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# The Competitive Environment

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## *Learning Objectives*

Upon completing this chapter, you should be able to:

- Identify the structural characteristics of the environment faced by the firm and how these drivers influence both competition and value creation
  - Choose the appropriate level of specificity in environmental analysis, depending on the locus of the decision-making group
  - Predict how changes occurring in the environment might influence future competition and value creation
  - Incorporate understanding of environmental changes into the development of strategy
  - Consider options for influencing changes in the firm's environment so as to improve future value creation
  - Analyze customers and competitors to develop a competitive advantage and strategy
  - Appreciate that strategy is realized in the future: decisions are made now but their realization occurs in the future
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In late 2000, GE proposed to take over Honeywell. Both these firms are U.S.-based, and the value of the merger was \$USB42. But a merger between two such large firms has global implications and ramifications. Although the U.S. Federal Trade Commission (FTC) had approved the merger, the European Union (EU) decided to oppose it on the grounds that it had the potential to reduce competition in Europe. Its concern was that GE's strong position in the manufacture of jet engines and its ability to offer finance, if added to Honeywell's aviation electronic business, would allow the merged entity to bundle their products together. This bundling would, in the view of the European Commission, amount to unfair competition.

At the center of the objection is the fact that GE owns a company, Gecas, which is an aircraft-leasing firm. In 2001, Gecas owned 790 aircraft, which it leased to airlines, and managed another 321 aircraft for other investors. The concern of the European Commission was that since GE owned this firm, there was the potential for Gecas customers to be forced to purchase GE engines and/or Honeywell electronics. GE's response to the rejection was to offer to put 19.9% of Gecas up for private placement, with this portion worth possibly \$USB1.4. Since GE would still own 80.1%, it would maintain the ability to consolidate Gecas earnings.<sup>1</sup>

In the face of continued opposition from the EU, GE decided not to pursue the merger.

This example emphasizes that managers of global firms must recognize that they operate in multiple countries and that their strategy will be influenced by global as well as domestic considerations. Both GE and Honeywell are U.S. firms, and the U.S. Federal Trade Commission had approved the proposed merger. Nonetheless, the merger did not go ahead due to European Union opposition. Globalization adds a degree of complexity to decision making, and managers responsible for strategy development and implementation must understand this complexity. The example also illustrates how rapidly the business environment might change, shortening the life of a given strategy. Strategy must be reconfigured more frequently to reflect these changes.

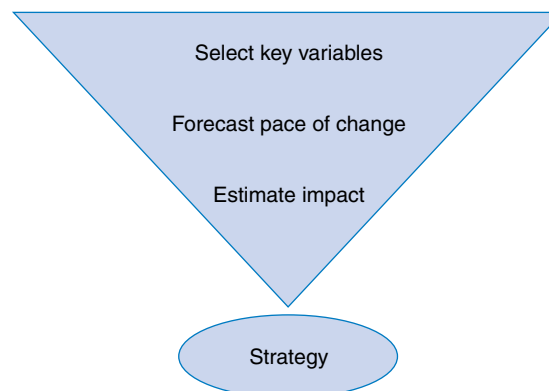
The EU decision may also have been influenced by considerations independent of the proposed merger, such as decisions by U.S. antitrust authorities on mergers between European firms. However, both the firm and its competitors could influence external changes. GE and its European competitors were active participants in this process, lobbying their respective national governments in an attempt to influence the outcome. Finally, as a consequence of the EU decision, GE is likely to have to significantly change its strategy regarding aircraft engine and related businesses.

### 3.1 INTRODUCTION

The external environment faced by the firm and its business units affects the strategy of the firm, the value of the strategy, and thus the firm's performance. Environmental analysis is therefore not a passive exercise, but rather an active and essential input to strategy development, helping the firm and its business units identify attractive opportunities and make decisions on where and how to compete.

The drivers of change are for the most part external to the firm. As the global economy entered the new century, changes were taking place on multiple fronts at a very fast pace. Some of these changes made traditional business models and tools outdated, changing the rules for existing competitors and challenging the assumptions of others, both new and old. In this chapter we review some approaches that can guide us as we wrestle with the challenges of developing strategy in this fast-changing environment.

Strategy development requires the firm to understand what critical variables are changing, the pace at which these changes are occurring, and their likely impact on the firm, as illustrated in Figure 3.1.



**Figure 3.1** Process of Environmental Analysis

### Select Key Variables

First, managers need to select the key variables that can affect their firm or business. What these are will depend on the firm and the judgment, knowledge, and intuition of the senior managers in identifying what is relevant. Consider, for example, forecasting the demand for automobiles. Knowledge of such variables as household income, interest rates, and consumer confidence would probably be very helpful. On the other hand, in forecasting the demand for baby food, the birth rate would be a key explanatory variable. So what is relevant and important depends on the business concerned.

### Forecast Changes

Second, we need to estimate, or forecast, the nature and pace of these changes. If forecast changes are likely to occur in the distant future, we may just monitor. Continuing the baby food example, birth rates in much of the world are declining. This is a relatively slow process, occurring over many years, so while its impact in any year is relatively minor, its long-term impact is substantial. Other changes, such as those in data storage and communications, are occurring very rapidly, so the firm's response must be more immediate. In some industries the problem is to identify points of discontinuity, times when change is occurring very rapidly. Innovations such as the PC or electronic funds transfer, which generate entire new industries and place established firms under considerable pressure, are examples.<sup>2</sup> In addition, some of these changes, such as population growth, will be relatively easy to forecast while others, such as changes to the Russian legal system, are much less predictable.

### Estimate the Impact of the Changes

Finally, we need to estimate the potential impact of these changes on the firm. Some changes will have a major impact, some a very minor one. The firm should allocate its environmental scanning resources toward those changes that have both a high probability of occurring within the relevant time horizon and a major impact on strategy. A variety of forecasting techniques may assist in this process. For example, in dealing with the trend changes of the type discussed in Chapter 1, times series and regression models can prove very helpful.<sup>3</sup>

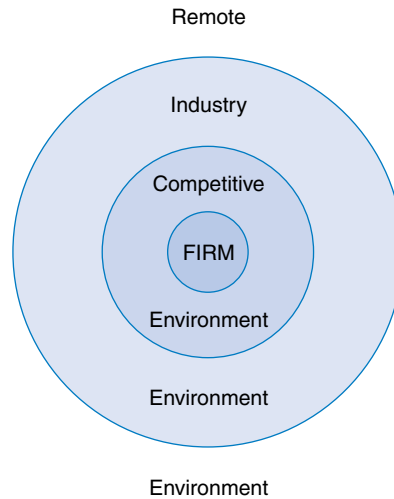
The reason for trying to understand the changing world is that strategy and strategic decisions are realized in the future, not the present. Strategic decisions are made now, but their implications are not realized until the future.

*The success or otherwise of a strategy depends not on the state of the world today but on the state of the world in the future.*

In analyzing the external environment faced by a firm or a business unit, we distinguish three levels, designated as the *remote*, *industry*, and *competitive* environment, as shown in Figure 3.2. Successful strategy development requires an understanding of changes at all three levels.

**Remote environment:** The broad social/technical/economic environment in which the firm competes. This environment is global in nature, exerts a powerful influence on strategy, and in many instances is slow-acting. Due to the breadth of these changes, they can be expected to affect a number of industries.

**Industry environment:** Changes that impact on all competitors in a specific industry. Examples are changes in entry barriers from changing government regulations,



**Figure 3.2** Environmental Analysis

technology, or the development of substitute products. Such changes influence all firms in the industry, possibly in different ways.

**Competitive environment:** Changes in customers and direct competitors that influence the competitive strategy of the business unit, such as the development of new products by competitors, the emergence of new channels of distribution, and the rise of new customer values.

Which level of analysis is required depends on the level of strategy that we are considering, corporate or business unit, as shown in Figure 3.3.

Strategy level	Analysis level	What analyzed	Strategic decisions
<b>Corporate</b>	Remote	Broad environmental trends affecting all business units	New opportunities, resource allocation among SBU's
	Industry	Structural changes in the industry	Resource allocation
<b>Business unit</b>	Remote	Environmental trends influencing the specific SBU	Competitive strategy
	Industry	Suppliers, entrants, substitutes	Competitive strategy
	Product/market	Customers, competitors	Competitive advantage

**Figure 3.3** Levels of Environmental Analysis

When developing *corporate-level* strategy, key decisions are which businesses should the corporation be in, what should be its geographic scope, and how resources should be allocated among the business units. At the corporate level, analysis will generally be undertaken at two levels, the broad remote level and an analysis of developments in each industry in which the firm competes. Flowing from the remote analysis is a better understanding of major threats to the firm or opportunities that it may wish to pursue. For example, the firm may decide to move a substantial element of its manufacturing offshore to China. Since it is likely that such an investment may take several years to become profitable, the decision must incorporate a view on a number of broad economic variables, such as political stability in China and future exchange rates. Industry analysis is undertaken at the corporate level to ensure that the corporate level has a sound understanding of the attractiveness of the industries in which its various business units compete and thus can form a view on prospective profit levels of its businesses. Such decisions, whether to enter new businesses or to commit major resources to an existing industry, must be based on anticipated results for many years into the future, possibly as long as 5 to 10 years. The firm must have a view of the future before it can commit these resources, even if there is considerable uncertainty.

*Business-unit* managers need to undertake analysis at all three levels. Strategy for a given business unit will be influenced by certain developments in the remote environment, although which elements are critical will depend on the specific business unit. They must also understand changes specific to their industry. As we have noted, a business unit must create value, with revenue greater than its costs. But it is possible for the industry structure to be such that while the firm creates value, it cannot capture that value for itself. If the business is in an extremely competitive industry, buyers may capture all the value, with all productivity improvements and cost reductions passed on to customers. Alternatively, it may be that a firm in another industry has developed a substitute product with price/performance characteristics that will have a major impact on the revenue, and thus profitability, of the business. Thus an understanding of the nature of the industry, and how this is changing, is essential in developing strategy at the business-unit level.

Strategy at the business-unit level is interlinked with the concept of competitive advantage and should focus on developing such an advantage. This requires a detailed understanding of customer needs and how these differ across customer segments, how these needs are changing, and likely future strategies of competitors.

