



STRATEGIC DYNAMICS

CONCEPTS AND CASES

Robert A. Burgelman

Andrew S. Grove

with Philip E. Meza

Strategic Dynamics: Concepts and Cases

first edition

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History and Acknowledgements

This book has its roots in a somewhat unusual pedagogical collaboration: An academic (RAB) and a chief executive officer of a major high-technology company (ASG) getting together to find a way to integrate action-based but reflective executive experience with theory-based but grounded academic research for the purpose of providing a novel learning experience for MBA students.

Our collaboration started in the fall of 1988 when we wrote a case on Intel Corporation's exit from the dynamic random access memory (DRAM) business and the company's transformation into a microprocessor company. Teaching this case brought the executive into the MBA classroom to contribute to an existing elective course on the strategic management of technology and innovation at Stanford Business School. We did not realize this at the time, but this case, which opens this book, contained the empirical and conceptual seeds that would sustain our pedagogical collaboration for the next 17 years.

After three years of further documenting the story of Intel's strategic evolution and discussing it with bright MBA students in the classroom, we decided that it was time to develop a new elective course. The time was ripe. The early 1990s saw the rapid growth of the PC market segment in the computer industry and it was becoming clear that the microprocessor revolution would have deep impact on all segments of the computer industry. The title of the new course, "Strategy and Action in the Information Processing Industry," reflected this.

As we progressed with our course through the 1990s and early 2000s, the emergence of the Internet, networking, and other communications technologies spread the impact of information technology in ever-widening circles, leading us to write new cases about companies in industries that would have seemed far removed at the start of our collaboration. Many of these cases are made available in this book. We also increasingly understood that our course was really about strategic dynamics: the interplay between strategic action and the environment. Hence, the title of the book.

Putting together a book like this one requires significant support. In first instance, we want to thank the Stanford Business School for its sustained support of our field research and course development throughout the entire period of our collaboration. Initially Dean Mike Spence and since 1999 Dean Bob Joss, together with successive cognizant associate deans for academic affairs, have provided us with the resources necessary to pursue our course development objectives.

Over the years, many MBA students and several research associates have helped us in developing the case material necessary to keep our course at the leading edge. Not all cases and notes that they developed could be published in this book, but they all helped. We thank them all. Cases and notes published in this book involved the collaboration of George Cogan (Stanford MBA '89), Eric Marti (Stanford MBA '88), Ray Bamford (Stanford MBA '96), Jeff Maggioncalda (Stanford MBA '96), Frederic Descamps (Stanford MBA '03), Sweta Sarnot (Stanford MBA '03), Lewis Fanger (Stanford MBA '03), Cecilia O'Reilly (Stanford MBA '03), Christopher Wittig (Sloan '04), Sami Inkinen (MBA '04), and Jean-Bernard Rolland (Stanford MBA '04). Les Vadasz, formerly President of Intel Capital, helped write the broadband and voice over IP cases.

Since fall 1999, Philip E. Meza has been our valued research associate. He helped write a large number of the cases published in this book and also has served as teaching assistant of our course. We recognize his contribution by listing him as co-author for this edition of the book.

We thank several academic colleagues who served anonymously as reviewers of our first manuscript. Their incisive queries and helpful suggestions have had a significant positive impact on the final version. We also thank Ryan Blankenship, our senior editor at McGraw-Hill, whose early support, gentle probing, and continued encouragement helped us to further strengthen the manuscript. Our administrative assistants (Nanci Moore for RAB and Terri Murphy for ASG) and McGraw-Hill's editorial staff made sure the book's production process stayed on track.

Finally, many thanks to Rita Burgelman, Eva Grove, and Marjorie Qualey for their continued patience, understanding, and support.

Robert A. Burgelman and Andrew S. Grove
February 2005

Preamble

This book is about strategic dynamics in information technology–driven industries.

What is strategic dynamics? Strategic dynamics describes the interactions between companies and their environments. Over time, these interactions strengthen or weaken the strategic position and the distinctive competencies of incumbent companies. All companies in all industries are affected by the results of strategic dynamics and many eventually succumb to them. (Just compare, for instance, the companies on the Fortune 500 list in 1950 with that of 2005.) But to study how strategic dynamics work it makes sense to do so in industries in which they can be observed to operate at a relatively fast rate and so for this book we have chosen to focus on information technology–driven industries.

