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Current Trends in Strategic Management

In the half-century after the Second World War, the business corporation has brilliantly proved itself as an economic organization, i.e. a creator of wealth and jobs. In the next society, the biggest challenge for the large company – especially the multinational – will be its social legitimacy; its values, its mission, its vision.

—PETER DRUCKER[1]

Becoming a successful evolver will be a major challenge for most companies . . . For companies that do accept the challenge, the payoff promises to be considerable . . . Evolution will be the wave we ride to new levels of creativity and innovation rather than the tide that washes over us.

—ERIC BEINHOCKER[2]

OUTLINE

Introduction

Early indicators suggest that the 21st century may be at least as turbulent as its predecessor. At the time of writing, only seven years of the new century have elapsed, yet businesses have been buffeted by calamities on multiple fronts. These have included: the bursting of the dot.com and technology–media–telecom bubbles; a wave of corporate scandals that followed the collapse of Enron; the September 11, 2001 attacks in New York and Washington, followed by subsequent terrorist bombings in Bali, Madrid, and London; the invasions of Afghanistan, Iraq, and Lebanon; warnings of a world war between the West and Islam; the growing impact of China, India, and Russia on the world economy – including escalating commodity prices (Brent crude hit $76 a barrel in July 2006); and the threat that climate change may have reached "tipping point," triggering rapidly accelerating global warming.

These developments in the business environment have implications for business strategy at three levels. At the most general level, volatility and unpredictability of the technological, economic, and political environments have increased the importance of companies being flexible and responsive. Second, these developments have called for specific strategy responses from companies. For example, rapid industrialization in China and IT development in India has encouraged widespread outsourcing of manufacture to China and business services to India. The convergence of the markets for telecom, entertainment, computers, and consumer electronics requires that the firms in these sectors develop strategies for competing within a far broader market space. Finally, the new realities of the 21st century have triggered new thinking about the nature of strategy, the responsibilities of the corporation, and the role of management.

In this chapter we shall review the issues and ideas that are redirecting firm strategies and reshaping strategic analysis. We will begin by considering some of the major current trends in the external environment of business and consider their implications for strategic management. We will then go on to explore the ideas and theories influencing strategic thinking. Finally, we will consider how the structures, systems, and leadership of companies are adapting to these emerging imperatives.

Unlike the other chapters of this book, this chapter will not equip you with tools and frameworks that you can deploy directly in your own companies or in case analysis. My approach is exploratory. My goal is to introduce you to some of the ideas that are reshaping our thinking about business strategy and to stimulate your thinking about the kinds of strategies that are likely to be effective during this era of uncertainty and rapid change and the types of organization suited to implementing such strategies.

Trends in the External Environment of Business

The Third Industrial Revolution

The period of intense economic and technological change beginning in the latter part of the 1990s has been described as the "third industrial revolution." The first industrial revolution began in Britain at the end of the 18th century and involved the mechanization of production. The second industrial revolution began in the US at the end of the 19th century and saw the rise of the modern corporation and the introduction of telephones, automobiles, and electrical power. The third industrial revolution – also referred to as the "knowledge revolution" or the advent of the "New Economy" of the late 1990s – has been powered by digital technologies and new communications media – notably wireless telephony and the internet. It was fueled too by the worldwide trends towards privatization, deregulation, and free trade.

Despite the dot.com bust and telecom recession of 2000–3, the New Economy has proved not to be a mirage. At its root is the shift from an industrial to a knowledge economy, where software rather than hardware is the primary source of value. Stanford economists Brian Arthur and Paul Romer argue that economics of replication, network effects, and complementarities between different types of knowledge create increasing returns that permit unprecedented levels of productivity growth.[3] During the past decade, the rate of productivity growth of the US economy has exceeded that of any country in recorded history (see Figure 17.1).

FIGURE 17.1 US Labor Productivity: Annual Changes in Nonfarm Output per Hour Worked, 1990–2006

SOURCE: BUREAU OF LABOR STATISTICS.
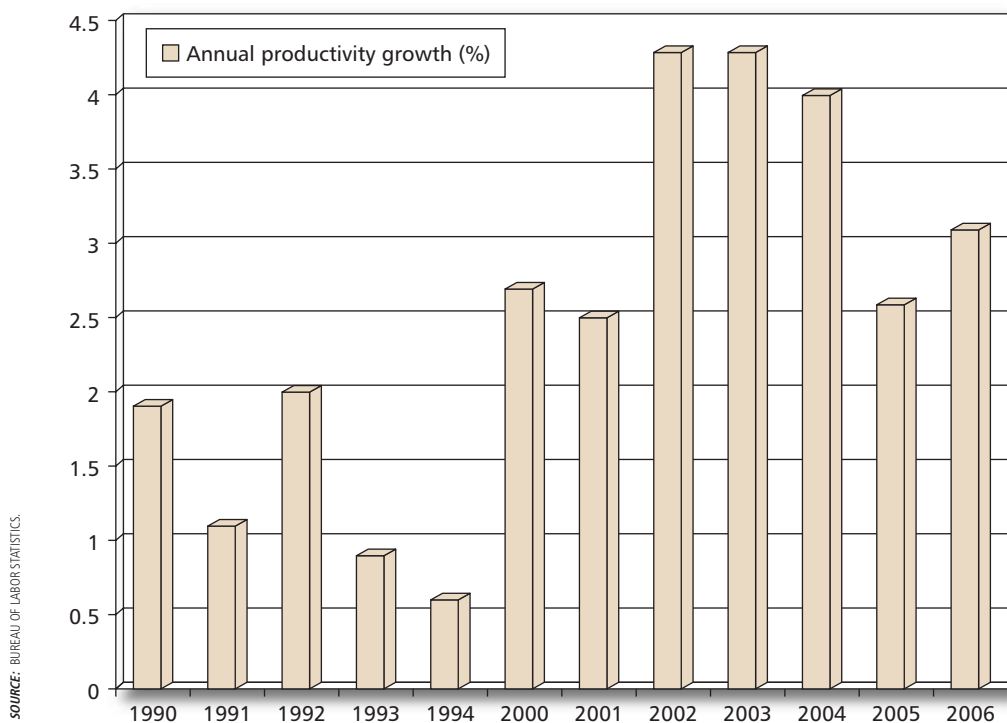
The digitally driven knowledge revolution also creates what Brian Arthur calls the "casino of technology," where markets are transformed and established market leaders deposed.[5] The availability of the internet as a communication device and a global distribution channel allows new industries to be created and destroyed at unprecedented speed. Within the space of five years, two Scandinavian entrepreneurs, Niklas Zennstrom and Janus Friis, have triggered revolutions in two different industries. Their Kazaa file sharing system drove the recorded music industry towards a new business model, while their Skype VoIP internet telephony system threatens the world's fixed-line telecom industry.[4]