We begin this chapter with a review of the broader or remote environment and the various forces at work therein. We then focus on the more immediate industry environment, reviewing some of the analytic tools that can bring more insight to our understanding of that environment. Finally, we look at the firm's competitive environment, focusing on its relationships with its customers and direct competitors and the ways in which these are likely to change in the future. We conclude by summarizing the challenge to managers as they contemplate the likely changes that lie ahead.

In considering the subject matter in this chapter, there are two key ideas you should bear in mind. First, do not assume that the future will be a mere extrapolation of the past. Many alternative futures are possible, for the future does not yet exist. Where we are uncertain about the future, it may be very beneficial to consider alternative scenarios, opening our minds to the idea that change is inevitable and that we need to be flexible when changes cannot be accurately forecast.<sup>4</sup> Second, you should recognize that since the future does not yet exist, we might be able to influence it through our decisions. Do not assume that the remote or industry environments are not subject to influence. Some of the most successful competitive strategies have involved doing that very thing.

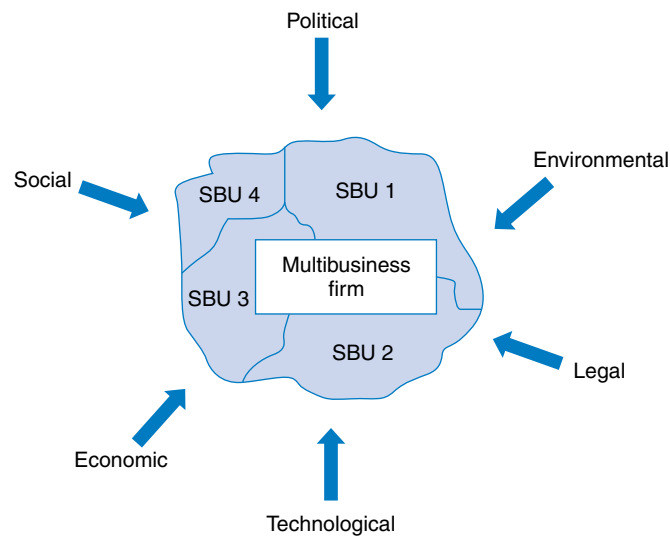
## 3.2 THE REMOTE ENVIRONMENT

There are obviously many different aspects of the remote environment that can have significant impact on the operation of the firm, its competitors, and its customers. A simple acronym that can assist us in overviewing these aspects is the **PESTLE** model, so called because it covers the *political*, *economic*, *sociocultural*, *technological*, *legal*, and *environmental* aspects of the overall business environment, as shown in Figure 3.4

Figure 3.4 depicts the *firm as comprising a number of strategic business units* to reinforce our emphasis that the analysis of the remote environment will be undertaken at both the corporate and the business-unit level. Since the firm's strategic business units (SBUs) operate in different product markets, they each need to undertake their own analysis of the remote environment, analyzing the variables and changes appropriate to them. At the same time, corporate-level staff will also be analyzing the environment, possibly to identify merger and acquisition candidates or other growth opportunities. For example, both corporate and business-unit managers at du Pont may be monitoring economic developments in Malaysia. When this occurs, the firm needs to ensure that these two entities coordinate their activities. Firms often utilize corporate support staff to develop a view on relevant future variables, and all business units adopt that view. For example, corporate economic staff may forecast future exchange rates, and that view is adopted throughout the firm.

### Political

Governments set the rules for business in areas such as competition policy, taxation policy, multinational agreements, and others, as shown in Table 3.1. Historically, governments intervened in national economies both to pursue political ends and to redress the perceived failure of market mechanisms to fulfill consumer welfare goals. In some countries, such as the United States, this intervention has involved government regulation while in others, such as the United Kingdom and France, state ownership of business corporations was vigorously pursued. In still other countries, such as India and Japan,



**Figure 3.4** Framework for Analysis of the Remote Environment

**TABLE 3.1 Selected Political Variables**


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Competition policy
Taxation policy
Privatization
Regulation of financial markets
Employment law
Government stability
Multinational agreements
Government spending

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state-driven mercantilism to increase exports and reduce imports has been the pattern. In Japan, MITI was a key element in its drive for economic advancement.

For much of the 20th century, increased government involvement was the norm around the world. Since the early 1980s there has been a marked shift in *competition policy*, with an increasing reliance on free markets. Regulatory barriers around the world in such industries as airlines, banking, railroads, insurance, telecommunications, and trucking have been reduced. Governments seem to have realized that the regulations designed to protect consumers or competitors in an earlier era were no longer beneficial. Far too often regulation locked in inefficient competitive structures and restricted entry and innovation, denying consumers the benefits of competition. Such regulation also affected the liquidity of financial markets and the rights of shareholders.

The EU is attempting to rewrite the takeover code to permit a larger number of hostile mergers, a move being strongly resisted by Germany. The EU proposals include that companies targeted by hostile bids consult shareholders before executing a defensive strategy, that the board maintain a neutral stance during a takeover bid, and that the board consult shareholders before taking “poison pill” steps to head off unwanted advances from another corporation.<sup>5</sup> If implemented, these measures may prevent the boards of European firms from rejecting takeovers that are in the interests of small minority shareholders.

On the other hand, as global competition has increased, some legislation has come to be viewed as limiting the ability of corporations to compete on a global scale. While this enforcement policy has changed somewhat, there may still be some way to go. Thus U.S. regulations have constrained overseas firms attempting to operate in the United States, and a similar pattern exists in the United Kingdom.

RWE is a German utility, primarily in water. In the last few years it has been attempting to expand internationally, since it believes that there are limited investment opportunities in the domestic German market. In 2000 it bought Britain’s Thames Water and in 2001 purchased American Water Works, the largest water company in the United States, for \$USB4.6. In addition to becoming global, RWE is also attempting to become a multiutility company, but current U.S. law prevents the company from moving into gas or electricity.

Interbrew, the Belgian brewer, was ordered by the U.K. government to sell Carling, Britain’s most popular beer, as the price for the approval of the £B2.3 (\$USB3.5) takeover of Bass Brewers. Carling was later bought by Adolph Coors, America’s third-largest brewer for £B1.2.<sup>6</sup>

Another major area where government action affects firm strategy is the country’s *taxation* regime. Corporate tax levels vary around the world; as a consequence, some

firms have relocated their head office to such low-tax countries as Liechtenstein or Monaco. Another issue to consider is which income will be taxed in which country. U.S. firms are liable for U.S. tax on their worldwide income. The tax regime may also affect the repatriation of profits. Australia is attempting to renegotiate its joint tax arrangements with the United States, which currently applies a significant tax to profits earned in the United States by subsidiaries of Australian firms.

Germany has changed its tax system by removing any capital gains tax when companies sell their investments in other firms.<sup>7</sup> The impact of this has been small due to the decline in share markets, but it is expected to have greater impact in the future, when there could be a major reshaping of the German industrial landscape as shares in several of that nation's companies change hands.

In many countries, previously government-owned organizations such as airlines and utilities are being *privatized* and joining the private sector as governments adopt the view that private enterprise is more effective than government in promoting consumer welfare. This trend started in Europe in the 1980s and is now occurring even in such previously unlikely countries as the People's Republic of China (PRC). This trend has been aided by political change, such as the collapse of communism in the Soviet Union and Eastern Europe.<sup>8</sup>

Countries are increasingly entering into *multinational* agreements through bodies such as the World Trade Organization (WTO), the International Monetary Fund, and the United Nations. After many years, China has finally been admitted to the WTO despite the fact that this opens up many of its inefficient state-owned enterprises to global competition. In Europe, the European Union is taking on increasing importance as individual nation-state members are subject to its regulations, while many other countries have joined together to form economic and political unions, as shown in Table 3.2.

Looking forward in the political arena, we expect further attempts to increase economic cooperation as the world economy becomes ever more tightly integrated. There is a risk that the world may be moving toward a structure of regional trading blocs, as shown above, and that economic warfare might break out between the blocs. Most analysts consider this unlikely, but it is a scenario that prudent global managers should consider, particularly as they expand global sourcing. The ability of individual national governments to pursue independent economic policies has undoubtedly been limited by increased economic interdependency and emerging international institutions.

The *political stability* of a country is an important issue when considering investment decisions. In the recent past there has been considerable instability in such countries as Argentina (defaulted on its international debt), Yugoslavia (has split up into several independent countries), and the Middle East (affected by war and terrorism).

**TABLE 3.2 Regional Trading Blocks**

<b>Asean</b>	Brunei Darussalam, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Vietnam
<b>European Union</b>	Austria,* Belgium,* Cyprus, Denmark, Estonia, Finland,* France,* Germany,* Greece,* Ireland,* Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Czech Republic, Italy,* Luxembourg,* Portugal,* Spain,* Sweden, the Netherlands,* United Kingdom
<b>NAFTA</b>	Canada, Chile, Mexico, United States
<b>Mercosur</b>	Argentina, Brazil, Paraguay, Uruguay

\* = euro currency.

## Economic

For most products, market attractiveness is strongly influenced by the size and growth of demand, which in turn is influenced by the country's economic well-being. There are a number of economic variables that may be relevant in determining opportunities, as shown in Table 3.3. Many related measures of economic well-being are available, but critical metrics include total *GDP* as well as per-capita measures such as *GDP per capita* and disposable income per capita. In addition, since we are interested in the future, we would also be concerned with the *growth rates* of these economic variables. China is an attractive market for many firms not because its GDP per capita is high but because its growth rate is high and it is expected to become a major market in the future.

With increasing globalization and interconnectedness among countries, the effects of an economic downturn in one country are no longer confined to that country alone. During the late 1990s, after having enjoyed strong economic growth for many years, such “Asian Tigers” as Indonesia, South Korea, and Thailand suffered recessions and unstable financial markets that reverberated around the world.

Of equal importance to strategists is not only the mean *per-capita* income but also its distribution across the population. In India, although average incomes are still quite low, there is a large middle class, estimated at over 200 million people, representing a significant market opportunity for quite sophisticated products. Major PRC conurbations such as Shanghai and Beijing provide similar opportunities.

The economic development of China has exerted significant pressure on the rest of the world, particularly since China has average manufacturing labor costs of \$US0.6 per hour. Along with European and U.S. companies, Asian firms are also establishing production facilities in China. Half the information technology products of Taiwanese firms are currently made in China. This movement has resulted in many Asian firms attempting to change their position in the value chain. Manufacturing is outsourced to China, and Asian firms are attempting to concentrate on marketing, design and innovation, development of differentiation and brand image, and intangibles.<sup>9</sup>

For global firms, *exchange-rate* movements can have a major effect on profitability and costs. A resources company may find that its revenues are in U.S. dollars but its costs are in South African rand. Changes in the exchange rate can have a major impact on profitability unless the firm takes some hedging action. Firms use a range of derivatives, such as currency swaps, to attempt to reduce risk, as we discuss later in the book.