Why information technology–driven industries? First, because we know them best; but beyond that because they are characterized by rapid changes in the business environment due to the constant evolution of technology, which in turn necessitates frequent strategic changes.

What are information technology–driven industries? They are, first, firms in the information technology industry proper, such as various hardware component (e.g., Intel), software component (e.g., Microsoft), original equipment (e.g., Dell), and service companies (e.g., IBM), whose fortunes are driven by the relentless advances of information technologies broadly defined. But increasingly, they are also industries in which incumbent companies' inputs, outputs, and distribution are radically transformed by digital technology. Think, for instance, of how digital technology has affected or threatens to affect companies that publish traditional animated stories (e.g., Disney), produce and distribute music (e.g., Universal Music Group), or provide telephone service (e.g., AT&T).¹ All of the companies in these industries have struggled to find the right strategies and associated set of strategic actions to meet the challenges faced by the information technology–driven changes. What are strategic actions? They are changes in the business, planned and executed by general management to shape the future of the company.

Who are we? One of us has spent a career studying the way strategy is formed by both top-down and bottom-up actions in organizations; another of us has worked in the information technology industry for 40 years.

The book offers the opportunity to study the evolution of several information technology–driven industries. The Introduction begins with a very brief overview of this evolution, starting with the maturation of the microchip, the technological driving force for most changes. It then discusses the confluence of compounding forces that have produced the Internet economy and e-commerce, and others that are currently reshaping the software industry. This is followed by different manifestations of the convergence and/or collision between different sectors of the industry that are the consequence of technological evolution.

The book also offers the opportunity to study three interrelated conceptual themes related to strategic actions. These are also discussed in the Introduction. The first of these, titled "strategic action and strategic dynamics," examines the role of strategy in companies' evolution and the dynamics that result from the interaction of the companies' strategic actions with their environment, which often changes. Of particular interest is the case when the environment changes as a result of the strategic action itself. The second theme studies the relationship between strategy as intended and strategy as reality. In particular,

¹Other information technology–driven industries that we have studied but do not report on in this book include, for instance, financial services (e.g., Charles Schwab) and health care (e.g., Kaiser Permanente).

we examine what happens when alignment between the stated strategy and the strategic action diverges, as often is the case in rapidly changing environments. When the environmental changes are very large, they often create conditions that we call strategic inflection points, periods which represent the possibility of having to choose between alternative strategies, which can further widen the divergence between the possible paths of future development of the companies' evolution.

The third theme describes the ways different companies navigate such large environmental changes—we study corporate transformation, ways companies change in a major way what they do and how they do it. Such transformations require management to navigate and control chaos on one hand and rein in chaos on another, requiring exquisite leadership on the part of a top management.

The book's structure follows The Introductions' discussion of the evolution of industries driven by information technology, and each of its main parts contains cases that can be studied in light of the three major themes. Many of these cases illustrate more than one of the major themes, and the choice of which theme to emphasize is dictated by our judgment of what learning each case can highlight best. Wherever possible, we use a technique that we like to call critical comparative case analysis. This involves juxtaposing comparable situations in which there are differences in only a limited number of variables, while keeping most conditions approximately the same. By confining our cases to information technology-driven industries, it is possible to find opportunities for such comparative analysis.

We have found both studying and practicing strategic dynamics in information technology-driven industries very exciting and very much fun. We hope you will too.

