



CHAPTER I

Introduction

The business world grows more unpredictable with every passing day. Multiple factors influence firms' performance, including technology, regulation, macro-economic conditions, competitive dynamics and global capital markets, to name just a few of the usual suspects. For most companies, these variables are individually volatile, and their interactions make the future impossible to predict with any degree of certainty. In many industries and countries today, managing resembles driving a race car through an unfamiliar route in the fog. Executives have limited visibility into the future and must anticipate and respond quickly to a constantly changing environment.

Current strategy theory, however, offers little guidance in navigating through this fog of uncertainty. With few exceptions, the dominant strategic tools and techniques taught in business schools and used by management consultants assume that executives can forecast deep into the future, devise a long-term vision, and implement their plan at leisure. Picture a captain standing on the deck of a ship on a clear day, peering through a telescope and setting a course to slowly turn the ship. Unfortunately, even the most powerful telescope cannot pierce a thick fog and, similarly, strategic models designed for predictable markets offer limited insight in an uncertain world.

How then can managers survive and thrive in unpredictable markets? To shed light on this question, we analyzed ten Brazilian companies that managed to survive and thrive amidst the turmoil of the Brazilian market

2 ■ *Success Against the Odds*

during the 1990's. In several cases these companies emerged as world-class competitors in global industries including aerospace, brewing and banking. These firms' success is an impressive accomplishment, because Brazil is one of the most unpredictable markets in the world. Brazilian managers during the 1990's faced volatile exchange rates, sporadic availability of capital, inconsistent industrial policy, unpredictable rates of inflation and interest, and sharply increased levels of foreign competition, in addition to the competitive threats, shifting consumer preferences, and potential technological disruptions common to every country.

An elite group of Brazilian companies not only survived this turmoil, but actually emerged stronger at the end of the last decade. They responded quickly and effectively to shocks that threatened their very survival and undid less successful competitors. They quickly seized golden opportunities that positioned them well for the future. Perhaps more importantly, they capitalized on periods of relative calm to probe the future, identify and manage key risks, build a cash cushion, continuously improve operating efficiency, and build flexibility into their organizations. These actions taken together prepared them well for the risks and opportunities that emerged regularly during a turbulent decade. These companies beat the odds by surviving a decade that saw the deterioration and in many cases demise of their former rivals. For soccer fans, the success of these firms resembles Brazil's stunning victory in the 2002 World Cup. Recall that, when the competition began, the Brazilian Congress was investigating charges of widespread corruption in the country's Soccer League, and the national team suffered its worst performance ever in the qualifying rounds. And yet, against all odds, the Brazilian soccer team emerged as World Champions in 2002, the only team ever to win this honor five times.

This book describes how these Brazilian business champions beat the odds. Throughout our research, we observed striking similarities among the firms we studied regarding how they prepared for and responded to threats and opportunities. We also found consistent differences between the firms that survived and thrived during the 1990's compared to similar, but less successful, rivals. After carefully studying successful firms and systematically contrasting them with less effective peers, we codified our findings into a small set of principles for managing in any unpredictable environment. Some of our findings – such as the importance of active

waiting during relative pauses – will surprise readers. Others, like the need to identify and manage key risks, will act as a sober reminder of the danger involved in ignoring business fundamentals in an unforgiving environment. Each one of these principles represents an indispensable part of our comprehensive model of managing amidst uncertainty.

We have written this book to help executives who compete in any unpredictable market. Managers of companies that compete in any emerging market, not only Brazil, but also China, India and Russia, will learn much from the Brazilian companies that we discuss in this book. A study of managing uncertainty in China produced similar conclusions to those reported in this book. (See Donald N. Sull with Yong Wang, *Made in China: What Western Managers can Learn from China's Trailblazing Entrepreneurs*, forthcoming from the Harvard Business School Press in 2005.) More broadly, executives in any unpredictable context—including airlines, information technology, and telecommunications, to name just a few, will find these principles useful. The examples come from Brazil, but the lessons apply to any unpredictable market.

The core message of this book is one of hope. Companies *can* consistently excel in even the most turbulent markets. We offer hope, but not the false promise of easy solutions. The recommendations we make in this book are concrete and actionable, but they are not easy. Sustained success in an uncertain world demands constant vigilance and continuous improvement. In turbulent markets, “only the paranoid survive” as Andrew Grove, the Chairman of the Board of global semiconductor leader Intel, has observed. Grove’s quote raises an important point about the sustainability of success among the firms we studied. All ten of our elite firms did exceptionally well during the 1990’s. Anyone of them could stumble if they let their guard down in the future. For example, we already see signs of the food retailer Pão de Açúcar struggling to reverse declining same-store sales (after adjusting for inflation) and respond to competition from larger multinational competitors.

In the remainder of this chapter, we summarize the factors that made Brazil so unpredictable during the 1990’s, introduce the ten companies, explain how we selected and studied these firms, and outline the remaining chapters.

WHY BRAZIL?

Before introducing the companies we studied, it is important to establish the context in which they achieved success. This section provides a brief overview of what has been one of the world's most tumultuous economies over the past ten years.

Brazil has been described as a slumbering economic giant waiting to awake. It is the fifth largest and most populous country in the world, the ninth largest economy (in terms of purchasing power), and the largest market in South America, accounting for up to 60% of South America's total Gross Domestic Product (GDP) during the 1990's.¹ Brazil is highly integrated in the global economy. The country is among the world's top three exporters of tobacco, sugar, orange juice concentrate, soy, beef, chicken, iron, and tin. China is the only country that received more foreign direct investment among the developing countries between 1998 and 2001.² Much of Brazil's trade was done with the United States, and Brazil was a larger trade partner to the U.S. than Italy, Spain, or India throughout the 1990's.

Despite its impressive accomplishments, many commentators argue that Brazil has failed to fully realize its potential. "Brazil is the country of the future," as the old joke goes, "and always will be". Annual growth in GDP averaged a modest 2.5% between 1980 and 2000 versus 10.2% for China, 7.8% for South Korea and 5.7% for India.³ Brazil has fewer global-scale, internationally recognized companies than its peer countries as judged by international rankings. In the *Fortune International 500*,⁴ for example, Brazil listed only four companies compared to eleven for China, twelve for South Korea and six for Australia. Of these companies, only Petrobras (an oil and gas concern) had significant international operations. Brazil's progress in recent decades has tended to come in jubilant bursts, including president Juscelino Kubitchek's "Program of Targets" (1956-1961), the "Economic Miracle" years (1968-1973), and more recently Fernando Henrique Cardoso's "Golden Years" (1993-1997). Each growth spurt, however, has been followed by a period of slow growth.

Brazil's National Federation of Industries coined the term "Custo Brazil" to describe the costs incurred by Brazilian firms because of their location. These costs include Brazil's high tax burden, which averages

36% of GDP versus 21% in South Korea, 17% in Mexico, and 8% in China. These high taxes encourage economic activity to shift into the “informal” (i.e. non tax-paying) sector. The informal sector accounts for up to 60% of all non-government jobs by some estimates.⁵ Brazil also suffers a much higher level of corruption than developed countries.

The most significant “Custo Brazil”, however, has been the constant series of shocks that have buffeted the Brazilian economy in recent decades. Economic shocks are nothing new in Brazil. They started with the boom and bust cycles of its leading exports: sugar, gold and coffee. One of the most devastating shocks occurred in 1929, when coffee exports represented 70% of all exports and 10% of the total GDP.⁶ The Great Depression caused the collapse of the world coffee market, and Brazil’s annual exports declined by 60% from 1929 to 1932, forcing the government to devalue its currency and impose exchange rate controls.⁷ Between 1967 and 2003, world coffee prices have experienced monthly declines greater than 20% on 17 separate occasions.

In the past, another source of vulnerability was Brazil’s dependence on the import of energy, primarily oil.⁸ During the 1973 oil shock, when the price of oil quadrupled, Brazil was importing approximately 80% of its oil. President Ernesto Geisel was forced to reduce Central Bank reserves and increase foreign debt. A similar pattern occurred in 1979, when higher oil prices and interest rate rises rendered Brazil the largest external debtor in the developing world and forced the government to spend 5% of its GDP to service the debt.⁹ Brazil’s dependence on foreign oil has diminished over the last 30 years, in part through investments in hydroelectric power capacity. Hydroelectric power, however, is also subject to uncertainty, as demonstrated by droughts in 2001, which forced nationwide energy rationing.

Even for Brazilian standards, the 1990’s were turbulent. The best way to illustrate the impact of shocks on companies’ ability to build long-term competitiveness is to imagine yourself as the CEO of a Brazilian company in the 1990’s. The decade began with President Collor freezing all financial assets for eighteen months. This asset freeze caused a liquidity crisis, and companies in certain industries such as retail and consumer goods witnessed sales plunge 30–50% within a few months. Collor simultaneously eliminated an extensive list of preferential incentives and protective tariffs for Brazilian companies, thereby exposing them to direct competition

with some of the most competitive and efficient global competitors. In contrast to Mexico's gradual integration into the North American Free Trade Agreement (NAFTA) over ten years, these changes took place over the span of months in Brazil.

Four years later, Brazil's government launched a new currency as part of its Real Plan, and inflation dropped from a monthly rate of 47% in June to 3% in August of 1994.¹⁰ You might think that is good news, but inflation masks a great deal of economic inefficiency. For six years Brazilian companies had operated with inflation rates of more than 20% per month, which allowed them to pass operating inefficiencies on to customers through frequent price increases.¹¹ Brazilian firms' ability to pass on the costs of bad management ended, literally, overnight.

And then, of course, there are the exchange and interest rates to worry about. From 1981 to 2002 Brazil had a negative current account balance (i.e. imports exceeding exports) in 18 of 22 years. The cumulative deficit over the period totaled \$280 billion in 2002. (All dollar-denominated figures in this book refer to U.S. dollars, unless otherwise indicated.) The deficit was financed primarily by foreign direct investment, which totaled \$273 billion in 2002 during the same period.¹²

Brazil's dependence on foreign capital left the country vulnerable to sudden withdrawals by foreign investors. In some cases, capital withdrawals were triggered by events within Brazil, while external shocks accounted for others. In December 1994, for example, the economic crisis in Mexico triggered a 50% devaluation of the Brazilian currency over ten days. The Brazilian Central Bank spent \$4 billion from its reserves and doubled domestic interest rates to prevent capital from leaving the country. Brazil's country risk, defined as the difference between interest rates in Brazilian and U.S. Treasury bonds, reached a peak of 13.6% in March of 1995.¹³ It took two years for the country risk to drop to 4% and foreign reserves to return to the level prior to the shock.

For companies in Brazil, however, the situation didn't remain stable for long. The Asian financial crisis of 1997 spread rapidly from Thailand through neighboring Asian countries. The effects of this crisis were felt worldwide as the Dow Jones Industrial Average experienced a 554-point drop – its largest single-day point loss ever. The Brazilian Central Bank responded aggressively by raising interest rates in October

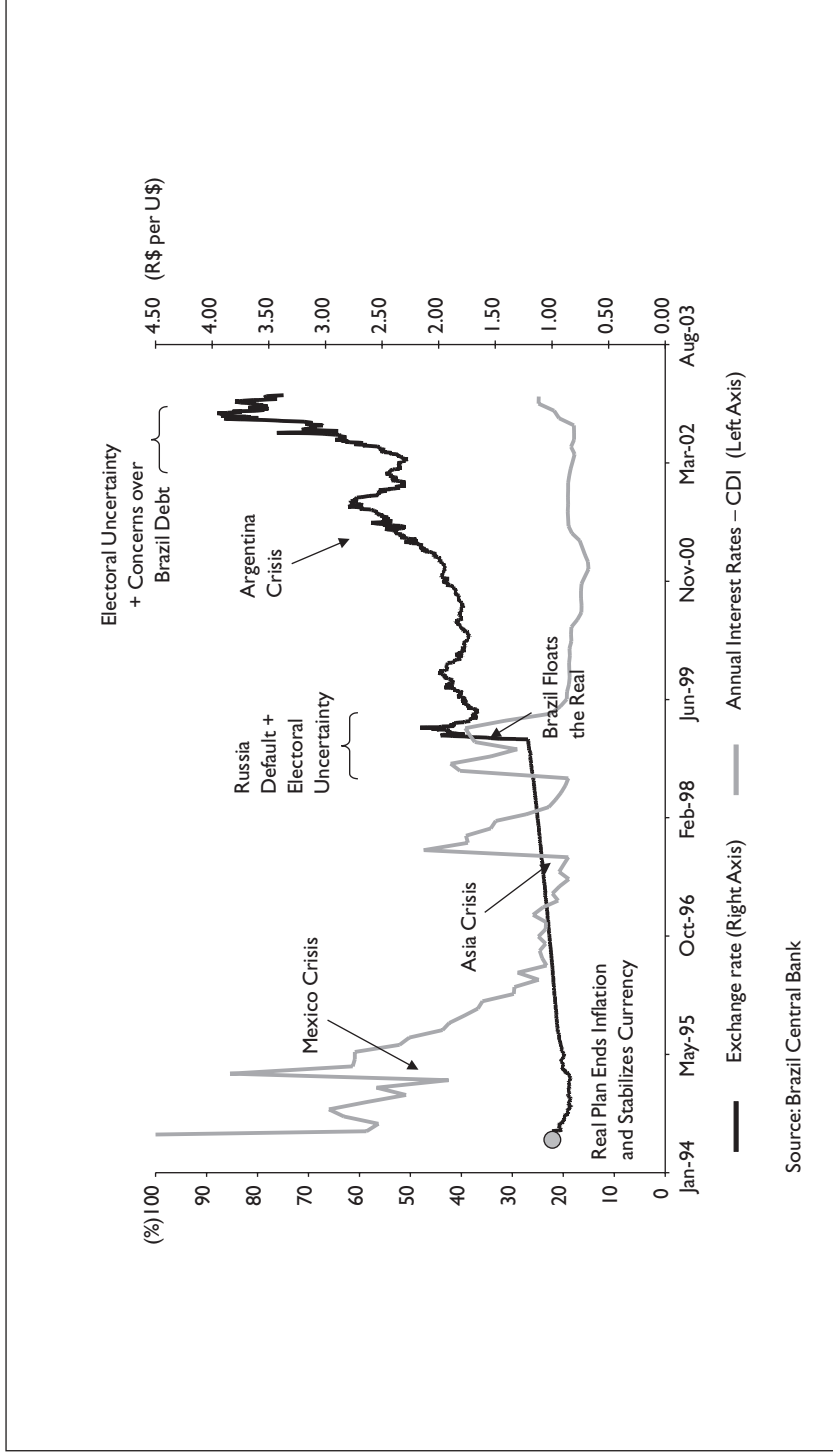
1997 from 19% to 47% and spending \$10 billion of reserves to defend Brazil's embattled currency.

By April 1998, the situation had stabilized again, until Russia defaulted on its foreign debt and triggered an attack on the currencies of several developing countries later that year. Brazil's Central Bank doubled interest rates again and spent \$20 billion of reserves. By January 1999, the Central Bank had spent another \$10 billion of reserves, the Brazilian currency, the Real was decoupled from its peg to the U.S. dollar and dropped 64% in 17 days versus the dollar.¹⁴ The scenario was repeated again in 2001, when concern over a possible energy crisis combined with Argentina's economic meltdown triggered a 44% devaluation of the Real between January and October 2001. Figure 1:1 highlights Brazil's bumpy macroeconomic ride during the last decade.¹⁵

These macroeconomic shocks were aggravated by an inconsistent industrial policy. The country has a history of rapid shifts in trade policy and corporate support. After a period of great openness following the Second World War, Brazil engaged in an aggressive import substitution program between 1950 and 1964. When policies failed to stimulate exports, Brazilian officials switched to a policy of tax incentives and subsidized credit for export-oriented activities. In the early 1990's, the government abruptly reduced protective tariffs, which had historically exceeded 250% in industries such as automotive components. This abrupt elimination of tariffs in the early 1990's resulted in 19 of Brazil's 20 largest auto part companies going bankrupt or being acquired by foreign competitors within the span of three years. The country's entry into the World Trade Organization in 1995 further exposed companies to global competition in product, capital, and labor markets.

Imagine you are a CEO in this context, trying to run a company in a country where currency can double or fall to half its value virtually overnight and interest rates are volatile. If you compete in a commodity industry, moreover, global prices for your product are highly unpredictable. The government's industrial policy, to use that term loosely, is unpredictable at best and capricious at worst. This country's specific volatility is on top of the technological, competitive, and demand uncertainty that characterizes industry in more stable countries. Describing the economic roller-coaster that was Brazil's economy during the 1990's cannot begin to convey the

FIGURE 1.1 Financial Volatility 1994–2003



Source: Brazil Central Bank

gut-wrenching ride of living through it. This brief recap does provide some sense of the unpredictability that was a fact of life for Brazilian executives day in and day out. This brute unpredictability must be understood to fully appreciate the accomplishments of our selected companies.

HOW WE CHOSE OUR COMPANIES AND STUDIED THEM











Through our research process, we identified a select group of Brazilian firms that managed to survive and thrive despite the high level of unpredictability that characterized the Brazilian market during the 1990's. In this section, we introduce the ten companies, explain how we selected them, and describe how we studied them.

The companies we studied

Our sample includes ten companies: Brahma (brewing and beverages), Embraer (aircraft production), Votorantim (diversified conglomerate specializing in basic industries), Banco Itaú (retail and corporate banking), Natura (cosmetics), América Latina Logística (rail and logistics), Promon (engineering), Sabó (auto parts), Pão de Açúcar (food retailing), and Aracruz (pulp and paper). Figure 1:2 provides a brief overview of the ten companies, and we offer more information on each as we discuss them in later chapters. We paired each of the ten with a comparable firm that was less successful in managing turbulence (also listed in Figure 1:2). These paired companies provide a valuable contrast to our more successful firms. The similarities among the more successful companies, as well as the differences between them and their less successful peers, form the foundation for the findings in this book.