The European Union, the most advanced grouping of nations, introduced a single currency, the euro, in 12 member countries on January 1, 2001. For the first time, Euro-

**TABLE 3.3 Selected Economic Variables**

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GDP, GDP per capita
Disposable income
Interest rates
Exchange rates
Inflation
Unemployment
Balance of payments
Savings rate
Capital productivity
Labor cost and productivity

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pean consumers will be able to directly compare prices in different countries without having to worry about exchange rates. At the same time, firms will find it easier to assess the performance of subsidiaries operating in different countries, since they now all use the same currency. For example, a Dutch business such as Philips can more easily assess the financial performance of its Italian subsidiary, which now reports in euros. This common currency places restrictions on the member states, since if a member country faces economic difficulties, it is limited in the extent to which it can use exchange rates or interest rates in monetary policy.

These economic variables have to be treated holistically. For example, in 2002 there was concern about the sustainability of the U.S. economy and whether the United States was moving into recession at the same time that its trade deficit reached the unsustainable value of 5% of GDP, possibly plunging the world into a period of economic instability. Given the uncertainty about the future performance of the U.S. economy, together with the lack of transparency in audited accounting data of U.S. firms, it was feared that foreigners would no longer be prepared to support this trade deficit with inward investment.<sup>10</sup> Not only were foreigners investing less in U.S. shares; acquisitions of U.S. firms by foreign companies also slowed, reflecting concern about the future of the U.S. economy. As a result of these trends, there was significant fall in the value of the U.S. dollar.

### Sociocultural

Strategy will also be influenced by changes in a number of sociocultural variables, as indicated in Table 3.4. *Culture* can be defined as “the distinctive customs, achievements, products, outlook, etc. of a society or group; the way of life of a society or group.”<sup>11</sup> The society or group may be the inhabitants of a nation state, such as Chile; a geographic region within a nation state, such as the South or the Midwest in the United States; a geographic region encompassing multiple nation-states, such as the Hispanic countries; or a people without regard to geographic location, such as the Armenian, Jewish, and Chinese diasporas. Furthermore, a single individual may belong to multiple groups, each having different cultures, such as Turkish immigrants domiciled in Germany.

Cultures differ from one another on many bases, such as language, religion, values and attitudes, education, social organization, technical and material culture, politics, law, and aesthetics. They also change over time. Furthermore, within any individual cultural group, subcultures develop that may reflect both the broad group culture but also specific subcultural elements, such as baby-boomers and Generations X and Y.<sup>12</sup> The buying behaviors of these different cultural groups vary significantly. In Western families,

**TABLE 3.4 Selected Sociocultural Variables**

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Culture
Population size and growth
Population age and ethnic mix
Lifestyle changes
Social mobility
Educational levels
Labor market participation rates
Religion
Attitudes toward technology

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**TABLE 3.5 Median Age by Country**

Country	Median Age, 2000	Median Age, 2040
Australia	35.2	42.0
Japan	41.2	53.0
Niger	15.1	18.3
Spain	37.7	54.6
United States	35.5	41.0

Source: “UN Population Statistics”: [www.un.org](http://www.un.org).

for example, women traditionally did the shopping for many products and services, whereas in rural Bangladesh, men do the shopping.

*Population size, growth, and distribution* must also be analyzed. Significant strains may result from such demographic shifts. One of the best known is the impact on social security systems as birth rates drop, longevity increases, and the number of older beneficiaries rises relative to the number of contributors. Not only does this change raise possibly divisive strains; it has significant economic and political ramifications. As shown in Table 3.5, the median age in many countries is forecast to increase dramatically, raising the possibility of a crisis in social security systems. Indeed, some countries are considering raising their immigration rate to reduce the median age. In other countries, a growing proportion of the older population have private pension arrangements, which will ameliorate the state-funded pension problem. In turn, these demographic changes create new opportunities and relationships for insurance and mutual funds.

Other socioeconomic changes that may need to be analyzed are *lifestyle* changes, such as the increasing sophistication of customers, higher levels of education, better access to information, and a greater acceptance of and familiarity with technology. The advance of automation and information-based industries typically leads to (relatively) decreased demand for unskilled labor and increases in demand for highly skilled technical and professional labor. The net result is larger income differentials within societies, differentials that carry a number of social implications, such as permanent unemployment of those individuals who cannot cope with the modern knowledge-based society. Another component of these changes is the shifting attitude toward *globalization* and the tension between localism and globalism. On the one hand, individual groups both seek their own identities and act out their group membership in various ways. Important bases for group membership include religion and nationalism. Thus the growth of Muslim and Hindu fundamentalism is an important factor in the Middle East/North Africa and India. In such diverse areas as Turkey, Wales, the Basque country of Spain, and Brittany in France, these local and regional pressures are evident.

Concern has been raised about American influence—and Western influence in general—in many countries. The French government is fighting what some regard as a rear-guard action against what it views as an American cultural invasion in general and an anglicizing of the French language in particular. However, concern is not limited to language. In late 1999, protests in many European countries against genetically modified foods led to rejections of and/or bans on Monsanto’s Roundup Ready soybean seeds. In August 1999, several McDonald’s franchises in Belgium and France were badly damaged or destroyed by protesters angry about the “globalization of food.” Protesters angry at the impact of globalization have disrupted several WTO meetings. Malaysia and other Asian countries have also expressed concern at the “Westernization” of their societies and have issued calls for a return to Asian values.

To a large extent people don't notice culture on a day-by-day basis, but it becomes very evident when they encounter different cultures as firms move from domestic into foreign markets. Here, the issue is less one of cultural change than it is of attempting to understand a culture that is different. Companies acting in an ethnocentric manner may ruin an otherwise successful strategy implementation.

## Technological

Virtually all observers of the business scene agree that not only is the pace of technological change extremely fast; it is accelerating. If we were to arbitrarily select the end of World War II as a start date, we would find that many of the products and services we take for granted today have been developed since that time. A partial list includes color television, dry copier machines, synthetic fibers and almost all plastics, cellular telephones, computers, integrated circuits, microwave ovens, passenger jet aircraft, communication satellites, virtually all antibiotics and numerous other life-saving drugs, ATMs, space travel, video and audio tape recorders, and CDs and DVDs. Many of these innovations represented disruptive technological change that fundamentally restructured industries. Some technological variables are shown in Table 3.6.

*Information technology* is having a pervasive impact on firms and their strategies, driven by the rapid and continuing reductions in price of these products. This rapid decline in costs is well expressed by **Moore's law**—that the number of transistors on a computer chip doubles every 18 to 24 months and thus that the speed of microprocessors, at constant cost, also doubles every 18 to 24 months. Although some observers anticipate that exponential gains in chip performance will eventually slow down, most experts agree that Moore's law will govern the industry for at least another 10 years. Intel has reportedly developed a chip with a speed of 10 gigahertz at room temperature, which is a major improvement over current (2002) speeds of 2.2 gigahertz. Other technological developments have resulted in faster processing speeds as well as and reduced heat and power consumption.<sup>13</sup>

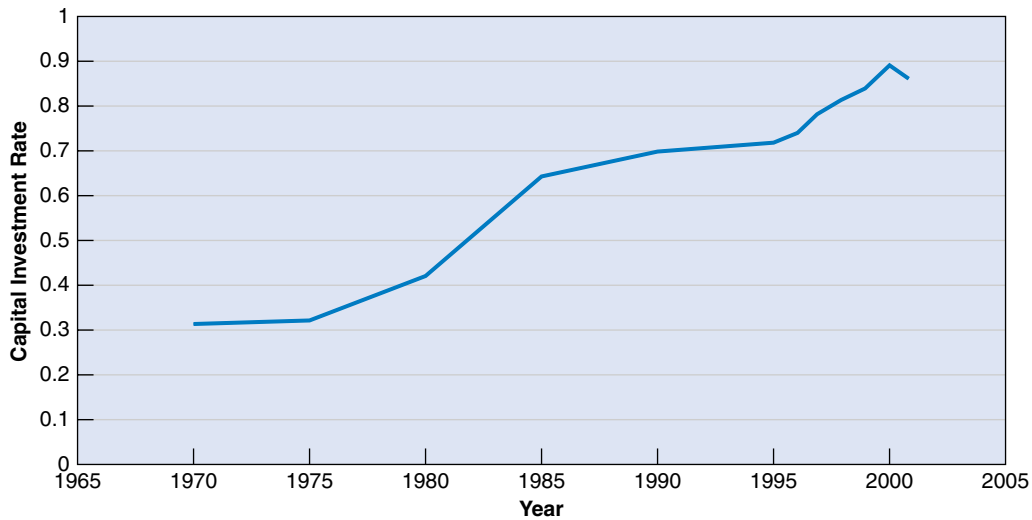
Moore's law means that computing power will become ever faster and cheaper. Not only will increasing numbers of people around the world have access to powerful computing, but computer power will be built into devices other than computers themselves. Already, computers allow such diverse products as vehicles, aircraft, surgical equipment, and elevators to operate more efficiently, predictably, and safely. In the future we may even see computer chips in packaging as costs continue to decline.<sup>14</sup> These applications reflect the effects of the convergence of computing, communications, and

**TABLE 3.6 Selected Technological Variables**

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Information technology
R&D spending
New products
New technology
Global technology transfer
Technological advantages of a country
The Internet
Incremental and disruptive technologies
Biotechnology

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**Figure 3.5** Ratio of IT Investment to All Other Investment by U.S. Firms

“Fixed Assets Tables, Table 2.7, Historical-Cost Investment in Private Fixed Assets,” Bureau of Economic Analysis, 2002. [www.bea.doc.gov](http://www.bea.doc.gov).

media technologies as well as the growth of the knowledge economy, a topic to which we will return in Chapter 5.

The changes above are illustrative of the impact that information technology is having on business practices. This impact is also manifest in the changing mix of capital investment. As shown in Figure 3.5, U.S. firms have been allocating an increasing proportion of their capital expenditure to information technology, computer hardware and software, and communications equipment. This chart shows the proportion of investment in information-processing equipment and software to investment in all other fixed assets by U.S. businesses over the period 1970–2001. As can be seen, this ratio has increased dramatically, from 31.7% in 1970 to 85.4% in 2001, although there was a slight reduction in 2000 due to 1999 overspending in anticipation of Y2K. In dollar terms, IT investment has increased from \$US16 in 1970 to \$B403 in 2001.