Digital technologies are also causing an intensification of competition within the industries that they have an impact on. Winner-take-all markets eliminate the potential for the cosy collusion that typified oligopoly markets – in video consoles, Sony and Microsoft are locked into unremitting rivalry. Equally important is the dissolution of industry barriers caused by digital convergence. Telecom operators, internet service providers, and cable TV companies compete to provide the same services.[6] In hand-held devices, Nokia, RIM (Blackberry), Nin Tendo, and Apple are moving into closer competition.

Societal Pressures

Over the longer term, the values and expectations of society might be even more important than the imperatives of technology in shaping firms' strategies and the organizational systems through which they are implemented. The notion of "strategic fit" embraces not only a firm's economic environment but its social environment as well. Organizational ecologists have long emphasized that firm survival depends on social *legitimacy*.[7] This means that a firm's ability to prosper depends on its acceptability among consumers, the willingness of investors and financiers to fund it, support form government, and the willingness of its employees to apply their efforts and creativity in its service. This view of the business enterprise as a key social institution has encouraged a number of management thinkers – including Peter Drucker, Charles Handy, and Sumantra Ghoshal – to argue that firms must identify with the goals and aspirations of society and support their members in the quest for meaning in their lives.[8]

But what does this mean in practical terms? Which values should companies adopt? What social purposes should they identify with? The debate over the social responsibility of business – between those who view companies as agents of ethical and social values and those who view the sole social responsibility of business as making profit – shows little prospect of resolution. Most evidence, however, points to the wisdom of companies responding to the social concerns and pressures of the time.

At the current time, two trends are having an impact on the broader social conduct of business. In terms of ethics and values, the key drivers are the corporate scandals of 2000–3 and growing distaste over levels of executive compensation – especially when offered as retirement packages (Jack Welch at GE; Lee Raymond at Exxon Mobil), or when the CEOs' bonanza contrasts with meager shareholder returns (e.g. Robert Nardelli at Home Depot). Companies have adopted stricter codes of ethics for their executives and reined in abuses of stock options. Indeed, it is notable that levels of CEO compensation declined between 2001 and 2006.[9]

In terms of social responsibility, the key driver has been the increased environmental consciousness that has accompanied growing concerns over global warming. During 2006, "sustainable business" was embraced by some unlikely evangelists: Jeff

Immelt of General Electric, Lee Scott of Wal-Mart, and Rupert Murdoch of News International.[10]

Becoming a values-driven, socially responsible enterprise presents its own challenges. To begin with, does a company determine unilaterally the values that will govern its behavior, or does it seek to reflect those of the society in which it operates? Companies that embrace the values espoused by their founders are secure in their own sense of mission and can ensure a long-term consistency in their strategy and corporate identity (e.g. Walt Disney Company and Wal-Mart with respect to founders Walt Disney and Sam Walton). However, there is a risk that these values become out of step with those of the society as a whole or with the requirements for business effectiveness. Thus, Marks & Spencer's paternalism towards employees and suppliers became a source of rigidity rather than competitive advantage. Similarly, the principles on which Tom Watson had founded IBM had to be abandoned for IBM to survive in a networked world.

Alternatively, if the enterprise is to adapt to embrace the concerns and values of society, this is difficult if there is either a lack of social consensus or instability in social values. For most of the past half-century, there has been substantial consensus, in Western societies at least, in relation to individual rights, equality of opportunity, and multiculturalism. Recent trends suggest a waning of the "liberal consensus" and increasing ideological and religious conflict in the areas of values and rights.

Decline of the Public Corporation

An alternative to adaptation to the demands of society and government is for firms to retreat into the greater anonymity provided by private ownership. Since 2000, the number of companies listed on the world's major stock exchanges has declined substantially. One reason has been the merger boom of recent years; another is the reversion of companies to private status, usually because of buyout by a private equity fund.

During 2006, Blackstone Group and Kohlberg Kravis Roberts, the world's biggest private equity funds, each launched buyout funds exceeding $14 billion, while the total value of mergers and acquisitions undertaken by private equity funds and other private financiers was estimated at $570 billion during the first nine months of 2006.[11] During 2006, private equity buyouts accounted for 20% of the value of global M&A deals. Major buyouts have included casino group Hurrah's Entertainment and hospital chain HCA. Recently private equity funds have extended their activities from mature industries to the technology sector. For example, a series of semiconductor businesses have recently been acquired, including Philips Semiconductor, Aligent, and Freescale Semiconductor.

At the same time, the incentives for going private have never been greater. The regulatory burden on public companies (notably the Sarbanes-Oxley Act in the US) increased substantially in the aftermath of the accounting scandals in the US (Enron, WorldCom) and in Europe (Parmalat, Royal Ahold, Vivendi Universal). At the same time, the pressures on executives and board members have increased substantially as a result of increased activism by institutional shareholders and various pressure groups. The number of US companies listed on the NYSE fell from 2,722 in 1998 to 2,289 in 2005.