There are a few things to note about the companies we studied. First, they represent a broad cross-section of the economy. Most studies of management in turbulent environments have focused on U.S. information technology companies, primarily in the period between 1980 and 2000. By sampling across a variety of industries we hope to glean general insights about managing in unpredictability that would not emerge from a

FIGURE 1.2 Overview of Companies

COMPANY	INDUSTRY	REVENUES 2003 (\$ million)	ORGANIZATION	COMPARISON	HIGHLIGHTS
	Brewing	2,896	Public	Antarctica	Merged with Interbrew to form the largest brewer in volume in the world.
	Aircraft Manufacturing	2,190	Privatized	Fairchild Dornier	Currently controls 40% of the global market for regional jets.
	Conglomerate	4,935	Private, Family Run	Grupo João Santos	Kept their 40% market share intact when foreign cement players started to expand their operations in Brazil.
	Banking	3,120	Public, Family Run	Unibanco	Most profitable bank in Brazil.
	Cosmetics	443	Public	L'Oréal Brasil	Leading cosmetics company in Brazil; Initial Public Offering (IPO) in 2004.
	Construction Engineering	500	Partnership	Engenix	Transformed from engineering to systems integration firm.
	Rail Transportation	253	Privatized	Ferrobán	Most successful privatized railway in Brazil; IPO in 2004.
	Pulp and Paper	1,022	Public	Klabin	Exports over 90% of its production.
	Food Retailing	3,602	Public, Family Run	Paes Mendonça	Prevented Wal-Mart from dominating the Brazilian market.
	Automotive Parts	300	Private, Family Run	Cofap, Nakata, Metal Leve	One of the few domestic competitors to survive in the 1990's.

study of any single industry. We also deliberately selected a diversity of organizational forms – public and private, large and relatively small, focused and diversified, controlled by private equity investors and family-run, recent start-ups and long-established firms, as well as privatized government operations. By studying a diverse set of companies, we increase our confidence that our findings are general and not idiosyncratic to a specific organizational form such as public companies.

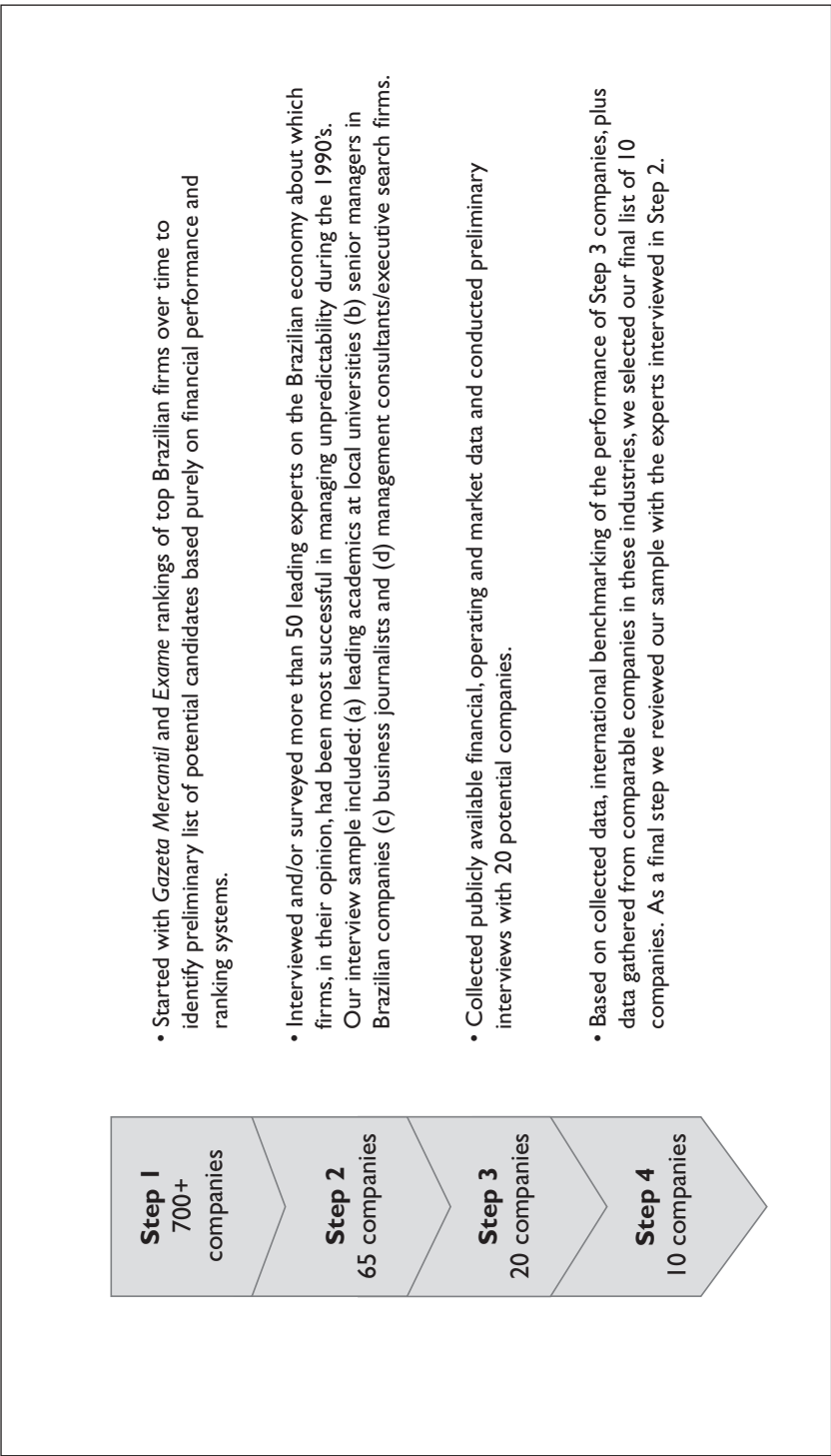
How we selected the companies

We chose our companies through a rigorous, multi-step process, summarized in Figure 1:3 “Making the Cut.” We began with a list of over 700 public and private firms generated through a variety of data sources. We narrowed this list to 65 companies based on their financial performance through the 1990’s as well as company rankings published by leading Brazilian financial publications *Exame* and *Gazeta Mercantil* for the years 1990 through 2001. To further refine our list, we surveyed prominent business academics, senior executives in Brazilian companies, business journalists, and other experts to solicit their assessment of which firms excelled at managing unpredictability during the 1990’s.

This led to a list of 20 companies across multiple industries. We analyzed these 20 companies in greater depth. We compared their operating performance (such as market share, new product development) and financial metrics (such as revenue growth, cash flow generated, profitability, valuation for public companies) to their domestic competitors and, whenever possible, to global leaders in the same industry. At this stage, we also evaluated the firms’ global competitiveness measured by their success in exports and ability to compete against leading multinationals with operations in Brazil. We focused on cases where success was specific to the firms and not the industry – that is, the company succeeded in industries where many or most of its rivals experienced significant hardships. At this stage, we also collected and analyzed articles in the business press on each of the 20 companies and conducted preliminary interviews to better gauge their performance.

Based on these analyses, we selected our ten final companies. In choosing our final ten, we sought to preserve diversity to include impor-

FIGURE 1.3 Making the Cut



tant sectors such as retail (Pão de Açúcar) and privatized businesses (América Latina Logística). For critical industries (e.g. financial services) and organizational forms (e.g. family-run conglomerates), we selected a back-up company in case our first choice did not wish to cooperate with the study. We were fortunate to secure the cooperation of all ten of our first choices. In order to keep our sample size of ten and maintain diversity, we were forced to eliminate some outstanding companies including Marco Polo (bus manufacturing), Bunge (agribusiness), CVRD (mining) and Gerdau (steel).

How we studied our companies

We began our in-depth analysis of the final ten companies by collecting data from multiple public sources and creating a detailed timeline averaging several hundred key events (Figure 1:4 summarizes our key sources of data for this study). We employed a team of analysts in São Paulo to collect and analyze public data in Portuguese and English on several categories including financial performance, technology, key partnerships, etc. The timeline and analyses provided the basis for identifying possible explanations of our companies' success. At this point, we also selected the comparison firms which had been less successful and began gathering comparable data for them.

We supplemented these public data with over 200 in-depth face-to-face interviews. The typical interview lasted an hour, although several were much longer. We interviewed an average of 15 executives per company. We interviewed the CEOs of all our successful companies at least once, and also interviewed other senior executives, middle managers, and board members. We also collected extensive archival data from the companies, including internal memoranda, minutes of meetings, and other documents. After collecting and analyzing our data, we validated our findings by reviewing them with senior executives in the companies we studied to ensure we had understood the facts correctly and interpreted them in a sensible way. Whenever possible, we also interviewed executives in the less successful comparison company.

The research process described above was intense and lasted over one year. In addition to the two authors, it involved two full-time research asso-

FIGURE 1.4 Sources of Data

- (a) **Extensive in-depth interviews:** We conducted over 200 interviews for this book. We interviewed an average of 15 people for each of the successful companies in our sample. We spoke to the CEO of every company and a mix of directors, executives, and investors.
- (b) **Internal corporate archives:** Including internal memos, mission statements, materials prepared for submission to the company's Board of Directors or industry conferences, internal corporate histories.
- (c) **Articles in the local and global business press:** Articles published on focused and comparison company in the 1985-2002 period in *Exame*, *Gazeta Mercantil*, *Valor Econômico*, *Folha de São Paulo*, *Wall Street Journal*, *Forbes Magazine* and *The Economist*.
- (d) **Financial data:** Annual reports and statements filed with SEC (U.S.) for companies listed on the NYSE and CVM for public companies in Brazil, local and global equity analyst reports.
- (e) **Other secondary sources:** Industry reference materials, published books and case studies, industry reports.

ciates in São Paulo and two research teams comprised of Brazilian students at the Harvard Business School. The process resulted in a dossier of several hundred pages for each company including the timeline, interview notes, financial analysis, key articles, and materials provided by the company. The remainder of this book describes what we learned along the way.

ROADMAP OF THE BOOK

Chapter 1: Introduction. This chapter explained why we wrote this book, described turbulence in the Brazilian economy, introduced the companies in our sample, and explained how we selected and studied them.

Chapter 2: Creating Value in Unpredictable Markets. This chapter summarizes the implications of environmental turbulence on a firm's ability to create and sustain value. We argue that firms create value in one of three ways: by erecting and defending a desirable position, building and leveraging valuable resources, or seizing opportunities more quickly than their rivals. Tur-

bulent environments threaten a firm's resource and positional advantages. Companies periodically encounter sudden-death threats that endanger their very survival. Volatile environments also generate a steady stream of chances to create new value, including periodic golden opportunities.

Chapter 3: *Active Waiting.* This chapter introduces a novel concept of time characterized by actively waiting, to anticipate and respond to emerging opportunities and threats in an unpredictable environment. The model also describes how managers can declare a main effort based on their assessment of the current situation facing their company and outline the appropriate managerial actions for each main effort.

Chapter 4: *Doing it all – The Remarkable Story of Embraer.* Managing successfully in an unpredictable market requires companies to successfully respond to sudden-death threats, capitalize on golden opportunities, manage risk and beat tough competitors. We use the story of Embraer to demonstrate that success in turbulent environments demands effective action on multiple dimensions.

Chapter 5: *Time-Competitive Execution.* We were surprised to find that many of our comparison companies pursued very similar strategies to their more successful peers, yet experienced vastly different results. The speed and agility with which managers take these actions create marginal advantages at every stage, and these incremental advantages cumulate over time into a decisive lead. We illustrate the importance of competitive execution by contrasting Brahma (AmBev's predecessor) and Antarctica.

Chapter 6: *Spearfishing.* The secret of many of our successful companies is that they actively waited and mobilized effectively to capture golden opportunities. These companies understood that turbulent markets create opportunities, and they effectively mobilized to seize them. We call this strategy "spearfishing" and illustrate it with the story of Banco Itaú.

Chapter 7: *Managing Risk.* The companies we studied not only responded quickly to negative shocks, but also managed to avoid them altogether. This chapter provides some practical steps managers can take to

guard against key risks and illustrates these actions with the story of the Votorantim Group.

Chapter 8: Triage – Responding to Sudden-Death Threats. In a fast-changing environment, companies periodically face major jolts that threaten their very survival. We call these “sudden-death threats”. This chapter uses examples from Pão de Açúcar and Aracruz, among others, to describe how to effectively deal with these shocks.

Chapter 9: The Flexible Hierarchy. To succeed in an unpredictable environment, the successful companies we studied built organizations that balance top-down prioritization with decentralized execution. This chapter describes how such an organization functions, the steps necessary to develop it, and provides some insights on maintaining agility over time.

Chapter 10: Networked Organization. This chapter argues that surviving and thriving in a turbulent environment requires companies to establish and carefully manage partnerships with customers, technology partners, suppliers, investors, distributors and other stakeholders. Working with partners, rather than trying to do everything at home, confers several advantages. These advantages include speed in seizing opportunities, the ability to share risk, access to critical resources, and lower fixed costs.

Chapter 11: Leadership in an Unpredictable World. We conclude the book by summarizing our key findings. We also describe important implications for leading a company in uncertain markets.

Notes

1. Central Intelligence Agency, (2004), *World Fact Book 2004*, (Washington DC: U.S. Government Printing Office). Accessible online at www.cia.gov.
2. International Monetary Fund, (2003), *Foreign Direct Investment in Emerging Market Countries—Report of the Working Group of the Capital Markets Consultative Group*, (Washington DC: The World Bank). Accessible online at www.imf.org.
3. International Monetary Fund, (2003), *International Financial Statistics*, (Washington DC: International Monetary Fund). Accessible online at www.imf.org.

4. Ranking of companies based outside the United States with consolidated revenues exceeding \$4.9 billion U.S. dollars in 2001 according to *Fortune* Global 500 (July 22, 2002). Analysis of data from the *Financial Times* 500 and *Forbes* International 500 produce similar results. We are grateful to Alex Araújo for collecting and analyzing this data.
5. Economist, (2003), "Make or Break: A Survey of Brazil," *The Economist*, (20 February). Also accessible online at www.economist.com.
6. Werner Baer, (1995), *The Brazilian Economy and Development*, (Westport, CT: Praeger Publishing).
7. Heitor Lima Ferreira, (1970), *História política-econômica e industrial do Brasil*, (São Paulo: Ed. Nacional).
8. Brazilian Ministry of Mines and Energy, (2000), *Annual Report*, (São Paulo: Brazilian Ministry of Mines and Energy).
9. IBGE, (1990), *Estatísticas históricas do Brasil*, (Rio de Janeiro: IBGE).
10. IPEA, (2003), *Taxa de juros*, (Brasília: IPEA). Also accessible online at www.ipeadata.gov.br.
11. IPEA, (2003), *Inflação*, (Brasília: IPEA). Also accessible online at www.ipeadata.gov.br.
12. IPEA, (2003), *Balança comercial*, (Brasília: IPEA). Also accessible online at www.ipeadata.gov.br.
13. IPEA, (2003), *C-Bond – spread em pontos-base*, (Brasília: IPEA). Also accessible online at www.ipeadata.gov.br.
14. IPEA, (2003), *Taxa de câmbio*, (Brasília: IPEA). Also accessible online at www.ipeadata.gov.br.
15. Banco Central do Brasil, (2003), *Banco Multidimensional de Estatística*, (Brasília: Banco Central do Brasil). Also accessible online at www.bcb.gov.br.





CHAPTER 2

Creating Value in Unpredictable Markets

The challenges of managing a business in a highly uncertain environment can overwhelm even the best executives. To survive and thrive, companies must quickly seize unforeseen opportunities, respond to threats that endanger their very survival, and outmaneuver rivals. Management in turbulence looks nothing like the world of strategy textbooks where managers predict the future, develop intricate long-term plans, and methodically implement them over years or decades. In fact, managing in turbulence is so daunting that many executives give up and quit trying to think systematically about their work. Instead, they rely on intuition and hard work and hope for the best.

Intuition and hustle are, of course, critical, but consistently surviving and thriving in turbulent environments requires much more. The companies we studied had insightful, hardworking managers, but so did many of the less successful comparison firms. The most successful companies distinguished themselves in another way. They all employed mechanisms to quickly identify and seize large opportunities, they dealt with major threats quickly and decisively, they maintained flexible organizations that allowed them to rapidly reallocate human and financial resources as circumstances changed. Most importantly, they used the time between crises and unanticipated opportunities to prepare for the future, even if they could not predict what was to come with great accuracy. Fortune, our re-

search suggests, favors the prepared company. The more successful companies excelled in preparing for environmental jolts, even if they could not predict their precise nature, magnitude or timing.

The following two chapters introduce a conceptual framework for managing in unpredictable environments. The main outlines of this model emerged inductively from our study of the similarities across the successful companies we studied and the differences between them and the comparison companies. We sharpened our model by repeatedly comparing our emerging findings with established theories, particularly those of economics, business strategy, and military strategy.¹ These theories provided useful definitions, categories, and concepts that served as conceptual building blocks for our framework. Established theory and results from previous empirical studies also suggested new questions and forced us to sharpen our terms and logic. The findings from our Brazilian study, in turn, provided fresh insights that enrich and extend the existing academic literature, particularly in the field of strategic management.

As you may have noticed, the tone of this chapter is fairly academic. In this chapter we define critical terms, lay out our model, and discuss how it builds on and differs from the existing scholarly literature. Although this discussion is conceptual, we have tried to avoid technical jargon and explain our model in clear and accessible language. In this chapter, we also refer to existing academic literature to help clarify our own position. For the most part, we have limited these discussions to footnotes. Readers can follow the main thrust of our argument without referring to these footnotes, although they may miss some of the nuances and subtleties of our position.

This conceptual model provides the skeleton of this book.² In subsequent chapters we flesh out the model with examples from our sample companies, practical tools and diagnostic exercises readers can use to improve their own company's performance in an unpredictable environment. In later chapters, we also recap the critical elements of the model relevant to the specific chapter. Thus, it is possible to skim this chapter and jump into the rest of the book without losing the thread of the argument. We believe, however, that even in the real world of business there is nothing quite as practical as a good theory. A framework can help managers make sense of the confusion inherent in volatile markets, and thereby act

more effectively. We recommend that readers invest the time to understand our argument before proceeding, and believe that nearly all readers will find this chapter and the next useful, most will find them interesting, and many will find them downright enjoyable.

THREE LOGICS OF VALUE CREATION

Let's start with the basics. The purpose of any business is to create value by producing goods or services that are worth more than the cost of the necessary inputs (including the risk-adjusted cost of capital). This value can be distributed in a number of ways, exclusively to shareholders at one extreme or completely to employees at another. In any case, to survive and thrive, every firm must create value. This obvious observation raises a fundamental question: How do companies create value?

Economic theory predicts what every manager knows: it's hard to make a profit and sustain margins over time. Success attracts competitors who imitate your strategy and win customers. Important clients demand price reductions while suppliers push for price increases. Substitute products or services threaten to render your offerings irrelevant. Then, of course, there are shifts in the legal or regulatory context that can fundamentally alter the rules of the game. Given these difficulties, how can firms grow revenues, earn profits, and survive? Economic theory describes three distinct logics of value creation: positional advantage, superior resources, and seizing fleeting opportunities.³

Creating value through superior position

The first approach to strategy emphasizes establishing and defending a desirable position.⁴ The underlying logic in this approach is to identify an attractive market, establish a secure position, and erect defenses to prevent competitors, customers, and suppliers from appropriating your profits. To use military imagery, this approach resembles finding a high hill, building a secure fortress with barbed wire and machine gun turrets, and defending it against attacks from any side.

