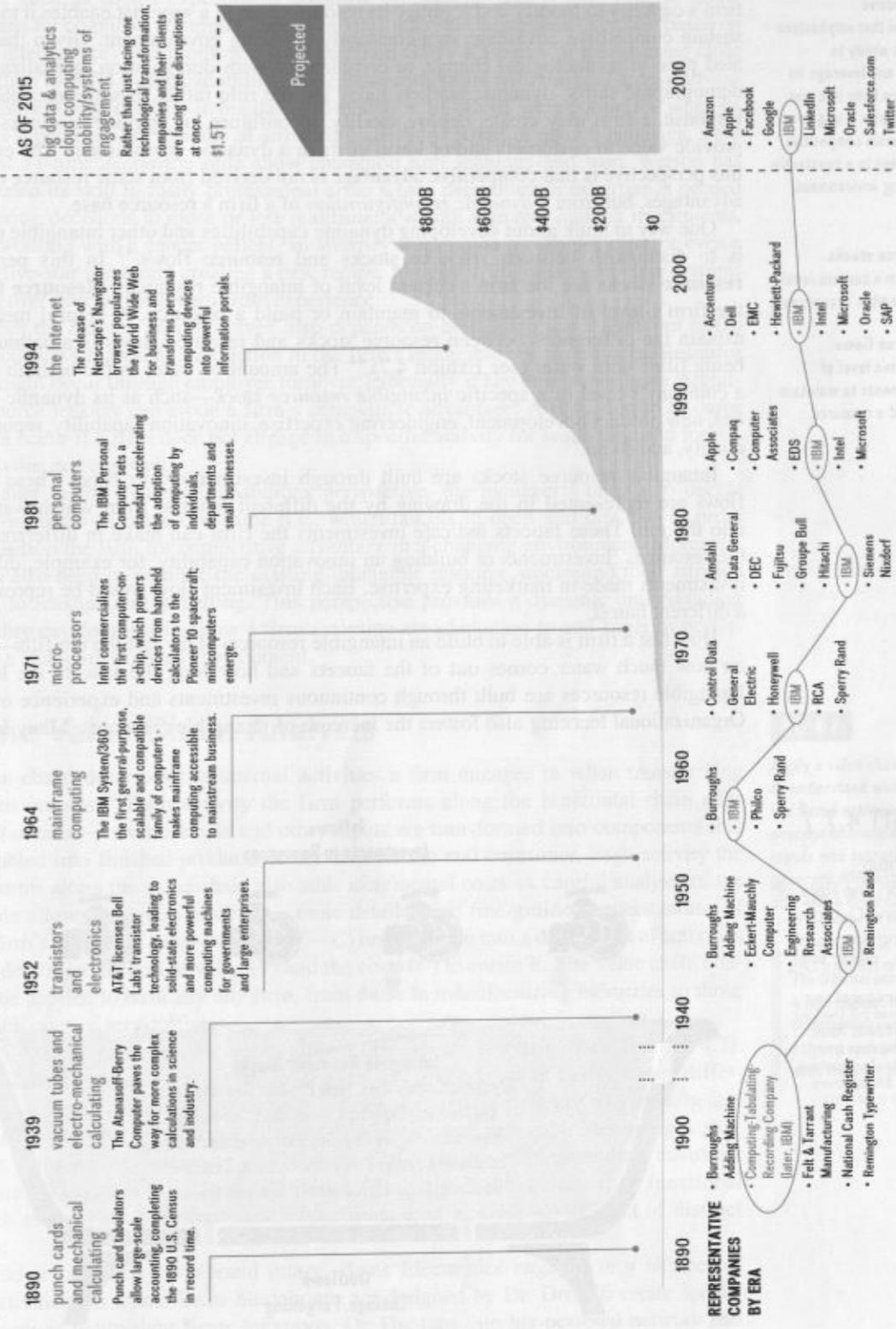
to the enterprise's knowledge workers. It contrasts that with systems of engagement that provide mobile computing platforms, often including social media apps such as Facebook or Twitter, that promote rapid and active collaboration. To drive adoption of mobile computing for business, IBM partnered with Apple to provide business productivity apps on Apple devices.

- Big data and analytics:** IBM now offers smarter analytics solutions that focus on how to acquire, process, store, manage, analyze, and visualize data arriving at high volume, velocity, and variety. Prime applications are in finance, medicine, law, and many other professional fields relying on deep domain expertise within fast-moving environments. IBM partnered with Twitter to provide IBM's business clients big data and analytics solutions in real time based on the vast amount of data produced on Twitter.

Critics of this strategic approach point out that IBM was slow to take advantage of these mega-opportunities, and they continue to watch IBM's stock performance with skepticism. The critics grew louder when Rometty received a pay increase and a \$3.6 million bonus for her 2014 performance, during which revenue dropped about 6 percent and net income 27 percent. Overall, IBM's market cap plummeted by more than 60 percent: from a high of \$240 billion in the spring of 2013 to some \$150 billion early in 2015. And revenues for IBM have fallen for three straight years, from a high of \$107 billion when Rometty became CEO to \$93 billion by early 2015. During the same period, IBM's stock price fell by almost 10 percent, while the S&P 500 index rose by 67 percent.

Rometty, however, stays committed to IBM's new strategic focus and argues that she is transforming IBM for the long run. She views the most recent waves of technology disruptions as creating major business opportunities and has made sure that IBM invests heavily to take advantage of them. IBM has trained all of its consultants—over 100,000—in these three areas to help its business clients with their own transformation. If history is any guide, IBM is likely to master this three-pronged tech transformation also.<sup>42</sup>

EXHIBIT 4.6 / IBM Navigates Wave after Wave of Technological Change



**dynamic capabilities perspective**  
A model that emphasizes a firm's ability to modify and leverage its resource base in a way that enables it to gain and sustain competitive advantage in a constantly changing environment.

**resource stocks**  
The firm's current level of intangible resources.

**resource flows**  
The firm's level of investments to maintain or build a resource.

In the **dynamic capabilities perspective**, competitive advantage is the outflow of a firm's capacity to modify and leverage its resource base in a way that enables it to gain and sustain competitive advantage in a constantly changing environment. Given the accelerated pace of technological change, in combination with deregulation, globalization, and demographic shifts, dynamic markets today are the rule rather than the exception. As a response, a firm may create, deploy, modify, reconfigure, or upgrade resources so as to provide value to customers and/or lower costs in a dynamic environment. The essence of this perspective is that competitive advantage is not derived from static resource or market advantages, but from a *dynamic reconfiguration* of a firm's resource base.

One way to think about developing dynamic capabilities and other intangible resources is to distinguish between resource stocks and resource flows.<sup>43</sup> In this perspective, **resource stocks** are the firm's current level of intangible resources. **Resource flows** are the firm's level of investments to maintain or build a resource. A helpful metaphor to explain the differences between resource stocks and resource flows is a bathtub that is being filled with water (see Exhibit 4.7).<sup>44</sup> The amount of water in the bathtub indicates a company's level of a specific *intangible resource stock*—such as its dynamic capabilities, new product development, engineering expertise, innovation capability, reputation for quality, and so on.<sup>45</sup>

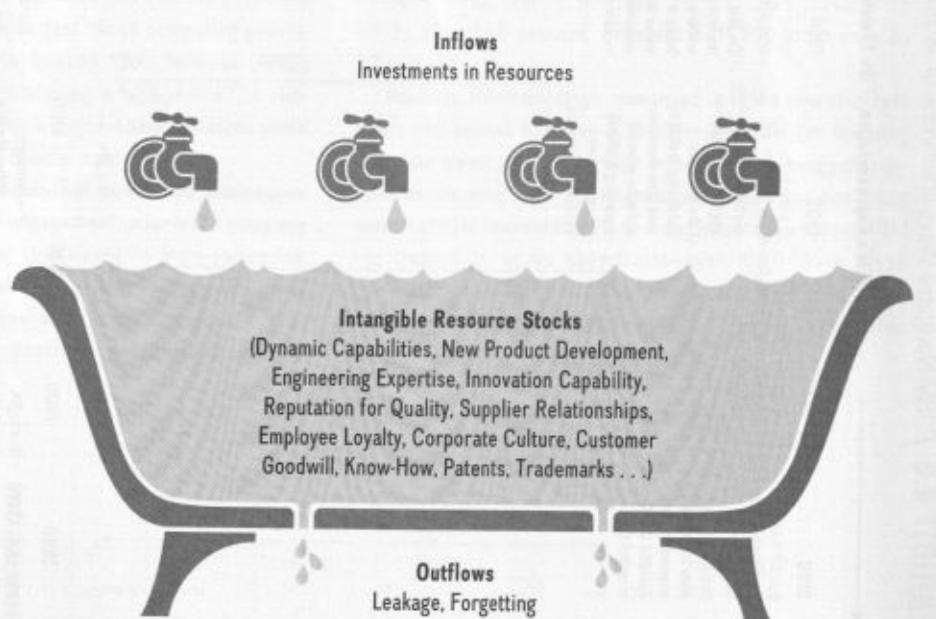
Intangible resource stocks are built through investments over time. These resource flows are represented in the drawing by the different faucets, from which water flows into the tub. These faucets indicate investments the firm can make in different intangible resources. Investments in building an innovation capability, for example, differ from investments made in marketing expertise. Each investment flow would be represented by a different faucet.

How fast a firm is able to build an intangible resource—how fast the tub fills—depends on how much water comes out of the faucets and how long the faucets are left open. Intangible resources are built through continuous investments and experience over time. Organizational learning also fosters the increase of intangible resources. Many intangible

## EXHIBIT 4.7 /

The Bathtub Metaphor: The Role of Inflows and Outflows in Building Stocks of Intangible Resources

Source: Figure based on metaphor used in I. Dierckx and K. Cool (1989), "Asset stock accumulation and sustainability of competitive advantage," *Management Science* 35: 1504–1513.



resources, such as IBM's expertise in cognitive computing, take a long time to build. IBM's quest for cognitive computing began in 1997 after its Deep Blue computer (based on artificial intelligence) beat reigning chess champion Garry Kasparov. It has invested close to \$25 billion to build a deep capability in cognitive computing with the goal to take advantage of business opportunities in big data and analytics. Its efforts were publicized when its Watson, a supercomputer capable of answering questions posed in natural language, went up against 74-time *Jeopardy!* quiz show champion Ken Jennings and won. Watson has demonstrated its skill in many professional areas where deep domain expertise is needed when making decisions in more or less real time: a wealth manager making investments, a doctor working with a cancer patient, an attorney working on a complex case, or even a chef in a five-star restaurant creating a new recipe. Moreover, cognitive computer systems get better over time as they learn from experience.

How fast the bathtub fills, however, also depends on how much water leaks out of the tub. The outflows represent a reduction in the firm's intangible resource stocks. Resource leakage might occur through employee turnover, especially if key employees leave. Significant resource leakage can erode a firm's competitive advantage. A reduction in resource stocks can occur if a firm does not engage in a specific activity for some time and forgets how to do this activity well.

According to the dynamic capabilities perspective, the managers' task is to decide which investments to make over time (i.e., which faucets to open and how far) in order to best position the firm for competitive advantage in a changing environment. Moreover, managers also need to monitor the existing intangible resource stocks and their attrition rates due to leakage and forgetting. This perspective provides a dynamic understanding of capability development to allow a firm's continuous adaptation to and superior performance in a changing external environment.

## 4.4 The Value Chain Analysis

The **value chain** describes the internal activities a firm engages in when transforming inputs into outputs.<sup>46</sup> Each activity the firm performs along the horizontal chain adds incremental value—raw materials and other inputs are transformed into components that are assembled into finished products or services for the end consumer. Each activity the firm performs along the value chain also adds incremental costs. A careful analysis of the value chain allows managers to obtain a more detailed and fine-grained understanding of how the firm's *economic value creation* ( $V - C$ ) breaks down into a distinct set of activities that help determine perceived value ( $V$ ) and the costs ( $C$ ) to create it. The value chain concept can be applied to basically any firm, from those in manufacturing industries to those in high-tech ones or service firms.

A firm's core competencies are deployed through its activities (see Exhibit 4.3). A firm's activities, therefore, are one of the key internal drivers of performance differences across firms. *Activities* are distinct actions that enable firms to add incremental value at each step by transforming inputs into goods and services. Managing a supply chain, running the company's IT system and websites, and providing customer support are all examples of distinct activities. Activities are narrower than functional areas such as marketing, because each functional area is made up of a set of distinct activities.

To build its uniquely cool brand image, Beats Electronics engages in a number of distinct activities. Its iconic Beats headphones are designed by Dr. Dre. To create special editions such as lightweight Beats for sports, Dr. Dre taps into his personal network and

### LO 4-7

Apply a value chain analysis to understand which of the firm's activities in the process of transforming inputs into outputs generate differentiation and which drive costs.

**value chain**  
The internal activities a firm engages in when transforming inputs into outputs; each activity adds incremental value.

works with basketball stars such as Kobe Bryant. Once designed, Beats manufactures its high-end headphones (before the Apple acquisition, that was done in conjunction with Monster Cable Products, a California-based company). Other distinct activities concern the marketing and sales of its products. Beats is not only marketing savvy in product placement and branding with a large number of celebrities across different fields, but it also focuses on other distinct activities such as packaging and product presentation to create a premium unboxing experience and superb displays in retail outlets, and now especially in Apple stores. In addition, Dr. Dre also works with celebrity musicians to have them curate playlists for the Beats Music streaming service. In sum, a number of distinct activities along the value chain are performed to create Beats by Dr. Dre, from initial design to a unique sales experience and after-sales service.

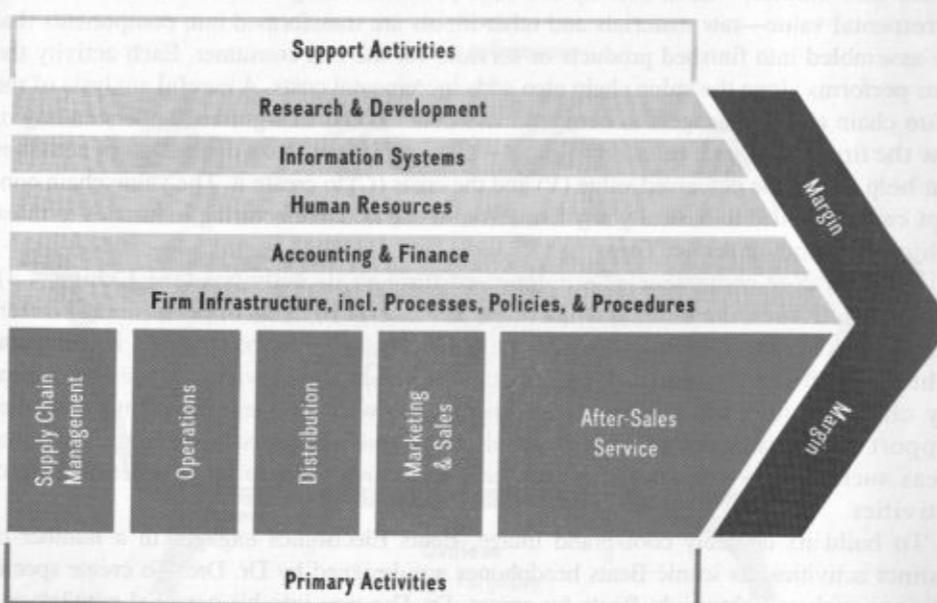
As shown in the generic value chain in Exhibit 4.8, the transformation process from inputs to outputs is composed of a set of distinct activities. When a firm's distinct activities generate value greater than the costs to create them, the firm obtains a profit margin (see Exhibit 4.8), assuming the market price the firm is able to command exceeds the costs of value creation. A generic value chain needs to be modified to capture the activities of a specific business. Retail chain American Eagle Outfitters, for example, needs to identify suitable store locations, either build or rent stores, purchase goods and supplies, manage distribution and store inventories, operate stores both in the brick-and-mortar world and online, hire and motivate a sales force, create payment and IT systems or partner with vendors, engage in promotions, and ensure after-sales services including returns. A maker of semiconductor chips such as Intel, on the other hand, needs to engage in R&D, design and engineer semiconductor chips and their production processes, purchase silicon and other ingredients, set up and staff chip fabrication plants, control quality and throughput, engage in marketing and sales, and provide after-sales customer support.