The Internet is a major new technology affecting the business landscape. The Internet is, or can be, many things. It is a distribution channel, a communications tool, a marketplace, and an information system. For example, it can alter the way in which the firm communicates with its customers and suppliers, the way in which it collects customer data, and the amount of information available to customers. We have already noted that firms are created because the costs of organizing and maintaining them are lower than transaction costs in the market. One of the implications of developments in computers, networks, communications, and data storage is that they have changed transactions costs and hence are opening up the possibility of significant industry restructuring. These developments may also create **disintermediation**, which means that the function of an intermediary can be dispensed with. When buyers and sellers of, say, insurance, can find each other easily over the Internet, who needs intermediaries such as brokers?

These changes are most likely to occur in industries where “products” can be digitized, among which are personal financial services. Table 3.7 shows the average cost per transaction in retail banking for five different modes. As the data indicate, there is a substantial incentive for retail banks to move to other channels of distribution, but they are

**TABLE 3.7 Average Cost per Transaction in Retail Banking**

Mode	Cost/Transaction (\$AU)
In Branch Teller	5.40
Telephone; Customer Service Officer	5.20
ATM (Excluding Deposits)	0.60
Telephone; Voice Response	0.16
Internet	0.06

Source: Internal Costing Data; Major Australian Bank

constrained by their legacy assets of a branch network. A new entrant without this high-cost structure may find barriers to entry have been reduced, the new barrier being technology, customer acceptance of technology, and data security. Similar developments have occurred in industries such as hotels, car rentals, and share trading, where online trading now accounts for about 20% of all trades.

The Internet is an example of **Metcalfe's law**, namely that the value of a network to an individual user is proportional to the square of the number of users. Hence the interest in interconnection, open standards, and the development of new protocols such as XML, which carries information on what data are being transmitted as well as the format of that data. At the same time, the Internet has increased firms' concern with data security from external hackers or internal staff abusing the system. Data security is seen as a major obstacle to the widespread adoption of e-commerce, and developments in sophisticated encryption systems will be critical.

Major changes can also be expected in **electronic markets**, either business-to-business (B2B) or business-to-consumer (B2C), where firms interact with actual and potential customers and suppliers over the Internet. Such electronic markets are estimated to capture cost savings of 10% to 20%, but they also possess other benefits. Sellers can reach more customers, gather better data, and communicate more effectively. Buyers are able to compare products and prices from different suppliers, which may increase price competition between suppliers. Underlying all this is the capacity to reduce costs through better information and better systems. In the United States, the ratio of inventories to shipments across the economy has fallen from 2.0 in 1970 to about 1.2 in 2000, representing a huge increase in capital productivity.<sup>15</sup> Firms unable to achieve such improvements operate at a considerable disadvantage.

While future developments of these exchanges is uncertain, it is expected that they will grow in scope and importance, driven by developments in information technology and its cost-reducing potential. At the same time, we expect to see a range of structural forms of these exchanges. Some are likely to be vertical, with all members in a single industry. In the United States, Ford, GM, and DaimlerChrysler formed such an exchange with combined purchases of \$USB240. The basic aim was to reduce costs in the supply chain, while forcing down supplier prices.<sup>16</sup> Others will be horizontal, based on products that span several industries. These exchanges will certainly be scrutinized by regulators to ensure that firms do not engage in anticompetitive behavior.

Many technological innovations are characterized by nonlinear growth patterns and often follow a logistics adoption curve. Managers who project initially low growth rates into the future may be surprised as inflection points are passed and rapid growth occurs.<sup>17</sup> As Christensen has noted, technological change can be categorized as sustaining or disruptive.<sup>18</sup> **Sustaining** technologies improve the performance of established products along the dimensions that mainstream customers in major markets

have historically valued. This type of technological change rarely precipitates the failure of established firms—it represents a continuation of the present and is seen as more controllable by management.

**Disruptive** technologies are those that bring a new and very different value proposition to the customer. One such example is digital cameras; another is discount brokerage. Such products have features that are highly valued (initially) by a limited number of customers, often customers new to the market. These new products are often seen as inferior by existing customers, initially underperforming in comparison with established products, but they are often simpler, smaller, cheaper, and easier to use than existing products. In new applications, these attributes may have significant value. Such disruptive technology may precipitate the failure of leading firms since they pay too much attention to the issue of cannibalization of their existing products. The real problem often arises from their lack of awareness of the rate of technological change in, and consequent functional improvement of, the new technology. Since it is difficult to analyze such markets, established and bureaucratic firms are unlikely to give them the attention they require.

Business history is also replete with examples of major companies that turned down inventions that were ultimately extremely successful. Chester Carlson, inventor of xerography, was turned down by IBM, RCA, A. B. Dick, and many other companies before Joe Wilson, CEO of a relatively small Rochester company, Haloid Corporation, had the courage to bet the future of his company on Carlson's invention.<sup>19</sup>

All major appliance manufacturers turned down James Dyson, inventor of the bagless vacuum cleaner, when he approached them with his invention. He eventually started his own company, which by 2001 was the market leader in the United Kingdom and in 2002 entered the U.S. market.<sup>20</sup>

## Legal

As we saw in the opening example, global firms must pay considerable attention to legal considerations and ensure that their strategies comply with legal requirements, as illustrated in Table 3.8.

The *legal framework* of a country influences firm strategy through its laws regarding such areas as mergers and acquisitions, capital movements, industry regulation, and employment conditions. Legal frameworks differ across countries. The United States and the United Kingdom have well-developed legal systems based on precedence and case law. In most of Europe the basis of the legal system is the Napoleonic Code. Other countries such as Russia are still trying to develop a strong and independent legal system. Similarly the Peoples Republic of China is struggling to develop a commercial code, and the laws governing business activities are still in evolution.

Different countries have different views on the *social responsibility* of the firm. The EU is strengthening the obligation of European firms to “inform and consult” workers’

**TABLE 3.8 Selected Legal Variables**

Legal framework
Status of the rule of law
Regulatory framework
Trade practices
Consumer protection

representatives about company strategy, and the EU employment commissioner has suggested that staff are the main stakeholders in a firm. This may affect the ability of a firm to close a plant or reduce staff in the EU, as experienced by Marks and Spencer when it attempted to close several stores in continental Europe. Some managers regard these requirements as an infringement on the right to manage, since it will make labor markets less flexible. Proposed regulations include consultation about layoffs in all companies with 50 or more staff after 2008.<sup>21</sup>

Many developed countries have an active and politically independent *regulatory framework*. In the United States, bodies such as the Environmental Protection Agency (EPA), Securities and Exchange Commission (SEC), and Federal Trade Commission (FTC) are powerful actors that have to be considered when establishing strategy. During the decade up to 2001, Microsoft was under investigation by the U.S. Justice Department, with the final resolution being made in the court. In the EU, there are several directorates-general responsible for defined areas of regulation. There is a D-G Competition, a D-G Environment, and a D-G Health and Consumer Protection. The latter body is responsible for food labeling in general and labeling of genetically modified foods in particular.<sup>22</sup>

The investment banking and accounting industries in the United States are under considerable pressure from the Department of Justice and the Securities and Exchange Commission to change their practices. There is concern about conflict of interest: can an audit firm provide an audit that is unbiased and independent when it also engages in consulting work for the same client? Can an investment bank provide unbiased investment reports on a firm when it is also soliciting for consulting work, mergers, and acquisitions or IPOs with that same firm? In late 2002, we saw most of the large accounting firms split off their consulting business, with PWC selling its consulting business to IBM for \$USB3.5.<sup>23</sup>

Some professional bodies also have a major impact on firm behavior. International accounting bodies are attempting to get firms to record all financial assets and liabilities at their current market value rather than at their historical cost, since financial markets are now more volatile. This would have major implications for banks. The value of loans would fluctuate with changes in interest rates, and banks could be forced to write down loans if their credit quality was reduced. These changes would have to be incorporated into the bank's income statement, possibly producing a large accounting loss.

Looking at likely future trends, we believe that countries are likely to maintain policies that lead to competition in product markets. On the other hand, in such areas as health and safety, the environment, rights of various minorities, and so on, it seems likely that firms will face more stringent standards in the future. For example, the British government is considering mandatory paid paternity leave for fathers. Further, globalization is beginning to have significant repercussions on the legal environment. The U.S. FTC prevented the takeover of a British firm, BOC, by a combination of L'Air Liquide (French) and Air Products (U.S.).

## Environmental

Senior managers can expect to have to deal with a variety of environmental issues that may have significant impact on their companies' future prospects, as shown in Table 3.9. Executives in the automobile industry, for example, have been subject to increased pressure from governments, environmental groups, various single-issue advocacy groups, and the public at large. Indeed, the European Union has proposed that car manufacturers bear the cost of taking back scrap cars from 2003 onward and be required to recycle or

**TABLE 3.9 Selected Environmental Variables**

Environmental legislation
Nongovernment organizations
Social responsibility
Triple bottom line

reuse 80% of a car's weight from 2005 onward. The industry and some governments—including those of Britain, Spain, and Germany—have resisted this proposal. Their counterproposal is that car manufacturers should bear such a cost, but only for new cars sold after the law is finally passed.

Some firms, such as BP, are committed to reducing their impact on the environment; in fact, their stated goal is to do no damage to the environment. In pursuit of this goal, BP claims their verified greenhouse gas emissions were 10% lower in 2001 than in 1990.<sup>24</sup>

Changes in the physical environment, roughly viewed as comprising the natural and man-made environment, affect our daily lives and the functioning of our organizations. Natural and man-made forces coexist in an uneasy equilibrium but whereas some natural forces seem independent of human action, other changes in the natural environment result from it. More fundamental changes may have a variety of consequences. For example, heightened awareness of the damage to the natural environment caused by pollution has given rise to new industries such as pollution control and renewable energy. In countries such as France and Germany, pollution has become an important political issue and legislators are elected as members of “green” parties. Indeed, in many countries, the strength of the environmental movement has led to strong legislation affecting firms’ production systems, products, and packaging. In Germany, firms are responsible for the disposal of packaging in which their products are shipped. Perhaps as a consequence, German consumers used 11% less packaging in 1995 than in 1991, while disposable packaging use in the United States grew by 13% over the same period.<sup>25</sup>

In response to these pressures, some individuals have proposed that business firms should adopt the concept of the *triple bottom line*, suggesting that the firm must pursue social, environmental, and economic objectives.<sup>26</sup>

Although the PESTLE approach makes the elements of a remote environment scan easy to remember, there is a potential danger. Many of the changes we have discussed are in fact interrelated. Such technological innovations as the computer or the World Wide Web have enormous sociocultural and political implications. Legal-regulatory decisions may have vital economic, environmental, and political dimensions, and so on. There is therefore a danger of overcompartmentalizing, when in fact the important changes in our time typically have multiple and interrelated effects. When planning strategy, you should never allow debates over “which box?” to impede an understanding of the potential impacts of expected changes—after all, that’s what’s important!