An attractive position, according to this viewpoint, has two components. First, a company should identify a profitable industry. Numerous

studies have demonstrated that industry is an important predictor of a company's profitability.⁵ Firms in the pharmaceutical industry, for example, generally earn higher returns than companies in the steel sector. This is not always the case, of course, and some companies such as Cemex and Votorantim Cement have managed to create value in cement, which is traditionally viewed as a structurally unattractive industry.

The secret of their success brings us to the second element within position – the ability to stake out a defensible position, which deters competitors from easily entering the market, and prevents customers and suppliers from appropriating value. Consider Votorantim's cement business, for example. Votorantim Cement established a dominant position in the São Paulo market. Cement is costly to transport, and high freight charges prevent rivals from shipping concrete into Votorantim's market. Moreover, Votorantim owns many of the best sources of raw materials. If rivals built new capacity in the São Paulo state, they would not only have higher costs, but also contribute to an overcapacity that would depress prices and margins for all suppliers. Votorantim has instituted a set of world-class processes that allow them to produce cement at low cost. As a result of their secure position and excellent operations, the company can sustain healthy margins.

Creating value through superior resources

The second approach to strategy emphasizes winning by developing and leveraging valuable resources.⁶ Resources, according to this view, include hard assets such as specialized factories or prime real estate as well as intangible assets such as brand, technology, and even knowledge possessed by employees or embedded in organizational processes. Firms can succeed, according to this perspective, to the extent they develop and own resources that help them create value – through a recognized brand name that warrants a price premium, for example, or proprietary technology that competitors cannot copy.

Of course, not every resource creates value. A retail chain may own stores in undesirable locations, for instance, or a technology firm may hold patents on outmoded technology. In order to provide a source of sustainable competitive advantage, resources must be rare. If every competitor possessed the resource, then it would provide no leg up versus the compe-

tion. Resources must also be difficult to duplicate or acquire on the open market. Difficulty in imitation or acquisition of comparable resources allows competitors who possess them to charge a price premium, earn higher profits or control market share for long periods of time. The military analogue to this approach would be to win wars through superior technology such as stealth bombers or guided missiles that your enemies can neither develop internally nor acquire on the open market.

As an example of value creation through resources, consider the Brazilian cosmetics industry. Brazil's homegrown cosmetics champion Natura has established industry leadership through its well-respected brand and extensive network of enthusiastic consultants who sell the company's products to their friends and acquaintances. Multinationals, such as L'Oréal, might very well recognize the value of Natura's brand and network of consultants. They would find it difficult, however, to replicate or acquire these resources. As a result, Natura can continue to earn healthy profits and stay ahead of its competitors.

Creating value by seizing fleeting opportunities

Firms can also create value by identifying and seizing opportunities more quickly than their rivals. An opportunity, according to this value creation logic, is defined as a novel combination of resources that satisfies an unmet market need, and thereby creates value in excess of the cost to acquire the use of those resources.⁷ Value, according to this logic, flows not from owning a valuable resource or staking out a defensible position, but rather from effectively identifying a gap in the market, marshalling the resources to fill the gap faster than competitors, and managing the uncertainty inherent in assembling a novel combination of resources to fill an untested market need.

Following this logic, an alert manager or entrepreneur notices a gap in the market – perhaps a customer segment that is currently underserved or the possibility to use a new technology to produce existing products cheaper or better.⁸ The manager or entrepreneur then develops a plan for filling this gap in the market and marshals the necessary resources (e.g. cash, people, technology) to exploit this opportunity. Since the

plan is untried, it is inherently uncertain – the apparent gap may be illusory, the plan may prove ineffective, or the timing may be too early or too late.

If the manager's hunch about the opportunity is correct, the plan is solid, and if he attracts the necessary resources by making things work effectively, then he creates value. Specifically, he captures the value created in excess of the cost to acquire the use of necessary resources. His profit, in other words, is residual.⁹ These entrepreneurial profits result not from ownership of resources – in fact, the manager often secures the use of resources without actually owning them through leases or joint-ventures.¹⁰ Rather, residual profit, to the extent that it occurs at all, results from the executive or entrepreneur's willingness to bear and ability to manage the uncertainty inherent in trying something new. In other words, no risk, no reward – at least when pursuing this logic.

The military equivalent to this logic is known as maneuver warfare (a topic we shall discuss in greater detail in later chapters). Maneuver warfare emphasizes the importance of speed and agility to seize fleeting opportunities over defending an entrenched position or leveraging superior resources. Guerillas, terrorists and insurgents that either lack a positional stronghold or suffer a resource disadvantage generally adopt this approach. For a recent and tragic example, recall the bombings of September 11, 2001. The terrorists used resources (i.e. commercial airplanes) that they did not own in a novel way to create tremendous damage.

Opportunities to create value through new resources combinations are not only uncertain, but are also fleeting. If a company proves that a new business model creates value, that very success invites competition. India's Infosys, to give an example, pioneered the model of tapping low-cost Indian programmers to serve multinational firms' need for low-cost computer codes. The company's success, however, attracted scores of imitators such as Tata Systems and Wipro, and the resulting competition eroded Infosys' market share, prices, and ability to hire talented programmers.

Sometimes, of course, an opportunity will provide an enduring source of value. Natura's (Brazilian cosmetics leader) introduction of the Chronos cosmetics line, for example, became a sustainable business. In volatile markets, however, managers can rarely predict in advance how

long entrepreneurial profits will last. Thus, speed is essential to seize and exploit opportunities before rivals.

WHY THE WORLD IS BECOMING MORE UNPREDICTABLE

The preceding discussion outlined three distinct logics of value creation: position, resource, and opportunity. In this section, we define more precisely what we mean by an unpredictable environment and describe the factors that may be increasing unpredictability in many segments of the global economy.

Unpredictability results from the interaction of many uncertain factors

Although unpredictability is a fact of life in many markets, much of recent economic theory is based on the assumption that markets tend toward a stable equilibrium. As a result, the concept of market disequilibrium that produces uncertainty has received less critical attention than it warrants. Joseph Schumpeter was the first economist to systematically analyze the role of permanent change in the process of economic development, which he argued was characterized by “spontaneous and discontinuous change... [which] forever alters and displaces the equilibrium state previously existing.”¹¹

We use the term “unpredictability” to describe competitive environments characterized by rapid and unforeseen changes in multiple factors that influence a firm’s ability to create and sustain value.¹² All businesses, of course, are influenced by multiple factors including technology, demand, competition, regulations, access to capital, etc. In stable contexts, most of these variables change slowly and incrementally – consider a landscaping business or bakery, for example. Unpredictable environments, in contrast, are characterized by the volatility of changes in these variables. The uncertainty associated with individual variables is complicated by their possible interactions.

Multiple variables, their individual uncertainty, and the large number of possible interactions severely limit managers' ability to create a mental model of what the future will hold.¹³ Managers may fail to consider different scenarios that might occur or experience great difficulties in assessing the likelihood that alternative scenarios might come to pass.¹⁴ In such environments, managers must act despite limited visibility into the future. This need to act without foreknowledge of what the future holds is the central challenge faced by managers in unpredictable environments.

Technological change and global integration increase unpredictability

Some prominent authors have argued that the global economy is experiencing a general shift towards greater turbulence. Others have examined the evidence and concluded that unpredictability has not increased across the board in recent decades, although they concede it may have intensified in certain segments.¹⁵ We are agnostic on the question of whether the world as a whole is becoming more turbulent. However, we do believe that technological innovation and increasing integration of global product, service, capital and labor markets tend to increase unpredictability. These variables, in our opinion, affect a significant portion of the global economy.

Relentless technological innovation characterizes certain industries, such as information technology, medical products, telecommunications, and biotechnology. Advances in basic science and applied technology add not only technical uncertainty, but often open the door for new competitors to enter. These changes also enable new possibilities for products and services that shift customers' preferences. Finally, technological advances raise new issues and questions – Can a business practice be patented? Should human beings be cloned? – that result in fundamental changes in regulation. The sequencing of the human genome, for example, may lead to dramatic shifts in how pharmaceutical companies conduct R&D, open the door for new competitors, and surface fundamental questions of intellectual property rights that invite government intervention.

Occasionally, a new technology introduces volatility across a broad cross-section of the economy, at least for a period of time. The rise of the railroads in the United States in the second half of the 19th century, for ex-

ample, enabled a revolution in mass distribution and production that transformed most manufacturing industries within the U.S. economy.¹⁶ The rapid rise of the Internet is a more recent example. Although the Internet has not changed everything, as its more fervent advocates predicted, it has changed a few industries profoundly, including the travel, music, and new segments.

In addition, it is possible that the Internet, and digital technology more broadly, will continue to reverberate throughout the economy for years to come. The rise of the railroads in the United States, to provide some historical perspective, took place largely in the 1850's and 1860's, while the scale economies enabled by mass distribution were not fully exploited until decades later in industries such as tobacco, steel, and petroleum refining.

Greater integration into the global economy represents the second major source of turbulence. The rapid transformation of former Soviet Block countries such as Russia, Poland, and Hungary as they made the transition to open market economies is a recent and dramatic example. The Uruguay Round and emergence of the World Trade Organization (as well as regional trading blocks such as Mercosul) expose companies in most developing countries to greater uncertainty along multiple dimensions.

Increased reliance on global capital markets leaves companies vulnerable to changes in the cost and availability of capital as well as to dramatic shifts in exchange rates. The Mexican economic crisis in December 1994 led to a devaluation in the Real of 50% in less than two weeks and forced the Brazilian Central Bank to double interest rates. Reliance on exports to foreign markets leaves companies vulnerable to fluctuations in global prices, and this volatility is particularly acute for exports of commodities such as pulp and paper, minerals, and agricultural goods. Reliance on imported inputs, such as oil, introduces additional volatility.

Entry into global product markets also requires changes in industrial policy that expose companies to competitive uncertainty. Recall President Collor's decision to abruptly reduce tariffs in the early 1990's, for example, that resulted in 19 of Brazil's 20 largest auto parts companies going bankrupt or being acquired by foreign competitors within the span of three years. Thus, integration into global product, import, and capital markets creates multiple sources of uncertainty that taken together increase turbulence for most companies.

COMPETITIVE IMPLICATIONS OF UNPREDICTABLE MARKETS

Competing in an unpredictable environment can seem very disorienting, particularly to managers accustomed to a more predictable context. Stepping back, however, and viewing unpredictability from a theoretical perspective, reveals three implications for firms: firms in unpredictable environments face periodic large-scale threats that endanger their very survival, encounter new opportunities, and must compete against rivals in a time-competitive manner. The following section elaborates on the three major implications of turbulence for a company's ability to create and sustain value.

Sudden-death threats

Every business, even in the most stable environment, faces constant minor threats to profitability. Competitors cut prices, for example, or customers request incremental product improvements. And even these stable businesses, for example, are subject to rare and periodic jolts to their business.¹⁷ The U.S. tire industry, for example, enjoyed forty years of relative stability, in which the top five competitors controlled 80% of the market, the product design remained unchanged, and imports never exceeded 5% of the market. In the mid-1970's, however, French tire-maker Michelin introduced the radial tire, a new technology that was superior in every dimension that mattered to customers. This new product disrupted the stable oligopoly that had prevailed for decades, and ultimately led four of the five tire companies to sell out to healthier foreign competitors.¹⁸ Thus, even in the most stable environments, threats to a firm's very existence are possible. They are, however, exceedingly rare. A manager can spend his entire career with a company without ever experiencing one of these cataclysmic events.

However, in a turbulent world the story is very different. The interaction of a large number of uncertain variables increases the frequency of negative jolts that pose a serious threat to the profitability, or even survival, of a company's existing business. We use the term "sudden-death threat" to describe major environmental shocks that threaten a company's survival. Sudden-death threats are, obviously, not the only thing a manager needs to worry about. Companies in turbulent environments must

deal with an unending stream of minor threats just like their counterparts in more stable industries. The relative frequency of major shocks, however, makes managing sudden-death threats an integral rather than exceptional part of an executive's job.

Sudden-death threats share three defining characteristics: they are discontinuous, unpredictable, and pose a fundamental challenge to a firm's ability to create and sustain value. By discontinuous, we mean that these threats are not gradual, that is to say they mark a significant change over a very short period of time. Thus, the Brazilian Central Bank's doubling of interest rates in a few weeks would qualify as discontinuous, while the U.S. Federal Reserve's increase of a percentage point or two spread out over months or years is gradual. One can visualize a discontinuous change as a step-function increase (or decrease) in a variable over time, and envision an incremental change as a gradual linear increase (or decrease).

Sudden-death threats are also difficult to foresee. In a turbulent environment, managers obviously know in principle that negative shocks are likely. Their precise timing, magnitude, and nature, however, remain difficult to predict with accuracy because of the number of variables that could influence performance, their individual uncertainty, and possible interactions among variables. The frequency of major environmental changes may follow a pattern, however, even if their precise timing is unpredictable. Recent research on modeling complex systems has found that the frequency of changes is often inversely related to their magnitude.¹⁹ The important implication is that sudden-death threats will be interspersed among many smaller and more frequent changes. The relationship between the magnitude and frequency of threats has important implications that we will explore in the next chapter.

In order to qualify as a sudden-death threat, a shock must also endanger a firm's ability to create and sustain value, putting its very survival at risk. Sudden-death threats can directly reduce the attractiveness of a company's position by eliminating barriers to entry, stimulating demand for substitute products or services, increasing rivalry, or augmenting the bargaining power of customers or suppliers.²⁰ President Collor's abrupt elimination of protective tariffs is an obvious example. Sudden-death threats can also act indirectly. They can reduce the value of specialized resources by changing the context in which those resources are deployed.²¹ The value

of any resource depends, to some extent, on the structure of the competitive context in which that resource is deployed. The Brazilian flagship airline Varig, for example, controlled large jets and landing slots at major hub airports, which helped the company compete efficiently in a regulated market. Industry deregulation, however, allowed the entry of low-price competitors such as GOL which competed with smaller planes and circumvented hubs by flying point-to-point. In this new context, Varig's resources were rendered less valuable.

Golden opportunities

Sudden-death threats are the bad news about unpredictable markets, but there is also some good news. Turbulent environments allow for novel combinations of resources, and companies can create value by identifying and successfully exploiting these opportunities. When discussing the creative aspect of “creative destruction”, Schumpeter identified five sources of opportunities in turbulent environments: new products or services, novel means of production, new markets, new resources, and opening of formerly closed industries.²²

- *New products or services.* Changes in the economic context can shift consumer needs and preferences, thereby creating demand for new goods and services. Brazil's hyperinflation, for example, created demand for a series of financial instruments that helped consumers and companies manage despite inflation rates, which ran as high as 2,481% per year. Technological shifts can also create the possibility for developing new products or services that would have been impossible in the past. The development of the integrated circuit, to cite an obvious example, enabled the production of high-powered, affordable personal computers that would have been impossible to produce using vacuum tubes.

- *New means of production.* Changes in technology not only allow the development of new products, they can also enable the more efficient or higher-quality provision of existing goods or services. Improvements in digital technology, for example, enabled retailers like Pão de Açúcar to dramatically improve their inventory management. The

rise of the Internet, to give another example, enabled Banco Itaú and its rivals to improve the efficiency and reduce errors in routine processing tasks.

■ *New markets.* Entry into the World Trade Organization and regional trading blocks expose existing business to foreign competition, but also open new frontiers for expansion. Several of the companies we studied took advantage of falling trade barriers to establish operations outside Brazil, particularly in Argentina. Changes in the macroeconomic context can also increase demand in existing markets. The Real plan which stabilized inflation in 1994, for instance, increased many Brazilians' disposable income, and sharply stimulated demand for certain products such as beer and cosmetics.

■ *New resources available.* Turbulence sometimes makes available resources that were previously unattainable, thereby enabling new combinations. The government's privatization plan, for example, put valuable resources for sale, such as the assets of state-owned banks or railroads. These new resources enabled previously impossible combinations.

■ *New industries open.* Even within one's own country, the reduction of barriers to entering an industry create opportunities for companies previously locked out. For example, new regulation combined with national energy shortages made it economically feasible for companies like Votorantim to enter the energy generation industry by building small hydroelectric plants.

Just as in the case of threats, not all opportunities are created equal. Companies in turbulent environments face a steady stream of small and medium-sized opportunities, interspersed with periodic chances to significantly enhance its potential to create value.²³ We use the term "golden opportunity" to describe an occasion where a firm can significantly alter its ability to create and maintain value into the future. Just as environmental turbulence increases the frequency of sudden-death threats, so it also increases the likelihood of golden opportunities for vigilant and agile firms to seize.

Competitive dynamics

Environmental turbulence has a subtle but important implication on the nature of competitive interaction among rivals within an industry. Companies in unpredictable environments, like their counterparts in more stable contexts, compete along the normal dimensions of price, quality, incremental innovation, and positioning, process efficiency, and so forth. In unpredictable environments, however, companies also vie in their ability to preemptively minimize the impact of potential sudden-death threats or respond to them promptly and effectively. In addition, firms compete in anticipating golden opportunities, preparing for them, and seizing them faster than competitors. Thus, firms' ability to prepare for golden opportunities and sudden-death threats and their speed in responding can spell the difference between continued growth and stagnation or even extinction.

You might think that the logical implication of creative destruction is that all advantages are temporary and firms should move from one position to another as rapidly as possible. That is indeed the position taken by an influential stream of research in the business strategy field known as "hypercompetition". Hypercompetition describes an environmental condition in which rapid and continuous interactions among competitors quickly create and destroy competitive advantages resulting from position or resources.²⁴ Building from the assumption that all competitive advantages are inherently fleeting, hypercompetition theorists recommend that firms should relentlessly move from one temporary advantage to the next.

At the extreme, firms should continually take actions that change the rules of the game, even if these changes erode the defensibility of their own established positions or diminish the value of their resources. The rationale for this counter-intuitive advice is that a firm will forfeit these advantages sooner or later (and probably sooner), and therefore has little to lose in sacrificing their current advantage to position themselves better for the future. Continuous change, moreover, confuses and surprises competitors. "Eat your own lunch", this point of view suggests, "before someone else eats it for you". A historical illustration of this logic arose when King Don João VI of Portugal anticipated that Brazil would soon break free from Portuguese rule. In 1822, the king advised his son Don Pedro (who oversaw the Brazilian colonies) to anoint himself King of the Brazilian Empire before an adventurer claimed it first.