As shown in Exhibit 4.8, the value chain is divided into primary and support activities. The **primary activities** add value directly as the firm transforms inputs into outputs—from

**primary activities**  
Firm activities that add value directly by transforming inputs into outputs as the firm moves a product or service horizontally along the internal value chain.

#### EXHIBIT 4.8

A Generic Value Chain: Primary and Support Activities



raw materials through production phases to sales and marketing and finally customer service, specifically

- Supply chain management.
- Operations.
- Distribution.
- Marketing and sales.
- After-sales service.

Other activities, called **support activities**, add value indirectly. These activities include

- Research and development (R&D).
- Information systems.
- Human resources.
- Accounting and finance.
- Firm infrastructure including processes, policies, and procedures.

**support activities**  
Firm activities that add value indirectly, but are necessary to sustain primary activities.

To help a firm achieve a competitive advantage, each distinct activity performed needs to either add incremental value to the product or service offering or lower its relative cost. Discrete and specific firm activities are the basic units with which to understand competitive advantage because they are the drivers of the firm's relative costs and level of differentiation the firm can provide to its customers. Although the resource-based view of the firm helps identify the integrated set of resources and capabilities that are the building blocks of core competencies, the value chain perspective enables managers to see how competitive advantage flows from the firm's distinct set of activities. This is because a firm's core competency is generally found in a network linking different but distinct activities, each contributing to the firm's strategic position as either low-cost leader or differentiator.

Let's consider The Vanguard Group, one of the world's largest investment companies, with \$3 trillion of assets under management.<sup>47</sup> It serves individual investors, financial professionals, and institutional investors such as state retirement funds. Vanguard's mission is *to help clients reach their financial goals by being their highest-value provider of investment products and services*.<sup>48</sup> It therefore emphasizes low-cost investing and quality service for its clients. Vanguard's average expense ratio (fees as a percentage of total net assets paid by investors) is generally the lowest in the industry.<sup>49</sup> Vanguard's core competency of low-cost investing while providing quality service for its clients is accomplished through a unique set of interconnected primary and support activities including strict cost control, direct distribution, low expenses with savings passed on to clients, a broad array of mutual funds, an efficient investment management approach, and straightforward client communication and education.

## 4.5 Implications for the Strategist

We've now reached a significant point: We can combine external analysis from Chapter 3 with the internal analysis just introduced. Together the two allow you to begin formulating a strategy that matches your firm's internal resources and capabilities to the demands of

the external industry environment. Ideally, managers want to leverage their firm's internal strengths to exploit external opportunities, while mitigating internal weaknesses and external threats. Both types of analysis in tandem allow managers to formulate a strategy that is tailored to their company, creating a unique fit between the company's internal resources and the external environment. A *strategic fit* increases the likelihood that a firm is able to gain a competitive advantage. If a firm achieves a *dynamic* strategic fit, it is likely to be able to *sustain* its advantage over time.

**LO 4-8**

Conduct a SWOT analysis to generate insights from external and internal analysis and derive strategic implications.

**SWOT analysis**

A framework that allows managers to synthesize insights obtained from an internal analysis of the company's strengths and weaknesses (S and W) with those from an analysis of external opportunities and threats (O and T) to derive strategic implications.

## USING SWOT ANALYSIS TO GENERATE INSIGHTS FROM EXTERNAL AND INTERNAL ANALYSIS

We synthesize insights from an internal analysis of the company's *strengths* and *weaknesses* with those from an analysis of external *opportunities* and *threats* using the **SWOT analysis**. Internal strengths (S) and weaknesses (W) concern resources, capabilities, and competencies. Whether they are strengths or weaknesses can be determined by applying the VRIO framework. A resource is a weakness if it is not valuable. In this case, the resource does not allow the firm to exploit an external opportunity or offset an external threat. A resource, however, is a strength and a core competency if it is valuable, rare, costly to imitate, and the firm is organized to capture at least part of the economic value created.

External opportunities (O) and threats (T) are in the firm's general environment and can be captured by PESTEL and Porter's five forces analyses (discussed in the previous chapter). An attractive industry as determined by Porter's five forces, for example, presents an external opportunity for firms not yet active in this industry. On the other hand, stricter regulation for financial institutions, for example, might represent an external threat to banks.

A SWOT analysis allows the strategist to evaluate a firm's current situation and future prospects by simultaneously considering internal and external factors. The SWOT analysis encourages managers to scan the internal and external environments, looking for any relevant factors that might affect the firm's current or future competitive advantage. The focus is on internal and external factors that can affect—in a positive or negative way—the firm's ability to gain and sustain a competitive advantage. To facilitate a SWOT analysis, managers use a set of strategic questions that link the firm's internal environment to its external environment, as shown in Exhibit 4.9, to derive strategic implications. In this SWOT matrix, the horizontal axis is divided into factors that are *external to the firm* (the focus of Chapter 3) and the vertical axis into factors that are *internal to the firm* (the focus of this chapter).

In a first step, managers gather information for a SWOT analysis in order to link internal factors (*Strengths* and *Weaknesses*) to external factors (*Opportunities* and *Threats*). Next, managers use the SWOT matrix shown in Exhibit 4.9 to develop *strategic alternatives* for the firm using a four-step process:

- Focus on the *Strengths–Opportunities* quadrant (top left) to derive “offensive” alternatives by using an internal strength in order to exploit an external opportunity.
- Focus on the *Weaknesses–Threats* quadrant (bottom right) to derive “defensive” alternatives by eliminating or minimizing an internal weakness in order to mitigate an external threat.

		External to Firm		Strategic Questions	Opportunities	Threats
		Strengths	Weaknesses	Strategic Questions	Opportunities	Threats
Internal to Firm	Strengths	How can the firm use internal strengths to take advantage of external opportunities?	How can the firm use internal strengths to reduce the likelihood and impact of external threats?			
	Weaknesses	How can the firm overcome internal weaknesses that prevent the firm from taking advantage of external opportunities?	How can the firm overcome internal weaknesses that will make external threats a reality?			

- Focus on the *Strengths–Threats* quadrant (top right) to use an internal strength to minimize the effect of an external threat.
- Focus on the *Weaknesses–Opportunities* quadrant (bottom left) to shore up an internal weakness to improve its ability to take advantage of an external opportunity.

In a final step, the strategist needs to carefully evaluate the pros and cons of each strategic alternative to select one or more alternatives to implement. Managers need to carefully explain their decision rationale, including why other strategic alternatives were rejected.

Although the SWOT analysis is a widely used management framework, however, a word of caution is in order. A problem with this framework is that a strength can also be a weakness and an opportunity can also simultaneously be a threat. Earlier in this chapter, we discussed the location of Google's headquarters in Silicon Valley and near several universities as a key resource for the firm. Most people would consider this a strength for the firm. However, California has a high cost of living and is routinely ranked among the worst of the U.S. states in terms of “ease of doing business.” In addition, this area of California is along major earthquake fault lines and is more prone to natural disasters than many other parts of the country. So is the location a strength or a weakness? The answer is “it depends.” In a similar fashion, is global warming an opportunity or threat for car manufacturers? If governments enact higher gasoline taxes and make driving more expensive, it can be a threat. If, however, carmakers respond to government regulations by increased innovation through developing more fuel-efficient cars as well as low- or zero-emission engines such as hybrid or electric vehicles, it may create more demand for new cars and lead to higher sales.

To make the SWOT analysis an effective management tool, the strategist must first conduct a thorough external and internal analysis, as laid out in Chapters 3 and 4. This sequential process enables the strategist to ground the analysis in rigorous theoretical frameworks before using SWOT to synthesize the results from the external and internal analyses in order to derive a set of strategic options.

You have now acquired the toolkit with which to conduct a complete strategic analysis of a firm's internal and external environments. In the next chapter, we consider various ways to assess and measure competitive advantage. That chapter will complete Part 1, on strategy analysis, in the AFI framework (see Exhibit 1.5).

**EXHIBIT 4.9**

Strategic Questions within the SWOT Matrix

## CHAPTERCASE 4 / Consider This...

**ALTHOUGH MANY OBSERVERS** are convinced that Apple purchased Beats Electronics for the coolness of its brand and to gain a stronger position in the music industry, others are suggesting that what Apple is really buying are the talents that Beats co-founder Jimmy Iovine and Dr. Dre bring to the table. Since the death of Steve Jobs, Apple's visionary leader, the company has been lacking the kind of inspired personality it needs to remain a cultural icon. The critics argue that what Apple really needs is someone with a creative vision combined with a wide-reaching industry network and the ability to close a deal, especially in music where the personalities of its celebrities are known to be idiosyncratic. In music jargon, Apple is in need of a "front man." With the acquisition of Beats, it got two of the greatest creative talents in the music industry, with a long successful track record and deep and far-reaching networks.

Indeed, Iovine is of the opinion that Beats had always belonged with Apple. Iovine and Dr. Dre set out to model Beats Electronics after Apple's unique ability to marry culture and technology. Intriguingly, both Iovine and Dr. Dre are taking on senior positions at Apple. This indicates how much Apple's culture has changed under CEO Cook, because Iovine and Dr. Dre were not the first cool superstars from flashy industries he brought to Apple. In 2013, Apple hired former Burberry CEO Angela Ahrendts to head its retail operations. Bringing

in superstars from the flashy industries of music or fashion to Apple, let alone into senior executive roles, would have been unthinkable under Jobs. Under his top-down leadership, only Apple products introduced to the public by himself in well-rehearsed theatrical launches were allowed to shine.

### Questions

1. The ChapterCase argues that Beats Electronics' core competency lies in its marketing savvy and in Dr. Dre's coolness factor. Do you agree with this assessment? Why or why not?
2. If you believe that Apple bought Beats Electronics to bring Jimmy Iovine and Dr. Dre into Apple, what are the potential downsides of this multibillion-dollar "acqui-hire" (an acquisition to hire key personnel)?
3. If Beats Electronics' core competencies are indeed intangibles, such as coolness and marketing savvy, do you think these competencies will remain as valuable under Apple's ownership? Why or why not?
4. The ChapterCase provides at least three theories why Apple purchased Beats Electronics. Which of those do you believe are most accurate, and why?



## TAKE-AWAY CONCEPTS

This chapter demonstrated various approaches to analyzing the firm's *internal environment*, as summarized by the following learning objectives and related take-away concepts.

### LO 4-1 / Differentiate among a firm's core competencies, resources, capabilities, and activities.

- *Core competencies* are unique, deeply embedded, firm-specific strengths that allow companies to differentiate their products and services and thus create more value for customers than their rivals,

or offer products and services of acceptable value at lower cost.

- *Resources* are any assets that a company can draw on when crafting and executing strategy.
- *Capabilities* are the organizational and managerial skills necessary to orchestrate a diverse set of resources to deploy them strategically.
- *Activities* are distinct and fine-grained business processes that enable firms to add incremental value by transforming inputs into goods and services.

### LO 4-2 / Compare and contrast tangible and intangible resources.

- *Tangible resources* have physical attributes and are visible.
- *Intangible resources* have no physical attributes and are invisible.
- Competitive advantage is more likely to be based on intangible resources.

### LO 4-3 / Evaluate the two critical assumptions behind the resource-based view.

- The first critical assumption—*resource heterogeneity*—is that bundles of resources, capabilities, and competencies differ across firms. The resource bundles of firms competing in the same industry (or even the same strategic group) are unique to some extent and thus differ from one another.
- The second critical assumption—*resource immobility*—is that resources tend to be "sticky" and don't move easily from firm to firm. Because of that stickiness, the resource differences that exist between firms are difficult to replicate and, therefore, can last for a long time.

### LO 4-4 / Apply the VRIO framework to assess the competitive implications of a firm's resources.

- For a firm's resource to be the basis of a competitive advantage, it must have VRIO attributes: *valuable (V)*, *rare (R)*, and *costly to imitate (I)*. The firm must also be able to *organize (O) in order to capture the value of the resource*.
- A resource is valuable (V) if it allows the firm to take advantage of an external opportunity and/or neutralize an external threat. A valuable resource enables a firm to increase its economic value creation ( $V - C$ ).
- A resource is rare (R) if the number of firms that possess it is less than the number of firms it would require to reach a state of perfect competition.
- A resource is costly to imitate (I) if firms that do not possess the resource are unable to develop or buy the resource at a comparable cost.
- The firm is organized (O) to capture the value of the resource if it has an effective organizational structure, processes, and systems in place to fully exploit the competitive potential.

### LO 4-5 / Evaluate different conditions that allow a firm to sustain a competitive advantage.

- Several conditions make it costly for competitors to imitate the resources, capabilities, or competencies that underlie a firm's competitive advantage: (1) *better expectations of future resource value*, (2) *path dependence*, (3) *causal ambiguity*, (4) *social complexity*, and (5) *intellectual property (IP) protection*.
- These *barriers to imitation* are isolating mechanisms because they prevent rivals from competing away the advantage a firm may enjoy.

### LO 4-6 / Outline how dynamic capabilities can enable a firm to sustain a competitive advantage.

- To sustain a competitive advantage, any fit between a firm's internal strengths and the external environment must be dynamic.
- *Dynamic capabilities* allow a firm to create, deploy, modify, reconfigure, or upgrade its resource base to gain and sustain competitive advantage in a constantly changing environment.

### LO 4-7 / Apply a value chain analysis to understand which of the firm's activities in the process of transforming inputs into outputs generate differentiation and which drive costs.

- The value chain describes the internal activities a firm engages in when transforming inputs into outputs.
- Each activity the firm performs along the horizontal chain adds incremental value and incremental costs.
- A careful analysis of the value chain allows managers to obtain a more detailed and fine-grained understanding of how the firm's economic value creation breaks down into a distinct set of activities that helps determine perceived value and the costs to create it.
- When a firm's set of distinct activities is able to generate value greater than the costs to create it, the firm obtains a profit margin (assuming the market price the firm is able to command exceeds the costs of value creation).

### LO 4-8 / Conduct a SWOT analysis to generate insights from external and internal analysis and derive strategic implications.

- Formulating a strategy that increases the chances of gaining and sustaining a competitive advantage is based on synthesizing insights obtained

# Competitive Advantage, Firm Performance, and Business Models

## Chapter Outline

- 5.1 Competitive Advantage and Firm Performance**
  - Accounting Profitability*
  - Shareholder Value Creation*
  - Economic Value Creation*
  - The Balanced Scorecard*
  - The Triple Bottom Line*
- 5.2 Business Models: Putting Strategy into Action**
  - Popular Business Models*
  - Dynamic Nature of Business Models*
- 5.3 Implications for the Strategist**

## Learning Objectives

- LO 5-1 Conduct a firm profitability analysis using accounting data to assess and evaluate competitive advantage.
- LO 5-2 Apply shareholder value creation to assess and evaluate competitive advantage.
- LO 5-3 Explain economic value creation and different sources of competitive advantage.
- LO 5-4 Apply a balanced scorecard to assess and evaluate competitive advantage.
- LO 5-5 Apply a triple bottom line to assess and evaluate competitive advantage.
- LO 5-6 Outline how business models put strategy into action.

## The Quest for Competitive Advantage: Apple vs. Microsoft\*

Apple and Microsoft have been fierce rivals since their arrival in the mid-1970s. Although Apple has been dominating more recently, in the early decades of the PC revolution, Microsoft was the undisputed leader. With its Windows operating system, Microsoft set the standard in the world of personal computers. Some 90 percent of all PCs run Windows. Once users are locked into a Microsoft operating system, which generally comes preloaded with the computer they purchased, they then want to buy applications that run seamlessly with the operating system. The obvious choice for users is Microsoft's Office Suite (containing Word, Excel, PowerPoint, OneNote, Outlook, Publisher, and Access), but they need to shell out several hundred dollars for the latest version. Microsoft's business model was to create a large installed base of users for its PC operating system and then make money from selling application software such as its ubiquitous Office Suite.