Thus, while the challenges on business to respond to social pressures has increased, one response from the business community has been to retreat behind the greater anonymity afforded by private ownership. It is notable that, while the debate over
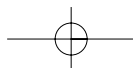
levels of compensation for corporate executives continues to rage, by far the would's highest paid employees tend to the senior managers of private equity funds and hedge funds. The highest paid hedge fund manager in 2004 received over $1 billion.[12]

New Directions in Strategic Thinking

Beyond Downsizing and Shareholder Value

The early years of the 21st century have seen a shift in firms' strategy priorities in response to two key problems facing senior managers. First, the gains from cost cutting and corporate restructuring – the low-hanging fruit on the tree of profit – had been picked. Second, the unremitting quest for shareholder value had unforeseen and undesired consequences for many companies. Rather than maximize the flow of profits on which stock market valuation depended, many companies had focused excessively on short-term earnings, while others had gone further and had attempted to directly manage their stock market valuations through smoothing fluctuations in reported earnings and, in some cases, artificially manipulating financial statements.

The responses to these problems – in terms of strategic management – were twofold: first, a "back-to-basics" movement in which companies have refocused their strategies on the fundamental sources of profitability; second, an emphasis on accessing more complex and difficult-to-reach sources of competitive advantage.

Back to Basics   The bursting of the dot.com bubble and economic downturn of 2000–2 was followed by a wave of healthy skepticism over New Economy management alchemy and the power of radical new business models to deliver untold riches. In response, many companies have adopted a back-to-basics approach to strategy, which has seen them focus on the fundamentals of profitability. In essence, these mean deploying the tools of strategy analysis outlined in this book to probe and access the sources of profitability arising from deploying internal resources and capabilities to exploit opportunities in the external environment. Central to such a back-to-basics approach is avoiding management fads and strategy bandwagons in favor of unique, customized strategies that exploit idiosyncratic advantages. Many banks have abandoned the "bancassurance model" and efforts to enter investment banking in favor of operational improvements and investments in marketing and customer service.

A further aspect of this focus on the sources of profitability has been the old-fashioned quest for market power. Across a large number of market sectors, depressed profitability has triggered a scramble for consolidation through mergers and acquisitions. While business leaders sing the praises of entrepreneurship and the vibrant cut-and-thrust of "creative destruction," the strategic responses to the harsh realities of competition have often been defensive. In many industries, intense M&A activity has resulted in a few global giants that are better able to manage excess capacity and limit pressure from buyers for lower prices. For example, the world cement industry has been transformed by mergers and acquisitions from a fragmented industry populated by local producers to one dominated by four global groups: Lafarge (France), Holcim (Switzerland), Cemex (Mexico), and Heidelberg (Germany). In aluminum, the leading groups – Alcoa (US), Rusal (Russia), Alcan (Canada), Norsk Hydro (Norway), and Pechiney (France) – form a global oligopoly.
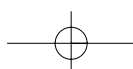
Complementarity in Management Practices The back-to-basics approach to strategy that has accompanied the disillusion with revolutionary new business models, financial engineering, internet economics, and management fads in general has encouraged greater attention to tailoring strategy to the specific circumstances of individual firms. Throughout this book I have emphasized the critical importance of *strategic fit*: strategy must be designed to meet the circumstances of the firm's competitive environment and its resources and capabilities.

Recently, this concern with fit has received increased attention and stronger theoretical and empirical support from work on *complementarity* among the different management practices of a firm. Much of the research has been within the area of human resource management and has shown that firm performance depends on interaction among a wide range of human resource practices.[13] However, the general finding – that the adoption of any particular management practice will fail to improve performance unless every other complementary management practice is adjusted – is general to all areas of management. For example, a six-sigma quality management program is likely to be of little value unless it is accompanied by adjustments in incentives, recruitment policies, product strategy, and capital budgeting practices.

At one extreme, recognition of complementarities in management practices implies a retreat from rules and generalizations in formulating and implementing of strategy in favor of particularism: every firm is unique and must create a unique combination of strategic variables and management practices. In practice, the implications of complementarity are less stark. While every firm is unique, management choices tend to converge to a limited number of *configurations*. Thus, successful adaptation among large European companies was associated with a small number of configurations of organizational structure, processes, and boundaries.[14]

Seeking More Complex Sources of Competitive Advantage Focus on strategy fundamentals does not necessarily lead to simple strategies. In many industries, increasing pressure of competition and the entry of firms with unassailable cost advantages requires that established players access new sources of profitability. As we observed in Chapter 7, there are few competitive advantages that are sustainable over a significant period of time in today's dynamic business environment. Ultimately, the only sustainable competitive advantage is the ability to create new sources of competitive advantage. A key fear of companies that have maintained both profitability and market share over periods of many years is their capacity to build layers of competitive advantage – Toyota, Wal-Mart, 3M, Canon, Dell, and L'Oreal. These companies have meshed the diverse performance goals of cost efficiency, differentiation, innovation, responsiveness, and global learning. As we shall see, reconciling the different requirements of different performance dimensions imposes highly complex organizational challenges that are pushing companies to fundamental rethinking of the structures and management systems.

The need to adapt and upgrade existing capabilities and to add new capabilities places increased emphasis on the need for companies to develop *dynamic capabilities*. Dynamic capabilities allow a firm to adapt to external pressures and change. Zollo and Winter define a dynamic capability as: "a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness."[15]

The Quest for a New Model of the Corporation Disillusion with the share-holder value model of the firm – in particular its encouragement to short-termism and untrammeled materialism – has stimulated the quest for an alternative model of the firm. Most observable alternatives are unappealing. Stakeholder models – certainly as represented by the German co-determination model or Japanese managerial capitalism – tend to display slow decision making and weak entrepreneurial vigor. Private capitalism – as represented by private equity funds – risks substituting one form of short-termism – the stock market's preoccupation with quarterly earnings – with another: the desire of private equity funds to "flip" companies to lock in a return.