Hypercompetition theory postulates that all competitive advantages are transient. The logical implication of this assumption is that managers will often find it better to sacrifice these advantages rather than engage in misguided attempts to preserve what must pass away. According to the hypercompetition view, superior performance accrues to firms that are faster than their rivals in hopping from one temporary advantage to the next and more skilled in disguising their intentions from rivals.

The hypercompetition model of skipping from one advantage to another holds intuitive appeal, and has proven influential in the business strategy literature. Unfortunately, it also makes assumptions that are questionable in theory and recommendations that are dangerous in practice. The first problem stems from the sources of unpredictability. Hypercompetition focuses almost exclusively on uncertainty resulting from competitive interactions among rivals who deliberately disguise their intentions to surprise competitors. This focus on rival's actions is consistent with game theoretic models of strategy, in which competitive interactions are modeled as zero-sum games played by two or more rational agents, which attempt to anticipate other players' moves and act accordingly.²⁵ According to this view, players are pitted against one another, as they would be in poker or chess, for example.

Modeling games in this manner, however, excludes the role of uncertainty resulting from variables other than competitive rivalry. Competitive interactions are, of course, critical, but they are far from the only source of uncertainty in volatile environments. Managers must also consider exogenous sources of uncertainty such as exchange rates, interest rates, or regulatory policies that could directly or indirectly threaten existing businesses or open new opportunities. An overly narrow focus on competitors' thrusts and parries leaves managers in unpredictable environments vulnerable to unexpected threats and slow to notice opportunities outside the traditional domain of competition.

The other problem with hypercompetition is more fundamental. Hypercompetition theory postulates that all competitive advantages are transient. The logical implication of this assumption is that managers will often find it better to sacrifice these advantages rather than engage in misguided attempts to preserve transient advantages. We make a different assumption that implies divergent advice for managers. Nothing in our ar-

gument dictates that resource or positional advantages must pass away. In our model, positional and resource-based advantages are theoretically sustainable, and indeed were sustained for decades for certain businesses we studied, such as Votorantim Cement. Given the possibility of sudden-death threats, however, the duration of these advantages is difficult to predict *ex ante*.²⁶ The possibility (but not certainty) of sustaining competitive advantage implies that managers should balance the tasks of defending established businesses with pursuing new opportunities. The need to balance offense and defense is an important feature of the active waiting model that we shall introduce in the next chapter.



This chapter has summarized the implications of an unpredictable environment on a firm's ability to create and sustain value. In summary, firms create value by erecting and defending a desirable position, building and leveraging valuable resources, or seizing opportunities more quickly than their rivals. Unpredictable environments are characterized by interactions among multiple uncertain variables, which taken together severely limit visibility into the future. In unpredictable environments, managers face a constant stream of potential threats to their resource and positional advantages and periodically encounter sudden-death threats that endanger their firm's very survival. Such environments also generate a steady stream of chances to create new value, including periodic golden opportunities. Firms compete to anticipate, prepare for, and respond quickly and effectively to emerging opportunities and threats. In the next chapter we introduce a conceptual model for surviving and thriving in a turbulent environment.

Notes

1. In designing and executing this research, we followed the roadmap for case study research introduced by Kathleen Eisenhardt. See K. M. Eisenhardt, (1989), "Building theories from case study research", *Academy of Management Review*, 14(4), pp. 532-550. Using Eisenhardt's terminology, this chapter represents our effort to enfold existing theoretical (and empirical) literature to sharpen our definitions and increase the generality of our findings.

2. For a summary of our conceptual argument generalized beyond the Brazilian study, see D. N. Sull and M. Escobari, (2004), "Creating value in an unpredictable world", *Business Strategy Review*, (3 Autumn), pp. 14-20.
3. For an accessible and concise comparison of these three views, see K. M. Eisenhardt and D. N. Sull, (2001), "Strategy as Simple Rules", *Harvard Business Review*, (January), pp. 110-116. For more in-depth comparisons of the contrasting logics, see J. B. Barney, (1986), "Types of competition and the theory of strategy: Toward an integrative strategy", *Academy of Management Review*, 11(4), pp. 791-800 and Y. E. Spanos and S. Lioukas, (2001), "An examination into the causal logic of rent generation: Contrasting Porter's competitive strategy framework and the resource-based perspective", *Strategic Management Journal*, 22, pp. 907-934.
4. This perspective is most closely associated with Professor Michael Porter of the Harvard Business School. See M. E. Porter, (1980), *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, (New York: Free Press), and M. E. Porter, (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, (New York: Free Press).
5. Recent studies suggest that stable industry effects account for approximately 19% of the differences in profitability among U.S. public corporations. See A. McGahan and M. E. Porter, (1997), "How much does industry matter, really?", *Strategic Management Journal*, Summer Special Issue, 18, pp. 15-30; and R. Schmalensee, (1985), "Do markets differ much?", *American Economic Review*, 75(3), pp. 341-351. Using a different methodology, Rumelt estimates industry effect at only 8%, but this lower estimate may result from his exclusive focus on manufacturing industries. R. Rumelt, (1991), "How much does industry matter?", *Strategic Management Journal*, 12(3), pp. 167-185.
6. This perspective is commonly referred to as the resource-based view of the firm. See B. Wernerfelt, (1984), "A resource-based view of the firm", *Strategic Management Journal*, 5 (2), pp. 171-180; and J. Barney, (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, 17(1), pp. 99-120.
7. This definition of opportunity originates in Schumpeter's discussion of innovation, see J. A. Schumpeter, (1934), *The theory of economic development*, (Cambridge, MA: Harvard University Press). For a recent discussion of value creation through novel combinations of resources, see P. Moran and S. Ghoshal, (1999), "Markets, firms and the process of economic development", *Academy of Management Review*, 24(3), pp. 390-412.
8. Israel Kirzner has emphasized the importance of entrepreneurial alertness to previously unnoticed opportunities for value creation and placed alertness at the center of his model of entrepreneurship. See I. Kirzner, (1973), *Competition and entrepreneurship*, (Chicago: University of Chicago Press). Recently empirical research has supported the importance of entrepreneurial alertness to new opportunities. See S. Shane, (2000), "Prior knowledge and the discovery of entrepreneurial opportunities", *Organization Science*, 11(4), 448-469. Although alertness is of course important, the limitation of this approach is almost exclusive focus on noticing the opportunity and lack of attention to the process of seizing the opportunity after it has been identified.
9. Frank Knight first introduced the notion of entrepreneurial profits as residual. See F. Knight, (1921), *Risk, Uncertainty, and Profit*, (Boston: Houghton Mifflin), chapter IX.

Some portion of the accounting profits earned by pursuing an opportunity will also be attributable to the opportunity cost of all resources the entrepreneur provided, including their labor, reputation, and effort, rather than the reward for bearing and managing risk.

10. Professor Howard Stevenson, the founder of entrepreneurial studies at the Harvard Business School, defines entrepreneurship as “the relentless pursuit of opportunity without regard to the resources currently under control”. This definition, which has influenced a generation of research and teaching on entrepreneurship at the Harvard Business School, explicitly precludes the possibility that entrepreneurial profits result from resource ownership. See H. H. Stevenson and J. C. Jarillo-Mossi, (1990), “A paradigm of entrepreneurship: Entrepreneurial management”, *Strategic Management Journal*, 11, pp. 17-27.

11. J. A. Schumpeter, (1934), *The Theory of Economic Development*, (Cambridge, MA: Harvard University Press), p. 64.

12. The original discussion of unpredictable environments in organizational theory emphasized both complexity (i.e. multiple factors) and dynamism (i.e. the rate of change of variables). See F. Emery and E. Trist, (1965), “The causal texture of organizational environments”, *Human Relations*, 18, pp. 21-32. Strategy scholars use multiple terms to describe unpredictability, including turbulence which Eisenmann defines as “rapid, discontinuous, and unpredictable change in multiple factors significant to a firm’s long-term performance, such as technology, regulation, or customer demand”. See T. R. Eisenmann, (2002), “The effects of CEO equity ownership and firm diversification on risk taking”, *Strategic Management Journal*, 23, p. 514. Thus defined, turbulence is essentially identical to the construct of “high-velocity environments”, a term introduced by L. J. Bourgeois and K. M. Eisenhardt, (1988), “Strategic decision processes in high-velocity environments: Four cases in the microcomputer industry”, *Management Science*, (34), p. 816. We use the term “unpredictability” primarily because it is a less technical term and more accessible to most readers. To avoid tedious repetition, however, throughout the text we use the terms “volatility”, “turbulence”, and “unpredictability” interchangeably to denote the state resulting from multiple, interacting, uncertain variables that influence a firm’s ability to create or sustain value.

13. Friedrich Hayek argued that our ability to create mental models decreases as the number of interdependent variables influencing the future and their individual uncertainty rises. Difficulties in modeling limit the possibility of accurate prediction. See F. Hayek, (1967), *Studies in Philosophy, Politics, and Economics*, (Chicago: University of Chicago Press), especially pp. 3-21.

14. Frank Knight was among the first economists to systematically analyze how uncertainty influences managers’ ability to make business decisions. See F. H. Knight, op. cit. Although Knight’s distinction between “risk” and “uncertainty” is somewhat confusing and his exposition at times opaque, a careful reading reveals a clear argument. “Business decisions”, Knight argues, “deal with situations which are far too unique, generally speaking, for any sort of statistical tabulation to have any value for guidance”. (p. 231). The difficulty lies not in assigning probabilities to known scenarios, but rather in articulating possible scenarios in the first place (Chapter VI, especially pp. 226-227). For a cogent in-

terpretation of Knight along these lines, see R. N. Langlois and M. M. Cosgel, (1993), “Frank Knight on risk, uncertainty, and the firm: A new interpretation”, *Economic Inquiry*, 31(July), pp. 456–465.

15. See for example R. D’Aveni, (1994), *Hypercompetition*, (New York: Free Press); and G. Hamel, (2000), *Leading the Revolution*, (Boston, MA: Harvard Business School Press) for representative arguments that the world is becoming more unpredictable across the board. There has been surprisingly little large-sample empirical research testing this hypothesis, and the existing findings are inconclusive. For findings supporting increased competitive volatility, see L. G. Thomas, (1996), “The two faces of competition: Dynamic resourcefulness and the hypercompetitive environment”, *Organization Science*, 7, pp. 221–242; and for conflicting findings see G. McNamara, P. M. Vaaler, and C. Devers, (2003), “Same as it ever was: The search for evidence of increasing hypercompetition”, *Strategic Management Journal*, 24, pp. 261–278.

16. Alfred Chandler documents this shift in A. D. Chandler, (1977), *The Visible Hand: The Managerial Revolution in American Business*, (Cambridge, MA: Belknap Press).

17. Alan Meyer defines environmental jolts as “transient perturbations whose occurrence are difficult to foresee and whose impacts on organizations are disruptive and potentially inimical”. See A. D. Meyer, (1982), “Adapting to environmental jolts”, *Administrative Science Quarterly*, 27, pp. 515–537. Meyer’s definition captures the discontinuous and unpredictable nature of jolts, but assumes that the impact of jolts represents a rare event in an otherwise stable environment. The interesting aspect of contexts like Brazil is the consistency of jolts.

18. See D. N. Sull, R. Tedlow and R. Rosenbloom, (1997), “Managerial Commitments and Technological Change in the U.S. Tire Industry”, *Industrial and Corporate Change*, 6(2), pp. 461–501, and D. N. Sull, (1999), “The Dynamics of Standing Still: Firestone Tire & Rubber and the Radial Revolution”, *Business History Review*, 73(3 Autumn), pp. 430–464.

19. More precisely, changes in complex systems frequently follow some version of a power law in which large shifts occur exponentially less frequently than minor ones. See P. Anderson, (1999), “Complexity theory and organization science”, *Organization Science*, 10(3): 223. The precise functional form is not the critical point here, but rather the intuition that the frequency of changes will be inversely related to their magnitude.

20. See M. Porter, *Competitive Strategy*.

21. See D. J. Collis, (1994), “Research note: How valuable are organizational capabilities,” *Strategic Management Journal*, 15, pp. 143–152.

22. J. A. Schumpeter, (1949), *The Theory of Economic Development*, (Cambridge, MA: Harvard University Press), p. 66.

23. The question of the magnitude and timing of opportunities in unpredictable environments has received little theoretical attention to date and represents a fascinating topic for future research.

24. See R. A. D’Aveni, (1994), *Hypercompetition: Managing the Dynamics of Strategic Maneuvering*, (New York: Free Press).

25. For an accessible summary of competitive game theory applied to business strategy, as well as an extension into cooperative game theory, see B. J. Nalebuff and A. M. Brandenburger, (1996), *Co-opetition*, (New York: Currency-Doubleday).

26. Chakravarthy distinguishes between turbulent and hypercompetitive environments based on their potential for multiple equilibria. See B. Chakravarthy, (1997), “A new strategy framework for coping with turbulence”, *Sloan Management Review*, Winter, pp. 69–82. To use Chakravarthy’s terminology, we argue that local equilibria – i.e., pockets of stability, are possible even in the midst of a turbulent overall context. However, the duration of any local equilibrium’s stability is indeterminate *ex ante*.



CHAPTER 3

Active Waiting

In the last chapter we discussed the implications of an unpredictable environment on a firm's ability to create and sustain value, and these raise several practical questions for managers. How can executives best structure their company to seize fleeting opportunities? How can they manage the risks inherent in a volatile environment? How should managers think about strategy in an unpredictable context? How does the role of leadership differ in turbulence?

Unfortunately, the existing literature on designing organizations or forming strategy provides limited guidance on these questions (with a few important exceptions discussed below). Several of the most influential theories of organization assume that managers avoid uncertainty at all cost, and take steps to buffer their organization from unpredictable markets.¹ These theories assume that managers will stockpile raw materials, for example, to avoid disruptions in supplies or attempt to lock stakeholders into long-term binding contracts to reduce uncertainty. Most dominant models of corporate strategy assume that executives can predict the future with reasonable accuracy, formulate a plan based on their predictions and then proceed to methodically implement their plan. A few scholars have pioneered research on business strategy in turbulent environments, but they represent the exception rather than the rule.²

In unpredictable markets like Brazil, managers can neither ignore the uncertainty nor avoid its consequences. If existing theories of organization and strategy provide little guidance, where can managers turn for in-

sights on surviving and thriving amidst chaos? This chapter presents a model, based on our empirical research and grounded in relevant theory that helps executives think more systematically about managing in unpredictable markets.

FROM SUSTAINING TIME TO ACTIVE WAITING

In order to survive and thrive in a turbulent environment, we believe that managers must rethink their understanding of strategy and assumptions about time. Business strategy is generally defined as the means by which firms create sustainable competitive advantage. Firms can create this sustainable competitive advantage by following two of the value-creation logics described in the last chapter. First, they can establish and defend an attractive position, and sustain it to the extent they erect barriers to entry to prevent potential rivals, customers or suppliers from eroding their profits. Alternately, managers can create and leverage valuable resources that competitors lack, and the advantage is sustainable if rivals can neither copy nor acquire these resources. The third logic of value creation, pursuing opportunities, does not qualify as a strategy by this definition because the resulting profits may not be sustainable. Seizing opportunities is generally classified as the domain of entrepreneurship rather than strategy. Strategy, therefore, is deeply intertwined with the concept of sustainability.

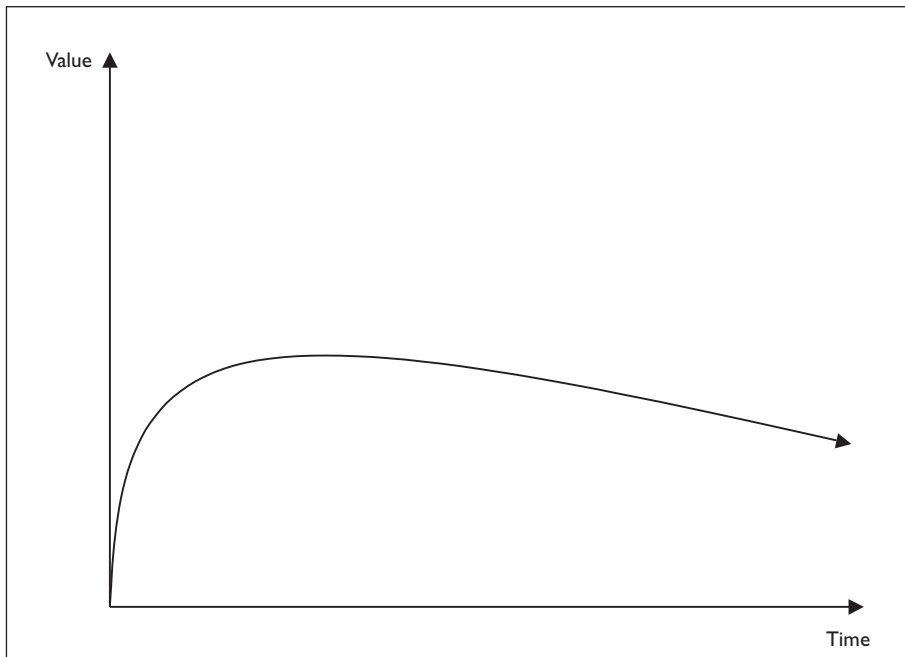
Sustaining time

The notion of “sustainability” entails some very strong assumptions about the nature of time, although these assumptions are rarely surfaced or discussed explicitly.³ First, the argument that managers can build a sustainable competitive advantage assumes that they can predict the future with sufficient accuracy to decide which position or resources will be valuable before they commit resources to pursuing a strategy. The positional and resource views of strategy both assume that executives can forecast the future and calculate the results of alternative actions with a reasonable degree of certainty.⁴ Based on their superior foresight, these managers make large commitments to build resources or stake out positions that will confer a competitive advantage far into the future.⁵ The longer the period required to de-

velop resources or to establish a position, the more important the role of foresight. Thus, the first assumption about time inherent in sustainability is that managers can predict which resources or positions will be valuable in the future. This assumption may well be appropriate in stable environments where the future will be much like the past.