Microsoft then went on to replicate with its corporate customers this hugely successful business model of setting the standard in operating systems combined with bundling discounted application suites. Once servers became ubiquitous in corporations, Microsoft offered IT departments e-mail systems, databases, and other business applications that were tightly integrated with Windows. As a consequence, some 80 percent of Microsoft's revenues were either tied directly or indirectly to its Windows franchise. Microsoft's strategy of focusing on setting the industry standard allowed it to create a favorable (monopoly) market position and thus to extract high profits for many years. For example, its bundling strategy with Microsoft

Office, combining different application services that run seamlessly in one discounted product offering, allowed Microsoft to overtake IBM, once the most valuable tech company. By 2000, Microsoft was the most valuable company globally with some \$510 billion in market capitalization.

In contrast, at roughly the same time, Apple was struggling to survive with less than 5 percent market share in the PC market. Near bankruptcy in 1997, Apple's revitalization took off in the fall of 2001 when it introduced the iPod, a portable digital music player. Eighteen months later,

the Cupertino, California, company soared even higher when it opened the online store iTunes, quickly followed by its first retail stores. Apple's stores earn the highest sales per square foot of any retail outlets, including luxury stores such as jeweler Tiffany & Co. or LVMH, purveyor of fine handbags and other luxury goods.

Apple didn't stop

there. In 2007, the company revolutionized the smartphone market with the introduction of the iPhone. Just three years later, Apple created the tablet computer industry by introducing the iPad, thus beginning to reshape the publishing and media industries. Further, for each of its iPod, iPhone, and iPad lines of businesses, Apple followed up with incremental product innovations extending each product category. By the fall of 2012, Apple had become the most valuable company in the world with some \$620 billion market capitalization.

Two years later, in the fall of 2014, Apple introduced the hugely popular iPhone 6 and the iPhone 6 Plus, offering larger screens with higher resolution. In the spring of 2015, the high-tech company introduced Apple Watch, a watch that is fully integrated with the iOS Apple operating system, thus running basically all the apps available for the



Steve Jobs and Bill Gates at All Things Digital 5 in 2007.  
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iPhone. Apple Watch also incorporates new fitness tracking and other health-oriented capabilities. At the same time, Apple's market capitalization had further risen to almost \$740 billion.

The comparison of Microsoft and Apple over time shows that competitive advantage is clearly transitory. Given the rough-and-tumble competition combined with relentless

technological progress and innovation, it is hard to gain a competitive advantage in the first place, and it is even harder to sustain it.

You will learn more about Microsoft and Apple by reading the chapter; related questions appear on page 167.<sup>1</sup>

\* A strategic financial analysis exercise related to this ChapterCase is available in Connect.



### GAINING AND SUSTAINING

**GAINING AND SUSTAINING** competitive advantage is the defining goal of strategic management. Competitive advantage leads to superior firm performance. To explain differences in firm performance and to derive strategic implications—including new strategic initiatives—we must understand how to measure and assess competitive advantage. We devote this chapter to studying how to measure and assess firm performance. In particular, we introduce three frameworks to capture the multifaceted nature of competitive advantage. The three traditional frameworks to measure and assess firm performance are

- Accounting profitability.
- Shareholder value creation.
- Economic value creation.

We then will introduce two integrative frameworks, combining quantitative data with qualitative assessments:

- The balanced scorecard.
- The triple bottom line.

Next, we take a closer look at *business models* to understand more deeply how firms put their strategy into action in order to make money. We conclude the chapter with practical “Implications for the Strategist.”

## 5.1 Competitive Advantage and Firm Performance

It is easy to compare two firms and identify the better performer as having competitive advantage. But simple comparisons have their limitations. How can we understand how and why a firm has competitive advantage? How can we measure it? How can we understand that advantage within the bigger picture of an entire industry and the ever-changing external environment? And what strategic implications for managerial actions do we derive from our assessments? These apparently simple questions do not have simple answers. Strategic management researchers have debated them intensely for at least 30 years.<sup>2</sup>

To address these key questions, we will develop a *multidimensional perspective* for assessing competitive advantage. Let's begin by focusing on the three standard performance dimensions:<sup>3</sup>

1. What is the firm's *accounting profitability*?
2. How much *shareholder value* does the firm create?
3. How much *economic value* does the firm generate?

These three performance dimensions tend to be correlated, particularly over time. Accounting profitability and economic value creation tend to be reflected in the firm's stock price, which in turn determines in part the stock's market valuation.

## ACCOUNTING PROFITABILITY

### LO 5-1

Conduct a firm profitability analysis using accounting data to assess and evaluate competitive advantage.

As we discussed in Chapter 1, *strategy* is a set of goal-directed actions a firm takes to gain and sustain competitive advantage. Using accounting data to assess competitive advantage and firm performance is standard managerial practice. When assessing competitive advantage by measuring accounting profitability, we use financial data and ratios derived from publicly available accounting data such as income statements and balance sheets.<sup>4</sup> Since *competitive advantage* is defined as superior performance *relative* to other competitors in the same industry or the industry average, a firm's managers must be able to accomplish two critical tasks:

1. Accurately assess the performance of their firm.
2. Compare and benchmark their firm's performance to other competitors in the same industry or against the industry average.

Standardized financial metrics, derived from such publicly available accounting data as income statements and balance sheets, fulfill both these conditions. Public companies are required by law to release these data, in compliance with generally accepted accounting principles (GAAP) set by the Financial Accounting Standards Board (FASB), and as audited by certified public accountants. Publicly traded firms are required to file a Form 10-K (or 10-K report) annually with the U.S. Securities and Exchange Commission (SEC), a federal regulatory agency. The 10-K reports are the primary source of companies' accounting data available to the public. In the wake of the Sarbanes-Oxley Act of 2002, accounting data released to the public had to comply with even more stringent requirements. This in turn enhances the data's usefulness for comparative analysis.

Accounting data enable us to conduct direct performance comparisons between different companies. Some of the profitability ratios most commonly used in strategic management are *return on invested capital (ROIC)*, *return on equity (ROE)*, *return on assets (ROA)*, and *return on revenue (ROR)*. In the “How to Conduct a Case Analysis” module (at the end of Part 4, following the MiniCases), you will find a complete presentation of accounting measures and financial ratios, how they are calculated, and a brief description of their strategic characteristics.

One of the most commonly used metrics in assessing firm financial performance is *return on invested capital (ROIC)*, where  $ROIC = (\text{Net profits} / \text{Invested capital})$ .<sup>5</sup> ROIC is a popular metric because it is a good proxy for *firm profitability*. In particular, the ratio measures how effectively a company uses its *total invested capital*, which consists of two components: (1) *shareholders' equity* through the selling of shares to the public, and (2) *interest-bearing debt* through borrowing from financial institutions and bondholders.

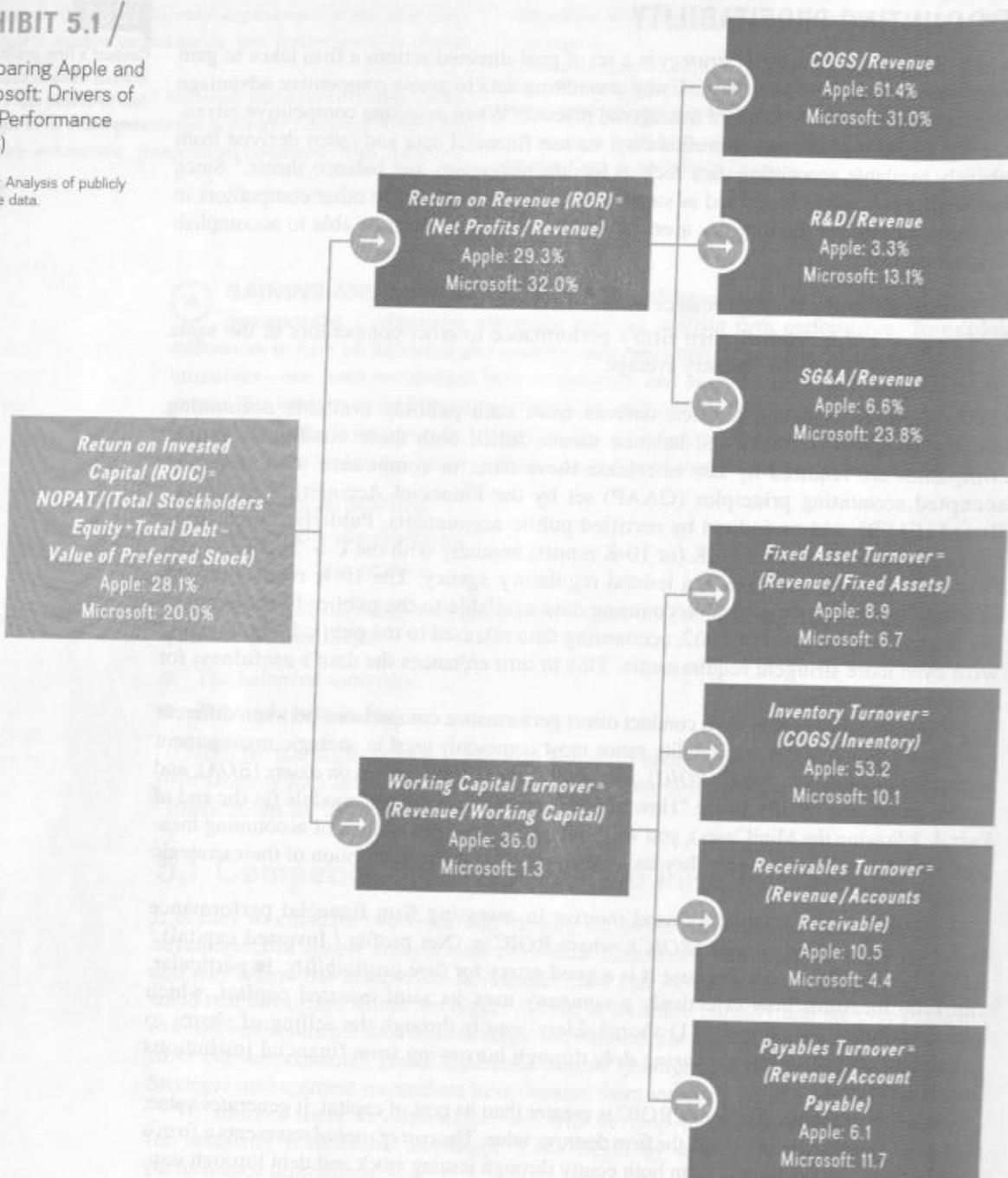
As a rule of thumb, if a firm's ROIC is greater than its cost of capital, it generates value; if it is less than the cost of capital, the firm destroys value. The *cost of capital* represents a firm's cost of financing operations from both equity through issuing stock and debt through issuing bonds. To be more precise and to be able to derive strategic implications, however, managers must compare their ROIC to other competitors.

**APPLE VS. MICROSOFT** To demonstrate the usefulness of accounting data in assessing competitive advantage and to derive strategic implications, let's revisit the comparison between Apple and Microsoft that we began in ChapterCase 5, and investigate the sources of performance differences in more detail. Exhibit 5.1 shows the ROIC for Apple and Microsoft (as of fiscal year 2014).<sup>6</sup> It further breaks down ROIC into its constituent

**EXHIBIT 5.1**

Comparing Apple and Microsoft: Drivers of Firm Performance (2014)

Source: Analysis of publicly available data.



components. This provides important clues for managers on which areas to focus when attempting to improve firm performance relative to their competitors.

Apple's ROIC was 28.1 percent, which was more than 8 percentage points higher than Microsoft's (20.0 percent). This means that for every \$1.00 invested in Apple, the company returned almost \$1.28, while for every \$1.00 invested in the company, Microsoft returned

\$1.20. Since Apple was 40 percent more efficient than Microsoft at generating a return on invested capital, Apple had a clear competitive advantage over Microsoft. Although this is an important piece of information, managers need to know the underlying factors driving differences in firm profitability. Why is the ROIC for these two companies so different?

Much like detectives, managers look for clues to solve that mystery: They break down ROIC into its constituents (as shown in Exhibit 5.1)—*return on revenue* and *working capital turnover*—to discover the underlying drivers of the marked difference in firm profitability.

We start with the first component of ROIC. *Return on revenue (ROR)* indicates how much of the firm's sales is converted into profits. Apple's ROR was 29.3 percent, while Microsoft's ROR was 32 percent. For every \$100 in revenues, Apple earns \$29.30 in profit, while Microsoft earns \$32 in profit. On this metric, Microsoft had a slight edge over Apple. Keep in mind, however, that Apple's 2014 revenues were \$183 billion, while Microsoft's were \$83 billion. Thus, Apple is 2.2 times larger than Microsoft in terms of annual sales. As we investigate the differences in ROIC further, we will also discover that Microsoft has a higher cost structure than Apple, and that Apple is able to charge a much higher margin for its products and services than Microsoft.

To explore further drivers of this difference, we break down return on revenue into three additional financial ratios:

- Cost of goods sold (COGS) / Revenue.
- Research & development (R&D) expense / Revenue.
- Selling, general, & administrative (SG&A) expense / Revenue.

The first of these three ratios, *COGS / Revenue*, indicates how efficiently a company can produce a good. On this metric, Microsoft turns out to be much more efficient than Apple, with a difference of over 30 percentage points (see Exhibit 5.1). This is because Microsoft's vast majority of revenues (87 percent) came from software and online services, with little cost attached to such digitally delivered products and services. In contrast, Apple's revenues were mostly from mobile devices, combining both hardware and software. In particular, the iPhone made up two-thirds (or over \$120 billion) of Apple's total revenues (in 2014).

Even though Apple is more than two times as large as Microsoft in terms of revenues, it spends much less on research and development or on marketing and sales. Both of these help drive down Apple's cost structure. In particular, the next ratio, *R&D / Revenue*, indicates how much of each dollar that the firm earns in sales is invested to conduct research and development. A higher percentage is generally an indicator of a stronger focus on innovation to improve current products and services, and to come up with new ones.

Interestingly, Apple's R&D is much less intense than Microsoft's. Apple spent 3.3 percent on R&D for every dollar of revenue, while Microsoft spent almost four times as much (13.1 percent R&D). Even considering the fact that Microsoft's revenues were \$83 billion versus Apple's \$183 billion, Microsoft (\$11 billion) spent more on R&D in absolute dollars than Apple (\$6 billion). For every \$100 earned in revenues Microsoft spent \$13.10 on R&D, while Apple only spent \$3.30. For more than a decade now, Microsoft generally spends the most on R&D in absolute terms among all technology firms.

In contrast, Apple has spent much less on research and development than other firms in the high-tech industry, in both absolute and relative terms. Apple's co-founder and long-time CEO, the late Steve Jobs, defined Apple's R&D philosophy as follows: "Innovation has nothing to do with how many R&D dollars you have. When Apple came up with the Mac, IBM was spending at least 100 times more on R&D. It's not about money. It's about the people you have, how you're led, and how much you get it."<sup>7</sup>

The third ratio in breaking down return on revenue, *SG&A / Revenue*, indicates how much of each dollar that the firm earns in sales is invested in sales, general, and administrative (SG&A) expenses. Generally, this ratio is an indicator of the firm's focus on marketing and sales to promote its products and services. Again, Microsoft (\$20 billion) not only outspent Apple (\$18.3 billion) in absolute terms in marketing and sales expenses, but its SG&A intensity was more than 3.5 times as high as Apple's. For every \$100 earned in revenues Microsoft spent \$23.80 on sales and marketing, while Apple spent \$6.60.

The second component of ROIC is *working capital turnover* (see Exhibit 5.1), which is a measure of how effectively capital is being used to generate revenue. This is where Apple outperforms Microsoft by a wide margin (36.0 vs. 1.3). For every dollar that Apple puts to work, it realizes a whopping \$36.00 of sales; this rate is more than 28 times higher than the conversion rate for Microsoft, which only realizes \$1.30 in sales for each dollar invested.