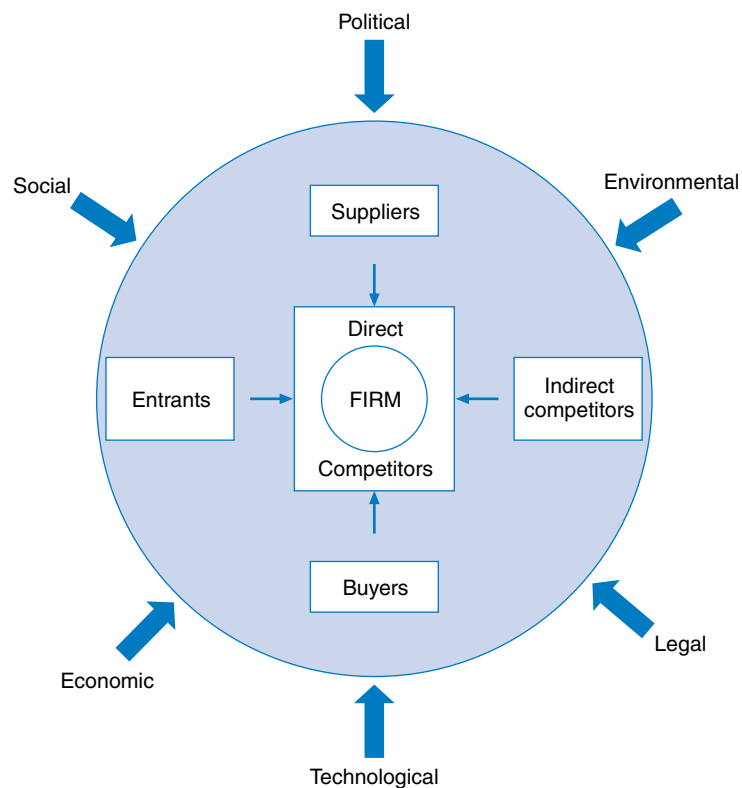
Global firms, by their very nature, need to be aware of these changes in the remote environment in every region of the world. In addition, a diversified firm will need to undertake such an analysis at several levels. It will need to understand the changes occurring that are important for the firm as a total entity, such as the admission of China and Taiwan to the WTO. At the same time, we reiterate that each of the individual business units will need to undertake a thorough analysis of its own remote environment. We have used a general approach to analysis, but the specific dimensions and tools used to

understand changes will depend on the specific firm and business unit for which strategy is being developed.

### 3.3 THE INDUSTRY ENVIRONMENT

While the remote environment will have a major impact on the firm's strategy, our next level of analysis goes deeper, exploring the structural characteristics of the industry in which a business competes and the effect of these on strategy. Since global firms are likely to operate in a number of different industries, this level of analysis is more appropriate at the business-unit level. Corporate-level staff would be expected to undertake this analysis when exploring mergers and acquisitions or when setting performance standards for a business unit.

Figure 3.6 depicts our model of **industry structure**, where industry structure includes suppliers, buyers, entrants, and substitutes as well as direct competitors. The depiction is based on the work of Michael Porter and is sometimes referred to as the five forces model.<sup>27</sup> The structural variables identified in the model affect all the firms in the industry, but not all firms will be affected equally. An industry analysis helps in understanding the power relationships among the players in the industry, which in turn influ-



**Figure 3.6** The Industry Environment

Adapted with permission of The Free Press, a Division of Simon & Schuster Adult Publishing Group, from *Competitive Strategy: Techniques for Analyzing Industries and Competitors* by Michael E. Porter, Copyright © 1980, 1998 by The Free Press. All rights reserved.

ence current and future levels of prices, investment in the industry, and firm profitability. Such an analysis may also assist the firm in choosing a basis for competitive advantage that capitalizes on opportunities or mitigates problems. As shown in Figure 3.6 the structural factors are generally grouped into five categories, and we now review each of these.

First is the pressure from *direct competitors*, or, to use another phrase, the competitive intensity of the industry. If intensity is high, profitability of firms in the industry is likely to be low. For example, a combination of slow growth and excess capacity is likely to produce lower margins, particularly if this is coupled with high exit barriers. The second factor influencing industry profitability is the ease of entry of new competitors. Industry profitability is likely to be low when *entry barriers* are low—when it is easy for competitors to enter and compete. Barriers to entry include the capital required to enter as well as nonfinancial barriers such as access to distribution channels, knowledge, and economies of scale, as we discuss in later chapters. Low industry profitability itself can also be considered as a barrier to entry. When industry profitability is high, this acts as a signal to other firms—including potential competitors who may be operating in the same industry in different locales (so-called parallel competitors)—to enter our market. The spread of the multinational, resulting in today’s global marketplace, is a consequence of this behavior. An important strategic implication from the above is that good profits are often a leading indicator of increased competition. Too often, good results cause firms to be less competitive, complacency rendering them vulnerable to new sources of competition. Economic theory also suggests that under conditions of oligopolistic competition, we should devote considerable effort to attaining deeper understanding of our competitors (current and potential) and their likely future course of action.

Profitable markets, however, do not just attract potential direct competitors, those who do business in the same way we do; they also attract *substitutes*, or indirect competitors, the third factor influencing industry profitability. These are competitors capable of meeting the same customer needs as our own business but which do so in a very different manner. Thus plastic bottles compete with aluminum cans for beverages, while digital cameras compete with traditional film cameras.

Substitutes often feature new technology that has basic quality and high cost early in its life cycle. This may cause incumbent firms to dismiss the threat posed by the substitute. Too often, incumbents ignore the potential for rapid technological advancement with the substitute, as is illustrated in Table 3.10, which shows the price and performance characteristics of a nonprofessional single-lens reflex digital camera produced by Canon. The prices of these cameras have declined rapidly over time (Canon’s competitors would have followed a similar pattern). At the same time the functionality of these cameras has improved significantly, so picture quality, measured by the number of pixels, has increased almost fivefold.

The challenge for incumbents making traditional film-based cameras is to comprehend the rate of this technological change. The rate of technological change for their product is likely to be very slow, since the product is technologically mature. In 1995 it would have been difficult for these firms to understand that in just seven years the prices of the competing product would decline from ¥M1.98 to ¥M0.358 while functionality improved. Physical size and weight have declined at the same time as picture resolution has increased, and prices have fallen dramatically. Since these are salient characteristics influencing purchase, the value of the product to customers increased significantly over the time period.

This is a classic example of the well-known **S-curve** of technological change: improvements occur slowly at first, accelerate, and then slow down as the technology reaches its limit.<sup>28</sup> It may be difficult for executives in firms using traditional technology

**TABLE 3.10 Price/Performance Characteristics of Canon Digital Camera**

Model	Date Introduced	Price (¥)	Picture Resolution (megapixels)	Weight (grams)
EOS DCS 3	July 1995	1,980,000	1.3	1800*
EOS D 2000	March 1998	1,980,000	2.0	1650
EOS D 30	October 2000	358,000	3.25	780
EOS D 60	March 2002	358,000	6.3	780

\* = with battery.

Source: "Canon Camera Museum," 2003: www.canon.com. Reproduced by permission of Canon.

(e.g., film-based cameras), for which technological improvements are gradual, to recognize the threat posed by a disruptive technology.

Without doubt, technological advance and deregulation have combined to vastly increase the threats posed by indirect competition. The probability that new indirect entrants will be successful is typically viewed as lower than that for parallel competitors, but the effects of their infrequent successes may be devastating. They provide examples of the low-probability, high-impact event against which it is so difficult to defend.

The other forces bearing on the firm act vertically. The fourth is the pressure from *suppliers* which is very much dependent on their importance to the firm. Sometimes this can be assessed in terms of the importance of the input product as a percentage of the firm's total costs. In other cases, suppliers can be critical for different reasons. They may add appeal for the firm's subsequent customers, or their product or service may be critical to the continuity of the customer firm's production processes. Whenever dependency is high, however, the supplier's bargaining power is enhanced, and this tends to be reflected in their margins vis-à-vis those of their customer, as well as other dimensions such as delivery time and flexibility.

Of course, as the power of suppliers rises, so does the threat of their forward integration down the channel of distribution into competition with the firm. This may occur via direct entry or acquisition. In other cases, the supplier may engage in promoting its brand directly to the firm's customers, raising the firm's switching costs as their customers' preferences move toward products incorporating the promoting supplier's products. Intel provides one of the best-known examples. Many of their customers that manufacture PCs have co-branded *Intel inside* on their own products, recognizing that their customers' brand associations should be favorable and lead to improved sales of their products, compared with those using other manufacturers' chips. Intel's advertising budget at the time of writing was over more than \$USB1.

Very similar forces operate with respect to the final set of factors, the firm's relationship with its *immediate customers*. If the firm becomes dependent on a few large customers, its bargaining power is significantly diminished. These large customers will pressure for discounts, and their margins will usually benefit at the expense of the seller's. In the early 21st century, these battles are being actively fought between the suppliers to the major automobile firms and their customers, the auto firms. Automobile firms are very powerful customers that, when faced with overcapacity, declining market shares in the critical U.S. market, and large losses, were able to pressure horrified suppliers for price reductions of up to 15%.