Some of the most appealing approaches to rethinking the firm are those that abandon mechanistic, equilibrium ideas of the firm and embrace the basic reality of business: change and uncertainty. The implication – that firm performance is concerned with adaptability rather than optimization – suggests an evolutionary model of the firm. Thus, Peter Senge regards the firm as a *learning organization* – a social organism centered on a knowledge system.[16] Arie de Geus extends this concept of the firm as a living organism to examine the processes of adaptation among the world's longest-living companies (including Stora, a Swedish paper company founded in the 13th century, Japan's 400-year-old Sumitomo, 195-year-old DuPont, and Pilkington, the British glass maker founded in the 1820s).[17] De Geus observes that longevity is associated with *financial conservatism*, *sensitivity* to the external environment, and *cohesion* from a sense of identity infused through a strong corporate culture, yet with significant *tolerance* for individuality.

Moving beyond biological analogies to the elucidation of principles that relate strategy, structure, and management systems to organizational performance under conditions of complexity and unpredictability requires a major leap in the theoretical analysis that we deploy within strategic management. Fortunately, help is at hand. Let us examine two areas of theoretical advance: complexity and real options.

Complexity Theory

The weather, ant colonies, flocks of birds, human crowds, and seismic activity are all *complex systems* – open systems in which a large number of independent agents interact. Organizations are also complex systems. Complexity theory shows that complex systems display common and predictable patterns of adaptive behavior.

Some of the common features of complex adaptive systems are:

- *Unpredictability*. The behavior of complex adaptive systems cannot be predicted in any precise sense. There is no tendency to stable equilibria; cascades of change are constantly interacting and reshaping competitive landscapes. Exogenous changes are subject to a *power-law distribution* whereby small changes typically result in small consequences but may also trigger major movements. The typical example is dropping grains of sand onto a sand pile where small sand movements are interspersed by major landslides.[18]

- *Self-organization*. A key feature of biological and social systems is their capacity for self-organization. As with other living organisms – bee colonies and shoals of fish – companies have the capacity to self-organize, adapt to change, and create new structures and systems in the absence of formal

authority. Computer simulations of synchronized behavior show that, with just a few simple rules, sophisticated patterns of coordination emerge at the system level. For human organizations there are three main requirements for self-organization:

– *Identity*. Organizations need to be founded on an intent that drives the sense-making process within the organization.
– *Information*. Information provides the medium through which an organization relates to its environment and through which the individuals within the organization know how to react to external changes.
– *Relationships*. Relationships are the pathways through which information is transformed into intelligent, coordinated action. The more access individuals have to one another, the greater the possibilities for organized activity. Responsiveness to a wide range of external circumstances necessitates every individual having a wide range of connections to other individuals, with the potential for unplanned connections.[19]

● *Inertia and chaos*. Evolutionary processes can produce three types of outcome: an orderly outcome where change is so limited that the system suffers inertia, disorder where changes produce chaotic outcomes, and an intermediate region where small changes that result in a power-law distribution result in small and large shifts and this achieves the most rapid evolutionary adaptation. These results point to the advantages of systems that evolve to the *edge of chaos* – they are capable of small, localized adaptations, but also have the potential to make larger leaps toward higher *fitness peaks* while avoiding tumbling off the fitness edge into chaos.[20]

The implications of these ideas for strategic management are radical and far-reaching. If business is a complex system, then it is inherently unpredictable – not only is it impossible to forecast the business environment, but managers cannot predict what the outcomes of their actions will be. The concept of the CEO as the peak decision maker and strategy architect is not only unrealistic, it is undesirable. Managers must rely on the self-organizing properties of their companies. The critical issues are how can they select the structures, systems and management styles that will allow these self-organizing properties to generate the best outcomes? A key framework has been Kaufman's concept of a *fitness landscape*.[21] The challenge for managers is to design organizational systems that allow self-organization the best chance of attaining the highest level of performance ("*fitness*"). Drawing upon the contributions of Brown, Eisenhardt, McKelvey, and Levinthal, the following recommendations have been made as to how companies can best scale the performance peaks associated with locating at the edge of chaos:[22]

● *Establish simple rules*. If the complex coordinated behaviors of complex systems with no centralized authority (the flying formations of birds) can be simulated with a few simple rules, it seems feasible that such rules play a similar role in reconciling individual initiative and overall coordination within companies. Some companies do not plan strategy in any formal sense, but craft simple rules that can help locate the company where the opportunities are richest. These include rules of thumb in screening opportunities ("*boundary rules*"). Thus, Cisco's acquisitions strategy is guided by the rule that it will acquire companies with fewer than 75 employees of which 75%

are engineers. Second, rules can designate a common approach to how the company will exploit opportunities ("*how-to rules*"). Thus, Yahoo has a few rules regarding the look and functionality of new web pages, but then gives freedom to developers to design new additions. Third, companies have rules to determine priorities in resource allocation ("*priority rules*"). Thus, Intel allocates manufacturing capacity according to each product's gross margin. It was this role that allowed it to evolve from a memory chip company to a microprocessor company even before such a transition had been determined by top management.[23] Many of Jack Welch's initiatives at GE fulfilled a similar role. Rather than offer specific direction to business-level chief executives, he introduced periodically key corporate initiatives: "Be number 1 or number 2 in your industry," "Six-sigma," "Destroy-your-business-dot-com." These stimulated and focused decentralized initiatives, but did not directly manage them.[24]

● *Establish conditions for both incremental and radical change*. If achieving the highest level of adaptive performance requires a combination of frequent small changes with occasional radical leaps, management systems can be designed to encourage these outcomes. Consider for example the reorientation of many companies' strategic planning systems from agreeing strategy inputs towards agreeing performance outputs. One of the merits of performance-based planning (at BP, for example) is that it provides strong incentives for cost reduction and continuous improvement, while establishing a framework where serious performance shortfalls trigger corporate intervention which will usually involve major strategic changes.