This huge difference provides an important clue for Microsoft's managers to dig deeper to find the underlying drivers in working capital turnover. This enables managers to uncover which levers to pull in order to improve firm financial performance. In a next step, therefore, managers break down working capital turnover into other ratios, including *fixed asset turnover*, *inventory turnover*, *receivables turnover*, and *payables turnover*. Each of these metrics is a measure of how effective a particular item on the balance sheet is contributing to revenue.

*Fixed asset turnover (Revenue / Fixed assets)* measures how well a company leverages its fixed assets, particularly property, plant, and equipment (PPE). Microsoft's fixed assets contribute \$6.70 of revenue for every dollar spent on PPE, while each dollar of Apple's fixed assets generates \$8.90. This ratio indicates how much of a firm's capital is tied up in its fixed assets. Higher fixed assets often go along with lower firm valuations (more on this in the section "Shareholder Value Creation" later in this chapter).

The performance difference between Apple and Microsoft in regard to *inventory turnover (COGS / Inventory)* is even more striking. Cost of goods sold (COGS) captures the firm's production cost of merchandise it *has sold*. Inventory is the cost of the firm's merchandise *to be sold*. This ratio indicates how much of a firm's capital is tied up in its inventory. Apple turned over its inventory more than 53 times during 2014, which implies that the company had very little capital tied up in its inventory. Apple benefited from strong demand for its products, as well as an effective management of its global supply chain. The vast majority of Apple's manufacturing is done in China by low-cost producer Foxconn, which employs over 1.2 million people.

In stark contrast, Microsoft turned over its inventory only about 10 times during the year. The firm's cost of hardware products to be sold was very high, because Microsoft acquired Nokia's mobile phone business for over \$7 billion to more effectively compete against Apple. With the Nokia purchase, however, came a huge pile of unsold Lumia phones, added to Microsoft's inventory of unsold Surface tablet computers, tying up billions of dollars. In addition, Microsoft has likely higher production costs than Apple. Rather than outsourcing manufacturing to Foxconn or other original equipment manufacturers (OEMs), Microsoft owns and operates its manufacturing facilities. They are also located in countries with a generally higher cost structure (e.g., Brazil and Mexico, among others) than China. In comparison to Microsoft, Apple turned over its inventory more than five times faster! This big difference can be explained by disappointing demand for Lumia phones and Surface tablet computers and the lack of any exciting new product launches. Consumers continued to migrate to Apple iPhones, especially its popular iPhone 6, which launched in 2014.

The final set of financial ratios displayed in Exhibit 5.1 concerns the effectiveness of a company's receivables and payables. These are part of a company's cash flow management; they indicate the company's efficiency in extending credit, as well as collecting debts.

Higher ratios of *receivables turnover (Revenue / Accounts receivable)* imply more efficient management in collecting accounts receivable and shorter durations of interest-free loans to customers (i.e., time until payments are due). In contrast, *payables turnover (Revenue / Accounts payable)* indicates how fast the firm is paying its creditors and how much it benefits from interest-free loans extended by its suppliers. A lower ratio indicates more efficient management in paying creditors and generating interest-free loans from suppliers.

In the two dimensions of cash flow management, Apple displays a clear advantage over Microsoft. *Apple is paid much faster than Microsoft*. This might be explained by the fact that Apple's customers are mainly individual consumers who tend to pay with cash or credit cards at the time of purchase, while Microsoft's most important customers are other businesses, in particular, OEMs that make PCs and corporate IT departments and governments (who request to be invoiced, and thus pay later). On the other hand, *Apple takes quite a bit longer to pay its creditors*. Due to its stronger negotiating power, Apple might also be able to extend its payment periods, while Microsoft may be required to pay its creditors more quickly.

A deeper understanding of the fundamental drivers for differences in firm profitability allows managers to develop strategic approaches. For example, Satya Nadella, Microsoft's CEO since 2014, could rework Microsoft's cost structure, in particular, its very high R&D and SG&A spending. Perhaps, R&D dollars could be spent more effectively? Apple generates a much higher return to its R&D spending. Microsoft's sales and marketing expenses also seem to be quite high, but may be needed to rebuild Microsoft's brand image with a new focus on mobile and cloud computing. One of the biggest drains on operating profits for Microsoft is the multibillion-dollar Nokia handset acquisition, resulting in low *working capital turnover* and *inventory turnover* ratios.

**LIMITATIONS OF ACCOUNTING DATA** Although accounting data tend to be readily available and we can easily transform them into financial ratios to assess and evaluate competitive performance, they also exhibit some important limitations:

- *All accounting data are historical and thus backward-looking.* Accounting profitability ratios show us only the outcomes from past decisions, and the past is no guarantee of future performance. There is also a significant time delay before accounting data become publicly available. Some strategists liken making decisions using accounting data to driving a car by looking in the rearview mirror.<sup>8</sup> While financial strength certainly helps, past performance is no guarantee that a company is prepared for market disruption. Rather, as we saw in Chapter 4, IBM survived over the last century only by complete transformation of its capabilities multiple times in response to radical technological innovations.
- *Accounting data do not consider off-balance sheet items.* Off-balance sheet items, such as pension obligations (quite large in some U.S. companies) or operating leases in the retail industry, can be significant factors. For example, one retailer may own all its stores, which would properly be included in the firm's assets; a second retailer may lease all its stores, which would *not be* listed as assets. All else being equal, the second retailer's return on assets (ROA) would be higher. Strategists address this shortcoming by adjusting accounting data to obtain an *equivalent economic capital base*, so that they can compare companies with different capital structures.
- *Accounting data focus mainly on tangible assets, which are no longer the most important.*<sup>9</sup> This limitation of accounting data is nicely captured in the adage: *Not everything that can be counted counts. Not everything that counts can be counted.*<sup>10</sup> Although accounting data capture some intangible assets, such as the value of intellectual property



Satya Nadella, CEO Microsoft  
© Brian Smale/  
Microsoft/Getty Images

(patents, trademarks, and so on) and customer goodwill, many key intangible assets are not captured. Today, the most competitively important assets tend to be intangibles such as innovation, quality, and customer experience, which are not included in a firm's balance sheets. For example, Tesla's core competency in designing high-performance all-electric vehicles is not a balance sheet item, but nonetheless a critical foundation in its quest for competitive advantage.

**INTANGIBLES AND THE VALUE OF FIRMS** Intangible assets that are not captured in accounting data have become much more important in firms' stock market valuations over the last few decades. Exhibit 5.2 shows the firm's book value (accounting data capturing the firm's actual costs of assets minus depreciation) as part of a firm's total stock market valuation (number of outstanding shares times share price). The firm's book value captures the historical cost of a firm's assets, whereas market valuation is based on future expectations for a firm's growth potential and performance. For the firms in the S&P 500 (the 500 largest publicly traded companies by market capitalization in the U.S. stock market, as determined by Standard & Poor's, a rating agency), the importance of a firm's book value has declined dramatically over time. This decline mirrors a commensurate increase in the importance of intangibles that contribute to growth potential and yet are not captured in a firm's accounting data.

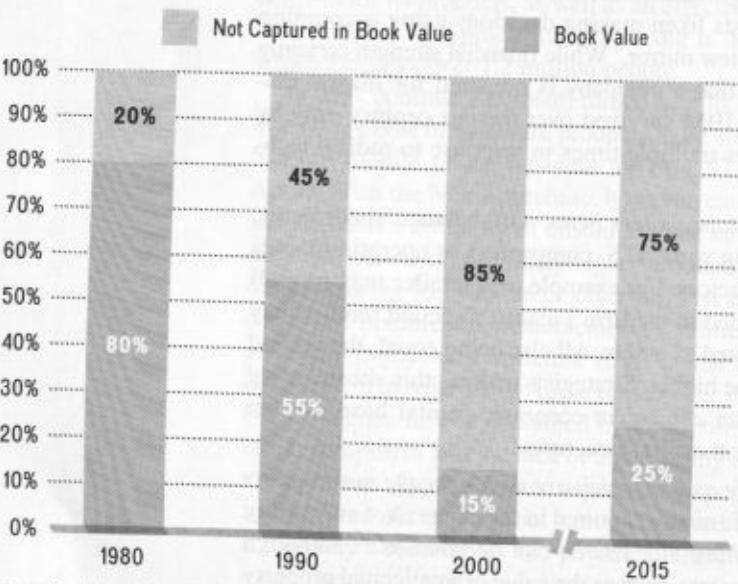
In 1980, about 80 percent of a firm's stock market valuation was based on its book value with 20 percent based on the market's expectations concerning the firm's future performance. This almost reversed by 2000 (at the height of the Internet bubble), when firm valuations were based only 15 percent on assets captured by accounting data. The important take-away is that intangibles not captured in firms' accounting data have become much more important to a firm's competitive advantage. By 2015, about 75 percent of a firm's market valuation was determined by its intangibles. This explains why Google (\$365 billion) is valued over six times more than GM (\$59 billion),

or why Facebook (\$234 billion) is valued more than twice as much as Boeing (\$110 billion).

So what have we learned about accounting profitability? Key financial ratios based on accounting data give us an important tool with which to assess competitive advantage. In particular, they help us measure *relative* profitability, which is useful when comparing firms of different sizes over time. While not perfect, these ratios are an important starting point when analyzing the competitive performance of firms (and thus are a critical tool for case analysis). Again, see the "How to Conduct a Case Analysis" module (at the end of Part 4). We next turn to *shareholder value creation* as a second traditional way to measure and assess competitive advantage, attempting to overcome the shortcomings of a backward-looking internal focus on mostly tangible assets inherent in accounting profitability.

## EXHIBIT 5.2

The Declining Importance of Book Value in a Firm's Stock Market Valuation, 1980–2015



Source: Analysis and depiction of data from Compustat, 1980–2015.

## SHAREHOLDER VALUE CREATION

### LO 5-2

Apply shareholder value creation to assess and evaluate competitive advantage.

**shareholders**  
Individuals or organizations that own one or more shares of stock in a public company.

**risk capital**  
The money provided by shareholders in exchange for an equity share in a company; it cannot be recovered if the firm goes bankrupt.

**total return to shareholders**  
Return on risk capital that includes stock price appreciation plus dividends received over a specific period.

**market capitalization**  
A firm performance metric that captures the total dollar market value of a company's total outstanding shares at any given point in time ( $Market\ cap = Number\ of\ outstanding\ shares \times Share\ price$ ). If a company has 50 million shares outstanding, and each share is traded at \$200, the market capitalization is \$10 billion ( $50,000,000 \times \$200 = \$10,000,000,000$ , or \$10 billion).<sup>13</sup>

**Shareholders**—individuals or organizations that own one or more shares of stock in a public company—are the legal owners of public companies. From the shareholders' perspective, the measure of competitive advantage that matters most is the return on their **risk capital**,<sup>11</sup> which is the money they provide in return for an equity share, money that they cannot recover if the firm goes bankrupt. In September 2008, the shareholders of Lehman Brothers, a global financial services firm, lost their entire investment of about \$40 billion when the firm declared bankruptcy.

Investors are primarily interested in a company's **total return to shareholders**, which is the return on risk capital, including stock price appreciation plus dividends received over a specific period. Unlike accounting data, total return to shareholders is an *external* and *forward-looking* performance metric. It essentially indicates how the stock market views all available public information about a firm's past, current state, and expected future performance, with most of the weight on future growth expectations. The idea that all available information about a firm's past, current state, and expected future performance is embedded in the market price of the firm's stock is called the *efficient-market hypothesis*.<sup>12</sup> In this perspective, a firm's share price provides an objective performance indicator. When assessing and evaluating competitive advantage, a comparison of rival firms' share price development or market capitalization provides a helpful yardstick when used over the *long term*. **Market capitalization** (or market cap) captures the total dollar market value of a company's total outstanding shares at any given point in time ( $Market\ cap = Number\ of\ outstanding\ shares \times Share\ price$ ). If a company has 50 million shares outstanding, and each share is traded at \$200, the market capitalization is \$10 billion ( $50,000,000 \times \$200 = \$10,000,000,000$ , or \$10 billion).<sup>13</sup>

All public companies in the United States are required to report total return to shareholders annually in the statements they file with the Securities and Exchange Commission (SEC). In addition, companies must also provide benchmarks, usually one comparison to the industry average and another to a broader market index that is relevant for more diversified firms.<sup>14</sup> Since competitive advantage is defined in relative terms, these benchmarks allow us to assess whether a firm has a competitive advantage. In its annual reports, Microsoft, for example, compares its performance to two stock indices: the NASDAQ computer index and the S&P 500. The computer index includes over 400 high-tech companies traded on the NASDAQ, including Apple, Adobe, Google, Intel, and Oracle. It provides a comparison of Microsoft to the computer industry—broadly defined. The S&P 500 offers a comparison to the wider stock market beyond the computer industry. In its 2014 annual report, Microsoft shows that it *underperformed* in comparison to both, the NASDAQ computer index and the S&P 500 since 2009, with the gap widening over time.<sup>15</sup> This is one reason Satya Nadella was appointed Microsoft's CEO in early 2014, following Steve Ballmer, who had served as CEO since 2000.

Effective strategies to grow the business can increase a firm's profitability and thus its stock price.<sup>16</sup> Indeed, investors and Wall Street analysts expect continuous growth. A firm's stock price generally increases only if the firm's rate of growth exceeds investors' expectations. This is because investors discount into the present value of the firm's stock price whatever growth rate they foresee in the future. If a low-growth business like Comcast (in cable TV) is expected to grow 2 percent each year but realizes 4 percent growth, its stock price will appreciate. In contrast, if a fast-growing business like Apple in mobile computing is expected to grow by 10 percent annually but delivers "only" 8 percent growth, its stock price will fall.

Investors also adjust their expectations over time. Since the business in the slow-growth industry surprised them by delivering higher than expected growth, they adjust their

expectations upward. The next year, they expect this firm to again deliver 4 percent growth. On the other hand, if the industry average is 10 percent a year in the high-tech business, the firm that delivered 8 percent growth will again be expected to deliver at least the industry average growth rate; otherwise, its stock will be further discounted.

In Chapter Case 5, we noted that Apple was the most valuable company on the planet. In early 2015, Apple's market cap was a whopping \$727 billion, twice as high as the second most valuable company worldwide, Exxon Mobil with \$360 billion in market cap. Considering stock market valuations (*Share price × Number of outstanding shares*) over the long term provides a useful metric to assess competitive advantage. Exhibit 5.3 shows the stock market valuations for Apple and Microsoft from 1990 until early 2015. Microsoft was once the most valuable company worldwide (in December 1999 with close to \$600 billion in market cap), but since then its market valuation has dropped more than 40 percent. The valuation declined because investors now have lower expectations concerning Microsoft's ability to deliver profitable growth in the future. In particular, Microsoft struggles with the transition from desktop to mobile computing. CEO Satya Nadella vows to move Microsoft away from its Windows-only business model to compete more effectively in a "mobile-first, cloud-first world."<sup>17</sup> It appears that investors view this strategic shift in a positive way because they believe it will put Microsoft on a future growth trajectory. Since a low in Microsoft's market cap of about \$220 billion in early 2013, it has grown by more than 50 percent to over \$340 billion by spring 2015. Nonetheless, Microsoft remains well below Apple, as Exhibit 5.3 clearly shows using market cap as its metric. This shows again that it is difficult to gain a competitive advantage, and even harder to sustain it over a prolonged period of time. *Competitive advantage is transitory!*

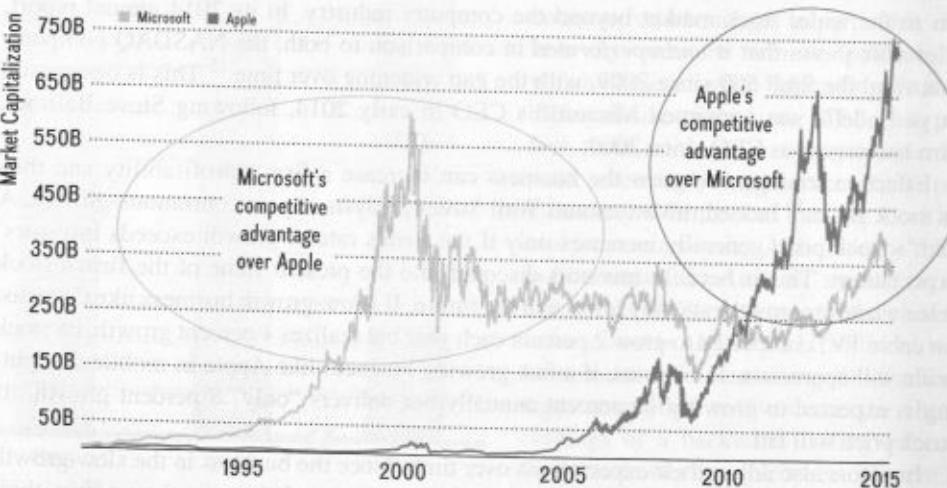
**LIMITATIONS OF SHAREHOLDER VALUE CREATION** Although measuring firm performance through total return to shareholders and firm market capitalization has many advantages, just as with accounting profitability, it has its shortcomings:

- *Stock prices can be highly volatile, making it difficult to assess firm performance, particularly in the short term.* This volatility implies that *total return to shareholders* is a better measure of firm performance and competitive advantage over the long term, because of the "noise" introduced by market volatility, external factors, and investor sentiment.