Table of Contents

history and acknowledgements iv
preamble vi

1 Introduction: Industry Context and Key Themes

Evolution of Information Technology-Driven Industries 3

- Introduction 3
- The Microchip Matures 3
- Compounding Confluence—Take 1: The Internet and E-Commerce 4
- Compounding Confluence—Take 2: Saving or Sinking Software 4
- Convergence or Collision—Take 1: Computing Meets Cellular Phone and Consumer Electronics 5
- Convergence or Collision—Take 2: Do Digits Defeat Pen and Plastic? 5
- Convergence or Collision—Take 3: IP Meets Telephony 6

Three Key Themes 7

- Introduction 7
- Theme I: Strategy and Strategic Dynamics 7
- Theme II: Strategy versus Action 11
- Theme III: Industry Change and Corporate Transformation 16
- Conclusion 21

2 The Microchip Matures 23

- Case 1.1: Intel Corporation (A): The DRAM Decision 25
- Case 1.2: Intel Corporation in 1999 52
- Case 1.3: Inside Microsoft: The Untold Story of How the Internet Forced Bill Gates to Reverse Course 78

3 Compounding Confluence—Take I: The Internet and E-commerce 85

- Case 2.1: Netscape Communications Corporation in 1997 85
- Case 2.2: AOL: The Emergence of an Internet Media Company 113
- Case 2.3: Amazon.com: Evolution of the e-Tailer 147

4 Compounding Confluence—Take II: Saving or Sinking Software 167

- Case 3.1: BEA Systems, Inc. in 2003: Reaching for the Next Level 169
- Case 3.2: The Open Source Software Challenge in 2001 199
- Case 3.3: MySQL Open Source Database in 2004 222

5 Convergence or Collision—Take I: Computing Meets Cellular Phone and Consumer Electronics 245

- Case 4.1: Intel beyond 2003: Looking for Its Third Act 248
- Case 4.2: Nokia beyond 2003: A Mobile Gatekeeper? 284
- Case 4.3: Samsung Electronics in 2004: Conquering the Wireless Digital World 300
- Case 4.4: The New New HP in 2004 (A): Leading Strategic Integration 319
- Case 4.5: The New New HP in 2004 (B): Winning in the Core Businesses 338

6 Convergence or Collision—Take II: Do Digits Defeat Pen and Plastic? 365

- Case 5.1: Electronic Arts in 2002 367
- Case 5.2: Disney in a Digital World: Disney in 2001—Distributing the Mouse 389
- Case 5.3: Disney in a Digital World (D) A Digital Decade?: Disney in 2003 and beyond 405
- Case 5.4: Universal Music Group in 2003 415

7 Convergence or Collision—Take III: IP Meets Telephony 437

- Case 6.1: The U.S. Telecommunications Industry (B): 1996–1999 439
- Case 6.2: Slouching toward Broadband: Revisited in 2005 456
- Case 6.3: Hanging Up the (Old) Phone: IP Communications in 2004 470

index 493

Introduction: Industry Context and Key Themes

Evolution of Information Technology–Driven Industries

Introduction

We view the evolution of information technology-driven industries through the lens of our field research, which has involved longitudinal tracking of the role of strategy in Intel's evolution (in real time since 1988) and of the role of Intel in the evolution of the personal computer industry.¹ Our field research has also focused on many other companies in the rapidly evolving information technology–driven industries since the late 1980s. The resulting cases and notes reflect the impact of relentless technological change, major deregulation, and increasing globalization of competition on the structure and evolution of these industries through at least two business cycles, an Internet boom and bust, and current slow recovery.

The Microchip Matures

In December 1997, *Time* magazine called the microchip the “dynamo of a new economy.”² And indeed, during the 1970s and early 1980s, companies such as Intel, Microsoft, Motorola, Apple, Sun Microsystems, and Novell, among many others, had been able to open up new market segments in the computer industry based on advances in the relatively new semiconductor technology, which followed Moore's Law of continued rapid decreases in the costs of memory and computing power. During the 1970s and 1980s, Japanese companies had been able to defeat leading American companies (such as Motorola in consumer electronics and Intel in dynamic random access memory—DRAM)³ and take away market segment share from IBM in mainframe computers, which raised some fears that the United States was losing its competitiveness in high technology. At the same time, however, microprocessor technology had enabled the development of desktop computers, which created new growth opportunities, but also strong competitive pressures for the established, vertically integrated mainframe computer companies such as IBM, minicomputer companies such as DEC, and specialized computer companies such as Wang Laboratories. While relatively new companies, such as Intel and Microsoft, thrived

¹Grove, A. S. *Only the Paranoid Survive*. New York: Doubleday, 1996; Burgelman, R. A. *Strategy Is Destiny: How Strategy-Making Shapes a Company's Future*. New York: Free Press, 2002. Burgelman, R. A. “Strategy as Vector and the Inertia of Coevolutionary Lock-in.” *Administrative Science Quarterly* 47 (March 1994), pp. 325–357.