● *Accelerate evolution through flexible organizational structure*. Organizational structures tend to ossify over time as power centers build and interactions become institutionalized. Periodic large-scale corporate reorganizations are not enough: to exploit innovation and entrepreneurial initiative, flexibility in organizational structure is essential. Eisenhardt and Brown use the term "patching" to describe a process in which new organizational units are continually being created, merged, and redefined to foster initiative.[25] Achieving flexibility may require leaving structures only partially defined. This may be especially effective in assisting collaboration between different business units within a company. Rather than attempt to manage business unit linkages from the corporate level, it may be better for corporate to create a context within which businesses can co-evolve. The key elements of such a context are, first, linking rewards to individual business performance rather than to reward collaborative efforts; second, maintaining porous boundaries to each business such that a multiplicity of voluntary collaborations can thrive between individuals across the businesses. Walt Disney Company exemplifies co-evolution between different internal divisions. Disney's *Lion King* movie spawned videos, theme park attractions, a stage musical, and over 150 kinds of merchandise. These spinoffs were not planned by corporate strategists; they occurred through voluntary cooperation across Disney's different divisions.[26]

● *Use adaptive tension to position at the edge of chaos*. Given the tendency for too little tension to produce inertia and too much to create chaos, the challenge for top management is to create a level of adaptive tension that

optimizes the pace of organizational change and innovation. Bill McKelvey shows how Jack Welch's management style may be interpreted from a complexity viewpoint as imposing a set of rules and powerful incentives that established levels of adaptive tension between the 1st and 2nd critical values. The rule of "Be number 1 or number 2 in your industry" combined with powerful incentives for individual managers established conditions highly conducive to rapid adaptation.[27]

Applications of complexity theory to strategy management promise to add analytic support to the argument of Mintzberg and others in favor of *emergent* rather than *planned* approaches to strategy making. Mintzberg's critique of the "planning" and "design" schools of strategy making was based on the argument that intuition and decentralized processes were better ways to make strategy than rational frameworks and systematic decision processes.[28] However, by establishing a body of theory that shows how self-organization and localized adaptation can take an organization toward the edge of chaos, complexity theory provides a sound intellectual basis for Mintzberg's intuition. Many of the changes that have taken place in the strategic planning systems of large companies in recent years – reduced formality, emphasis on performance goals, focus on direction rather than content – are consistent with the tenets of complexity theory.[29]

Real Options

We noted in Chapter 2 that there are two sources of value for individual projects or entire firms: cash flows and options. In recent years considerable progress has been made in developing principles and techniques for the valuation of real option values. Most of this analysis has been developed for valuing individual investment projects, though the same principles can be extended to valuing entire companies. However, despite these developments, our techniques of strategy analysis rest heavily upon the first component of firm value – cash flows to the firm. Thus, our analyses of industries and of resources and capabilities are primarily directed towards identifying the potential for profits.

As the business environment becomes increasingly volatile and unpredictable, the value of both projects and firms becomes increasingly dependent on option values. Under these circumstances, the principles of real option valuation become important not just to the appraisal of investment projects but also to the formulation of firm strategy. From an options viewpoint, strategy is concerned with creating and managing options.

Analysis of strategy in terms of option-creation has focused on particular types of strategic decisions – for example, R&D decisions,[30] acquisitions,[31] and alliance formation.[32] However, application of real options thinking to strategic analysis at a broader level has been limited to broad generalizations, such as the value of flexibility. If we are to take on board options thinking more widely, then we need to reconsider most of our core strategy models and strategy techniques. For example:

- Industry analysis has taken the view that decisions about industry attractiveness depend on profit potential. However, if industry structure becomes so unstable that forecasting industry profitability is no longer viable, it is likely that industry attractiveness will depend much more on option value. From an options perspective, an attractive industry is one that is rich
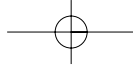
in options – for example, an industry that produces a number of different products, is comprised of multiple segments, has many strategic groups, utilizes a diversity of alternative technologies and raw materials, and where internal mobility barriers tend to be low. Thus, consumer electronics, semiconductors, packaging, and investment banking would seem to be more attractive in terms of options than electricity or steel or car rental.

● An options approach also has major implications for the analysis of resources and capabilities. An attractive resource is one that offers opportunies for deployment in multiple businesses and to support alternative strategies. A Scottish island is likely to offer greater option value than a North Sea oilfield. Similarly with capabilities: highly specialized capabilities such as expertise in the design of petrochemical plants offers less option potential than expertise in the marketing of fast-moving consumer goods. The importance of dynamic capabilities is their ability to create new options. According to Eisenhardt and Martin, "Dynamic capabilities are the organizational and strategic routines by which firms achieve new resource combinations as markets emerge, collide, split, evolve, and die."[33]

Redesigning the Organization

As business environments become more complex, more competitive, and less predictable, survival requires that companies perform at a higher level with a broader repertoire of capabilities. Building multiple capabilities and achieving excellence across multiple performance dimensions requires managing dilemmas that cannot be resolved as simple tradeoffs. A company must produce at low cost, while also innovating; it must deploy the massed resources of a large corporation, while showing the entrepreneurial flair of a small startup; it must achieve high levels of reliability and consistency, while also being flexible. All of these dilemmas are aspects of the underlying conflict between achieving operational efficiency today, and adapting for tomorrow. Reconciling these conflicts within a single organization presents huge management challenges. We know how to devise structures and incentive systems that drive cost efficiency; we also know the organizational conditions conducive to innovation. But how on earth do we do both simultaneously?