### EXHIBIT 5.3

Stock Market Valuations of Apple and Microsoft, 1990–2015

Source: Depiction of publicly available data using YCHARTS, wwwycharts.com.



- Overall macroeconomic factors such as economic growth or contraction, the unemployment rate, and interest and exchange rates all have a direct bearing on stock prices. It can be difficult to ascertain the extent to which a stock price is influenced more by external macroeconomic factors (as discussed in Chapter 3) than by the firm's strategy (see also Exhibit 1.1 highlighting firm, industry, and other effects in overall firm performance).
- Stock prices frequently reflect the psychological mood of investors, which can at times be irrational. Stock prices can overshoot expectations based on economic fundamentals amid periods like the Internet boom, during which former Federal Reserve Chairman Alan Greenspan famously described investors' buoyant sentiments as "irrational exuberance."<sup>18</sup> Similarly, stock prices can undershoot expectations during busts like the 2008–2009 global financial crisis, during which investors' sentiment was described as "irrational gloom."<sup>19</sup>

### ECONOMIC VALUE CREATION

The relationship between *economic value creation* and competitive advantage is fundamental in strategic management. It provides the foundation upon which to formulate a firm's competitive strategy for cost leadership or differentiation (discussed in detail in the next chapter). For now, it is important to note that a firm has a competitive advantage when it creates more *economic value* than rival firms. What does that mean?

**Economic value created** is the difference between a buyer's willingness to pay for a product or service and the firm's total cost to produce it. Let's assume you consider buying a laptop computer and you have a budget of \$1,200. You have narrowed your search to two models, one offered by Firm A, the other by Firm B. Your subjective assessment of the benefits derived from owning Firm A's laptop is \$1,000—this is the absolute maximum you'd be willing to pay for it, or the **reservation price**. For example, this could be a more or less generic, run-of-the-mill Dell laptop. In contrast, you value Firm B's laptop model at \$1,200 because it has somewhat higher performance, is more user-friendly, and definitely has a higher "coolness-factor." Think of Apple's MacBook Pro with Retina display. Given that you value Firm B's laptop by \$200 more than Firm A's model, you will purchase a laptop from Firm B (and, in this case, end up paying as much as your reservation price allows).

Let's move now from your individual considerations to the overall market for laptop computers in order to derive implications for firm-level competitive advantage. To simplify this illustration, only Firm A and Firm B are competing in the market for laptops. Assuming that both Firm A and Firm B have the same total unit cost of producing the particular laptop models under consideration (\$400) and the market at large has preferences similar to yours, then Firm B will have a competitive advantage. This is because Firm B creates more economic value than Firm A (by \$200), but has the same total cost, depicted in Exhibit 5.4. The amount of *total perceived consumer benefits* equals the *maximum willingness to pay*, or the **reservation price**. This amount is then split into economic value creation and the firm's total unit cost. Firm A and Firm B have identical total unit cost, \$400 per laptop. However, Firm B's laptop (e.g., Apple's MacBook Pro) is perceived to provide more utility than Firm A's laptop (e.g., Dell's generic laptop), which implies that Firm B creates more economic value ( $\$1,200 - \$400 = \$800$ ) than Firm A ( $\$1,000 - \$400 = \$600$ ). Taken together, Firm B has a competitive advantage over Firm A because Firm B creates more economic value. This is because Firm B's offering has greater total perceived consumer benefits than Firm A's, while the firms have the same total cost. In short, Firm B's advantage is based on superior *differentiation* leading to higher perceived value. Further, the competitive advantage can be quantified: It is \$200 (or,  $\$1,200 - \$1,000$ ) per laptop sold for Firm B over Firm A (see Exhibit 5.4).

### LO 5-3

Explain economic value creation and different sources of competitive advantage.

**economic value created**  
Difference between value ( $V$ ) and cost ( $C$ ), or  $(V - C)$ .

**reservation price**  
The maximum price a consumer is willing to pay for a product or service based on the total perceived consumer benefits.

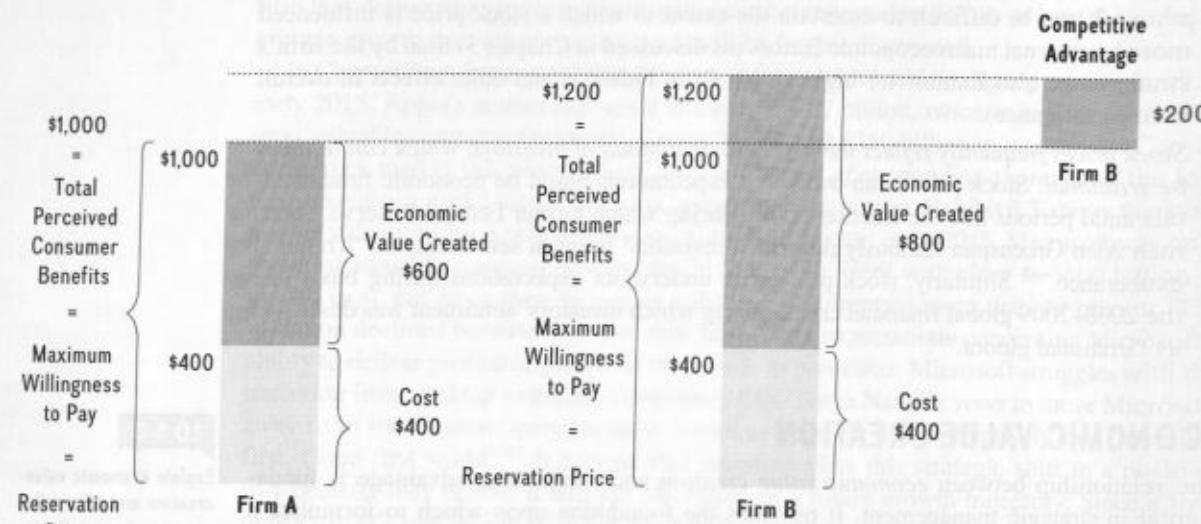
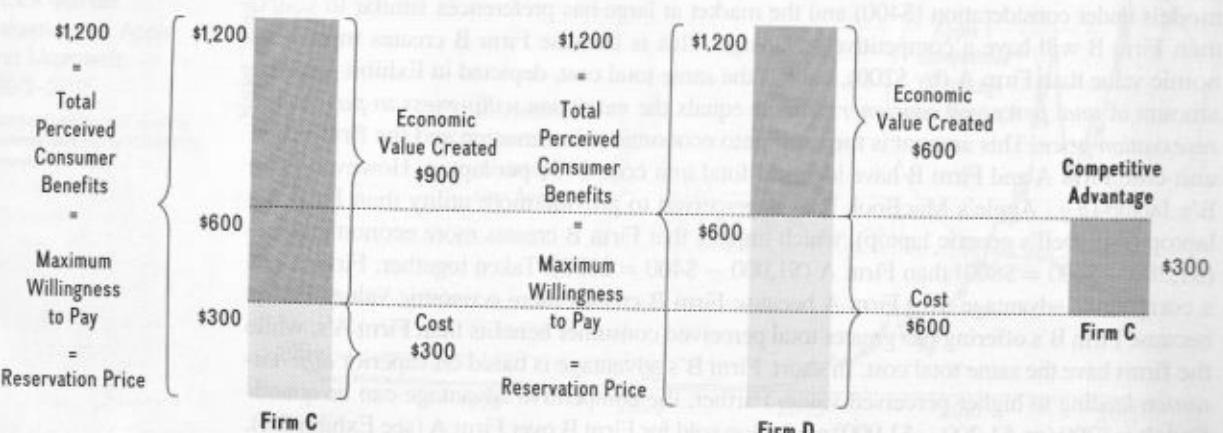
**EXHIBIT 5.4** / Firm B's Competitive Advantage: Same Cost as Firm A but Firm B Creates More Economic Value


Exhibit 5.4 shows that Firm B's competitive advantage is based on greater economic value creation because of superior product differentiation. In addition, a firm can achieve competitive advantage through a second avenue. In particular, competitive advantage can also result from a relative *cost advantage* over rivals, assuming both firms can create the same total perceived consumer benefits.

As shown in Exhibit 5.5, two different laptop makers each offer a model that has the same perceived consumer benefits (\$1,200). Firm C, however, creates economic value greater (\$900, or \$1,200 – \$300) than that of Firm D (\$600, or \$1,200 – \$600). This is because Firm C's total unit cost (\$300) is lower than Firm D's (\$600). Firm C has a relative cost advantage over Firm D, while both products provide identical total perceived consumer benefits (\$1,200). In this example, Firm C could be Lenovo with lower cost structure than Firm D, which could be HP, but both firms offer the same value. As Exhibit 5.5 shows,

**EXHIBIT 5.5** / Firm C's Competitive Advantage: Same Total Perceived Consumer Benefits as Firm D but Firm C Creates More Economic Value


Firm C has a competitive advantage over Firm D because it has lower costs. Firm C's competitive advantage over Firm D is in the amount of \$300 for each laptop sold. Here, the source of the competitive advantage is a relative cost advantage over its rival.

So far we have looked at situations in which products are priced at the maximum a consumer might be willing to pay. But markets generally don't work like that. More often, the economic value created is shared among the producer and the consumer. That is, most of the time consumers are able to purchase the product at a price point below the maximum they are willing to spend. Both the seller and the buyer benefit.

For ease in calculating competitive advantage, three components are needed. These will help us to further explain *total perceived consumer benefits* and *economic value created* in more detail:

1. Value (*V*)
2. Price (*P*)
3. Cost (*C*)

**Value** denotes the dollar amount (*V*) a consumer attaches to a good or service. Value captures a consumer's willingness to pay and is determined by the perceived benefits a good or service provides to the buyer. The cost (*C*) to produce the good or service matters little to the consumer, but it matters a great deal to the producer (supplier) of the good or service since it has a direct bearing on the profit margin.

Let's return to our laptop example from Exhibit 5.4, in which two firms sold their laptops at different prices (\$1,000 for Firm A and \$1,200 for Firm B), even though the costs were the same (\$400). In each case, the price matched the consumer's maximum willingness to pay for the particular offering. Subtracting the costs, we found that Firm A created an economic value of \$600 while Firm B created an economic value of \$800, thus achieving a competitive advantage. In most market transactions, however, some of the economic value created benefits the consumer as well.

Again, let's revisit the example depicted in Exhibit 5.4. The consumer's preference was to buy the laptop from Firm B, which she would have done because it matched her reservation price. Let's assume Firm B's laptop is actually on sale for \$1,000 (everything else remains constant). Assume the consumer again chose to purchase the laptop of Firm B rather than the one offered by Firm A (which she considered inferior). In this case, some of the economic value created by Firm B goes to the consumer. On a formula basis, total perceived value of Firm B's laptop (\$1,200) splits into *economic value created* ( $V - C = \$800$ ) plus *total unit cost* ( $C = \$400$ ), or:  $V = (V - C) + C$ .

The difference between the price charged (*P*) and the cost to produce (*C*) is the **profit**, or **producer surplus**. In the laptop example in Exhibit 5.6, if the price charged is \$1,000, the profit is  $P - C = \$1,000 - \$400 = \$600$ . The firm captures this amount as profit per unit sold. As the consumer, you capture the difference between what you would have been willing to pay (*V*) and what you paid (*P*), called **consumer surplus**. In our example, the consumer surplus is  $V - P = \$1,200 - \$1,000$ , or \$200. *Economic value creation* therefore equals *consumer surplus* plus *firm profit*, or  $(V - C) = (V - P) + (P - C)$ . In the laptop example:

*Economic Value Created* ( $\$1,200 - \$400$ ) = *Consumer Surplus* ( $\$1,200 - \$1,000$ ) + *Producer Surplus* ( $\$1,000 - \$400$ ) = \$200 + \$600 = \$800.

The relationship between consumer and producer surplus is the reason trade happens: Both transacting parties capture *some* of the overall value created. Note, though, that the distribution of the value created between parties need not be equal to make trade worthwhile. In the example above (illustrated in Exhibit 5.6), the consumer surplus was \$200, while profit per unit sold was \$600.

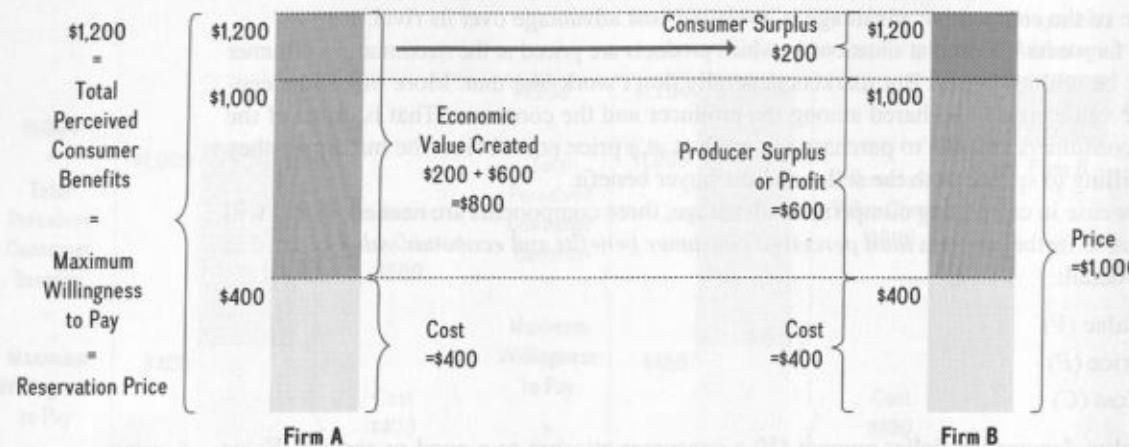
In some cases, where firms offer highly innovative products or services, the relationship can be even more skewed. The entry-level model of the Apple Watch retailed for \$349

**value**  
The dollar amount (*V*) a consumer attaches to a good or service; the consumer's maximum willingness to pay; also called *reservation price*.

**profit**  
Difference between price charged (*P*) and the cost to produce (*C*), or  $(P - C)$ ; also called *producer surplus*.

**producer surplus**  
Another term for profit, the difference between price charged (*P*) and the cost to produce (*C*), or  $(P - C)$ ; also called *profit*.

**consumer surplus**  
Difference between the value a consumer attaches to a good or service (*V*) and what he or she paid for it (*P*), or  $(V - P)$ .

**EXHIBIT 5.6 /** The Role of Consumer Surplus and Producer Surplus (Profit)

(in 2015), and the high-tech firm is predicted to sell millions of it. An analysis by an independent engineering team, however, revealed that the firm's total cost in terms of materials and labor for the Apple Watch is no more than \$84.<sup>20</sup> Thus, Apple's profit for each watch sold is an estimated \$265, with a profit margin of 315 percent.