²Isaacson, W. “The Microchip is the Dynamo of a New Economy Driven by the Passion of Intel's Andrew Grove.” *Time*, December 29, 1997, pp. 46–51.

³Grove, *Only the Paranoid Survive*; Burgelman, R. A. “Fading Memories: A Process Theory of Strategic Business Exit in Dynamic Environments.” *Administrative Science Quarterly* 39 (1994), pp. 24–56.

and became driving forces in the new, “horizontal”⁴ computer industry, many of the old giants withered in a wave of Schumpeterian creative destruction caused by “increasing returns to adoption”⁵ that favored the winning horizontal players. By the late 1990s, however, the PC market segment growth (in dollars) was maturing and Intel and Microsoft were looking to find new avenues for profitable growth in enterprise computing, communications infrastructure, wireless communications, consumer electronics, online services, and other areas.

Compounding Confluence—Take 1: The Internet and E-Commerce

During the early to mid-1990s, a compounding confluence of forces including the emergence of the World Wide Web, the multimedia PC, and the first browser software created the opportunity for entrepreneurs to found Netscape Communications and gave birth to the Internet economy and e-commerce. This, in turn, affected the competitive position of incumbent companies in many industries including the online services companies and traditional media companies, and produced events such as the merger of AOL and Time Warner. It also helped spawn a plethora of new companies such as Amazon.com (Yahoo!, eBay, USA Interactive, and Google are other representative examples). During the late 1990s, the Internet created a “dot-com boom” of economic activity followed shortly thereafter by a “dot-com bust.” Some of the new companies continued to explore and exploit the new business opportunities the Internet opened. But most newly founded businesses and their associated revenue models turned out to be nonviable and disappeared. At the start of the new century, failed Internet entrepreneurs and their disappointed investors in Silicon Valley and beyond had to work through a painful aftermath. Nevertheless, the revolutionary effects of the Internet on established companies’ procurement, logistics, distribution channel, and customer relationship management strategies continued to exert themselves unabated. Many established companies, such as Intel, Cisco, Dell, Barnes & Noble, Wal-Mart, and GE successfully used the Internet to streamline their operations and offer customers more convenient ways of doing business.

Compounding Confluence—Take 2: Saving or Sinking Software

A second compounding confluence of forces, again including the Internet but also the open source software movement and the global availability of broadband connections, affected the software market segment in various ways. In light of the view emerging in the early 1990s that “the network is the computer,” BEA Systems was founded on the insight that if the network is the computer then a new type of operating system is needed, leading to the development of “middleware,” in particular application server software. With the Internet opening up the opportunity to provide Web services that would help simplify and reduce the costs of enterprise computing, major players such as IBM, Oracle, and Microsoft entered into the middleware fray. Almost simultaneously, the open source software movement was getting momentum with the wide availability of broadband connections, enabling

⁴Grove, A. S. “How Intel Makes Spending Pay Off.” *Fortune*, February 22, 1993, pp. 57–61. Farrell, J., Monroe, H. K., and Saloner, G. “The Vertical Organization of Industry: Systems Competition versus Component Competition.” *Journal of Economics & Management Strategy* 7, no. 2 (1998).

⁵Arthur, B. W. “Competing Technologies: An Overview.” In G. Dosi (ed.), *Technical Change and Economic Theory*. New York: Columbia University Press, 1987, pp. 590–607. Arthur, B. W. “Competing Technologies and Lock-in by Historical Events: The Dynamics of Allocation under Increasing Returns.” Paper WP-83-90, International Institute for Applied Systems Analysis, Laxenburg, Austria, 1983.

the development of the Linux operating system and other free software products in the server and desktop computing market segments. Soon companies like MySQL were founded on the belief that open source software would gain a prominent place in the enterprise software market segment as well. These developments posed serious challenges to traditional software companies such as Microsoft and Oracle, which saw the open source software movement as a potential threat.