The second assumption about time deals with the durability of competitive advantages. Once a valuable resource or position has been established, these theories assume that the value they create can be sustained in the future. Competitive advantages are, of course, subject to forces such as rivalry and substitution that erode the value of the position or resources over time.⁶ The underlying assumption, however, is that the value of these positions or resources will persist into the future, and their ability to create value in the future can be estimated by extrapolating their past value creation, even if this projection includes a gradual decay. This view of time, which we call “sustaining time”, is depicted graphically in Figure 3.1. Some strategy scholars have acknowledged the possibility of “Schum-

FIGURE 3.1 **Sustaining Time**



peterian shocks” or “disruptive changes” that could sharply diminish the value of existing resources or position. These shocks, however, are modeled as extremely rare events preceded and followed by long periods of equilibrium.⁷ Overall, these jolts are treated as falling outside the model and largely ignored.

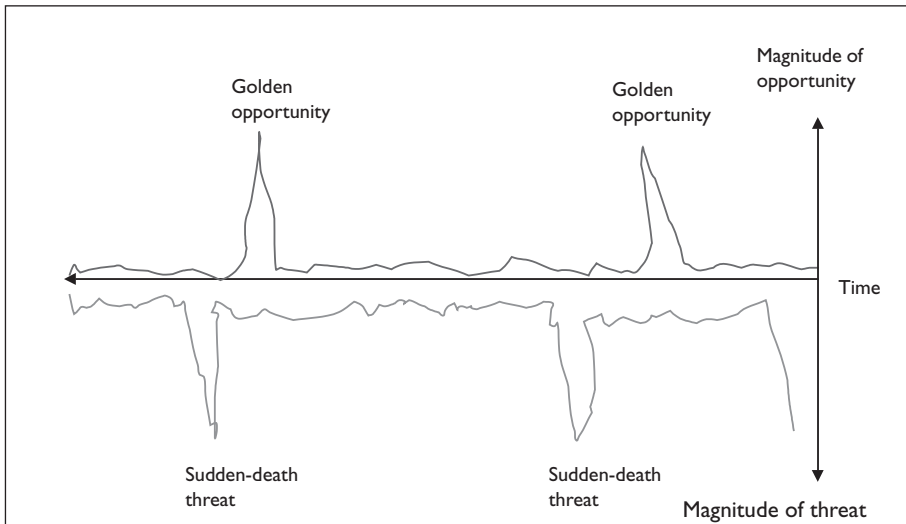
Active waiting view of time

The sustaining view of time, which extrapolates the known present into the future, is so intuitive that it is often hard to imagine other conceptions of time. However, time can be modeled in many ways, including clock time that passes steadily, recurrent cycles in which a pattern of events (such as the seasons of the year) repeat at predictable intervals, or lifecycles in which a person or organization passes through clearly delineated stages (such as youth, adolescence, maturity, and decline) without returning to any previous stage.⁸

To make sense of unpredictable environments, and thereby manage more effectively, executives must abandon the sustaining view of time, and in its place adopt what we term the “active waiting” view of time. Managers facing a steady stream of unpredictable opportunities and threats, interspersed with periodic sudden-death threats and golden opportunities, cannot plan long into the future. Nor can they necessarily maintain their existing advantage. They can, however, anticipate, prepare for, and respond more quickly and effectively to emerging threats and opportunities than their competitors.

The active waiting view of time can be portrayed graphically to visually highlight the contrast to the sustaining view (See figure 3:2 entitled “Active Waiting”). In this figure, the vertical axis pointing upward measures the magnitude of opportunity for new value creation enabled by an external event, while the downward-pointing arrow represents the magnitude of threat an event poses to the company’s existing resources or position. The lines represent these magnitudes over time, much as the lines of a seismograph would measure the intensity of earthquakes. Magnitude, in this graph, however, is not a measure of an event’s importance in some abstract sense, but rather a specific measure of an event’s impact on a firm’s opportunities for new value creation or threats to existing resources and

FIGURE 3.2 **Active Waiting**



position. Thus, it is quite possible that a major world event, such as a war or change in political party, will not register as a large shift for a given company, while industry-specific changes such as technological innovations could loom large for a firm.

The most important aspect of this diagram is that the lines depicting threats and opportunities are records of historical events, and not predictions of future events. Like a seismograph, these lines register the past rather than forecast the future. In this sense, they contrast with the sustaining view of time in which the present competitive advantage is extrapolated forward. In a turbulent market, managers know that sudden-death threats and golden opportunities are possible (in addition to the countless smaller risks and chances). They cannot, however, forecast them. As a result, they must take whatever steps are possible to detect minor tremors that might signal major shifts, prepare for possible threats and opportunities, and respond quickly and aggressively when golden opportunities and sudden-death threats present themselves. (Sidebar 3:1, entitled “Active waiting and strategy theory”, describes how our model builds on, and differs from existing academic theories of business strategy).

SIDEBAR 3:1**ACTIVE WAITING AND EXISTING STRATEGY THEORY**

The active waiting view of time contributes to strategy literature in three ways. First, the model makes an explicit link between changes in the environment and a firm's ability to create and sustain value. Several strategy scholars have acknowledged the occurrence of "Schumpeterian shocks". However, for the most part, they have failed to define this term carefully or model the positive and negative impact any shock might have on a firm's ability to create and sustain value.⁹ Our model explicitly categorizes these jolts in terms of their impact on a firm's ability to create and sustain value.

Our second contribution is to emphasize the need to consider both seizing opportunities and protecting existing competitive advantages in unpredictable markets. In our model, volatility can produce *both* jolts that threaten a firm with sudden-death *and* changes that create unforeseen opportunities for new value creation. Much of the existing literature tends to focus exclusively on threat or opportunity, but not both.¹⁰ The strategy field, for example, has focused primarily on protecting existing resources and position against threats. In contrast, the pursuit of new opportunities has been segregated into the academic domain of entrepreneurship, which has defined itself in terms of the pursuit of opportunity.¹¹ When modeling unpredictable markets, we believe it is necessary to explicitly account for both threats and opportunities.

Finally, the active waiting model sheds light on the timing of events in volatile environments by building on recent research in complexity theory. We assume that the frequency of opportunities and threats varies inversely to their magnitude, and that both major and minor changes will occur more frequently than in stable environments. On the one hand, the resulting model contrasts with theories that view "jolts", "disruptions", or "Schumpeterian Shocks" as extremely rare events that lie outside the heart of the theory. On the other hand, the irregular timing of major events in our model also contrasts with frameworks that assume environmental shocks occur without pause in turbulent environments.¹² Our assumption of irregularly timed major events implies that companies in turbulent environments will likely face extended periods of relative calm punctuated by intensive bursts of activity, rather than a uniform onslaught of shocks or once-in-a-lifetime cataclysmic events.

MOBILIZING RESOURCES FOR THE MAIN EFFORT

In an unpredictable environment, top executives must constantly assess the major threats and opportunities facing their company at a point in time and mobilize the resources to respond effectively. The central argument of this chapter, and indeed this book as a whole, is that managers in turbulent environments can increase the probability of value creation and firm survival by accurately assessing their current situation and taking appropriate actions.

Declare the main effort

Managers in turbulent environments must constantly monitor the shifting context to identify emerging sudden-death threats and golden opportunities while they are still faint tremors. Although most of these tremors will remain minor or eventually dissipate, a few will develop into major events. When managers decide that an event will have profound implications for a firm, they should elevate its status and designate it as a sudden-death threat or golden opportunity rather than a run-of-the-mill challenge or opportunity. The primary task for managers in unpredictable markets is not deciding whether an environmental shock is an opportunity or threat. Based on our empirical research in Brazil, we believe that most events in unpredictable markets will present themselves clearly as either threats to existing resources or as opportunities (although we acknowledge ambiguous events are possible).¹³

The manager's primary task, therefore, is not to code ambiguous events as either threats or opportunities, but rather to decide whether they are important enough to concentrate the entire organizations' resources on responding to them. If managers assess the events as major they should then declare them as the company's "main effort".¹⁴ Main effort, as we use the term, refers to a manager's designation of the focus of attention for the organization as a whole for a period of time. In simple terms, it is the top item on the organization's list of priorities. Given its pride of place, all other activities must be evaluated in terms of how they support the main effort.

The main effort is not the same thing as a strategy. A strategy defines a company's enduring general direction, and should not change frequently,

while a main effort prioritizes action within the context of the broader strategy. The most important aspect of the main effort is that it can, and should, shift over time as the environment produces new golden opportunities and sudden-death threats. A shifting main effort implies that a company in a turbulent environment will shift emphasis in defending its core business to pursuing a major opportunity over time. Moreover, these changes in main effort can often happen rather abruptly as the external context shifts.

The notion of a shifting main effort contrasts with theories of strategy that recommend firms maintain an exclusive focus either on defending their core existing businesses or prospecting for new opportunities.¹⁵ In unpredictable markets, firms must periodically shift their main effort from actions that defend the existing core business to steps taken to seize new opportunities. To succeed in turbulence, a company must resemble a basketball team, in which everyone can play both offense and defense and be ready to shift suddenly. The notion of a main effort that shifts over time from defending existing businesses to seizing new opportunities also contrasts with models that argue executives should separate divisions that specialize in pursuing new opportunities from the core unit charged with defending established business.¹⁶

Allocate resources consistent with the main effort

After declaring a main effort, top executives must ensure that the firm's resources – specifically good people and money – are deployed to support the top priority. Most studies of large organizations in stable environments have found that the processes for allocating resources – such as capital budgeting and new venture creation – flow from the bottom of the organization.¹⁷ The process, according to these studies, unfolds when a front-line employee comes up with a good idea and attempts to persuade a middle manager to support the proposal for funding. The middle manager, in turn, compares the proposal with others she has received, and selects the most promising to present to top executives. Top executives (and the board of directors) often ratify proposals with limited scrutiny, because they trust that proposals which survived the screens inherent in the bottom-up process deserve funding.

A bottom-up resource allocation process, however, may fail to reallocate resources quickly enough to support a company's main effort. First, the process may simply move too slowly to respond effectively when an opportunity or threat suddenly arises. Moreover, an event may fall between the cracks of the individual business units, so that no single divisional manager has responsibility for seizing the opportunity or responding to the threat. A bottom-up process may also fail to redeploy existing resources rapidly, because frontline employees and middle managers may dislike the prospect of killing new product development projects, laying off employees within their division, or closing operations.¹⁸ The failure of bottom-up resource allocation processes to cut resources will obviously impair a company's ability to respond quickly to a sudden-death threat, which entails lay offs, plant closures, cutting product lines and development projects, etc. The failure to disinvest can also hamper a firm from seizing a golden opportunity. In order to pursue a major opportunity such as an acquisition, new product development project, or geographic expansion, executives may need to remove resources from other uses in a timely fashion.¹⁹ Embraer's CEO Mauricio Botelho, to give one concrete example, ceased all other development projects to focus resources on commercializing the ERJ-145 commuter jet.

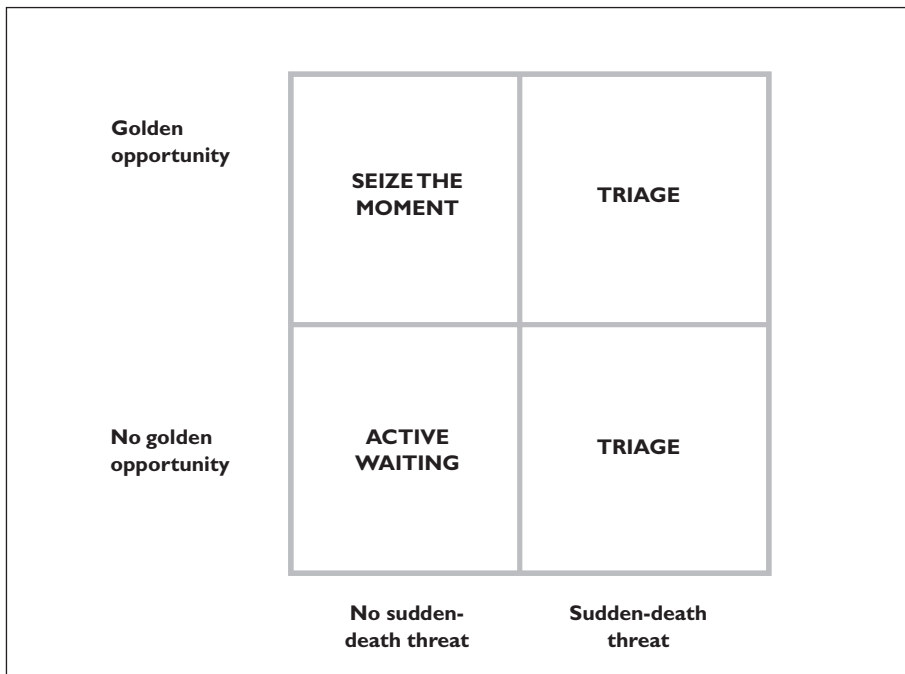
TRIAGE, SEIZING THE MOMENT AND ACTIVE WAITING

According to our model, companies in turbulent environments advance in time with limited visibility into the future. Although they cannot peer far into the future, managers can assess the situation at any given point in time. Specifically, they can categorize the current and emerging events based on whether they face a golden opportunity or a sudden-death threat. These, after all, are the major events that can significantly alter a firm's ability to survive as well as create and sustain value in the future. This is not, of course, to imply that they should ignore smaller risks and chances, but simply deal with these as a matter of course.

Emphasizing sudden-death threats and golden opportunities enables managers to segment any period of time into a two-by-two matrix based on the absence or presence of major threats or opportunities. Figure 3:3 "Main

Effort” depicts this matrix graphically. The vertical axis denotes the presence or absence of a golden opportunity at a point in time, while the horizontal axis marks whether a company faces a sudden-death threat. Each cell is marked with the main effort appropriate to that particular combination of sudden-death threat and golden opportunity. The southeast quadrant of our matrix, labeled “triage”, describes a situation when a firm faces a sudden-death threat but no golden opportunity. The northwest quadrant, marked “seize the moment”, represents the mirror-image situation, when a firm faces a golden opportunity without a major negative shock. The northeast cell (also noted as “triage” for reasons described below) denotes the presence of both simultaneously. The lower-left quadrant (“active waiting”) denotes a period devoid of either sudden-death threats or golden opportunities. In the following section, we limit our discussion to the major conceptual issues arising in each quadrant. Subsequent chapters provide practical advice and in-depth case studies to flesh out the conceptual skeleton presented in this chapter.

FIGURE 3.3 **Main Effort**



Triage

We use the term “triage” to describe the main effort appropriate when a company faces a sudden-death threat. The term “triage” comes from the field of emergency medicine and describes a system of assessing patients’ urgency of need and chances for survival and quickly assigning them into one of three categories: clear survivors, clear fatalities, and question marks. Doctors devote their limited resources (e.g. time, medicine, bed space) to the question marks that may survive with proper care. Patients who will survive without intervention and those who cannot be saved even with heroic efforts receive only token care. The triage system is a useful model for managers responding to a sudden-death threat because it provides guidance on how to quickly make the difficult decisions necessary to survive a major threat. Chapter eight introduces practical tools for rapidly responding to sudden-death threats and illustrates with case studies from Votorantim, Pão de Açúcar, and Aracruz.

The most important aspect of triage is the need for speed. Even in a stable environment, managers must of course respond to any serious threat they face. In less turbulent contexts, though, executives may enjoy the luxury of time, which allows them to soften the impact of painful actions on the organization. Reductions in staff, for example, could be achieved through planned retirements combined with a hiring freeze. In a volatile market, in contrast, managers don’t know when and what is coming next. By rapidly putting triage behind it, the firm is better positioned to seize a golden opportunity or survive another sudden-death threat.

A second important aspect of firms’ ability to weather sudden-death threats is their level of slack resources, or resources that are uncommitted to a current use or can quickly be redeployed.²⁰ Slack resources, particularly liquid financial assets and talented general managers, provide a company a cushion to help it survive a sudden-death threat. Thus, we would expect that the level of slack within a firm influence its ability to weather a major threat. This hypothesis, while quite intuitive, conflicts with the central tenet of the resource-based perspective on value creation that argues sustainable value results from investment in specialized resources rather than maintaining uncommitted reserves.

So far, our discussion has focused exclusively on the southeast quadrant, but the same logic applies when a company faces a sudden-death threat and a golden opportunity simultaneously – i.e. the northeast quadrant.

The logic is simple: the need for survival dominates the desire for growth when a firm faces both simultaneously. Although the same event could theoretically pose simultaneous threat and opportunities, in our sample, the immediate impact of a nearly every major event was either clearly positive or clearly negative.²¹ It is also conceivable that two independent events – one negative, the other positive – could coincide, but this was extremely rare in our sample of twenty companies over approximately a decade. An interesting finding from our empirical research was that the firms in our sample rarely found themselves facing a golden opportunity and sudden-death threat simultaneously. A more common pattern, parenthetically, occurred when a sudden-death threat affected all players in an industry and weakened some companies more than others. Subsequently, the players that better withstood the negative shock faced a golden opportunity to acquire assets from their weakened rivals.

Seize the moment

Companies in the northwest quadrant face a golden opportunity without a sudden-death threat. The obvious main effort in this situation is to “seize the moment” by aggressively exploiting the opportunity. Common examples in our sample include major new product developments, large acquisitions, aggressive investment in related businesses, and geographic expansion. In many ways, “seize the moment” is the mirror image of triage. Once managers have declared an opportunity golden, speed of execution is critical to seize it before competitors.

Pursuing a major opportunity also ties up slack resources and management attention, leaving the company more vulnerable should a sudden-death threat follow quickly on the heels of the golden opportunity. By executing quickly on the opportunity – accelerating new product development, for example, or rapidly integrating an acquisition – the company can shorten its vulnerable period and reap the resulting cash flow benefits more quickly. As with triage, the need for speed in execution may require executives to consolidate decision-making and resource allocation at the top of the organization. Chapter six describes the practical steps required to seize the moment and illustrates these points with examples from Banco Itaú as well as other companies in our sample.

Active waiting

The southwest quadrant consists of time when a company faces neither major threat nor a golden opportunity. The main effort, during such periods, is to actively prepare for major events in the future, even if their precise form, magnitude, and timing are unclear. But how can managers prepare for events they cannot predict? We argue that five mechanisms, if conducted during relatively uneventful periods, prepare a firm for future shocks.