The economic value creation framework shows that strategy is about

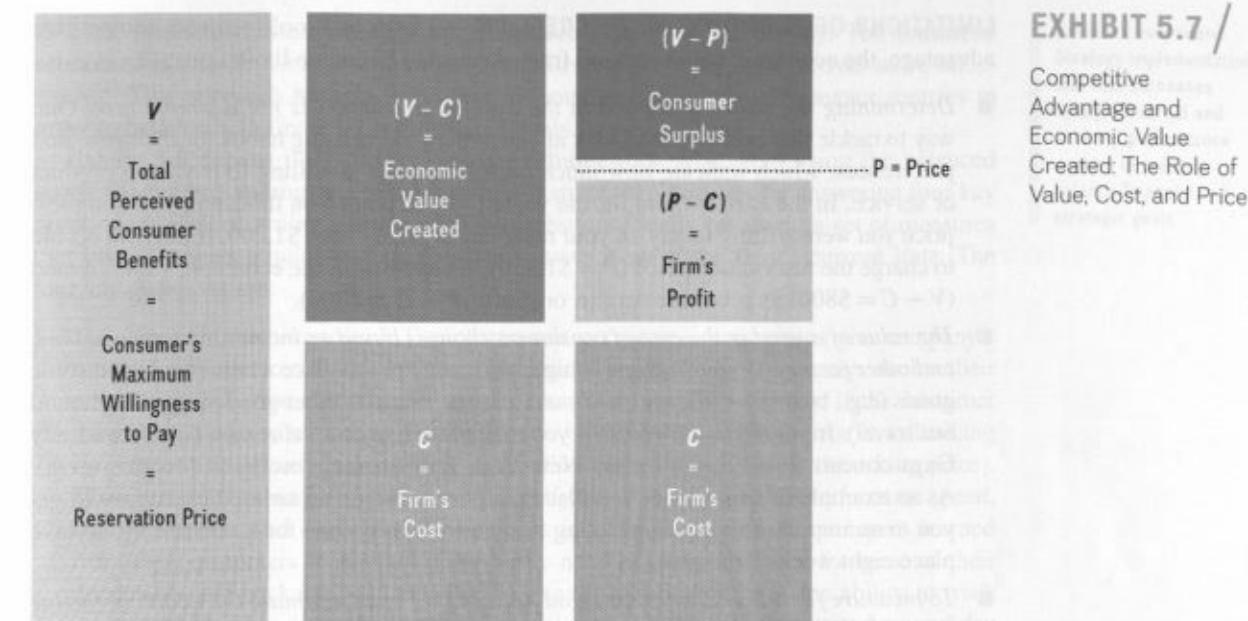
1. Creating economic value.
2. Capturing as much of it as possible.

In contrast to Apple, consider Amazon as a counter-example: It is creating a large amount of value for its customers, but it is not capturing much, if any, of it. Amazon has had several years of negative net income as it attempts to build a stronger position in a variety of businesses. Its cloud computing service offering, Amazon Web Services (AWS), for example, is creating huge value for the businesses that run its computing needs on AWS, businesses including Airbnb, Condé Nast, Comcast, Foursquare, HTC, NASA, Nokia, and Pfizer, but Amazon's "profit" margin is a negative 1 to 2 percent.<sup>21</sup> In this case, Amazon's customers are capturing the value that Amazon is creating.

Exhibit 5.7 illustrates how the components of economic value creation fit together conceptually. On the left side of the graph,  $V$  represents the total perceived consumer benefits, as captured in the consumer's maximum willingness to pay. In the lower part of the center bar,  $C$  is the cost to produce the product or service (the unit cost). It follows that the difference between the consumers' maximum willingness to pay and the firm's cost ( $V - C$ ) is the economic value created. The price of the product or service ( $P$ ) is indicated in the dashed line. The economic value created ( $V - C$ ), as shown in Exhibit 5.7, is split between producer and consumer: ( $V - P$ ) is the value the consumer captures (*consumer surplus*), and ( $P - C$ ) is the value the producer captures (*producer surplus, or profit*).

Competitive advantage goes to the firm that achieves the largest economic value created, which is the difference between  $V$ , the consumer's willingness to pay, and  $C$ , the cost to produce the good or service. The reason is that a large difference between  $V$  and  $C$  gives the firm two distinct pricing options: (1) It can charge higher prices to reflect the higher value and thus increase its profitability, or (2) it can charge the same price as competitors and thus gain market share. Given this, the strategic objective is to maximize ( $V - C$ ), or the economic value created.

Applying the notion of *economic value creation* also has direct implications for firm financial performance. Revenues are a function of the value created for consumers and the

**EXHIBIT 5.7 /**

Competitive Advantage and Economic Value Created: The Role of Value, Cost, and Price

**opportunity costs**  
The value of the best forgone alternative use of the resources employed.

price of the good or service, which together drive the volume of goods sold. In this perspective, profit ( $\Pi$ ) is defined as total revenues ( $TR$ ) minus total costs ( $TC$ ):

$$\Pi = TR - TC, \text{ where } TR = P \times Q, \text{ or price times quantity sold}$$

Total costs include both fixed and variable costs. *Fixed costs* are independent of consumer demand—for example, the cost of capital to build computer manufacturing plants or an online retail presence to take direct orders. *Variable costs* change with the level of consumer demand—for instance, components such as different types of display screens, microprocessors, hard drives, and keyboards.

Rather than merely relying on historical costs, as done when taking the perspective of *accounting profitability* (introduced earlier), in the *economic value creation* perspective, *all costs*, including *opportunity costs*, must be considered. **Opportunity costs** capture the value of the best forgone alternative use of the resources employed.

An entrepreneur, for example, faces two types of opportunity costs: (1) forgone wages she could be earning if she was employed elsewhere and (2) the cost of capital she invested in her business, which could instead be invested in, say, the stock market or U.S. Treasury bonds. At the end of the year, the entrepreneur considers her business over the last 12 months. She made an *accounting profit* of \$70,000, calculated as total revenues minus expenses, which include all historical costs but not opportunity costs. But she also realizes she has forgone \$60,000 in salary she could have earned as an employee at another firm. In addition, she knows she could have earned \$15,000 in interest if she had bought U.S. Treasury bills with a 2 percent return instead of investing \$750,000 in her business. The opportunity cost of being an entrepreneur was \$75,000 (\$60,000 + \$15,000). Therefore, when considering all costs, including opportunity costs, she actually experienced an economic loss of \$5,000 (\$75,000 - \$70,000). When considering her future options, she should stay in business only if she values her independence as an entrepreneur more than \$5,000 per year, or thinks business will be better next year.

**LIMITATIONS OF ECONOMIC VALUE CREATION** As with any tool to assess competitive advantage, the economic value creation framework also has some limitations:

- *Determining the value of a good in the eyes of consumers is not a simple task.* One way to tackle this problem is to look at consumers' purchasing habits for their revealed preferences, which indicate how much each consumer is willing to pay for a product or service. In the earlier example, the value ( $V$ ) you placed on the laptop—the highest price you were willing to pay, or your reservation price—was \$1,200. If the firm is able to charge the reservation price ( $P = \$1,200$ ), it captures all the economic value created ( $V - C = \$800$ ) as producer surplus or profit ( $P - C = \$800$ ).
- *The value of a good in the eyes of consumers changes based on income, preferences, time, and other factors.* If your income is high, you are likely to place a higher value on some goods (e.g., business-class air travel) and a lower value on other goods (e.g., Greyhound bus travel). In regard to preferences, you may place a higher value on a ticket for a Lady Gaga concert than on one for the New York Philharmonic orchestra (or vice versa). As an example of time value, you place a higher value on an airline ticket that will get you to an important business meeting tomorrow than on one for a planned trip to take place eight weeks from now.
- *To measure firm-level competitive advantage, we must estimate the economic value created for all products and services offered by the firm.* This estimation may be a relatively easy task if the firm offers only a few products or services. However, it becomes much more complicated for diversified firms such as General Electric or the Tata Group that may offer hundreds or even thousands of different products and services across many industries and geographies. Although the performance of individual strategic business units (SBUs) can be assessed along the dimensions described here, it becomes more difficult to make this assessment at the corporate level (more on this in our discussion of diversification strategy in Chapter 8).

The economic value creation perspective gives us one useful way to assess competitive advantage. This approach is conceptually quite powerful, and it lies at the center of many strategic management frameworks such as the generic business strategies (which we discuss in the next chapter). However, it falls somewhat short when managers are called upon to operationalize competitive advantage. When the need for "hard numbers" arises, managers and analysts frequently rely on firm financials such as *accounting profitability* or *shareholder value creation* to measure firm performance.

We've now completed our consideration of the three standard dimensions for measuring competitive advantage—accounting profitability, shareholder value, and economic value. Although each provides unique insights for assessing competitive advantage, one drawback is that they are more or less one-dimensional metrics. Focusing on just one performance metric when assessing competitive advantage, however, can lead to significant problems, because each metric has its shortcomings, as listed earlier. We now turn to two more conceptual and qualitative frameworks—the balanced scorecard and the triple bottom line—that attempt to provide a more holistic perspective on firm performance.

## THE BALANCED SCORECARD

Just as airplane pilots rely on a number of instruments to provide constant information about key variables—such as altitude, airspeed, fuel, position of other aircraft in the vicinity, and destination—to ensure a safe flight, so should managers rely on multiple yardsticks

LO 5-4

Apply a balanced scorecard to assess and evaluate competitive advantage.

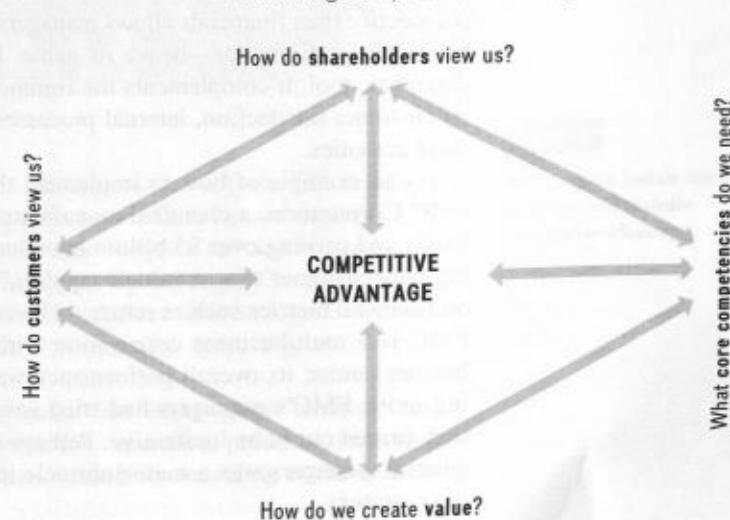
to more accurately assess company performance in an integrative way. The **balanced scorecard** is a framework to help managers achieve their strategic objectives more effectively.<sup>22</sup> This approach harnesses multiple internal and external performance metrics in order to balance both financial and strategic goals.

Exhibit 5.8 depicts the balanced-scorecard framework. Managers using the balanced scorecard develop appropriate metrics to assess strategic objectives by answering four key questions.<sup>23</sup> Brainstorming answers to these questions ideally results in a set of measures that give managers a quick but also comprehensive view of the firm's current state. The four key questions are:

1. *How do customers view us?* The customer's perspective concerning the company's products and services links directly to its revenues and profits. Consumers decide their reservation price for a product or service based on how they view it. If the customer views the company's offering favorably, she is willing to pay more for it, enhancing its competitive advantage (assuming production costs are well below the asking price). Managers track customer perception to identify areas to improve, with a focus on speed, quality, service, and cost. In the air-express industry, for example, managers learned from their customers that many don't really need next-day delivery for most of their documents and packages; rather what they really cared about was the ability to track the shipments. This discovery led to the development of steeply discounted second-day delivery by UPS and FedEx, combined with sophisticated real-time tracking tools online.
2. *How do we create value?* Answering this question challenges managers to develop strategic objectives that ensure future competitiveness, innovation, and organizational learning. The answer focuses on the business processes and structures that allow a firm to create economic value. One useful metric is the percentage of revenues obtained from new product introductions. For example, 3M requires that 30 percent of revenues must come from products introduced within the last four years.<sup>24</sup> A second metric, aimed at assessing a firm's external learning and collaboration capability, is to stipulate that a certain percentage of new products must originate from outside the firm's boundaries.<sup>25</sup> Through its Connect + Develop program, the consumer products company Procter & Gamble has raised the percentage of new products that originated (at least partly) from outside P&G, from 15 to 35 percent.<sup>26</sup>
3. *What core competencies do we need?* This question focuses managers internally, to identify the core competencies needed to achieve their objectives and the accompanying business processes that support, hone, and leverage those competencies. As mentioned in the last chapter, Honda's core competency is to design and manufacture small but powerful and highly reliable engines. Its business model is to find places to put its engines. Beginning with motorcycles in 1948, Honda nurtured this core competency over many decades and is leveraging it to reach stretch goals in the design, development, and manufacture of small airplanes.

## EXHIBIT 5.8

Balanced-Scorecard Approach to Creating and Sustaining Competitive Advantage



**balanced scorecard**  
Strategy implementation tool that harnesses multiple internal and external performance metrics in order to balance financial and strategic goals.

**Businesses have different perspectives on value creation.** General managers often focus on financial metrics such as return on invested capital (ROIC) and earnings per share. Marketing managers focus on customer satisfaction and market share. Manufacturing managers focus on cost reduction and efficiency. Financial managers focus on cash flow and dividends. These different perspectives can lead to conflicts in strategy implementation.

Today, consumers still value reliable, gas-powered engines made by Honda. If consumers start to value electric motors more because of zero emissions, lower maintenance costs, and higher performance metrics, among other possible reasons, the value of Honda's engine competency will decrease. If this happens, then Tesla's core competency in designing and building high-powered battery packs and electric drivetrains will become more valuable. In turn, Tesla might then be able to leverage this core competency into a strong strategic position in the emerging all-electric car and mobility industry.

4. *How do shareholders view us?* The final perspective in the balanced scorecard is the shareholders' view of financial performance (as discussed in the prior section). Some of the measures in this area rely on accounting data such as cash flow, operating income, ROIC, ROE, and, of course, total returns to shareholders. Understanding the shareholders' view of value creation leads managers to a more future-oriented evaluation.

By relying on both an internal and an external view of the firm, the balanced scorecard combines the strengths provided by the individual approaches to assessing competitive advantage discussed earlier: accounting profitability, shareholder value creation, and economic value creation.

**ADVANTAGES OF THE BALANCED SCORECARD** The balanced-scorecard approach is popular in managerial practice because it has several advantages. In particular, the balanced scorecard allows managers to:

- Communicate and link the strategic vision to responsible parties within the organization.
- Translate the vision into measurable operational goals.
- Design and plan business processes.
- Implement feedback and organizational learning to modify and adapt strategic goals when indicated.

The balanced scorecard can accommodate both short- and long-term performance metrics. It provides a concise report that tracks chosen metrics and measures and compares them to target values. This approach allows managers to assess past performance, identify areas for improvement, and position the company for future growth. Including a broader perspective than financials allows managers and executives a more balanced view of organizational performance—hence its name. In a sense, the balanced scorecard is a broad diagnostic tool. It complements the common financial metrics with operational measures on customer satisfaction, internal processes, and the company's innovation and improvement activities.

As an example of how to implement the balanced-scorecard approach, let's look at FMC Corporation, a chemical manufacturer employing some 5,000 people in different SBUs and earning over \$3 billion in annual revenues.<sup>27</sup> To achieve its vision of becoming “the customer's most valued supplier,” FMC's managers initially had focused solely on financial metrics such as return on invested capital (ROIC) as performance measures. FMC is a multibusiness corporation with several standalone profit-and-loss strategic business units; its overall performance was the result of both over- and underperforming units. FMC's managers had tried several approaches to enhance performance, but they turned out to be ineffective. Perhaps even more significant, short-term thinking by general managers was a major obstacle in the attempt to implement an effective business strategy.

Searching for improved performance, FMC's CEO decided to adopt a balanced-scorecard approach. It enabled the managers to view FMC's challenges and shortcomings from a holistic, company perspective, which was especially helpful to the general managers of different business units. In particular, the balanced scorecard allowed general managers to focus on market position, customer service, and new product introductions that could generate long-term value. Using the framework depicted in Exhibit 5.7, general managers had to answer tough follow-up questions such as: How do we become the customer's most valued supplier, and how can my division create this value for the customer? How do we become more externally focused? What are my division's core competencies and contributions to the company goals? What are my division's weaknesses?