Among the new developments in organizational design, two major trends may be discerned. The first is the design of organizations to facilitate the development and deployment of organizational capability. The second is the design of organizations to permit rapid adaptability.[33B]

Capability-based Structures

In Chapter 6, we noted that organizational design has been dominated by the requirements of cooperation rather than coordination. As a result, hierarchical structures have emphasized control and the need for unitary lines of command. Once we acknowledge that building outstanding capabilities is the primary goal of organizational design, then the emphasis shifts to the need to achieve effective coordination. If we accept that most enterprises need to deploy multiple capabilities and the coordination needs of different capabilities vary, it follows that our organizational structure must encompass different patterns of interaction. Hence, most business enterprises
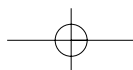
are unlikely to be successful with a unitary structure and will need to encompass multiple structures.

Beyond Unitary Structures The principles of knowledge management offer one approach to understanding how different capabilities require different types of structure. Knowledge management distinguishes between activities directed toward building the firm's stock of knowledge and those directed toward deploying the existing stock of knowledge. James March refers to the former as *exploration* and the latter as *exploitation*.[34] The observation that exploratory capabilities (R&D and market research, for example) need to be organized differently from knowledge-exploiting capabilities (operations and finance, for example) is well known. A more difficult challenge is the fact that the same people undertake both exploratory and exploitation activities as part of their same jobs. Thus, a plant manager may be primarily engaged in knowledge exploitation, but when s/he is involved in training activities, new product development, and benchmarking studies, his/her emphasis is exploration.

The solution is the simultaneous deployment of different structures for different tasks.[35] Thus, the primary structure of the firm is established for the basic tasks of knowledge exploitation – purchasing, producing, selling, distributing. However, exploratory activities, such as new product development, typically require interacting with different people within a different type of collaborative relationship. Here, a multifunctional product development team is more conducive to developing and applying product development capability. Similarly, for identifying and transferring manufacturing best practices, an informal cooperative group comprising different plant managers is likely to be most effective.

Separate structures for pursuing the exploratory activities required for developing and adapting the organization have been described as *parallel learning structures*.[36] While operational tasks typically require high levels of specialization and coordination through rules and routines, activities oriented toward innovation and adaptation require lower levels of specialization and coordination through planning and mutual adjustment, both of which are likely to be communication intensive. For example, at 3M, the formal structure exists in terms of business units and divisions within which individuals have clearly defined job tasks. In addition, there is an informal structure for the purpose of new product development whereby individuals are permitted, indeed encouraged, to "bootleg" time, materials, and use of facilities to work on new product ideas. Promising new products that emerge from the informal structure are taken within the formal structure.

GE's "Work-Out" program was a classic example of a parallel structure effecting change within the formal structure. Work-Out sessions took the form of meetings held away from GE's offices, where the norms that governed the formal organization were suspended, and free interchange of ideas was encouraged. The outcome was a powerful device for initiating change within the formal structure.

Where the purpose of the new structures is to develop capabilities, they may be almost entirely informal. The appendix to Chapter 5, discussed informal knowledge-sharing networks called *communities of practice*.[37] Within the Royal Dutch Shell Group of companies, over 100 communities of practice have emerged. These have been merged into about 20 Global Networks that are focused around areas of technology such as the Wells Global Network and the Subsurface Knowledge Sharing Network, and around commercial activities such as Competitor Intelligence and Procurement. Communities of practice have emerged as important vehicles for

capability development at organizations ranging from Hewlett-Packard to the World Bank.[38]

Team-based, Project-based, and Process-based Structures Creating structures that foster organizational capabilities may require different patterns of interaction than are typical of conventional structures. Increased reliance on teams reflects the recognition that routines require patterns of interaction that are spontaneous and poorly understood – hence, they cannot be "managed" in any directive sense. Flexible, team-based structures can achieve the kinds of adaptable integration that are the basis of dynamic capabilities, yet, beyond some very basic requirements of team structure, we know little about the dynamics of team interaction.[39]

More companies are organizing their activities less around functions and continuous operations and more around time-designated projects where a team is assigned to a specific project with a clearly defined outcome and a specified completion date. While construction companies and consulting firms have always been structured around projects, project-based organizations, featuring temporary cross-functional teams with specific objectives, are increasingly viewed as models achieving innovation, adaptability, and rapid learning in more traditional organizations. A radical experiment in project-based organization was initiated by Oticon A/S, the Danish manufacturer of hearing aids. CEO Lars Kolind abolished Oticon's formal organization and introduced a project-based company in which over 100 self-directed projects competed to attract employees. A ten-person top management team acted as project owners, but with few decision-making responsibilities other than to enforce basic rules such as "no paper-based communication."[40]

The desire to improve coordination across multiple, linked capabilities has encouraged companies to align their structures more closely with their internal *processes*. While business process reengineering directs attention to the microstructure of processes, interest in organizational capabilities has fostered a more integrated view of processes that focuses on how individual processes fit together in sequences and networks of complementary activities. For example, a company's order fulfillment process would span the whole chain of activities, from supplying information to potential customers, to customer selection and ordering, to manufacturing, through to distribution. Similarly, the customer relations process embraces the entirety of a company's interactions with its customers through marketing and after-sales services. In many cases, these macro processes extend beyond the company. Thus, supply-chain management involves linking internal logistics with those of suppliers and suppliers' suppliers. Volvo's reorganization of its "order fulfillment process" with the goal of a 14-day cycle between customer order and customer receipt of a customized automobile involved reorganizing and reintegrating the order process, the production planning process, supply chains, the distribution process, and dealer relations.[41]