1. Top executives can anticipate possible shocks by carefully monitoring the emerging situation.²² In turbulent environments, it is critical that this monitoring take place for both potential opportunities and possible threats.²³ This monitoring should not be passive, and managers can actively probe the future by designing and conducting low-cost experiments and purchasing real options on possible futures.²⁴
2. Managers can identify and prioritize emerging changes that might evolve into key risks. Based on their monitoring, they can take a variety of steps to avoid potential threats or preemptively mitigate their impact. Managers can, for example, diversify their portfolio of existing businesses. An extensive body of theoretical and empirical research suggests that a moderate level of diversification is optimal, provided the businesses are “related,” i.e. leverage a common set of resources.²⁵ When country-specific factors represent an important component of risk, as they do in Brazil, firms may diversify their operations geographically to manage this risk.²⁶ Managers can hedge certain risks, such as foreign exchange and commodity prices, using financial instruments. Partnerships and joint ventures with suppliers, distributors, customers, and other parties can also be structured to transfer risk. These partnerships may also help managers identify emerging risks. A partnership with a leading technology partner, for example, may alert companies to innovations that could potentially disrupt their core business. Chapter seven describes a variety of practical mechanisms to manage risk, including diversification, hedging and transfer, illustrating them with the Votorantim case.
3. During periods of relative calm, managers can build stocks of slack resources to be deployed when the firm faces a golden opportunity

or sudden-death threat. Finance theory suggests that firms in well-functioning capital markets need not stockpile cash because investors and lenders will provide capital rapidly to fund attractive opportunities or help a viable company weather a transient shock. However, in unpredictable markets the cost and availability of capital may vary sharply over time. Recall, for example, the volatility of interest rates in Brazil discussed in the previous chapter. There is no guarantee that firms will have access to funds when they need them to seize a golden opportunity or survive a sudden-death threat. Moreover, raising funds generally takes time, which reduces firms' ability to quickly respond.

4. Managers can continuously improve the efficiency of their operations. Operations, or the efficient production and distribution of goods and services, are sometimes dismissed as less important than strategy. However, in an unpredictable environment, operational excellence assumes strategic importance. Efficiency results in high margins, which in turn increase a firm's slack. Efficiency also increases a firm's ability to withstand a sudden-death threat and outlast rivals. Investing to improve operational excellence is analogous to steps such as exercising, eating well, and managing stress that increase an individual's resilience against a multitude of possible illnesses. The benefits of operational efficiency may be marginal in stable environments where the possibility of shocks is remote. It is critical, though, in turbulent ones. Chapter five compares the brewers Brahma and Antarctica to illustrate the importance of continuous operational improvements in unpredictable markets.
5. Companies can build flexibility in their organizations. Internally, they have to balance decentralization with the ability to rapidly reallocate resources to respond to sudden-death threats or golden opportunities. Externally, they can leverage partner relationships to create flexibility and manage downside risks. Chapters nine and ten discuss how executives can build and manage flexible organizations and illustrate the major points with examples from Promon and América Latina Logística.

This chapter introduced the active waiting view of time, which emphasizes anticipating and responding to unpredictable opportunities and threats despite limited visibility into the future. The chapter also described how managers can declare a main effort based on their assessment of the company's current situation, and outlined the managerial actions appropriate for each main effort. The next chapter illustrates the framework with the story of Embraer, which has, at one point or another in the preceding decade, done it all.

Notes

1. A large body of academic research assumes that managers generally avoid risk through a variety of mechanisms including “uncertainty avoidance strategies”. See R. M. Cyert and J. G. March, (1963), *A Behavioral Theory of the Firm*, (Englewood Cliffs, NJ: Prentice-Hall): p. 167. On “routinization”, see R. R. Nelson and S. G. Winter, (1982), *An Evolutionary Theory of Economic Change*, (Cambridge, MA: Harvard University Press). On “buffering” a firm’s technical core against uncertainty, see J. D. Thompson, (1967), *Organizations in Action*, (New York: McGraw-Hill). On accumulating slack resources as a hedge, see J. Pfeffer and G. R. Salancik, (1978), *The External Control of Organizations*, (New York: Harper & Row). On imitation of organizations perceived as successful, see P. J. DiMaggio and W. W. Powell, (1983), “The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields”, *American Sociological Review*, (48), pp. 147-60.
2. Most notable among these scholars is Professor Kathleen Eisenhardt. For a recent and accessible overview of her research, see S. L. Brown and K. M. Eisenhardt, (1998), *Competing on the Edge: Strategy as Structured Chaos*, (Boston, MA: Harvard Business School Press). Richard D’Aveni’s research has also made a contribution. See R. D’Aveni, (1994), *Hypercompetition*, (New York: Free Press).
3. Goodman et al. note the surprising lack of explicit attention paid to temporal constructs in organization and strategy theory. See P. S. Goodman, B. S. Lawrence, D. G. Ancona, and M. L. Tushman, (2001), “Introduction to special topic forum on time and organization research”, *Academy of Management Review*, 26(4), pp. 507-511.
4. An alternative perspective holds that managers make their best estimate on the optimal future strategy based on the data at hand. Bounds on managers’ information processing capability, coupled with environmental uncertainty and complexity, however, severely limit managers’ ability to predict the outcomes of their actions. See R. Amit and P. J. H. Schoemaker, (1993), “Strategic assets and organizational rent”, *Strategic Management Journal*, 4, pp. 33-46. This view implies that developing and deploying resources or staking out an apparently attractive market position is essentially like buying a lottery ticket, and the authors themselves acknowledge that their view logically precludes the development of a theory that could help guide managers’ actions. We believe that management theory

should provide guidance to managers rather than simply explain variance in performance after the fact. As a result, we focus our attention on the mainstream strategy research that offers advice to managers.

5. Pankaj Ghemawat argues that strategy consists of making commitments to specialized resources that have a large and enduring effect on a company's future alternatives. See P. Ghemawat, (1991), *Commitment*, (New York: Free Press). The importance of these decisions implies that managers carefully analyze their potential consequences deep into the future. Ghemawat's argument hinges on the assumption that managers have sufficient visibility into the future to fully analyze the consequences of their actions. While other scholars have been less explicit in asserting the possibility of prediction, they have tacitly assumed visibility in their model. Both the position and competency views assume that managers can predict *ex ante* which industry will be attractive in the future and which resources will be valuable.

6. Researchers have operationalized the sustainability of competitive advantage by measuring the duration of above-normal accounting profits among publicly traded companies. In a recent study of all U.S. public corporations that reported at least six years of financial data between 1981 and 1994, McGahan and Porter found that high-performing firms tended to maintain their above-average profitability. See A. M. McGahan and M. E. Porter, (2003), "The emergence and sustainability of abnormal profits", *Strategic Organization*, 1(1), pp. 79-108.

7. Meyer models "environmental jolts" as inherently transient events preceded and followed by equilibrium. See A. D. Meyer, (1982), "Adapting to environmental jolts", *Administrative Science Quarterly*, 27, p. 434. This is consistent with a broad body of research that models systems as experiencing long periods of stability punctuated by brief and infrequent periods of systemic change. See M.L. Tushman and E. Romanelli, (1985), "Organizational evolution: A metamorphosis model of convergence and reorientation", L. L. Cummings and B. M. Staw (eds.), *Research in organizational behavior*, (Greenwich, CT: JAI Press), 7, pp. 171-222.

8. These categories of time draw on D. G. Ancona, G. A. Okhuysen, and L. A. Perlow, (2001), "Taking time to integrate temporal research", *Academy of Management Review*, 26 (4), pp. 512-529.

9. Meyer et al., for example, use the broad term "revolutionary" to describe a range of conceptual models that examine second-order change at the industry level of analysis – i.e. changes to the fundamental structure of an industry versus incremental changes within an existing system. See A. D. Meyer, C. R. Brooks, and J. B. Goes, (1990), "Environmental jolts and industry revolutions: Organizational responses to discontinuous change", *Strategic Management Journal*, 11, pp. 93-110. Even Jay Barney, who is among the clearest and most thoughtful strategy scholars, resorts to somewhat vague terminology when discussing "Schumpeterian" competition. See J. B. Barney, (1986), "Types of competition and the theory of strategy: Toward an integrative framework", *Academy of Management Review*, 11(4), pp. 791-800. Part of the imprecision probably results from the difficulties of shifting levels of analysis. Schumpeter's focus was primarily on the process of economic development at the level of the economy as a whole. The fate of individual

firms, and even industries, for that matter, were less central to his analysis. Strategy, in contrast, deals with value creation and maintenance at the firm level. Bridging the gap between the levels of analysis requires a clear articulation of the ways that environmental shocks influence a firm's value creation potential.

10. The extensive literature on technological innovation, for example, has examined how changes in technology threaten incumbent firms. See R. H. Henderson and K. B. Clark, (1990), "Architectural innovation: The reconfiguration of existing systems and the failure of established firms," *Administrative Science Quarterly*, 35, pp. 9-30; C. M. Christensen, (1997), *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, (Boston, MA: Harvard Business School Press). The entrepreneurship literature, in contrast, has focused almost exclusively on the opportunities for start-ups in turbulent environments. See, for example, E. B. Roberts, (1991), *Entrepreneurs in High Technology: Lessons from MIT and Beyond*, (New York: Oxford University Press); and W. A. Sahlman, H. H. Stevenson, M. H. Roberts, and A. Bhide (eds.), (1999), *The Entrepreneurial Venture*, (Boston: MA: Harvard Business School Press). Even models that acknowledge the threats and opportunities introduced by turbulence separate them into two different categories. D'Aveni, for example, distinguishes between "fluctuating equilibriums", in which frequent disruptions enhance the value of a firm's resource base (or are neutral), versus markets in "disequilibrium", in which frequent disruptions destroy a firm's competencies. See R. A. D'Aveni, (1999), "Strategic supremacy through disruption and dominance", *Sloan Management Review*, (Spring), pp. 127-135.

11. A rich body of theoretical and empirical research has established that decision makers tend to frame situations as either threats of loss or opportunities for gain and that this framing influences their response to the event. See D. Kahneman and A. Tversky, (1979), "Prospect theory: An analysis of decision under risk", *Econometrica*, 47, pp. 263-292; and S. Jackson and J. Dutton, (1988), "Discerning threats and opportunities", *Administrative Science Quarterly*, 33, pp. 370-387. This dichotomous framing relates to discrete events, and there is no logical reason why a domain of scholarship should focus on one category of events to the exclusion of others – e.g. entrepreneurship theory on opportunities, technology strategy on threats. The threat versus opportunity framing has implicitly crept into the definitions of these fields. Stevenson's influential definition of entrepreneurship as "the pursuit of opportunity without regard to resources currently controlled", for example, shifts attention away from the preservation of value of existing resources. The strategy field's focus on "sustainable" competitive advantage implies attention to the protection of value of existing resources or position. The difficulties scholars have experienced in analyzing both aspects of unpredictable markets is deeply rooted, we believe, in the cognitive tendency to divide the world into mutually exclusive categories of threat versus opportunity and focus primarily on one or the other.

12. For a model of regularly timed shocks, see D'Aveni, "Strategic Supremacy," *op. cit.*, p. 131.

13. Jane Dutton and Susan Jackson first analyzed the processes managers use to discern and categorize events as "threats" and "opportunities", See J. E. Dutton and S. E. Jackson, (1987), "Categorizing strategic issues: Links to organizational action", *Academy of*

Management Review, 12 (1), pp. 76–90. Dutton and Jackson focus on ambiguous events and the process that managers use to categorize these as either threat or opportunity.

14. The term “main effort” comes from military theory, where it describes a commanding officer’s designation of an offensive or defensive initiative as the primary focus of effort for the troops under his command. The term is a loose translation of the German term “Schwerpunkt”. For a concise and accessible description of the concept and its relation to modern military doctrine, see W. S. Lind, (1993), “The theory and practice of maneuver warfare”, R. D. Hooker, Jr. (ed.), *Maneuver Warfare: An Anthology*, (Novato, CA: Presidio), pp. 3–18.

15. Miles and Snow introduced a framework based on a company’s strategic orientation toward defending its existing business versus seeking new opportunities. See P. E. Miles and C. C. Snow, (1978), *Organizational Strategy, Structure, and Process*, (New York: McGraw-Hill), Table 5–1. Most researchers who have used the Miles and Snow typology of strategic types have focused either on the extreme categories of prospector (focused exclusively in new opportunities) or defenders (who protect their current business), and it is interesting to note how little attention has been paid to the category of “analyzer” which “locate and exploit new product and market opportunities while simultaneously maintaining a firm base of traditional products and customers”.

16. Researchers in the field of technological innovation have examined the question of how firms manage the tension between defending their existing business while pursuing new opportunities resulting from technological shifts. This research has focused almost exclusively, however, on separating these activities into distinct sub-units within the organization. See C. M. Christensen, *The Innovator’s Dilemma*, op. cit.; and M. L. Tushman and C. A. O’Reilly, III (1997), *Winning Through Innovation*, (Boston, MA: Harvard Business School Press). We acknowledge that separation can be an important mechanism to manage this tension, although we found empirically that few of the firms in our sample relied upon this mechanism. Instead, we emphasized a time-shifting prioritization of focus that applies to the entire organization as an alternative mechanism for dealing with the need for defending the core and exploiting opportunities. Our time-shifting focus follows logically from a model in which time is marked by major events of limited duration, in which the most pressing environmental imperative may shift from offensive to defensive action as circumstances change.

17. See J. L. Bower, (1970), *Managing the Resource Allocation Process*, (Boston, MA: Harvard Business School Press); and R. A. Burgelman, (1983), “A process model of internal corporate venturing in the diversified major firm”, *Administrative Science Quarterly*, 28, pp. 223–244. For a recent review of this literature, see J. L. Bower and C. Gilbert (eds.), (forthcoming) *Readings in the Resource Allocation Process*, (New York: Oxford University Press).

18. See D. N. Sull, (2005), “No Exit: The failure of bottom-up processes and the role of top-down disinvestment”, and “Process Breakdown: A Note on the Sources and Consequences of the Failure of the Resource Allocation Process within Established Firms”, both in J. L. Bower and C. Gilbert, *Readings in the Resource Allocation Process*, op. cit.

19. Research to date has argued that top executives will tend to centralize decision-making and control when an organization faces a threat but not an opportunity. See Dut-

ton and Jackson, *op. cit.*; and B. M. Staw, L. E. Sandelands, and J. E. Dutton, (1981), "Threat rigidity effects in organizational behavior: A multi-level analysis", *Organizational Science Quarterly*, 26, pp. 501-524. We believe that top executives will also centralize resource allocation when seizing an opportunity to the extent it: 1) is of sufficient magnitude that only top management could marshal the resources to execute (e.g. major acquisition), 2) requires removal of resources from other deployments, 3) requires more rapid action than could be expected from the existing bottom-up process. Golden opportunities, by definition, meet the first criterion, and based on our empirical research generally, meet the other two as well.

20. Organizational theory predicts that the existence of slack resources will have multiple (and sometimes conflicting) implications for a firm. Slack decreases motivation to search for solutions to current problems, increases a firm's ability to experiment with new innovations, increases its ability to survive a shock, and may exacerbate conflicts of interest between managers and owners. See R. M. Cyert and J. G. March, (1963), *A Behavioral Theory of the Firm*, (Englewood Cliffs, NJ: Prentice Hall); L. J. Bourgeois, (1981), "On the measurement of organizational slack", *Academy of Management Review*, (6), pp. 29-39; and M.C. Jensen, (1986), "Agency costs of free cash flow, corporate finance and takeover," *American Economic Review*, 75, pp. 323-329. In a turbulent environment, the role of slack in surviving shocks and seizing opportunities may well dominate the other effects of slack. A fascinating topic for large sample empirical research would be how the value of slack (measured in terms of both firm survival to operationalize threat-response and revenue increase to operationalize opportunity-seizing) changes as a result of differing levels of environmental volatility.

21. This finding contrasts with that of Gilbert that the widespread adoption of the Internet posed both a threat to the established newspapers and an opportunity for new growth. See C. Gilbert, (2002), "Beyond resource allocation: Towards a process model of response to disruptive change", (Harvard Business School Working Paper). While Gilbert's finding holds for the Internet adoption in a single industry, there is no conceptual reason to believe that all environmental jolts would share the same dual nature. One advantage of our sample that draws from multiple industries over a decade in a turbulent context is that it provides a larger sample of jolts.

22. Eisenhardt has identified several concrete steps that managers can take to increase the effectiveness of decision-making in turbulent environments, including gathering real-time information, considering multiple simultaneous alternatives, actively seeking the advice of outside experts, adopting decision rules to reach consensus, and integrating decisions over time. See K. M. Eisenhardt, (1989), "Making fast strategic decisions in high-velocity environments", *Academy of Management Journal*, 32 (3), pp. 543-576; and L. J. Bourgeois and K. M. Eisenhardt, (1988), "Strategic decision processes in high-velocity environments: Four cases in the microcomputer industry", *Management Science*, 34(7), pp. 816-835.

23. In this regard, companies engaged in active waiting exhibit the balanced attention to threats and opportunities characteristic of Miles and Snow's "analyzer" category described above. An interesting question for future large-sample empirical analysis is whet-

her analyzers are more likely to survive and create value in turbulent environments than the more extreme categories of prospector (focused exclusively on new opportunities) or defenders (who protect their current business).

24. See S. L. Brown and K. M. Eisenhardt, (1997), “The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations”, *Administrative Science Quarterly*, 42, pp. 1-34; On designing and running experiments when pursuing opportunities, see D.N. Sull, “Disciplined entrepreneurship”, *Sloan Management Review*, 46 (1), pp. 71-77.

25. For a recent review, see L. E. Palich, L. B. Cardinal, and C. C. Miller, (2000), “Curvilinearity in the diversification-performance linkage: An examination of over three decades of research”, *Strategic Management Journal*, 21, pp. 155-174. There has been surprisingly little research into the relationships between the level of environmental volatility and the optimal level of business unit diversification, and this gap represents an exciting opportunity for further empirical research.

26. Chan Kim and his colleagues have found that geographic diversification increased firms' risk-return performance. See W. C. Kim, P. Hwang, and W. P. Burgers, (1993), “Multinationals' diversification and the risk-return tradeoff”, *Strategic Management Journal*, 14, pp. 275-286. Kim's sample included only large, public, U.S. firms. Firms facing high levels of home-country risk would presumably reap even larger benefits from geographic diversification, although they might also face limits on their ability to pursue this strategy, such as high cost and limited availability of funds.



CHAPTER 4

Doing it All: The Remarkable Story of Embraer

In order to succeed in an unpredictable market, companies must respond quickly and effectively to sudden-death threats and rapidly identify and exploit golden opportunities. During periods of relative calm, managers must excel at active waiting by monitoring the emerging situation, identifying and managing potential risks, building slack resources and maintaining internal and external flexibility. Successfully doing any of these is hard enough, but excelling at all of them is daunting. Few companies have done it all as successfully as the jet manufacturer Embraer. In this chapter we put flesh on the conceptual model introduced in the previous chapter by recounting the remarkable story of Embraer.