Implementing a balanced scorecard allowed FMC's managers to align their different perspectives to create a more focused corporation overall. General managers now review progress along the chosen metrics every month, and corporate executives do so on a quarterly basis. Implementing a balanced-scorecard approach is not a onetime effort, but requires continuous tracking of metrics and updating of strategic objectives, if needed. It is a continuous process, feeding performance back into the strategy process to assess its effectiveness (see Chapter 2).

**DISADVANTAGES OF THE BALANCED SCORECARD** Though widely implemented by many businesses, the balanced scorecard is not without its critics.<sup>28</sup> It is important to note that the balanced scorecard is a tool for strategy *implementation*, not for strategy *formulation*. It is up to a firm's managers to formulate a strategy that will enhance the chances of gaining and sustaining a competitive advantage. In addition, the balanced-scorecard approach provides only limited guidance about which metrics to choose. Different situations call for different metrics. All of the three approaches to measuring competitive advantage—accounting profitability, shareholder value creation, and economic value creation—in addition to other quantitative and qualitative measures can be helpful when using a balanced-scorecard approach.

When implementing a balanced scorecard, managers need to be aware that a failure to achieve competitive advantage is not so much a reflection of a poor framework but of a strategic failure. The balanced scorecard is only as good as the skills of the managers who use it: They first must devise a strategy that enhances the odds of achieving competitive advantage. Second, they must accurately translate the strategy into objectives that they can measure and manage within the balanced-scorecard approach.<sup>29</sup>

Once the metrics have been selected, the balanced scorecard tracks chosen metrics and measures and compares them to target values. It does not, however, provide much insight into how metrics that deviate from the set goals can be put back on track.<sup>30</sup>

## THE TRIPLE BOTTOM LINE

Today, managers are frequently asked to maintain and improve not only the firm's economic performance but also its social and ecological performance. CEO Indra Nooyi responded by declaring PepsiCo's vision to be *Performance with Purpose* defined by goals in the social dimension (*human sustainability* to combat obesity by making its products healthier, and the *whole person at work* to achieve work/life balance) and ecological dimension (*environmental sustainability* in regard to clean water, energy, recycling, and so on), in addition to firm financial performance.

Being proactive along noneconomic dimensions can make good business sense. In anticipation of coming industry requirements for “extended producer responsibility,” which requires the seller of a product to take it back for recycling at the end of its

### LO 5-5

Apply a triple bottom line to assess and evaluate competitive advantage.

life, the German carmaker BMW was proactive. It not only lined up the leading car-recycling companies but also started to redesign its cars using a modular approach. The modular parts allow for quick car disassembly and reuse of components in the after-sales market (so-called refurbished or rebuilt auto parts).<sup>31</sup> Three dimensions—economic, social, and ecological—make up the **triple bottom line**, which is fundamental to a sustainable strategy. These three dimensions are also called the three Ps: profits, people, and planet:

- **Profits.** The *economic dimension* captures the necessity of businesses to be profitable to survive.
- **People.** The *social dimension* emphasizes the people aspect, such as PepsiCo's initiative of the *whole person at work*.
- **Planet.** The *ecological dimension* emphasizes the relationship between business and the natural environment.

**triple bottom line**  
Combination of economic, social, and ecological concerns—or profits, people, and planet—that can lead to a sustainable strategy.

**sustainable strategy**  
A strategy along the economic, social, and ecological dimensions that can be pursued over time without detrimental effects on people or the planet.

**business model**  
A firm's plan that details how it intends to make money.

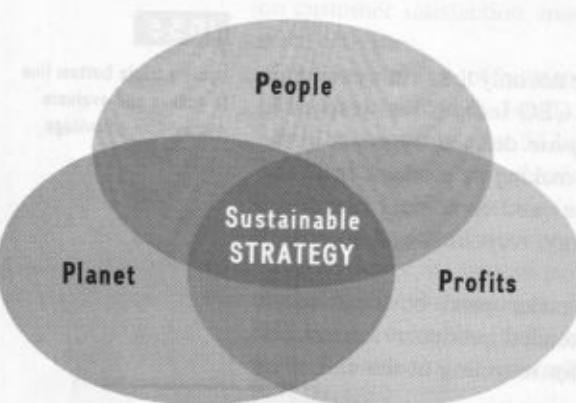
#### LO 5-6

Outline how business models put strategy into action.

#### EXHIBIT 5.9

##### Sustainable Strategy: A Focus on the Triple Bottom Line

The simultaneous pursuit of performance along social, economic, and ecological dimensions provides a basis for a triple-bottom-line strategy.



## 5.2 Business Models: Putting Strategy into Action

Strategy is a set of goal-directed actions a firm takes to gain and sustain superior performance relative to competitors or the industry average. The translation of strategy into action takes place in the firm's **business model**, which details the firm's competitive tactics and initiatives. Simply put, the firm's business model explains *how the firm intends to make money*. The business model stipulates how the firm conducts its business with its buyers, suppliers, and partners.<sup>32</sup>

How companies do business can sometimes be as important to gaining and sustaining competitive advantage as what they do. This also implies that *business model innovation* might be as important as product or process innovation.

## Strategy Highlight 5.1

### Interface: The World's First Sustainable Company

The Atlanta-based Interface Inc. is the world's largest manufacturer of modular carpet with annual sales of roughly \$1 billion. What makes the company unique is its strategic intent to become the world's first *fully sustainable* company. In 1994, founder Ray Anderson set a goal for the company to be "off oil" entirely by 2020. That included not using any petroleum-based raw materials or oil-related energy to fuel the manufacturing plants.

According to Collins and Porras in *Built to Last*, their classic study of high-performing companies over long periods of time, this is a "BHAG—a big hairy audacious goal." BHAGs are bold missions declared by visionary companies and are a "powerful mechanism to stimulate progress."<sup>33</sup> Weaning Interface off oil by 2020 is indeed a BHAG. Many see the carpet industry as an extension of the petrochemical industry, given its heavy reliance on fossil fuels and chemicals in the manufacturing, shipping, and installation of its products.

Today, Interface is not only the global leader in modular carpet but also in sustainability. The company

estimates that between 1996 and 2008, it saved over \$400 million due to its energy efficiency and use of recycled materials. Its business model is changing the carpet industry. Speaking of sustainability as a business model, Mr. Anderson concluded:

Sustainability has given my company a competitive edge in more ways than one. It has proven to be the most powerful marketplace differentiator I have known in my long career. Our costs are down, our profits are up, and our products are the best they have ever been. Sustainable design has provided an unexpected wellspring of innovation, people are galvanized around a shared higher purpose, better people are applying, the best people are staying and working with a purpose, the goodwill in the marketplace generated by our focus on sustainability far exceeds that which any amount of advertising or marketing expenditure could have generated—this company believes it has found a better way to a bigger and more legitimate profit—a better business model.<sup>34</sup>

Consider Netflix, the video-streaming service that allows people to watch movies and TV shows on almost any Internet-enabled device, such as a tablet, PC, TV, or smartphone. Netflix's business model is to grow its global user base as large as possible and then to monetize it via monthly subscription fees. The cost of establishing a large library of streaming content is more or less fixed, but the per unit cost falls drastically as more users join. Netflix has been hugely successful in attracting new users; as of spring 2015 it had more than 61 million subscribers worldwide. Yet, while providing a large selection of high quality online streaming is a necessity of the Netflix business model, this element can and has been easily duplicated by Amazon, Hulu, and premium services on YouTube.

To lock in its large installed base of users, however, Netflix has begun producing and distributing original content such as the hugely popular shows *House of Cards* and *Orange Is the New Black*. Netflix also releases all episodes of a new season of a series at once, allowing subscribers to watch what they want, when they want. This has given rise to the practice of "binge watching," where subscribers will dedicate a weekend to watching all episodes, rather than making a regular weekly time commitment to watch a particular show. This demonstrates that for a business model to be successful, it might need to consist of several reinforcing activities. Netflix remains a moving target for its competition, which allows it to monetize its large user base with monthly subscription fees. This has allowed Netflix to grow to over \$5 billion in annual revenues and \$35 billion in market cap, while producing a positive net income. The expectations are high that Netflix can further drive this business model to continue its success across the world.

To come up with an effective business model, a firm's managers first transform their strategy of how to compete into a blueprint of actions and initiatives that support the overarching goals. In a second step, managers implement this blueprint through structures, processes, culture, and procedures. If the company fails to translate a strategy into a profitable business model, the firm will run into trouble.

Take Zipcar, a member-based car-sharing company.<sup>38</sup> Zipcar came up with a new business model: It allowed its members to rent a vehicle online that was already in their vicinity for a few hours or a day. Users were charged for the duration of the use of the car, and gas and insurance are included in the rental fees. Zipcar appealed to urban dwellers and Millennials who prefer not to own a vehicle but need a car on occasion. The Zipcar member just paid for the service of access to a car as needed. The downside of Zipcar's business model is that it required a large amount of up-front investment to build the rental car fleet. Although Zipcar excelled in customer experience and technology, it was unable to obtain the capital necessary to scale its operation to be profitable. Given low barriers to imitation, numerous competitors have sprung up. The first competitors to Zipcar included traditional car rental companies and others that created Zipcar clones such as Hertz on Demand, Enterprise's WeCar, U-Haul's U Car Share, Avis On Location, and Daimler's Car2Go. Regional competitors also entered the industry, including City CarShare in the San Francisco Bay Area, I-GO in Chicago, and Mint in New York and Boston. Perhaps the most powerful competitors to Zipcar, however, were those that required no capital investment by the provider—ride-sharing services Uber, Lyft, and Sidecar. As a consequence, Zipcar's stock price fell rapidly. Zipcar was eventually acquired by rental car company Avis, which planned to combine its vast rental fleet with Zipcar's mobile technology and customer experience.

Often business model innovation combines new ideas with information technology. The sharing economy, for example, leverages information technology and Internet connectivity to offer peer-to-peer rental services such as ride sharing (Uber or Lyft), car rental (RelayRides), house cleaning (Handy), or someone running errands for you (TaskRabbit). Strategy Highlight 5.2 shows how Airbnb's business model revolutionized the hospitality and travel business.

## Strategy Highlight 5.2

### Airbnb: Tapping the Value of Unused Space

In 2007, the then unemployed Brian Chesky and Joe Gebbia became roommates in San Francisco. They could not afford their rent payments and had extra space and some inflatable mattresses in their loft. They decided to try renting out space on the mattresses and serving guests breakfast. After they got a few paying guests, they brought on web architect Nathan Blecharczyk to create a smooth web interface. They named the website "Air Bed and Breakfast," later shortened to Airbnb. The launch of their startup was timed to take advantage of the anticipated shortage of hotel rooms in Denver, Colorado, the site of the Democratic Party national convention in the summer of 2008.

After struggling initially, the Airbnb founders quickly realized that attractive photographs were the key to spaces being

rented. The founders created a system whereby a professional photographer would take high-quality photographs of the location at no cost to the owner. Airbnb also streamlined the payment process between hosts and guests, profiting from a fee on the transaction. As a first mover in the peer-to-peer rental industry, Airbnb grew quickly. It also garnered fame and rave reviews for its unique accommodation offerings, including an airplane fuselage in Costa Rica, a chateau in France, a tree house in California, a cave in Spain, a windmill in Greece, and even a private island in Fiji.

Airbnb has allowed spaces that previously would have been unused to generate revenue, while also dramatically increasing the potential amount of accommodation space in the 191 countries (including Afghanistan, Cuba, and Iraq) where it has listings. As a result of a unique business model innovation, by spring 2015 Airbnb was valued at \$20 billion.<sup>39</sup>

## POPULAR BUSINESS MODELS

Given their critical importance to achieving competitive advantage, business models are constantly evolving. Below we will discuss the some of the more popular business models:<sup>40</sup>

- **Razor-razorblades**
- **Subscription**
- **Pay as you go**
- **Freemium**
- **Wholesale**
- **Agency**
- **Bundling**

Understanding the more popular business models today will increase the tools in your strategy toolkit.

- **Razor-razorblades.** The initial product is often sold at a loss or given away for free in order to drive demand for complementary goods. The company makes its money on the replacement part needed. As you might guess, it was invented by Gillette, which gave away its razors and sold the replacement cartridges for relatively high prices. The razor-razorblade model is found in many business applications today. For example, HP charges little for its laser printers but imposes high prices for its replacement toner cartridges.
- **Subscription.** The subscription model has been traditionally used for (print) magazines and newspapers. Users pay for access to a product or service whether they use the product or service during the payment term or not. Industries that use this model presently are cable television, cellular service providers, satellite radio, Internet service providers, and health clubs. Above we discussed Netflix, which uses a subscription model.
- **Pay as you go.** In the *pay-as-you-go business model*, users pay for only the services they consume. The pay-as-you-go model is most widely used by utilities providing power and water and cell phone service plans, but it is gaining momentum in other areas such as rental cars (e.g., Zipcar) and cloud computing. News providers such as *The New York Times* and *The Wall Street Journal* have created "pay walls" as a pay-as-you-go option.
- **Freemium.** The *freemium (free + premium) business model* provides the basic features of a product or service *free* of charge, but charges the user for *premium* services such as advanced features or add-ons.<sup>41</sup> For example, companies may provide a minimally supported version of their software as a trial (e.g., business application or video game) to give users the chance to try the product. Users later have the option of purchasing a supported version of software, which includes a full set of product features and product support.
- **Wholesale.** The traditional model in retail is called a wholesale model. Let's look at the book publishing industry as an example. Under the wholesale model, book publishers would sell books to retailers at a fixed price (usually 50 percent below the recommended retail price). Retailers, however, were free to set their own price on any book and profit from the difference between their selling price and the cost to buy the book from the publisher (or wholesaler).
- **Agency.** In this model the producer relies on an agent or retailer to sell the product, at a predetermined percentage commission. Sometimes the producer will also control the retail price. The agency model was long used in the entertainment industry, where agents place artists or artistic properties and then take their commission. More recently we see this approach at work in a number of online sales venues, as in Apple's pricing of book products or its app sales. (See further discussion following.)

■ **Bundling.** The bundling business model sells products or services for which demand is negatively correlated *at a discount*. Demand for two products is negatively correlated if a user values one product more than another. In the Microsoft Office Suite, a user might value Word more than Excel and vice versa. Instead of selling both products for \$120 each, Microsoft bundles them in a suite and sells them combined at a discount, say \$180. This bundling strategy allowed Microsoft to become the number-one provider of all major application software packages such as word processing, spreadsheets, slide show presentation, and so on. Before its bundling strategy, Microsoft faced strong competition in each segment. Indeed, Word Perfect was outselling Word, Lotus 1-2-3 was outselling Excel, and Harvard Graphics was outselling PowerPoint. The problem for Microsoft's competitors was that they did not control the operating system (Windows), which made their programs less seamless on this operating system. In addition, the competitor products to Microsoft were offered by three independent companies, so they lacked the option to bundle them at a discount.

### DYNAMIC NATURE OF BUSINESS MODELS

Business models evolve dynamically, and we can see many combinations and permutations. Sometimes business models are tweaked to respond to disruptions in the market, efforts that can conflict with fair trade practices and may even prompt government intervention.

**COMBINATION.** Telecommunications companies such as AT&T or Verizon, to take one industry, combine the *razor-razorblade* model with the *subscription* model. They provide a basic cell phone at no charge, or significantly subsidize a high-end smartphone, when you sign up for a two-year wireless service plan. Telecom providers recoup the subsidy provided for the smartphone by requiring customers to sign up for lengthy service plans. This is why it is so critical for telecom providers to keep their *churn rate*—the proportion of subscribers that leave, especially before the end of the contractual term—as low as possible.