Organizing for Adaptability

One of the implications we drew from our brief review of complexity theory was the idea that, in order to cope with a complex environment, an enterprise might have to resort to simple rules. A similar implication may be drawn in relation to internal organization. To the extent that organizations are required to perform tasks whose complexity and variety require structures and systems that we cannot design for the simple reason that we do not have the knowledge, then the optimal response may be

to simplify the formal structure to allow the individuals within the organization to self-organize. Loosening the structure may be a critical step toward building the *ambidextrous organization* – one that can combine multiple capabilities and accommodate both gradual change, evolutionary change, and occasional revolutionary leaps.[42]

The paradox of simplicity is that reducing complexity at the formal level can foster greater variety and sophisticated coordination at the informal level. At GE, Jack Welch's system of management emphasized the "3Ss" – "Speed, Simplicity, Self-confidence." His quest for simplicity has involved a minimalist approach to formal control systems augmented with periodic corporate initiatives ("growth," "boundarylessness," and "Six-Sigma"). Yet, paradoxically, this paring down of formal systems permitted more complex patterns of coordination and collaboration within GE. Recognizing the limits of formal controls, Welch guided GE by influencing attitudes, expectations, values, and behaviors.[43]

This focus on organizational context rather than organizational structure is a discernible trend across many companies. Thus, most companies have given more attention to organizational culture, values and modes of behavior, while relying more upon coordination occurring voluntarily and spontaneously. Three concepts have proven practically useful in this: *identity*, *modularity*, and *networks*.

Identity To manage the organizational context includes influencing social and behavioral norms, but these depend on some shared cognition of what the organization is and an emotional attachment towards what the organizational represents. These ideas are components of what has been termed *organizational identity* – a collective understanding of what is presumed core, distinctive, and enduring about the character of an organization.[44] A strong consensus around organizational identity provides a powerful focus for flexible, coordinated action, but to the extent that identity is rooted in a past that is not longer relevant to the present, identity can represent an impediment to strategic change. To this extent companies may need to manage their external image in order to achieve a change in identity. Thus, IBM's identity as a vertically integrated supplier of mainframe computers hampered its development as a supplier of PCs, peripherals, and IT services. Changing its identity required considerable investment in projecting images that allowed the reorientation of its identity.

Modularity If the essence of dynamic capability is in building over time strong capabilities in technologies and specific functions, and in reconfiguring these to meet the requirements of a changing environment, what kind of structure can achieve such a combination of continuity and flexibility? In Chapter 6, we examined the argument that hierarchical structures based on loosely coupled, semi-autonomous modules possessed considerable adaptation advantages over more tightly integrated structures. Such modular structures may be particularly useful in reconciling the need for close collaboration at the small-group level with the benefits of critical mass.[45] Thus, the key to Microsoft's success in designing huge software programs such as Windows NT, Internet Explorer, and Microsoft Office, which require the coordinated efforts of close to 500 software developers, is to modularize these programs using its "synch and stabilize" system.[46]

Networks A key feature of the changes in strategy, structure, and management systems has been less distinction between what happens within the firm and what

happens outside it. Organization theory emphasizes the distinction between the organization and its environment, while economics distinguishes between markets and hierarchies as alternate organizational mechanisms. The growth of interfirm collaboration and the development of the "contingent workforce" – people who work for companies but who are not covered by long-term employment contracts – has blurred this distinction, and theory has recognized a continuum of organizational forms and a multiplicity of contractual forms that make it clear that spot markets and unitary firms are just two specific organizational forms. As "command and control" modes of management give way to less formal patterns of coordination, so internal relationships within the firm are less differentiated from external relationships. The immediate implication is that the boundaries of the firm are less distinct and more permeable. If cooperation across individuals and small enterprises can achieve the close coordination conventionally associated with corporations, the large, integrated company may disappear as the dominant organizational form in many industries. We have already noted how networks of small firms in the Italian clothing industry simultaneously achieve integration, flexibility, and innovation. The potential for networks of small firms to emulate the advantages of large corporations is evident in the Italian motorcycle industry, where small companies such as Aprilia, Italjet, and Ducati have used integrated networks of suppliers to compete with the dominant Japanese manufacturers through innovation, design, and proliferation of models.[47]

Internet technology plays a critical role in increasing the efficiency of communication and coordination within interfirm networks. Intranets that link together internal units of the enterprise with outside suppliers, customers, and partners have had a major influence in blurring corporate boundaries. At Cisco Systems, internet systems not only link customers and suppliers for the purposes of ordering and invoicing, but also provide common systems for managing technology and joint product development and extend budgeting and strategic planning systems to its partners.[48] The internet and intranets also allow the geographical expansion of networks. Some of the most remarkable and successful network forms are the open-source software communities that have created highly successful computer software such as Linux and Apache.

Interfirm networks facilitate the design and production of complex products that require a wide range of technical and commercial capabilities in sectors subject to rapid change. In automobiles, fashion clothing, aerospace, machine tools, and telecom equipment, networks allow each firm to specialize in a few capabilities while providing the close linkages needed to integrate these different capabilities. The flexibility of these linkages offers the potential for the capabilities resident within an interfirm network to be reconfigured in order to adapt quickly to external change.[49]

New Modes of Leadership

New organizational structures and strategic priorities point to new models of leadership. The era of restructuring and shareholder focus has been associated with "change-masters"[50] – highly visible, individualistic, often hard-driving management styles of CEOs such as Lee Iacocca at Chrysler, John Browne at BP, Michael Eisner at Disney, and Rupert Murdoch at News International. These leaders have been, first and foremost, strategic decision makers, charting the direction and redirection of their

companies, and making key decisions over acquisitions, divestments, new products and cost cutting.