Today, Embraer is the fourth largest aircraft manufacturer in the world, with over twelve thousand employees and \$2.2 billion revenues in 2003. By the end of the 1990's, the company had emerged as one of Brazil's largest exporters. Over the 1990's, Embraer won a 40% share of the global market for regional jets, while the market leader Bombardier lost nearly half of its market share over the same period, and number three Fairchild Dornier filed for bankruptcy.

Given the company's recent success, it is easy to forget that Embraer faced a sudden-death threat in the early 1990's, when the end of the Cold War resulted in widespread cancellation of major defense contracts. This shock coincided with a worldwide recession for commercial airline or-

ders. After successfully surviving a sudden-death threat, Embraer recognized a golden opportunity. The rise of low-cost airlines flying point-to-point (rather than through hub-and-spoke routes) increased demand for commuter jets, and in 1995 the company shifted the main effort to the development and production of a new line of regional jets. As the new plane gained market share, Embraer shifted its attention to active waiting; carefully monitoring the emerging situation, building financial slack, improving organizational flexibility and hedging against critical risks. These steps paid off handsomely when the entire air transport sector faced another sudden-death threat when the September 11th terrorist attacks triggered an abrupt collapse in commercial aviation on a global scale. Embraer survived the storm better than competitors, and emerged well-prepared for the golden opportunity that followed. Facing bankruptcy, several large U.S. airlines renegotiated labor contracts to win the flexibility to use smaller aircraft with fewer crew, which may increase demand for Embraer's planes in the future.

1945-1986: A BRIEF HISTORY OF EMBRAER

To understand Embraer's success in the 1990's, it helps to start at the beginning and understand the company's origins. The story begins in 1941, when the Brazilian government created an Aeronautics Ministry to oversee the development of a local aeronautics industry. Over the following decade, the government enlisted the help of scientists from the Massachusetts Institute of Technology to found the Aeronautical Technical Center to conduct research, and establish the Aeronautical Training Institute to educate aerospace engineers. The government also invited a team of German engineers, led by Henrich Focke, to come to Brazil to design a 'Convertiplano', intended to take off vertically, like a helicopter, but fly horizontally, like a normal plane.

The German-led team failed to produce a prototype for the ambitious product. The "German experience" and the creation of the supporting infrastructure for research, education and industrial policy, however, were crucial first steps in training a generation of specialized aircraft engineers in Brazil. Over the next two decades, the Aeronautical Training Institute spun-off a host of start-ups that produced simple single engine-

planes, much as Stanford University spawned multiple new ventures in the semiconductor field during the same period.

In 1965, Captain Ozires Silva led a team that designed a small twin engine turboprop transport plane for the Brazilian Air Force, and produced the first prototype three years later. An intermediate technology between a propeller and jet, the turboprop engine uses a gas turbine to turn a propeller. The propeller provides the majority of the plane's thrust, while the high-speed exhaust gas from the turbine produces only a modest amount of thrust. Turboprop technology offered high fuel efficiency and endurance, but also entailed the noise and vibration common to propeller planes. The Aeronautics Ministry searched for a private firm to produce the aircraft in volume, but failed to find any takers. In 1969, the government created Embraer as a "mixed-enterprise" funded initially by the government but with the intention of transferring ownership to private investors over time. In the following year, Embraer launched its first three products based on the core turboprop technology – a passenger plane (Bandeirante), an agricultural spraying aircraft (Ipanema), and a jet trainer aircraft (Xavante). Within two years, Embraer's sales grew as Brazilian commuter airlines ordered Bandeirante planes.

In 1974, with government backing, Embraer signed an agreement to manufacture Piper planes locally under license. In exchange for this concession, the government raised tariffs on Piper's competitors from 7% to 50%, which helped Embraer sell over a thousand Piper planes during the following four years. Emboldened by its success with Piper planes, and sitting on a pile of cash from its windfall profits, Embraer embarked on an aggressive export drive in the late 1970's. The company certified the passenger turboprop Bandeirante in the U.S., France, and England. Embraer was well positioned to sell small turboprops to the scores of new commuter airlines that emerged after the deregulation of the U.S. airline industry in 1978.

Within a few years, Embraer surpassed Fairchild, the one-time leader in the turboprop market segment. Throughout the 1980's, Embraer produced a series of commercially successful turboprop planes, including the Brasilia (a 30-seat twin turboprop with interior cabin pressure that increased the aircraft's ability to maintain a comfortable environment at higher altitudes where the outside air becomes thinner and colder). Embraer worked with an Italian partner to develop the AMX attack jet,

and joined Argentinean partners to develop a replacement for the passenger turboprop Bandeirante. When Ozires Silva retired after 17 years at the helm of the company he had led for nearly two decades in 1986, it seemed that the sky was the limit for Embraer.

1991-1995: SUDDEN-DEATH THREAT AND TRIAGE

The late 1980's and early 1990's were as difficult for Embraer as the preceding years had been good. The fall of the Berlin wall in 1989 resulted in steep reductions in military spending around the world. A global recession depressed demand for air travel, leading airlines to delay or cancel their orders for new planes. Even as demand contracted, supply grew because European countries supported their local champions' entry into the regional jet market, spawning new rivals including Aerospatiale (France), Saab (Sweden), Daimler Aerospace (Germany), Fokker (Holland), and Casa (Spain).

Embraer initially responded to these altered environmental conditions by doing more of what had worked in the past. Historically, executives had seen Embraer as an "engineering company" and believed that superior engineering would sustain the company's success. These strategic frames led Embraer managers to focus on refining and extending their existing turboprop planes, investing more than \$280 million on a state-of-the-art turboprop – known as the CBA 123 – even as momentum was building for short-range jets instead. The CBA 123 was to become the most advanced turboprop ever built. But it had two problems. The advanced technology boosted the CBA 123's final price to \$6 million per plane, while comparable turboprops sold for \$3.5 to 4.5 million, and offered 45% lower operating costs. Second, the market began to demand jets over turboprops. Jets were less noisy, could fly faster, higher (above bad weather), and were considered safer. According to one of Embraer's engineers, "looking back, it would have made more sense to invest on developing a jet version of the larger Brasilia, but we just kept doing more of what worked in the past".

With sales plunging and debt soaring, Embraer faced the worst crisis in its 21-year history. In 1991, Ozires Silva returned to lead Embraer five years after retiring as CEO. Silva quickly decided that the company should

be privatized, and took a number of steps to increase its viability as a private company. Silva reduced headcount from 9,000 in 1991 to 6,100 in 1994. He put an end to the CBA 123 program (although he salvaged some of the technology for a new jet version of the Brasilia). Silva also negotiated for the government to assume \$700 million of debt and inject an additional \$350 million of cash prior to the privatization in 1994. Silva might have implemented these cuts more rapidly than he did, but the government placed restrictions on his actions to preserve jobs. For instance, the Brazilian Congress, under pressure from the unions, demanded a moratorium on layoffs for six months after the privatization. Six months and a day after the deal closed, Embraer fired an additional 1,800 workers representing 30% of the total staff.

1995-1997: SEIZING THE FIRST GOLDEN OPPORTUNITY: THE ERJ-145

In September 1995, Mauricio Botelho joined Embraer as the CEO. Botelho was a 53-year-old mechanical engineer, a seasoned executive who served on the board of the lead investor in the syndicate that acquired Embraer. When Botelho arrived, along with his long-time colleague Antonio Manso, they did not like what they saw. The assembly line was empty, the mainstay Bandeirante and Brasilia models were outdated, and development had been cancelled on the CBA 123. Botelho later recalled:

When I arrived, we had \$330 million in annual losses, a backlog of less than \$200 million and 6,100 unmotivated employees. And yet Embraer had a history of products that were to some extent pioneers in the market. First on my agenda was to understand how Embraer got into this position.

Botelho quickly concluded that Embraer had focused too heavily on improving technology, lost sight of its customers and, as a result, lacked a product to serve the customers' emerging needs. Studies conducted prior to the privatization projected dramatic growth in the regional jet category in coming years, fueled by the rise of the point-to-point carriers which

had proliferated after the airline industry's deregulation. Embraer had a 50-seat regional jet under development. The Embraer Regional Jet (ERJ-145) was the right size for this market, but was still in the development stage and not ready for production.

Botelho, however, knew a golden opportunity when he saw one. Botelho declared the rapid development of the ERJ-145 Embraer's main effort, and dubbed it Embraer's "redemption program". To focus on this opportunity, Botelho and Manso pulled the plug on virtually every other development project within the company. Botelho later remarked: "All of our focus, all of our patience, all the strength that we had in the company, we dedicated towards the certification of this new program, the ERJ-145, which allowed us to deliver the first four units in 1996, years ahead of schedule".

The ERJ-145 competed directly with Canadian manufacturer Bombardier's offering, which had a three year head start in the market: Bombardier had delivered 100 jets before Embraer shipped its first regional jet. However, Botelho focused all of the company's resources on the main effort to make the ERJ-145 succeed. To strengthen relationships with Embraer's key 75 customers, the company opened offices in Australia, Beijing and Singapore, as well as a new distribution center in Dallas to serve U.S. clients. Moreover, Embraer's top management team took steps to ensure that every employee from the boardroom to the shop floor understood that the new regional jet was the key to the company's redemption, and that selling the aircraft depended on satisfying customers. Botelho explained:

I knew that the ERJ-145 was a good plane... but aircraft are very similar. You may have one better than the other in certain specific conditions, but technologically speaking, we are talking about products that are very similar to one another... And what I said is that if we have about 75 customers, we must know their names, their nicknames, their family, how they operate their business, what is mandatory for them, what is relevant, to get together and really know the customer in depth and understand his requirements and react accordingly.

Despite intense competition, sales took off aided by a large initial order from Continental Express in 1996. Embraer delivered 100 planes within two years of launching the product, and by 1997 Embraer's regional jet accounted for 60% of revenues, and pushed the company back into profitability. A year later, the company had accumulated \$710 million in cash from the profits on the ERJ-145. The main effort to make Embraer's first regional jet succeed had, indeed, brought the company's redemption.

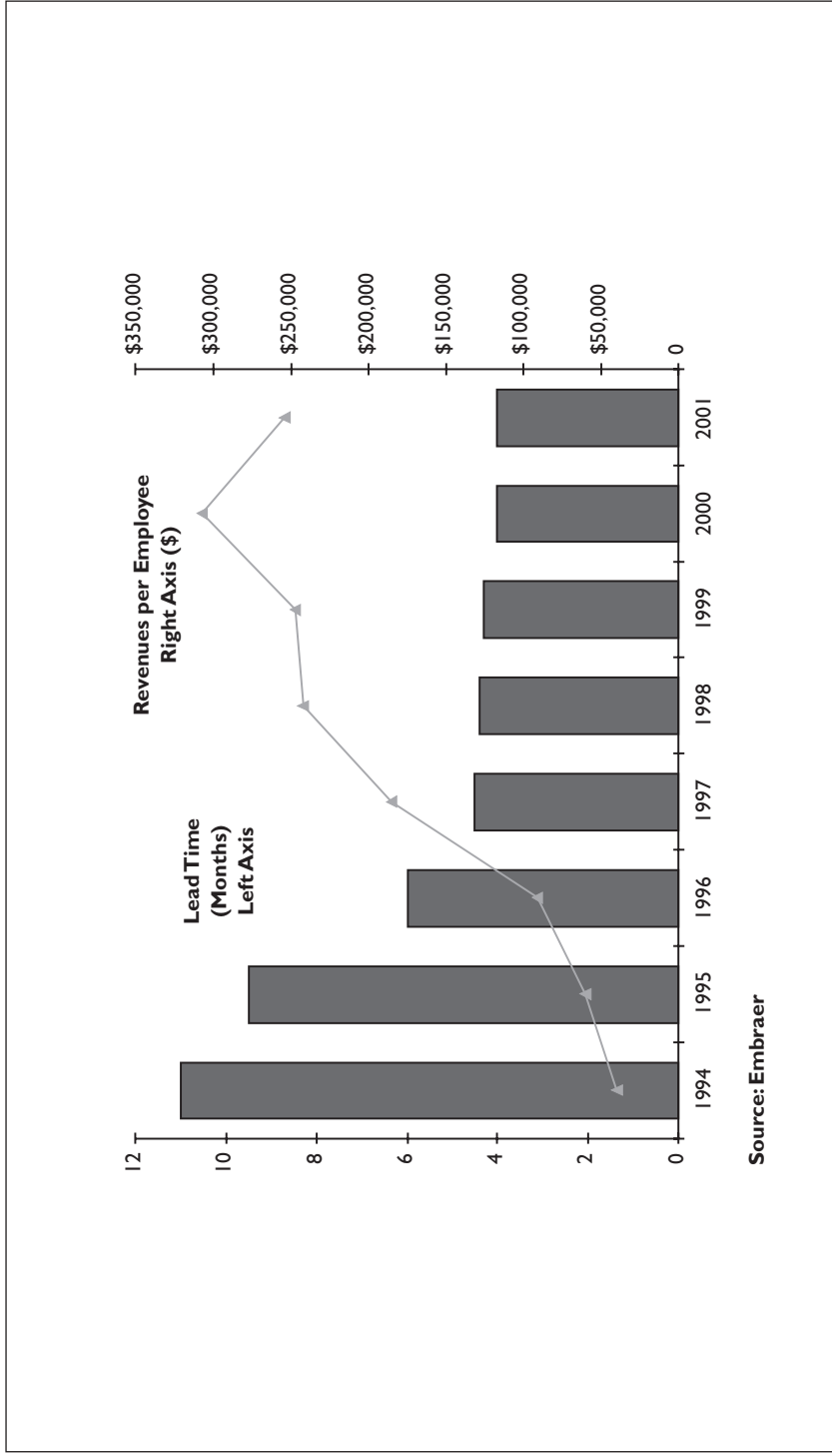
1997-2000: ACTIVE WAITING

The period between 1997 and 2000 proved relatively calm, at least by the standards of the global airline industry. As the sales of the ERJ-145 took off, Embraer executives took advantage of the break in the action to position the company to seize future opportunities and avoid or respond to sudden-death threats.

Continuously improve operating efficiency

Although Embraer had a long history of new product innovation, the company's engineering prowess had not translated into efficient production processes. Embraer had introduced quality improvement programs in early 1985, but these were executed in a fragmented and half-hearted manner. In 1996, Embraer top executives initiated a business process redesign project to implement Total Quality Management techniques in all of the company's processes. Embraer also worked with external partners including McDonnell Douglas, Boeing, and the International Organization for Standardization to provide external certification of quality, as well as guidance on how to improve Embraer's internal processes to achieve higher quality targets. Embraer also invested heavily in information technology - not only for the design and engineering, but for all financial reporting systems as well. These actions together enabled Embraer to cut its production cycle by half, while increasing revenues per employee five-fold (Figure 4:1).

FIGURE 4.1 Embraer's Productivity and Lead Time Improvements

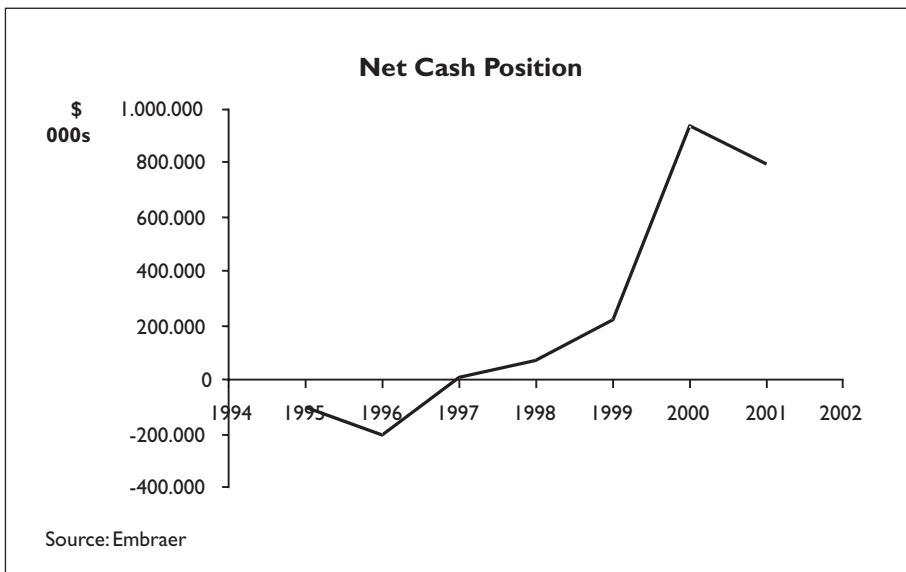


Build stock of slack resources

Aircraft design and production is a capital-intensive business, and demand is volatile. In such industry, a large cash reserve provides a cushion against unforeseen threats and for unanticipated opportunities. This holds whether a company is based in Brazil or anywhere else in the world. Embraer management took several steps to build a war chest of cash during the years when it faced neither a sudden-death threat nor a golden opportunity.

In July 2000, Embraer was listed on the New York Stock Exchange, and raised \$446 million. Embraer also assumed a very conservative financial position, avoiding debt and building a stockpile of \$696 million net cash on its balance sheet by June 2001. Some analysts condemned Embraer's financial policies as overly cautious in a growing market, particularly at a time when competitors were loading up on debt to invest in new product development. Bombardier, for example, held \$1 billion in long-term debt on its balance sheet while Fairchild Dornier was estimated to have \$700 million in debt by June 2001. Figure 4:2 shows how Embraer built cash over the 1999-2001 period.

FIGURE 4.2 **Embraer's Conservative Cash Position**



Identify and manage risks

In order to reduce its dependence on the commercial airline industry, Embraer made a strategic decision to expand its defense business in 1999. Defense contracts had historically been vital to Embraer, but after the end of the Cold War dropped to under 5% of revenues. Trying to increase its defense stake entailed significant risk. Reentering the defense business required a large up-front investment and designing military products brought significant technical and customer risk. In 1999, Embraer sold 20% of its voting shares to a consortium of French aviation and defense companies (including Dassault Aviation, Thales, Aerospatiale-Matra, and Snecma). The association with the French defense companies – dubbed the “French Connection” by the Brazilian press – allowed Embraer to diversify its revenue streams. Working with partners, rather than attempting to do it alone, allowed Embraer to parcel out much of the technical and market risk to partners. By 2002, Embraer delivered its first product and in that same year, the company formed a consortium with its French partners to bid for the renewal of Brazil’s fleet of supersonic fighter aircraft. Although the purchase was delayed to 2004, Embraer was well positioned to win the business.