**EVOLUTION.** The freemium business model can be seen as an evolutionary variation on the *razor-razorblade* model. The base product is provided free, and the producer finds other ways to monetize the usage. The freemium model is used extensively by open-source software companies (e.g., Red Hat), mobile app companies, and other Internet businesses. Many of the free versions of applications include advertisements to make up for the cost of supporting nonpaying users. In addition, the paying premium users subsidize the free users. The freemium model is often used to build a consumer base when the marginal cost of adding another user is low or even zero (such as in software sales). Many online video games, including massive multiplayer online games and app-based mobile games, follow a variation of this model, allowing basic access to the game for free, but charging for power-ups, customizations, special objects, and similar things that enhance the game experience for users.

**DISRUPTION.** When introducing the agency model, we mentioned Apple and book publishing, and you may already know how severely Amazon disrupted the traditional wholesale model for publishers. Amazon took advantage of the pricing flexibility inherent in the wholesale model and offered many books (especially e-books) below the cost that other retailers had to pay to publishers. In particular, Amazon would offer newly released bestsellers, such as Dan Brown's novels, for \$9.99 to promote its Kindle e-reader. Publishers and other retailers strongly objected because Amazon's retail price was lower than the wholesale price paid by retailers competing with Amazon. Moreover, the \$9.99 e-book offer by Amazon made it untenable for other retailers to continue to charge \$28.95 for newly released hardcover books (for which they had to pay \$14 to \$15 to the publishers). With its aggressive pricing, Amazon not only devalued the printed book, but also lost money on every book it sold. It did this to increase the number of users of its Kindle e-readers and tablets.

**RESPONSE TO DISRUPTION.** The market is dynamic, and in the above example, book publishers looked for another model. Many book publishers worked with Apple on an agency approach, in which the publishers would set the price for Apple and receive 70 percent of the revenue, while Apple received 30 percent. The approach is similar to the Apple App Store pricing model for iOS applications in which developers set a price for applications and Apple retains a percentage of the revenue.

Use of the agency model was intended to give publishers the leverage to raise e-book prices for retailers. Under the agency model, publishers could increase their e-book profits and price e-book more closely to prices of print books. Publishers inked their deals with Apple, but how could they get Amazon to play ball? For leverage, publishers withheld new releases from Amazon. This forced Amazon to raise prices on newly released e-books in line with the agency model to around \$14.95.

**LEGAL CONFLICTS.** The rapid development of business models, especially in response to disruption, can lead producers to breach existing rules of commerce. In the above example, the publishers' response prompted an antitrust investigation. In 2012 the Department of Justice determined that Apple and major publishers had conspired to raise prices of e-books. To settle the legal action, each publisher involved negotiated new deals with retailers, including Amazon. A year later, Apple was found guilty of colluding with several major book publishers to fix prices on e-books and had to change its agency model.<sup>42</sup>

### 5.3 ► Implications for the Strategist

In this chapter, we discussed how to measure and assess competitive advantage using three traditional approaches: accounting profitability, shareholder value creation, and economic value creation. We then introduced two conceptual frameworks to help us understand competitive advantage in a more holistic fashion: the balanced scorecard and the triple bottom line. Exhibit 5.10 summarizes the concepts discussed.

Several managerial implications emerged from our discussion of competitive advantage and firm performance:

- No *best* strategy exists—only *better* ones (better in comparison with others). We must interpret any performance metric relative to those of competitors and the industry average. True performance can be judged only in comparison to other contenders in the field or the industry average, not on an absolute basis.
- The goal of strategic management is to integrate and align each business function and activity to obtain superior performance at the business unit and corporate levels. Therefore, competitive advantage is best measured by criteria that reflect *overall business unit performance* rather than the performance of specific departments. For example, although the functional managers in the marketing department may (and should) care greatly about the success or failure of their recent ad campaign, the *general manager* cares most about the performance implications of the ad campaign at the business unit level for which she has profit-and-loss responsibility. Metrics that aggregate upward and reflect overall firm and corporate performance are most useful to assess the effectiveness of a firm's competitive strategy.
- Both *quantitative* and *qualitative* performance dimensions matter in judging the effectiveness of a firm's strategy. Those who focus on only one metric will risk being blindsided by poor performance on another. Rather, managers need to rely on a more holistic perspective when assessing firm performance, measuring different dimensions over different time periods.
- A firm's business model is critical to achieving a competitive advantage. How a firm does business is as important as what it does.

This concludes our discussion of competitive advantage, firm performance, and business models, and completes Part 1—strategy analysis—of the AFI framework. In Part 2, we turn our attention to the next steps in the AFI framework—strategy formulation. In Chapters 6 and 7, we focus on business strategy: *How should the firm compete (cost leadership, differentiation, or value innovation)?* In Chapters 8 and 9, we study corporate strategy: *Where should the firm compete (industry, markets, and geography)?* Chapter 10 looks at global strategy: *How and where (local, regional, national, and international) should the firm compete around the world?*

#### EXHIBIT 5.10 / How Do We Measure and Assess Competitive Advantage?

##### **Competitive advantage is reflected in superior firm performance.**

- We always assess competitive advantage *relative* to a benchmark, either using competitors or the industry average.
- Competitive advantage is a multifaceted concept.
- We can assess competitive advantage by measuring accounting profit, shareholder value, or economic value.
- The balanced-scorecard approach harnesses multiple internal and external performance dimensions to balance a firm's financial and strategic goals.
- More recently, competitive advantage has been linked to a firm's triple bottom line, the ability to maintain performance in the economic, social, and ecological contexts (profits, people, planet) to achieve a sustainable strategy.

#### CHAPTERCASE 5 / Consider This...\*

**GIVEN MICROSOFT'S LACKLUSTER** performance since 2000, the once dominant company is now in turnaround mode. Over time, its competitive advantage turned into a competitive disadvantage, lagging behind Apple by a wide margin. Satya Nadella's strategic focus is to move Microsoft away from its Windows-only business model to compete more effectively in a "mobile-first, cloud-first world," the mantra he used in his appointment e-mail as CEO. Under his leadership, Microsoft made the Office Suite available on Apple iOS and Android mobile devices. Office 365, its cloud-based software offering, is now available as a subscription service starting at \$6.99 per month for personal use and \$69.99 for business use. Software applications can be accessed on any device, any time, with online storage, combined with Skype's global calling feature. Yet, Nadella needs to work hard to ensure Microsoft's future viability since Windows and Office were cash cows for so long. They are still generating almost half of revenues and some 60 percent of profits, but both continue to decline. The problem he faces is that the gross margin of "classic" PC-based Office is an astronomical 90 percent (due to Microsoft's "monopoly" position), while the gross margin for Office 365 is only around 50 percent. The cloud

computing space with Google, Amazon, Apple, IBM, and others is fiercely competitive.<sup>43</sup>



##### Questions

1. Why is it so hard to gain a competitive advantage? Why is it even harder to sustain a competitive advantage?
2. Looking at the different ways to assess competitive advantage discussed in this chapter, does Apple have a competitive advantage over Microsoft using any of the approaches? Why or why not? In which approach is Microsoft looking "the best"? Explain.
3. Microsoft's new CEO, Satya Nadella, has made drastic changes to Microsoft's strategy. What was Microsoft's strategy before Nadella was appointed CEO? What is it now under his leadership? Do you agree that Nadella has formulated a promising strategy? Why or why not?
4. How much longer do you think Apple can sustain its competitive advantage (not just over Microsoft, but in general)? Explain.

\*A strategic financial analysis exercise related to this ChapterCase is available in Connect.

#### TAKE-AWAY CONCEPTS

This chapter demonstrated three traditional approaches for assessing and measuring firm performance and competitive advantage, as well as two conceptual frameworks designed to provide a more holistic, albeit more qualitative, perspective on firm performance. We also discussed the role of business models in translating a firm's strategy into actions.

##### **LO 5-1 / Conduct a firm profitability analysis using accounting data to assess and evaluate competitive advantage.**

- To measure competitive advantage, we must be able to (1) accurately assess firm performance, and (2) compare and benchmark the focal firm's performance to other competitors in the same industry or the industry average.
- To measure accounting profitability, we use standard metrics derived from publicly available accounting data.
- Commonly used profitability metrics in strategic management are *return on assets (ROA)*, *return on equity (ROE)*, *return on invested capital (ROIC)*, and *return on revenue (ROR)*. See the key financial ratios in five tables in the "How to Conduct a Case Analysis" guide.
- All accounting data are historical and thus backward-looking. They focus mainly on tangible assets and do not consider intangibles that are hard or impossible to measure and quantify, such as an innovation competency.

##### **LO 5-2 / Apply shareholder value creation to assess and evaluate competitive advantage.**

- Investors are primarily interested in total return to shareholders, which includes stock price appreciation plus dividends received over a specific period.
- Total return to shareholders is an external performance metric; it indicates how the market views all publicly available information about a firm's past, current state, and expected future performance.
- Applying a shareholders' perspective, key metrics to measure and assess competitive advantage are the return on (risk) capital and market capitalization.
- Stock prices can be highly volatile, which makes it difficult to assess firm performance. Overall macroeconomic factors have a direct bearing on

stock prices. Also, stock prices frequently reflect the psychological mood of the investors, which can at times be irrational.

- Shareholder value creation is a better measure of competitive advantage over the *long term* due to the "noise" introduced by market volatility, external factors, and investor sentiment.

##### **LO 5-3 / Explain economic value creation and different sources of competitive advantage.**

- The relationship between economic value creation and competitive advantage is fundamental in strategic management. It provides the foundation upon which to formulate a firm's competitive strategy of cost leadership or differentiation.
- Three components are critical to evaluating any good or service: value (*V*), price (*P*), and cost (*C*). In this perspective, cost includes opportunity costs.
- Economic value created is the difference between a buyer's willingness to pay for a good or service and the firm's cost to produce it (*V - C*).
- A firm has a competitive advantage when it is able to create more economic value than its rivals. The source of competitive advantage can stem from higher perceived value creation (assuming equal cost) or lower cost (assuming equal value creation).

##### **LO 5-4 / Apply a balanced scorecard to assess and evaluate competitive advantage.**

- The balanced-scorecard approach attempts to provide a more integrative view of competitive advantage.
- Its goal is to harness multiple internal and external performance dimensions to balance financial and strategic goals.
- Managers develop strategic objectives for the balanced scorecard by answering four key questions: (1) How do customers view us? (2) How do we create value? (3) What core competencies do we need? (4) How do shareholders view us?

##### **LO 5-5 / Apply a triple bottom line to assess and evaluate competitive advantage.**

- Noneconomic factors can have a significant impact on a firm's financial performance, not to mention its reputation and customer goodwill.

- Managers are frequently asked to maintain and improve not only the firm's economic performance but also its social and ecological performance.
- Three dimensions—economic, social, and ecological, also known as *profits, people, and planet*—make up the triple bottom line. Achieving positive results in all three areas can lead to a sustainable strategy—a strategy that can endure over time.
- A sustainable strategy produces not only positive financial results, but also positive results along the social and ecological dimensions.
- Using a triple-bottom-line approach, managers audit their company's fulfillment of its social and ecological obligations to stakeholders such as employees, customers, suppliers, and communities in as serious a way as they track its financial performance.
- The triple-bottom-line framework is related to stakeholder theory, an approach to understanding

## KEY TERMS

Balanced scorecard (p. 157)	Opportunity costs (p. 155)	Shareholders (p. 149)
Business model (p. 160)	Producer surplus (p. 153)	Sustainable strategy (p. 160)
Consumer surplus (p. 153)	Profit (p. 153)	Total return to shareholders (p. 149)
Economic value created (p. 151)	Reservation price (p. 151)	Triple bottom line (p. 160)
Market capitalization (p. 149)	Risk capital (p. 149)	Value (p. 153)

## DISCUSSION QUESTIONS

1. Domino's Pizza has been in business over 50 years and claimed to be "#1 Worldwide in Pizza Delivery" in 2013. Visit the company's business-related website ([www.dominosbiz.com](http://www.dominosbiz.com)) and read the company profile under the "Investors" tab. Does the firm focus on the accounting, shareholder, or economic perspective in describing its competitive advantage in the profile?
2. For many people, the shareholder perspective is perhaps the most familiar measure of competitive advantage for publicly traded firms. What are some of the disadvantages of using shareholder value as the sole point of view for defining competitive advantage?
3. Interface, Inc., is discussed in Strategy Highlight 5.1. It may seem unusual for a business-to-business carpet company to be using a triple-bottom-line approach for its strategy. What other industries do you think could productively use this approach? How would it change customers' perceptions if it did?
4. The chapter highlights several firms that are developing business models around a "sharing economy." The idea being that assets not currently in use by their owners (cars, car seats, homes, rooms, etc.) can be rented to (shared with) others. What other industries can you think of that can be disrupted by this new business model? Where do you see "excess" space or other assets that could perhaps be utilized more efficiently?

a firm as embedded in a network of internal and external constituencies that each make contributions and expect consideration in return.

### LO 5-6 / Outline how business models put strategy into action.

- The translation of a firm's strategy (*where and how to compete for competitive advantage*) into action takes place in the firm's business model (*how to make money*).
- A business model details how the firm conducts its business with its buyers, suppliers, and partners.
- How companies do business is as important to gaining and sustaining competitive advantage as what they do.
- Some important business models include *razor-razorblade*, *subscription*, *pay as you go*, and *freemium*.

## ETHICAL/SOCIAL ISSUES

1. You work as a supervisor in a manufacturing firm. The company has implemented a balanced-scorecard performance-appraisal system and a financial bonus for exceeding goals. A major customer order for 1,000 units needs to ship to a destination across the country by the end of the quarter, which is two days away from its close. This shipment, if it goes well, will have a major impact on both your customer-satisfaction goals and your financial goals.

With 990 units built, a machine breaks. It will take two days to get the parts and repair the machine. You realize there is an opportunity to load the finished units on a truck tomorrow with paperwork for the completed order of 1,000 units. You can have an employee fly out with the 10 remaining parts and meet the truck at the destination city once the machinery has been repaired. The 10 units can be added to the pallet and

delivered as a complete shipment of 1,000 pieces, matching the customer's order and your paperwork. What do you do?

2. The chapter mentions that accounting data do not consider off-balance sheet items. A retailer that owns its stores will list the value of that property as an asset, for example, while a firm that leases its stores will not. What are some of the accounting and shareholder advantages of leasing compared to owning retail locations?
3. How do the perspectives on competitive advantage differ when comparing brick-and-mortar stores to online businesses (e.g., Best Buy vs. Amazon, Barnes & Noble vs. Amazon, The Gap vs. Threadless (noted in Strategy Highlight 1.1), Nordstrom vs. Zappos, and so on)? Make recommendations to brick-and-mortar stores as to how they can compete more effectively with online firms. What conclusions do you draw?

## SMALL GROUP EXERCISES

### /// Small Group Exercise 1

As discussed in the chapter, a balanced scorecard views the performance of an organization through four lenses: customer, innovation and learning, internal business, and financial. According to surveys from Bain & Company (a consulting firm), in recent years about 60 percent of firms in both public and private sectors have used a balanced scorecard for performance measures.<sup>44</sup>

With your group, create a balanced scorecard for the business school at your university. You might start by looking at your school's web page for a mission or vision statement. Then divide up the four perspectives among the team members to develop key elements for each one. It may be helpful to remember the four key balanced-scorecard questions from the chapter:

1. How do customers view us? (Hint: First discuss the following: Who are the customers? The students? The companies that hire students? Others?)
2. How do we create value?
3. What core competencies do we need?
4. How do shareholders view us? (For public universities, the shareholders are the taxpayers who

invest their taxes into the university. For private universities, the shareholders are the people or organizations that endow the university.)

### /// Small Group Exercise 2

At the next big family gathering, you want to impress your grandparents with the innovative ideas you have learned in business school. They have decades of experience in investing in the stock market and, from their college days, believe that economic profitability is a business's primary responsibility. You would like to convince them that a triple-bottom-line approach is the modern path to stronger economic performance. With your group members, prepare a casual yet informative speech that you can use to persuade them. They probably will not listen for more than two minutes, so you know you have to be clear and concise with interesting examples. You may want to reinforce your argument by consulting "The Bottom Line of Corporate Good," published in *Forbes*.<sup>45</sup> Present your speech in whatever way your instructor requests—to your group, the entire class, or post a video on YouTube.