Convergence or Collision—Take 1: Computing Meets Cellular Phone and Consumer Electronics

Throughout the 1990s, Moore's Law continued unabated to drive down the costs of computing. It became clear that the intelligence provided by microprocessors would become integrated in wireless communication and consumer electronics devices, possibly leading to the horizontalization of these market segments. This movement toward convergence—or collision—of the computing industry with the wireless communication and consumer electronics industries threatened vertically integrated companies in the wireless telecommunications industry, such as mobile phone new giant Nokia and old giants such as Sony and Philips in the traditional consumer electronics industry. Companies used to working in the low-cost horizontal structure of the PC market segment, such as Gateway, HP, and Dell, were poised to capitalize on the trend toward horizontalization, paralleled by the digitization of content, to enter consumer electronics market segments with a new approach centered on the so-called digital home of the future. Intel and Microsoft saw themselves as the facilitators of this development and hoped to create major new growth opportunities to compensate for declining ones in the PC market segment. Other semiconductor companies, especially Korean giant Samsung, also saw this as a major growth opportunity.

Convergence or Collision—Take 2: Do Digits Defeat Pen and Plastic?

Digitization of content and digital distribution drove the convergence—or collision—of the computing industry and the traditional entertainment and media industries. Digital video games originated around the same time as the PC but became a major new form of entertainment for young people with the arrival of Nintendo's console-based games. Nintendo's lead was soon followed by numerous video game producers, the more prominent being Sega, Electronic Arts, and since the mid-1990s, Sony. Not surprisingly, Microsoft has entered this large and fast-growing market segment as well. As noted earlier, the game console is now viewed as a contender for becoming the hub in the digital home. Video game characters (e.g., Mario) now compete with traditional characters (e.g., Mickey Mouse) for young people's time and attention. Digital animation companies, such as Pixar and Dreamworks, also have created new characters that compete with those created by traditional pen-based animation companies like Disney.

The unlimited capacity for increasingly high-fidelity digital transfer of music files offered to tens of millions of technology-savvy PC owners by Napster and other companies created havoc with traditional legal property right protection regimes in the entertainment industry. It also created a great divide and a fair amount of acrimony between technology and traditional entertainment and media companies. A well-known personalized example of this tension was seen between Disney's CEO Michael Eisner, who lobbied the government to force technology companies to develop means for limiting unauthorized transfers of content, and Steve Jobs, CEO of Disney's digital animation partner, Pixar, who resisted such moves.

Convergence or Collision—Take 3: IP Meets Telephony

Digitization of voice, data, and video drove the telecommunications industry and the Internet together. But this convergence—or collision—needs to be examined against the background and in the context of government regulation and deregulation and the emergence of a number of new technologies that were potent forces in the evolution of the telecommunications industry. The deregulation of the telecommunications industry started in the late 1960s and culminated in the Final Modified Judgment of 1984, which ended the monopoly of AT&T. It set in motion the first drive toward convergence between the traditional wireline telecommunications, emerging wireless telecommunications, cable, and computer industries. Further deregulation of the telecommunications industry in 1996 created a host of unanticipated consequences for incumbents as well as new entrants. The intent of the deregulation was more competition in the local exchange network. The result was more consolidation with fewer and more powerful incumbent local exchange companies. Where new entrants hoped to capitalize on the mandated access to the incumbent local exchange providers' copper wire networks (known as the "last mile") to deliver new broadband technologies such as asymmetric digital subscriber line (ADSL) to consumers, the incumbents successfully stymied their entrepreneurial initiatives through bureaucratic maneuvering.

The large increase in demand for bandwidth during the mid- to late 1990s stimulated by the rapidly growing use of the Internet motivated competitive local exchange providers to invest many tens of billions of dollars in optical fiber network infrastructure. But new technologies such as dense wavelength division multiplexing (DWDM) greatly increased the carrying capacity of existing optical fiber networks. This, combined with less than expected growth of consumer demand for bandwidth, led to an enormous bandwidth oversupply and the rapid demise of most of the highly leveraged entrants in this new market segment of the telecommunications industry. This, in turn, led to the implosion of demand for telecommunications equipment with catastrophic consequences for the suppliers. By 2005, the incumbent local exchange companies had begun to offer ADSL service widely but the rapid growth of voice over the Internet protocol (VoIP) created yet another challenge to their future growth.