The responses that have been suggested to the problems of complex business environments in terms of both strategy formulation and organizational design imply a very different role for the chief executive than the "buck-stops-here" peak decision-making role traditionally associated with corporate leadership. The guidelines for strategy and organization design that we have discussed so far point to management leadership as directed more toward the creation and maintenance of the organizational environment rather than decision making per se.

If the foundation of strategy is a sense of organizational identity, then a key role of top management is to clarify and communicate that identity. James Collins and Jerry Porras, in their influential study of successful companies *Built to Last*, emphasize the critical and complementary roles of *core values*, *core purpose*, and an *envisioned future*.[51]

The role of values and purpose is not just to provide a foundation for strategy, but also to unify and inspire the efforts of organizational members. To this end, the purpose and values of the enterprise must be consistent with those of its employees. To the extent that our lives are a search for meaning, the satisfaction that our work offers will depend critically on the congruence between organizational purpose and our own aspirations. British Petroleum's 2000 rebranding included the theme "beyond petroleum," an attempt to communicate a more meaningful and resonant image to its stakeholders than the production of petroleum products. Ultimately, creating a common identity between the organization and those who work within it may require the organization to recognize the existence of human emotion and, ultimately, the human soul.[52]

What do these considerations imply about the job of the chief executive and the top management team? The emphasis has shifted away from "the CEO as decision maker" towards "the CEO leader of organizational culture, climate, identity, and processes responsible for clarifying shared vision; enriching the culture; aligning vision, strategy, organizational design, and human resources; and promoting understanding of events."

These roles are likely to require different types of management skills:

The balance has clearly shifted from attributes traditionally thought of as masculine (strong decision-making, leading the troops, driving strategy, waging competitive battle) to more feminine qualities (listening, relationship-building, and nurturing). The model today is not so much "take it on your shoulders" as it is to "create the environment that will enable others to carry part of the burden." The focus is on unlocking the organization's human asset potential.[53]

Research into the psychological and demographic characteristics of successful leaders has identified few consistent or robust relationships – successful leaders come in all shapes, sizes, and personality types. However, a recent stream of research has pointed to the role of a set of personality attributes that have been referred to as *emotional intelligence*. These comprise:

- *Self-awareness* in terms of the ability to read and understand one's emotions and assess one's strengths and weaknesses, underlain by the confidence that stems from positive self-worth.
- *Self-management* in terms of control, integrity, conscientiousness, initiative, and achievement orientation.

- *Social awareness* in relation to sensing others' emotions (empathy), reading the organization (organizational awareness), and recognizing customers' needs (service orientation).
- *Social skills* in relation to influencing and inspiring others: communicating, collaborating, and building relationships with others; and managing change and conflict.[54]

Daniel Goleman argues that these attributes are positively associated with superior performance across all leadership styles and over a wide range of management situations.

Jim Collins' studies of companies that have achieved sustained success over long periods of time also claims to have identified some common characteristics of outstandingly successful companies. What he terms "Level 5 Leadership" involves a paradoxical combination of personal humility – often shyness – and intense resolve within the organization.[55] Transformational leaders such as Philip Morris's Joseph Cullman, Kimberly-Clark's Darwin Smith, and Nucor's Ken Iversen have combined these characteristics with a number of specific management practices:

- Giving priority to building the right team over creating the right strategy.
- Willingness to confront reality while maintaining faith in the future.
- Building organizational momentum.
- Possessing depth of knowledge concerning the fundamental economics of the business, what the company is best at, and how to ignite the passions of its people.
- Pioneering a few carefully selected technologies while maintaining skepticism over technology bandwagons.
- Maintaining discipline of thought, action, and people.

Summary

While the future remains unknowable, its roots are in the present and the past. From what we observe today, we can identify many of the key developments of the next few years. The trends that we discern in science and technology, economic development, government policies, social structure, demographics, and lifestyles will shape the business environment for the remainder of the decade. We have reviewed some of the sources of competitive advantage in the emerging business environment and the capabilities that companies will need to develop and deploy.

Some of the most critical, and difficult, issues concern the structures, systems, and styles needed to build and exercise these capabilities. The configurations that were so successful during the last two decades of the 20th century are unlikely to serve enterprises so well in this first decade of the new millennium.

Emerging theories of complexity, self-organization, knowledge management, and leadership can augment our existing standard tools of strategic management. Even more encouraging is the fact that experimentation and innovation at the

coal-face of managerial practice offer lessons that are yielding solutions capable of wider application and the seeds of new principles and frameworks. AES's "honeycomb" structures, Sun Microsystems' networks of alliances, Kao Corporation's system of "biological self-control," Yahoo!'s strategy of "structured emergence," and Oticon's "spaghetti organization" suggest novel approaches to managing within complex, high-velocity environments.

Strategic management remains highly dependent on concepts and theories drawn from the basic disciplines of economics, sociology, psychology, biology, and systems theory. However, the encouraging feature of the past few years has been greater synthesis across these disciplines and between theory and practice. One indicator of progress is that strategic management is less obviously a net importer of ideas and findings from its contributing disciplines. In areas such as the analysis of competition, determinants of long-run profitability, organizational design, and

the management of technology, it is strategic management scholars who are breaking new ground and influencing thinking in the underlying disciplines.

Formidable challenges lie ahead. As the opportunities for creating value from downsizing, refocusing, restructuring, and reengineering have become mined out, so managers have been forced to explore new territory seeking new sources of competitive advantage. In the aftermath of the late-1990s' technology, it is apparent that new sources of value are elusive. While our basic tools of strategy analysis – industry analysis and the analysis of resources and capabilities – remain valid and robust, it is clear that we shall need to continually develop our concepts and frameworks to meet the circumstances of tomorrow. The challenge is to apply what we know, recognize what we don't know, and engage in reflective observation to extend our domain of understanding.

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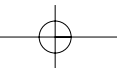
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