Structural characteristics may significantly affect firm and industry profitability. For some industries, structural characteristics are such that almost no firm in the industry is able to make an adequate return, yet firms refuse to exit. For example, profitability in

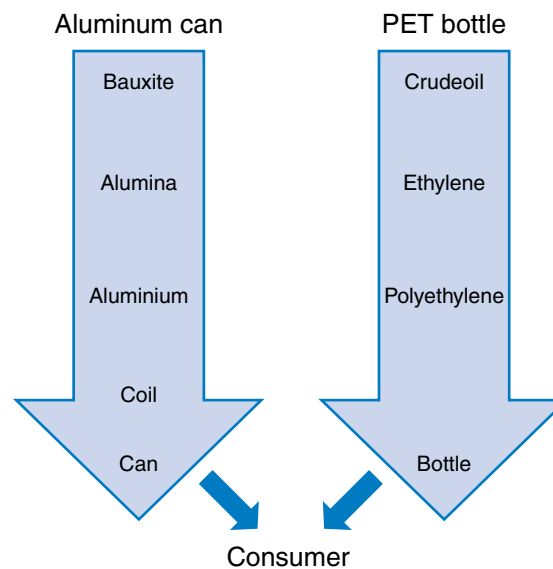
the paper industry worldwide is poor—and has been for many years. The international airline industry has also been a poor profit performer, and the devastating consequence of September 11, 2001, is likely to be that other airlines beyond Swiss Air, Ansett, and Sabena will fall into insolvency or be merged out of existence.

### Industry Value Chain

Industry analysis of the type discussed above is incomplete since it neglects the dynamics of what we will call the **industry value chain**—the linked set of firms and the activities undertaken by those firms. Interindustry competition is increasingly common in today's world. In such cases competition can be seen as occurring between two complete industry value chains. Consider the beverage-packaging market, with two competing packaging systems: aluminum cans and plastic bottles. Figure 3.7 compares the industry value chain for each type of container.

Changes at any level of the value chain for aluminum cans influence the competitiveness of cans versus bottles. For example, aluminum smelting is a very energy-intensive process, using huge amounts of electricity. Any increase in electricity costs will obviously increase the cost of cans. On the other hand, feedstock for the plastic bottles is dependent on petrochemical prices, which will undoubtedly be influenced by the actions of the OPEC cartel. Currently, bottles made from polyethylene terephthalate (PET) have high levels of permeability, making them unsuitable for beverages such as beer. Should technological developments overcome this characteristic, the impact on the aluminum can industry is likely to be severe. Whether a firm is in the aluminum, plastics, or packaging industry, its managers should be monitoring changes at every level of the chain, not only for their own industry but also for those with which it competes in end-use markets and applications.

Profitability may also vary dramatically at each stage in this chain, depending on power relationships. This, in turn, may influence decisions on where to compete. Consider the case of Microsoft and Intel, which were the main beneficiaries of IBM's decision to



**Figure 3.7** Industry Value Chain, Aluminum and Plastic Packaging

outsource the operating system and microprocessor in its personal computers. Their margins far exceeded the eventual meager leftovers that IBM received.

Industry value chains also allow us to examine disintermediation, where one level in the value chain is eliminated. The vast improvements in information technology and the advent of the Web have shifted the economics of direct marketing. As we have already noted, for information products such as airline tickets, disintermediation is quite widespread, as any ex-travel agent can attest.

### Limitations of the Industry Model

Before moving on, we should note important limitations of the popular five forces model. First, it is predicated on the assumption that firms are *single-business single-industry* entities. Consequently, in a multibusiness firm the model is relevant only for an individual business unit. A firm such as du Pont has several business units, each of which competes in its own industry. But the corporation as an entity does not compete in an industry. The model of industry analysis can be applied only at the business-unit level, so its use is limited. Further, competition increasingly occurs among more or less formal alliances of firms or networks; again, the five forces model, with its concept of a clearly defined entity, is of little assistance in analyzing these cooperative/competitive conditions.

A second assumption is that we can define “an industry” with little difficulty. The mere fact that “substitutes” (indirect competitors) appear in the economic model suggests that the problem of defining “an industry” may be a little more difficult in reality. In the last part of the 20th century, some curious new words began to creep into the English language, terms such as *cosmeceuticals*, *edutainment*, and the like referred to in Chapter 1. Each of these words symbolizes the observation that the boundaries of an “industry” are indistinct, fuzzy, and often permeable. Where is the boundary between communications, entertainment, publishing, computing? Is Sony in competition with News Corporation? Anyone who has actually tried to define where one industry (or market) stops and another begins will testify that the problem is by no means as simple as it may at first sight appear. We are convinced that much innovation in fact occurs at the boundaries of what traditional players refer to as “the industry,” with results that may be devastating for incumbents. Indeed, some specific innovations result from the juxtaposition and cross-fertilization of what were previously regarded as different industries.

Third, the model assumes that the *structure* of an industry has a major impact on the profitability of a business unit within that industry—in other words, that there are significant differences in profitability of business units across industries, resulting from structural differences between the industries. One study by Rumelt found that industry effects were actually quite small.<sup>29</sup> Other studies by Porter found more significant industry effects, although they did not use business-unit profitability as the dependent measure.<sup>30</sup> A more recent study found that firm-specific factors were more important than industry effects for industry leaders and laggards. For firms in the middle, neither dominant nor laggard, industry effects were important.<sup>31</sup> These researchers conclude that superior management works, irrespective of industry, while average management needs an attractive industry structure to be profitable. Perhaps we can conclude by saying that industry structure will have an impact—the presence of powerful customers, for example, normally depresses profitability, but it is not the only factor affecting business profitability.

Fourth, the model fails to convey the *dynamic* nature of most industries. Some industries are characterized by rapid changes in product innovation and rapidly escalat-

ing competition based on price-performance characteristics, with competitors attempting to establish first-mover advantages in both products and markets—a form of competition that has been referred to as hypercompetition.<sup>32</sup> Other industries, such as petroleum, steel, and cement, are characterized by relatively slow structural change. The automobile industry is going through a transition at the moment. Historically, firms such as Ford and General Motors built huge, vertically integrated systems that offered advantages through common ownership. Today, a different strategic pattern is developing. Both Ford and GM have announced that they plan to sell off their captive component suppliers—Delphi and Visteon, respectively. So the two firms are moving from hierarchy to market-based transactions—and expect to achieve cost and flexibility advantages.

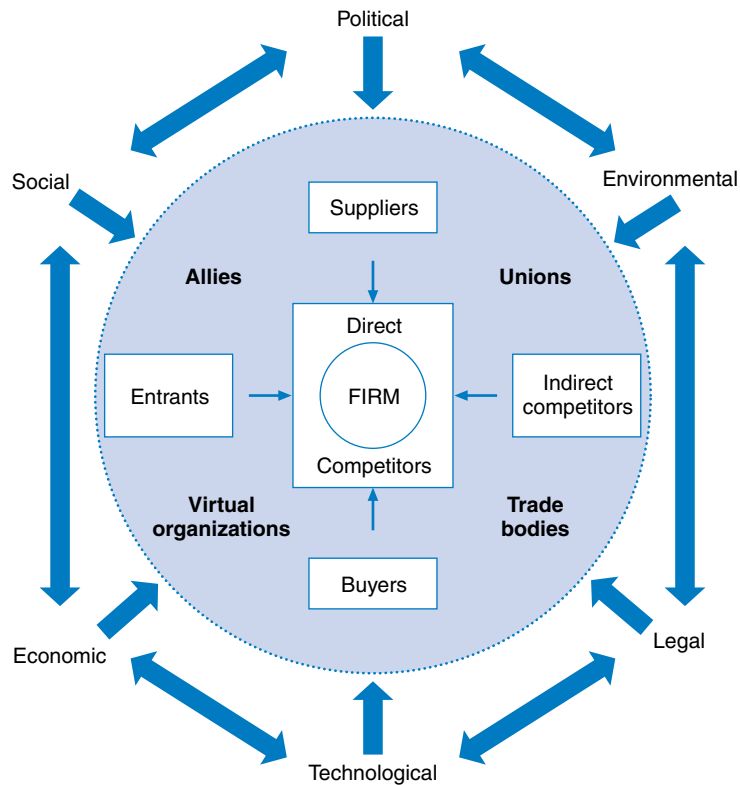
It is vitally important that managers treat the structure of their industry as variable rather than fixed. The term *structural competition* was coined to capture the idea that today's senior manager must learn to think as much like an investment banker as an operating executive. Unless this game is played well, our firm may end up out in the cold, isolated by the structural moves of its competitors. Thus, to assist in developing strategy, we must concentrate on the dynamics: How will the industry look in the future? Will it remain attractive or should we consider exiting? As managers, it is essential to keep this future focus and not to regard the industry, its boundaries, or its structure as fixed.

Managers should also realize that industry structure is influenced by the firm's actions and that some strategic decisions are made to influence this structure. In the face of powerful buyers, suppliers may undertake horizontal mergers, increasing their power relative to buyers. Such mergers may also reduce competitive rivalry and move competition from a price to a nonprice basis, affecting average industry profitability. Faced with a powerful supplier possessing specialized assets, the firm may integrate backward to reduce the supplier's power.

Finally, the players that affect industry structure in the real world constitute a much more complex set than is portrayed in the simple five forces model. While some of these may be legitimately be viewed as among the external forces depicted in Figure 3.8, others belong inside the “magic circle.” The issue of defining the scope of the players we should consider, and defining the boundaries of the industry, is the subject of the rest of this section.

Figure 3.8 portrays the complexity of the players involved in determining industry structure by showing examples of the entities that may influence that industry. We label as “allies” entities that may favorably influence structure. While these might be construed to include government agencies or regulators that could be viewed as influences in the remote environment, they also include those who benefit from our firm's activities even though they are not directly involved in its value chain. Inhabitants of local communities, businesses such as hotels and restaurants that benefit from their proximity to the firm's facilities, and special-interest groups or non-governmental organizations (NGOs) might all conceivably constitute allied constituencies.

Just as some entities may support the firm's strategies, others oppose it. Union opposition is frequent when major changes of strategy threaten to disrupt the lives of union members, while those allied with the firm's competitors may have comparable influence. Further, trade bodies such as trade associations, professional associations, or technical groups may exert favorable or unfavorable influence. Finally, the growth of Internet access has made all firms vulnerable to the negative website phenomenon, where disgruntled employees, customers, and others may use “virtual organizations” to exert unfavorable influence.



**Figure 3.8** The Augmented Industry Environment

Figure 3.8 also indicates the importance of regarding “industry” boundaries as permeable by showing a dotted line rather than a solid line. Technology and deregulation are both powerful forces affecting the permeability of these boundaries. In many countries it was not so long ago that we had commercial banks, savings and loans (building societies), and insurance companies, but today the “financial services” nomenclature has become common as mutuals demutualize, building societies metamorphose into banks, and all scramble to develop an Internet presence.