Wireless voice communications had grown tremendously during the 1990s, creating new giants such as Nokia and offering other companies, such as Samsung, very large new growth opportunities. Digitization of both voice and data offered the prospect of high demand for third-generation wireless services and the emergence of the wireless Internet. These prospects led major telecommunications companies in the United States and Europe to bid tens of billions of dollars for access to wireless spectrum. As demand for these services failed to materialize during the early 2000s, they ran into financial problems, which in turn drove further consolidation. The emergence of substitute wireless technologies such as Wi-Fi and MiMax was posing potentially serious competition for the existing wireless infrastructure and its major suppliers.

Three Key Themes

Introduction

As noted earlier, we study the evolution of information technology-driven industries in terms of three interrelated key themes that together form an analytical lens. The first theme—strategy and strategic dynamics—raises the question of how companies can gain, sustain, or regain profitable growth in the face of various types of strategic dynamics. The second theme—strategy and action—is based on the observation that in rapidly changing environments it is quite difficult to maintain alignment between stated strategy and strategic action and examines how companies can regain such alignment. The third theme—industry change and corporate transformation—recognizes that industry-level change inevitably requires a company to fundamentally rethink its strategy and business model. It must transform itself in terms of *what* it does and, even more fundamentally, *how* it does it.

Theme I: Strategy and Strategic Dynamics

Strategy

Theme I examines the role of strategy in a company's evolution and the dynamic interplay between strategy and the environment. Strategy is concerned with a company's efforts to maintain profitable growth in its environment. To facilitate our analysis, we call such a focal company P and its environment E , which includes market and nonmarket forces. The extent to which each force creates dependence of P on E or supports P 's control over E needs to be examined. For instance, P needs to determine how dependent it is on particular customers, suppliers, or partners versus how much influence it can exert in these relationships. The most important of these forces determine the overall degree of dependence or control P experiences. Many times one or a few forces dominate in importance; these are the ones we try to identify and study. A framework for such analysis is shown in Figure 2.1.

Situations characterized by low influence and low dependence (strategic indifference) are the least interesting from a strategic management point of view because P 's strategy is largely irrelevant. They are perhaps most illustrative of the classical economic model involving atomistic players that cannot change the conditions they face.

High influence and low dependence mark situations of P 's strategic dominance. Many company leaders would think of this situation as the "holy grail" of strategic management. The great success stories in the history of business usually involve companies (e.g., Ford, DuPont, Kodak, Polaroid, Xerox, IBM, DEC) that were able to dominate their environment for an extended period of time. Low influence and high dependence characterize situations of P 's strategic subordination. These situations are of course undesirable and usually come about, as we will discuss further below, because E changes in fundamental ways without P being able to prevent it.

High influence and high dependence produce situations of strategic interdependence between P and the other players in E . In a rational world all players will seek to gain and

FIGURE 2.1 | A
Framework of
Possible States
Facing *P*

		<i>P</i> 's Dependence on <i>E</i>	
		Low	High
<i>P</i> 's			
C	LOW	Strategic Indifference	Strategic Subordination
O			
N			
T			
R			
O	HIGH	Strategic Dominance	Strategic Interdependence
L			
O			
F			
<i>E</i>			

Source: Adapted from *Strategy Is Destiny: How Strategy-Making Shapes a Company's Future* by Robert A. Burgelman. Copyright © 2002 by Robert A. Burgelman. Reprinted with permission of The Free Press, a Division of Simon & Schuster Adult Publishing Group. All rights reserved.

maintain control of their destiny. Their chances to do so improve as they become better informed and more strategy-wise, and as they command more resources. Hence, *P* is likely increasingly to face situations of strategic interdependence. This requires *P* to look for both cooperative and competitive ways to interact with other players in *E*. The stability of strategic alliances, partnerships, ecosystems and other forms of collective strategy depend on the parties involved simultaneously seeking to maintain interdependence and strengthen their relative bargaining power. Companies in the information technology industry, in particular the market segments that have moved from vertical to horizontal structures (see below), experience strategic interdependence.