Further, firms are moving away from a model of an independent entity with arm’s-length transactional relationships with other firms. Instead, we now see the rise of network structures where firms work together to create a network of suppliers, distributors, other service providers, and customers. Value is created by the entire network, which also makes the concept of a rigid and well-defined industry somewhat questionable.

The moral that astute managers should draw from these examples is to keep their antennae tuned to the happenings at the periphery of what others regard as “the industry,” for it is there that some of the most interesting and innovative competitive developments will occur.

### 3.4 THE BUSINESS-UNIT ENVIRONMENT

The final level of environmental analysis is undertaken to assess changes that could influence the position of the business unit relative to its competitors and the nature of

its competitive advantage. The major focus is on identifying opportunities or problems resulting from changes in the competitive milieu and/or in customer requirements. This process should be seen as dynamic, creative, and opportunity-focused, based on sound analysis.

## Customer Analysis

**Customer analysis** at the business-unit level involves developing a detailed understanding of customers, their needs and values, and how these needs may vary within a given market (market segmentation). In addition, emphasis must be on how these needs are changing and what the firm can do to introduce change to the marketplace. Growth comes not from doing the same thing as competitors; it comes from being creative, with the insight to understand the fundamental changes in the marketplace and how to respond to or create these. As with any analysis, the purpose is to understand—but more importantly, it is to identify the creative strategies that will generate value for the business.

### Customer Value

Understanding the sources of customer value is a large and complex subject, better explored in a marketing course.<sup>33</sup> However, we should examine some of the basic issues involved in determining sources of value. One of the most important of these is understanding who the customer is. A broad perspective is vital, and we should therefore consider as a potential customer any person or organization involved in the channel of distribution or decision (other than competitors) whose actions can affect the purchase of the firm's products and services. This view recognizes that "customers" includes those who can influence the decision to purchase the firm's products and services, not just those who pay. We should also recognize that customers are always individuals, inasmuch as organizations do not make decisions; people in organizations make decisions. We may also need to clearly understand the needs of customers as well as their dissatisfactions. Dissatisfactions may present opportunities to the business, an untapped market that it can exploit. Chapter 7 discusses measures of customer value.

### Market Segmentation

Markets are characterized as comprising buyers, either individual or institutional, with different needs and requirements. Therefore meeting the needs of customers requires developing different types of offers, each focused on the needs of a defined segment. **Market segmentation** is the process of grouping together actual and potential customers whose needs are similar so that target segments can be selected and the appropriate marketing program designed. Particularly for industrial products, such segmentation requires a thorough understanding of customer economics, since such customers are likely to make purchases based primarily on economic criteria. One source of growth is identifying, and forcing if possible, the emergence of new segments. No method of segmentation will be perfect; there will always be some ambiguity. One possible test of successful segmentation is whether or not a competitor can have a profitable existence in the designated segment without being a competitor in a related segment. When this is possible, it suggests that there is little cost sharing between segments. Following segmentation, the firm should be able to do the following:

- Determine how to describe a market in terms of groups that demonstrate high within-group homogeneity and across-group heterogeneity
- Identify the needs and benefits required in each group

- Determine which segments are attractive and how fast is the segment growing
- Decide which segments to target and which competitive strategy to adopt for each targeted segment

Marketing theorists generally suggest that segments can be defined on the basis of one or more of the following characteristics:<sup>34</sup>

- Geographic, such as country, region, or city size
- Demographic, such as age, gender, firm size, firm profitability
- Behavioral, such as use occasion, type of purchase situation
- Social/psychological, such as personality, social class, organizational culture

Segmentation permits the firm to develop an offer that meets the needs of its chosen customers. It allows the firm to focus on those segments in which it has a competitive advantage and should permit greater differentiation of the offer and, consequently, better margins. Development of a competitive advantage can be achieved only with a detailed understanding of the market and its segments, since these characterize the variability in customer needs and values.

Since customer needs are constantly changing, the business unit will of necessity need to monitor and update its segmentation approach, both in terms of the basis for developing segments and the number and description of its chosen segments.

Segment growth also affects the ability of the firm to generate and sustain a competitive advantage. Rapidly growing segments typically exhibit increased turbulence, making share gain more feasible. Growing share in a very stable market is always going to be difficult. In a growing market there are new customers, new values, new needs and benefits required, and the possibility of designing products with different combinations of features—all of which may lead to rapid share gain if business-unit management has the foresight required to create the opportunity and build capabilities to exploit it.

When analyzing market segments, it may be useful to classify them as either a cost segment, a value segment, or a combination. In some market segments, there is relatively little variation in either the price charged or characteristics of the product or service. In these segments, customer choice will be based primarily on price considerations, with consequent implications for the competitive strategy of the business. Other segments may exhibit substantial variation in prices, with clear differences between the offerings of the various competitors, generally facilitated by strong differences in customer preferences between different offerings. In these market segments, price plays a lesser role, and the firm must develop a competitive strategy based on well-understood dimensions of customer value. In reality, most segments will be a combination of these two alternatives. The task of the business is to work out in which segments it can bring its capabilities to bear and to develop additional ones where worthwhile.

Customers often play different roles—such as gatekeeper, influencer, decision maker, buyer, and user—in a purchase process. Failure to understand these roles may preclude sufficient understanding of sources of value. Different customers will also have differing needs and wants, depending on sociocultural and situational factors, as well as differing roles in the purchasing process. There are clearly many ways to think about these needs and wants. However, considering three types of needs and wants—functional, psychological, and economic—provides a useful general framework for understanding the benefits delivered by a product or service. First, however, we must distinguish between features and benefits.

### Features versus Benefits

In marketing a product or service, it is often critical to distinguish between features/attributes and benefits. Firms *produce and deliver* products and services but customers only *perceive* value in the benefits that these products and services provide. Some simple examples make this distinction clear. In its factories, Black and Decker manufactures electric drills whose features include color, drill speed, hardness of bit, drill bit gauge, drill weight, presence/absence of battery and battery life, ability to embrace other tools (e.g., sander), and so forth. For the most part, customers have little interest in these features per se; what concerns customers are the benefits offered by the drill, notably the holes it can make and the ease of making them. Similarly, retailers and wholesalers may care little for the specific products they sell; they are more interested in such benefits as net profit, sales per linear foot, and return on investment. Focus on benefits versus features has the important additional value of broadening the view of competition. To return to the Black and Decker example, when the focus of attention is on features, key competitors are other electric drill manufacturers. When the focus of attention is on benefits, the firm necessarily considers all other methods of making holes; for example, the substitutes or indirect competitors include nails, adhesives, water drills, and lasers, an important broadening of the competitive scope that prepares the firm for new forms of competition.

When considering the benefits offered by a product or service, it is useful to categorize these as functional, psychological, and economic.

**Functional benefits** serve a particular purpose, typically by allowing the individual, family, or organization to do something that needs to be done. They are generally concerned with such dimensions as performance level, performance reliability, time and place availability, accuracy, and ease of use. For example, food fulfills the function of satisfying hunger needs, disc brakes enable the car to stop, and a word-processing program eases the student's pain in writing an assignment.

**Psychological benefits** typically make people feel good in terms of such dimensions as status, affiliation, reassurance, reduced risk by not changing suppliers, security, and scarcity. These benefits may be associated with functional benefits but are different in kind. For example, in addition to the quality of the food, fine restaurants offer such benefits as perceived prestige and ambience; certain models and brands of automobiles offer status in addition to functional comfort and transportation benefits. Louis Vuitton products offer gift buyers a risk-reduction benefit and the near certainty that their gift will be appreciated.

With **economic benefits** the focus is on economic aspects of the purchase, such as price, cost savings, credit terms, and profits; some customers maintain that these are the only benefits that matter. Indeed, for many intermediaries such as wholesalers, distributors, and retailers, the core benefit from the purchase of goods for resale is the profit made on the spread between selling and buying prices.<sup>35</sup> For other types of customer, the economic aspect of the purchase is one of several benefits. In general, customers prefer to pay less rather than more for the functional and psychological benefits they receive because, as economists point out, this maximizes their utility. However, for some goods and services, customers may actually *prefer* higher prices because these bring psychological benefits such as status and prestige, as with designer brands and Rolex watches.

In many cases purchase decisions obviously involve a combination of motives, but failure to appreciate these, and the priorities placed upon them by different customers, may lead to inappropriate decisions with respect to value-chain modification. Chapter 7 presents frameworks for integrating consideration of value and cost in making business strategy decisions. In particular, we will discuss how these concepts can be integrated to develop the competitive strategy of the business unit.

## Analyzing Competitors

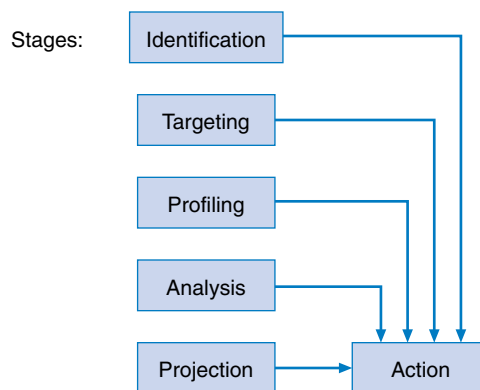
Most competitor analysis is undertaken at the business-unit level. In undertaking to analyze specific competitors, we are making an implicit assumption that the unit in question is engaged in oligopolistic competition since under perfect competition there would be no purpose in the exercise. There is a defined process that we should follow in conducting a competitor analysis, the stages in which are shown in Figure 3.9.

Since the best competitive strategies are typically preemptive, identification is a very important stage that should encompass not only the competitors we must deal with today but also those that could represent a threat tomorrow. Further, we should define a competitor as any entity capable of meeting the same set of customer requirements as those that we intend to meet. Thus, in attempting to identify competitors, we should also consider substitutes, or indirect competitors. Whereas in day-to-day decision making actual direct competitors are likely to dominate in our thinking, the key to longer-term ownership of market positions is to anticipate potential competitors. Remember that microeconomics tells us that economic profits will inevitably attract competitors. Thus, we can argue that good profit performance is a leading indicator of increased competition. The old saying that an ounce of prevention is worth a ton of cure has much merit when developing competitive strategy!