Having identified the forces that affect *P*'s ability to grow profitably in *E*, strategy serves to change them to *P*'s advantage, or, if they cannot be changed, to find out how they work and to use them to its advantage. Efforts by the various players to reduce unwanted dependencies and exert more control where possible—seeking to become more valuable (more scarce) to the other parties—produces various forms of strategic dynamics.

Strategic Dynamics⁶

As discussed so far, *P*'s strategic actions interact with *E*. While *E*'s boundaries are relatively well defined at any given time, in a dynamic world other industries or newly emerging environmental segments may potentially affect *E* at some time. To facilitate the analysis we call these other industries or emerging segments *e*, and we consider (*E*, *e*) the relevant environment for some parts of our further discussion of strategic dynamics.

Both *P* and other players in (*E*, *e*) most of the time engage in rule-abiding strategic actions: actions that are consistent with the prevalent power relationships among the industry

⁶Burgelman, R. A., and Grove, A. S. "Let Chaos Reign, Then Rein in Chaos: Nonlinear Strategic Dynamics in Organizational Evolution." Unpublished Manuscript, Stanford Business School, January 2005.

FIGURE 2.2 | A
Typology of Strategic
Dynamics

		P's Strategic Actions	
		Rule-abiding	Rule-breaking
(E, e)	Rule-abiding	Limited change	P-controlled change
	Rule-breaking	P-independent change	Runaway change

Source: R. A. Burgelman and A. S. Grove, "Let Chaos Reign, Then Rein in Chaos: Nonlinear Strategic Dynamics in Organizational Evolution," Working Paper, Stanford Business School, December 2004.

players and with the industry recipe (the pattern of executive judgments about key success factors) that determines how *P* and the other players in (*E*, *e*) compete and that guides them toward achieving a relatively stable industry equilibrium; or they can seek to turn the basis of competition decisively to their advantage by engaging in rule-breaking strategic actions. We view rule-abiding actions simply as conventional (expected) and rule-breaking actions as unconventional (unexpected). Figure 2.2 presents a typology of strategic dynamics produced by *P*'s and (*E*, *e*)'s strategic interactions.

Strategic dynamics involving *P* and (*E*, *e*) are *nonlinear* depending on whether they materially change the structure of *E*; that is, *P*'s (or other players' in (*E*, *e*)) rule-breaking strategic actions lead other players (or *P*) to take actions they otherwise would not have, which multiplies their impact. Nonlinear strategic dynamics affect different players' share of potential industry earnings (PIE) in ways that are difficult to reverse.⁷

Limited Change: Linear and Stable Most of the time *P*'s strategic actions play by the rules governing the basis of competition in *E* because *P* does not have the resources necessary to try to change them or because *P* anticipates that the other players will respond in kind. For the same reasons, the other players in *E* most of the time also engage in rule-abiding strategic actions. The interplay of *P* and *E*'s rule-abiding strategic actions produces limited change, which basically leaves the existing industry structure intact. While limited change can be highly dynamic, it is linear and stable: The equilibrium among the various industry forces is not materially altered and the distribution of PIE is fairly predictable over time, with small shifts one way or the other that are reversible. Some scholars have called this "Red Queen" competitive dynamics,⁸ as it evokes the image of the *Alice in Wonderland* character running as hard as she can just to stay in the same place. The pattern of mutual adaptation over time between *P* and *E* may become increasingly difficult to change and lead to strategic inertia at both the company and industry levels of analysis.

P-Independent Change: Nonlinear and Disruptive Sometimes, major changes in *E*—"10X" changes—are directly and immediately the result of the independent rule-breaking strategic actions of players other than *P* and/or involve exogenous technological, regulatory, political, cultural, financial, or natural shocks. *P*-independent change is nonlinear and

⁷Saloner, G., Shepard, A., and Podolny, J. *Strategic Management*. New York: John Wiley & Sons, 2001.
⁸Barnett, W. P., and Hansen, M. T. "The Red Queen in Organizational Evolution." *Strategic Management Journal* 17 (Summer Special Issue, 1996), pp. 139–157.