Once competitors have been identified, we typically will have to target those that we believe represent the greatest challenge to us, that is, those that are most likely to prevent us from achieving our goals. Key to making this decision well is the ability to understand the world from the perspective of the competitor, for seen through the competitor's eyes, the world will look very different. If we are unable to do this, we are unlikely to be very successful in plotting competitive strategies.

Profiling competitors involves collecting a variety of information that will help us understand them better. As we noted, the prime focus of competitor analysis is typically at the business-unit level, but in Figure 3.10, we have illustrated the types of information about a competitor that might be collected at different levels.

Analyzing competitor information may employ a variety of techniques, such as analysis of resources and competences (see Chapter 5), assessment of financial capabilities (see Chapter 4), portfolio analysis (see Chapter 8), and close examination of the competitors' value chains (see Chapter 7). Yet without the ability to integrate the information and recognize underlying patterns, little that is useful will result.<sup>36</sup> Skill in pattern recognition is



**Figure 3.9** Process for Competitor Analysis.  
Copyright: Christian and Hulbert, 1998.

Level of analysis	Financial performance	Portfolio	Functional strengths, weaknesses	Management capabilities, proclivities	Degree of vertical integration	Business system	Market performance	Positioning	Marketing mix
Corporate	✓	✓	✓	✓					
Business unit	✓	✓	✓	✓	✓	✓	✓		
Product-market	✓	✓	✓	✓	✓	✓	✓	✓	✓

**Figure 3.10** Types of Competitive Information at Different Levels

one of the key requirements for good analysts, whether they work for the CIA or a global company. The difficulty was long ago acknowledged by Sun Tzu, the ancient Chinese strategist and author of *The Art of War* (ca. 500 B.C.), who explained it thus:

*All men see the tactics whereby I conquer, but none see the strategy out of which victory evolved.*

As the above discussion suggests, there can be no absolute certainty in competitor analysis. Nonetheless, the outcome of the work should be a number of likely projected scenarios, which are then fed into the planning of our strategy. Our strategy should be tested against these scenarios, seeking options that are likely to prove robust regardless of competitive actions. One of the most unimaginative, and often dangerous, competitive moves is simply to ape the actions (anticipated or otherwise) of a competitor. As global competition intensifies, attrition will ensure that, on average, the survivors are smarter and more adaptable than their failed predecessors. They will therefore be building strategies that capitalize upon their own distinctive competences. To imitate is tantamount to letting the competitor choose the weapons and the battlefield, a violation of a most basic principle of strategy.

### 3.5 MULTI-INDUSTRY COMPETITION

Much of our recent discussion has implicitly assumed that competition takes place among single-industry firms. Indeed, much of Chapter 7 will assume this context. Yet, as we noted earlier, in many industries, understanding competition and competitive strategy is a much more complex task than is implied by the industry model. We distinguish a minimum of four levels of competition: network-to-network, company-to-company, business-to-business, and product-to-product. The last is a market level of competition with which we will not concern ourselves in this book, while business-to-business competition will be dealt with in Chapter 7. In this chapter we conclude by briefly examining the issues raised by network-to-network and company-to-company levels of competition.

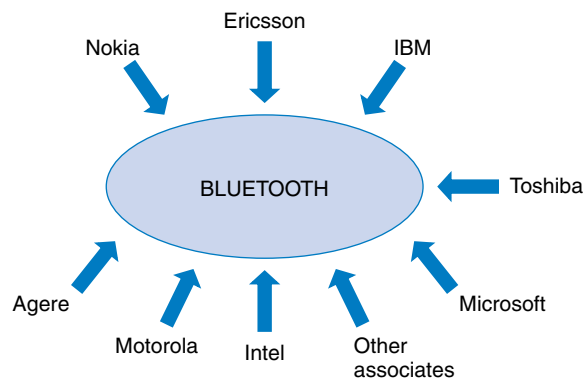
#### Network Competition

In response to rapid change and the increasing cost of business and product development, more and more firms are moving to organize themselves as **network competitors**. Other factors have assisted in precipitating this change. One, as noted earlier, appears to be a desire to variate fixed costs by more outsourcing. As markets become more competitive globally, retaining internally less-than-world-class activities obvi-

ously becomes less viable, and outsourcing typically results in networked relationships with suppliers. Firms find it increasingly difficult to be at world's best practice in all their activities, and competition forces them to outsource their poorly performing activities. The quality movement has contributed to a drop in the number of suppliers, as the buying firm becomes more demanding in seeking reliable quality and a relationship model prevails over the traditional bid-based transaction model. As firms globalize their activities, they also tend to seek global support, and suppliers that do not operate worldwide must enter into alliances and networks to maintain their business position. Finally, attempts to improve supply-chain efficiency and minimize working capital, again fostered by ever more competitive markets, result in closer, networked relationships among firms, which must cooperate in sharing information to derive benefit from the arrangement.

Rather than depict the firm's organization structure in the normal fashion, we might consider thinking about the network organization as member of a web of interrelationships, as depicted in Figure 3.11. Bluetooth is a development, led by Ericsson, to develop wireless technology with applications to computers and cell phones. Such wireless technology could potentially revolutionize personal connectivity, eliminating the need for wired connections. Bluetooth is a specification for low-cost radio links among cell phones, hand-held computers, and other communication devices, including the Internet, over short distances without the need for cable. It is designed for low-powered short-range operation between devices, and it costs some \$20–\$30 to install on a computer. This technology is beyond the capabilities of any single firm, and Ericsson has established a network of firms—including IBM, Intel, Microsoft, Motorola, Nokia, Toshiba, Agere, and 3Com—and more than 2000 associate firms to develop the required technology and applications.

This network of firms is itself in competition with another technology, and it is yet unclear which will be the winner. There are obviously large stakes involved, so first-mover advantages and standards will be critical. The second technology is currently denoted as Wi-Fi, a protocol permitting laptop computers within range of a base station to access the Internet at high speeds without the need for a cable. Microsoft has been reported as betting on both developments—it is part of Bluetooth and it is supporting Wi-Fi in its Windows XP operating system. It will be interesting to see how this competition develops. Bluetooth may have other market opportunities as a wireless payment system in shops and as an electronic travel pass, where its ability to transmit signals via



**Figure 3.11** Network of Firms in Bluetooth

Source: "Bluetooth Membership," 2004: [www.bluetooth.org](http://www.bluetooth.org).

short-range wireless would be an advantage.<sup>37</sup> There will certainly be competition between these two systems as each strives for dominance.

As Figure 3.11 indicates, the network model is by no means restricted to the firm and the suppliers with which it interacts in its now-deconstructed business system. Increasingly, erstwhile competitors are allying where they believe their joint interests are best served by such arrangements. Although Japan has long witnessed rivalry between major *keiretsu*, network-versus-network competition is fast growing elsewhere in the world. One of the most visible illustrations is provided by the airline industry. When the then CEO of British Airways (BA) first proposed an alliance with American Airlines, BA's major transatlantic competitor, he evidently failed to foresee the impact on American's major domestic competitor, United Airlines. United formed the Star Alliance, which has grown to be the biggest airline alliance in the world, subsuming a dozen airlines and more than 800 destinations. BA's One World alliance has also grown, but airlines not part of any such grouping are now desperately seeking partners, so successful has the Star Alliance become.

### Corporate-Level Competition

Corporate-level competitors are perhaps best identified by assessing the overlap in their business portfolios. Shell and Exxon, GE and Siemens, Boeing and Airbus, GM and Ford are obviously corporate-level competitors because each pairing of companies competes in multiple businesses. Rolls Royce Aero Engines is an important business-level competitor for GE in its gas turbine business, but is not a key corporate-level competitor. The responsibility for competitor analysis and strategizing with respect to Rolls Royce would therefore lie at the business level within GE, although major strategic decisions with respect to its GE's aero engine business would rise to the corporate level.

Typically, targeting efforts in competitor analysis depend not only on the extent of the portfolio overlap but also on judgments about the intent of a particular competitor's management. This demands insight into both the competitor's capabilities and the intentions of its managers. Thus, while a typical corporate profile would involve gathering information about the competitor's financial performance, business portfolios, physical facilities, knowledge assets, functional strengths, and the like, it should also include gathering information and insight about the management of the targeted competitor.

## 3.6 SUMMARY

Sensing of the environment is key to strategic thinking. Broad environmental trends affect many industries and firms, including our own suppliers and our customers. Yet exposure to this external environment does not come of its own accord. Indeed, many of the admonitions to management, such as “sticking to the knitting” or “concentrating on core competences,” create the danger of “cocooning,” of insulating too many senior managers from the very forces that should be their preoccupation in strategy development.

We may overstate the case, but in most firms the pressures to focus internally far outweigh those that stress external focus. Of course, this is not an either-or problem; rather, it is essential to strike an appropriate balance. Most companies have at least some blinkers, whether operational or strategic. However the wise CEO will find ways to take off these blinkers, both individually and organizationally. We believe that such exposure is critical to creativity and innovation. To break the mold and come up with new para-

digms requires an ability to separate one's thinking from the here and now. Activities such as encouraging people to go to external seminars (where they will meet people from other industries and firms), best-of-class benchmarking, and externally based measurement all help avoid the dreaded complacency that so quickly infests too many successful firms. The leader's task is to ensure that people don't get too comfortable, to maintain a state of organizational vigilance even when the firm appears to be successful.

We believe it is incumbent on managers to maintain an outward orientation toward the firm's environment, focusing on a realistic understanding of likely changes and their impact. Further, we must recognize that some change will be unpredictable and therefore balance focus and commitment with flexibility and responsiveness. The overarching need is to develop strategies that will be successful in the world of the future, not the world of the present.

## REVIEW QUESTIONS

1. Why should a firm undertake a detailed analysis of its environment? Can the firm spend too many resources analyzing its environment?
2. "Since the world is changing rapidly and unpredictably, there is no value in attempting to undertake detailed analysis of the environment." How would you respond to this statement?
3. Select a firm with several business units. Which remote environmental variables, in your view, are important for the firm and for each business unit?
4. Give an example of a firm that appears to have failed to understand its changing environment. Can you provide reasons why this occurred?
5. Are any of the changes in the remote environment under the control of the management of the firm? If so, which?
6. Select an industry and review the factors that are affecting its profitability. Are the boundaries of this industry changing? If so, what is driving these changes? What is the likely structure of this industry in five years?
7. Does too much attention to direct competitors place the firm at risk? How?
8. Is the concept of an "industry" useful when so many firms are engaged in networks and outsourcing?

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