Build Internal Flexibility

As a state-owned enterprise, Embraer had long suffered under stifling bureaucratic processes. One long-time employee recalled: “Embraer was subject to many procedures, norms and government audits, which contributed to bureaucratizing the company, setting barriers to its efficient operations”. To be fair, the Brazilian government wanted to minimize its role in the company from the outset. Founder and long-time CEO Ozires Silva initially wanted to establish Embraer as a private firm, but resorted to government funding after failing to persuade private investors to finance such a risky enterprise. Under Silva’s leadership, Embraer managed to avoid most of the maladies that afflicted other state-owned enterprises in Brazil: bloated infrastructure, over-politicized appointments and lack of long-term financing. However, government influence prevented Embraer from promoting employees based on merit, responding quickly to changing market conditions, or developing sophisticated financial engineering strategies.

To reduce the distance from the top to the bottom of the organization, Botelho reduced the number of managerial levels from seven to five. By 1996, Botelho transformed the hierarchical structure into a matrix organization in which teams were organized around projects designed to increase autonomy, participation and flexibility. Project teams were organized to solve specific customer needs. Labor stations were made up of cross-functional teams working for specific customers. Top management constantly stressed that what mattered most were not the traditional “lines” of reporting but one line that went from customers to shareholders. To coordinate various projects and initiatives, the company launched an Organizational Transformation Project around the implementation of enterprise resource management software. The project – based structure and increased employee participation – allowed Embraer to reduce time to develop new projects and increase its reaction speed to new information.

Embraer’s senior executives further increased flexibility by replacing hidebound employees with new managers and workers. Botelho started at the top, and replaced most of Embraer’s senior managers, bringing half of them from outside and promoting the rest from within. Over time, he also shifted the composition of the workforce. At the time of the privatization, 80% of employees had worked for more than 10 years and 50% for more than 20 years. The initial headcount reductions targeted senior employees, who were eventually replaced with younger employees. By 2001, Embraer had more employees than it did before privatization (11,500), at an average age of 34 years. In order to motivate these employees, Embraer adopted an aggressive profit-sharing program in which workers as a group could receive the equivalent of 25% of the dividends paid out to shareholders.

Embraer has further increased the flexibility of the workforce by increasing their average educational attainment. More educated workers can be transferred between functions more easily. In 2002, 37% of all employees had undergraduate degrees, and 7% held a masters or PhD diploma. The company also invested over \$60 million over three years in training at all levels. The company established an in-house MBA course that trained 35 of the most promising leaders per year. A school specialized in aeronautical engineering was also established, where 200 recently-

minted engineers spent a year and a half on supplemental studies of aeronautics. The first class received 6,000 applicants, a number that increased to 9,000 for the second class.

Carefully monitoring emerging situation

The aircraft industry has unique characteristics, which make strategic decisions particularly complex. It is extremely capital intensive and subject to large fluctuations in demand. The industry is strongly influenced by international politics, since aircraft producers often enjoy government subsidies and protection. Developing a new aircraft costs hundreds of millions of dollars and typically takes 48 to 54 months. Thus, in the aircraft industry, managers must constantly probe the future to anticipate emerging threats and opportunities.

Following the success of the ERJ-145, Embraer commissioned a survey in 1998 of the top 50 airlines that together accounted for more than half of the market for regional jets. The survey was designed to test the demand for larger regional jets. Based on this market research, Embraer came to the conclusion that there was a gap in demand for jets in the 70-110 seat range. The reason for this gap had nothing to do with technology, and everything to do with union contracts. In the U.S. – the world's largest airline market – most contracts with pilot unions restricted the number of smaller planes that a carrier could operate. The rationale was simple: smaller airplanes required less-qualified pilots who would work for lower wages. For many routes, smaller aircraft would have been much more economical, but union contracts forced airlines to use larger planes. Embraer decided that these restrictions could not endure as airlines faced increasing pressure to optimize costs in order to avoid bankruptcy.

SEPTEMBER 11, 2001: SURVIVING ANOTHER SUDDEN-DEATH THREAT

After the September 11 terrorist attacks, the aviation industry as a whole witnessed a severe decline in air travel, which translated into cancelled contracts for plane sales and sharp reductions in planned purchases. Air-

craft producers like Embraer had already committed significant resources to building planes – aircraft that they could no longer sell. Between August 31st to December 31st, 2001, Embraer’s inventories grew from \$600 million to \$1.1 billion, absorbing \$500 million in cash in four months. Botelho later remarked: “If we did not have cash at hand and weren’t flexible, we would probably be dead right now”. But by building a cash cushion during the active waiting period, Embraer was able to survive.

Embraer’s operational improvements also conferred the flexibility to respond to the September 11 slowdown. Botelho described the situation:

We were increasing our production from 14 to 20 aircraft per month from January to December 2001. On August of that year, we had delivered 18 aircraft. Then, September 11th came and we immediately, by the end of September, announced our actions to face the new scenario. We visited all our customers, studied the impact on their operations, and then studied the impact on us. And we reacted very promptly, adjusting our manpower, our course and everything to a new delivery scheme of 10 aircraft per month. We adjusted from 18 to 10 aircraft per month overnight. Flexibility is mandatory.

The slowdown forced the company to lay off 1,800 employees (14% of total) and reschedule its production line. The company also shifted production to military aircraft to capitalize on rising demand from the defense sector after the terrorist attacks. These adjustments allowed the company to remain profitable in 2001–2002.

Comparison to Fairchild Dornier

One might be tempted to attribute Embraer’s resilience to luck. After all, Embraer was at the right place to capitalize on the boom in demand for regional jets. However, a comparison with competitor Fairchild Dornier suggests that the steps Embraer took while actively waiting rather than good fortune, explain Embraer’s success. While Embraer emerged as a strong competitor in the wake of the terrorist attacks, Fairchild Dornier filed for bankruptcy in April 2002.

The contrast to Embraer is striking. Both companies focused on the regional aircraft segment just as it was booming and both benefited from an experienced financial investor at the helm. In 1990, Carl Albert took over bankrupt Fairchild Aerospace. Like Embraer, Fairchild had historically relied exclusively on commuter turboprop aircraft for the bulk of its revenue, and also like Embraer (prior to privatization), Fairchild was bleeding money. After a year of severe restructuring, Fairchild was back in the black by implementing what Albert called “common sense cost-cutting.” In 1996, Fairchild acquired Dornier, which manufactured a popular 30-passenger turboprop. With the acquisition, Fairchild obtained a first-rate plant outside Munich in which former-owner Daimler-Benz had invested over \$600 million. Additionally, Daimler provided up to \$230 million to cover operating losses (and restructuring costs) in the year of the sale, while the German federal and Bavarian state governments chipped in an additional \$240 million in loan guarantees.

After acquiring Dornier, Albert cut 500 middle-management jobs. By 1997, in its first year in Fairchild’s hands, Dornier made money. The Dornier engineers had already developed a jet version of their 30-seat turboprop, and the merged entity sold 200 of these planes between 1997 and 1999. Fairchild Dornier also launched a new program to develop a 70-seat commuter jet. In 1999 *Forbes* declared Fairchild-Dornier’s transformation a success:

Regional jets? You probably think first of Brazil’s Embraer or Canada’s Bombardier. But Fairchild is moving up fast. Common sense and no preconceptions allowed Albert to achieve what mighty Daimler-Benz could not. “We are changing the regional airline industry”, says Albert.¹

That same year Fairchild Dornier won a \$1.6 billion order from Lufthansa for 60 new jets, creating a backlog of \$8 billion in jets on the order book. In 2000, Carl Albert and his partners sold a 96% stake in Fairchild for \$1.2 billion to a U.S. leveraged buyout firm and German insurance giant Allianz. The sale left the highly-leveraged company with little cash on the balance sheet. The buyers assumed they could fund devel-

opment of Fairchild Dornier's planned new passenger plane with the proceeds of an initial public offering (IPO) planned for late 2001 as well as funds from the German government. However, the September 11th disaster ruled out an IPO, which in turn caused the German government to back away from their earlier promises. Lacking slack resources, Fairchild Dornier could not withstand the sudden-death threat. Nor were they alone. September 11th also caught Canadian competitor Bombardier completely off-guard.

We are not, of course, arguing that Botelho (or anyone) could have predicted the terrorist attacks of September 11th or their impact on the airline industry. But that is exactly the point. In an unpredictable environment, slack resources provide a valuable cushion against unforeseen crises. Fairchild Dornier was headquartered in Western Europe and Bombardier in Canada, and neither one was exposed to Brazil's country risk. Embraer's experience in Brazil, however, had inured its executives to the risk of sudden-death threats.

2001-2003: SEIZING A SECOND GOLDEN OPPORTUNITY WITH THE EMBRAER 170/190

Based on the studies Embraer had commissioned in 1998, Botelho and his top management team were convinced that the 70-110 seat regional jet provided a second golden opportunity that could be as lucrative as the company's regional jet. In January 1999, the Board of Directors approved a business plan for the Embraer 170/190 line of large regional jets designed to seat 70-78 and 98-108 passengers respectively. In June 1999, Crossair (Europe's largest regional airline) placed an order for 160 units provided Embraer committed to delivering the first planes in December 2002. Such a timeline would set a record for the industry in terms of design, production, and certification of a new plane. In order to succeed, Embraer would have to declare this initiative its main effort and focus the organization on meeting these aggressive targets.

In the wake of the September 11 attacks, Embraer slowed the development of the Embraer 170/190 line. The company's large cash cushion, however, allowed managers to keep the project alive on a smaller scale, and increase investment after surviving the sudden-death threat.

The development costs were initially estimated at \$850 million to design a new platform from scratch rather than attempting to shrink or enlarge another model. Embraer's experience in working with risk-sharing partners helped the company pursue the golden opportunity posed by the large regional jets, while conserving cash. To develop the new product line, Embraer increased the number of risk-sharing partners responsible for delivering entire subsystems (rather than providing components alone). The regional jets series developed in 1989-96 had 350 component suppliers and only four risk-sharing partners. In contrast, the large regional jets reduced the number of component suppliers to 22 while increasing the number of risk-sharing partners to 22. These partners bore approximately two-thirds of the Embraer 170/190 total development costs, versus one-third for the preceding generation ERJ-145. Without these risk-sharing partnerships, Embraer could probably not have afforded to keep the initiative alive after the September 11th attacks depressed demand. Streamlined processes gave managers confidence to set tight development deadlines.

The new jets face extreme competition. In addition to Bombardier in the 60-90 passenger class, Embraer's new jets begin to compete with smaller planes from Boeing and Airbus. Realizing the opportunity available to smaller aircraft, Boeing launched a 110-seat model in the late 1990's, and Airbus launched a comparable family of in planes the following year. Embraer's Botelho believes his company has a solid chance of seizing the moment, and observes: "Boeing and Airbus are coming to the market with shrunk versions of larger planes. Our planes are specifically designed for this range". The Embraer 170 flew its maiden flight in February 2002 and was certified in September 2004, with two larger jets (98 and 108 seats) scheduled for certification in 2005 and 2006. It is still unclear whether this opportunity will be as golden as the ERJ-145. Given Embraer's experience in managing unpredictability, however, we believe the company is well-positioned for the future.

Note

1. Howard Banks, (1999), "The lawyer who builds jets", *Forbes* (5 July).



CHAPTER 5

Time-Competitive Execution

Efficiency and low cost are the best insurance you can have in a turbulent environment. We always say that when the storm comes and everyone else is drowning, we want to hold our breath longer. If everyone else drowns in three minutes, we want to be able to survive two minutes longer. Operational efficiency lets you do that. We have to hammer and hammer on cost savings and efficiency all the time. Sometimes, when the business is going great, people start looking at you and ask why we push for so much hardship. The answer is simple. This is our insurance for unexpected things or really hard times.

MARCEL TELLES

CHAIRMAN AND FORMER CEO, AMBEV

On July 1st, 1999 Brazil's two dominant brewers Brahma and Antarctica announced their intention to merge. The new firm, under the name AmBev, would control 75% of Brazil's beer market, forecast pro forma revenues of \$2.8 billion and emerge as one of the top five brewers in the world by volume. Although the transaction was structured as a merger, it was not a marriage of equals. Brahma's shareholders would end up holding more than 80% of the newly combined entity's stock.

The Brazilian press was shocked by the announcement. And with good reason. For most of the preceding century, Antarctica and Brahma had

been the top two brewers in Brazil. Although the two companies had been neck-to-neck competitors, Antarctica was generally one step ahead of Brahma until the 1990's in terms of market share, profitability, new product introductions and management innovations. Commentators struggled to explain this sudden reversal of fortune. Some argued that Brahma had conceived and executed a grand strategy. Others attributed Antarctica's fall to a major blunder, which, combined with a bit of bad luck, put the company's very survival at risk. A careful examination of the facts, however, reveals that neither a grand strategy by Brahma nor a monumental blunder by Antarctica explains the outcome. Rather, Brahma pulled ahead of its worthy rival through a sequential series of operational improvements, each of which provided an incremental advantage over Antarctica.

Antarctica did not stand still, of course, and in many cases the company took similar steps to Brahma. Historically, however, Antarctica had been encumbered by a complex governance structure, whereby control of seven separate legal entities was held by a foundation (Fundação Zerrener) whose objective was to look after the employees' welfare. Until 1996, the chairmanship rotated among board members on a monthly basis. A group of top executives, which included Victório de Marchi, Roberto Gusmão and José Gracioso, had struggled to make operating improvements within Antarctica, but had been hindered by a governance structure that slowed decision making. It was common knowledge in the industry that these executives had finally convinced the Fundação Zerrener to implement a major overhaul in 1997, but the company was in a weakened position by the time these changes began to bear fruit. The abrupt devaluation of the Real in March of 1999 posed a sudden-death threat to firms like Antarctica which held dollar-denominated debt. Brahma's greater operational efficiency enabled the company to weather the storm, while Antarctica could not. We introduce the term "time-competitive execution" to describe the process of initiating and achieving operational improvements faster than competitors. The remainder of this chapter defines time-competitive execution, argues that it is a critical component of active waiting in turbulent environments, illustrates the concept through the history of Brahma and Antarctica during the 1990's, and concludes with some practical steps managers can take to master time-competitive execution in their own organizations.

TIME-COMPETITIVE EXECUTION

When a company succeeds dramatically, as Brahma did during the 1990's, observers often attribute their triumph to a grand strategy or inspirational vision. Based on this interpretation, many management gurus exhort executives to come up with an ambitious vision, make large and irreversible commitments to support their strategy, and stick to it through thick and thin. This “grand strategy” theory of success is attractive. The explanation has the advantage of simplicity and the associated advice is inspirational to managers. Unfortunately, we believe explanations based on grand strategy are generally wrong. Most strategies are both obvious and easy for competitors to copy. Grand strategies, moreover, can be particularly hazardous in unpredictable environments, where unexpected shifts in the market can render them obsolete in short order. Don't get us wrong. Of course companies need strategies, otherwise they would simply drift aimlessly. However, in our assessment, strategies rarely spell the difference between success and failure.

If strategy doesn't explain success, what does? The answer lies, as we argued in chapter three, in a company's ability to seize golden opportunities and avoid or survive sudden-death threats. But that raises another question – how can companies position themselves to capture the upside and avoid the downside? Particularly, how can they position themselves in the relative lulls that occur even in the most turbulent environments? Our argument, you will recall, is that they do so by waiting actively. Operational improvements are a critical component of preparing for the unexpected.

Of course, everyone knows that execution is important in business. But many people think execution consists of mastering a single tool. Management writers have proposed a long list of techniques to increase operational efficiency, including total quality management, six sigma, balanced scorecard, quality circles, benchmarking, customer satisfaction measures, reengineering, activity-based accounting, and supply chain integration, to name just a few of the more prominent examples.¹ Proponents of these tools often hold them out as “silver bullets” that can insure success when properly applied. We do not, in contrast, believe any single technique is a panacea. Most of these tools can be helpful when used properly, and useless or worse when applied poorly. The companies we studied used a wide array of tools in a dizzying set of combinations.

The key to successful execution, we believe, lies not in any silver bullet or even combination of techniques. Rather, success hinges on the speed with which companies initiate and complete a series of operational improvements, and their agility in switching from a successfully completed initiative to a new one. We use the term “time-competitive execution” to describe the process of initiating operational improvement programs, achieving target levels, and moving on to new initiatives faster than competitors. This approach emphasizes speed of execution and agility in switching. The logic supporting multiple initiatives versus a single “silver bullet” is simple: No single initiative, in our assessment, is likely to confer a decisive advantage over competitors. As a result, companies should continuously add incremental advantages to increase the total efficiency gap relative to their competitors. Higher efficiency has the twin benefits of putting more cash in the bank for a rainy day, and also allowing the company to profit even if prices decline or input costs increase.

The need for speed in initiating, completing, and switching operating improvement programs is equally obvious. The sooner a company completes an initiative, such as rationalizing plants or reducing headcount, the sooner it reaps the resulting cash flow increases. Moreover, after completing one initiative successfully, the company can move on to the next. A slower competitor, in contrast, will still be struggling to catch up with the last set of improvements while the more agile company moves on to the next.

Each time the faster company starts and completes a cycle of operating improvement, it gains an incremental advantage in efficiency. The quicker it can move through these cycles, the more incremental advantages it can accumulate in a period of time. The difference in efficiency between the faster and slower company can grow over time from a small gap into a gaping chasm. The faster company can stockpile cash and profit at lower prices. The slower company, in contrast, may need to borrow to cover losses and be forced to charge high prices to cover its bloated costs. When a golden opportunity comes along, the faster company is better positioned to seize it. If a sudden-death threat emerges, the faster company can hold its breath and survive for longer than its slower rival, which may even drown.

Time-competitive execution in business has a close analogue in military theory. In the early 1970's, John Boyd, a Colonel in the U.S. Air

Force, began to study a question that had puzzled military observers for years.² During the Korean War, American fighter pilots had outgunned their enemies flying Soviet-made MiGs by a ratio of ten to one. This was puzzling because the Soviet MiGs were superior on traditional dimensions of performance: they climbed quicker, turned faster, and accelerated better. However, Boyd discovered that the American planes had two critical advantages. They had a larger canopy that gave the pilots better visibility and effective hydraulics that allowed the planes to switch from one action to another much more quickly than the MiGs. Based on this technology, American pilots devised a strategy of quickly shifting direction. The enemy could respond, but would do so more slowly. With each successive change in maneuvers, the American pilots would increase their advantage. Finally, the gap would become so large that the U.S. pilot would have a clear opportunity to fire on the enemy.

Boyd later generalized his findings to other forms of conflict. He argued that all battles, whether in the air, on land, or at sea, consisted of two opponents cycling through four steps. Both opponents would first *observe* the situation, and based on their data, *orient* themselves, then *decide* on the appropriate response and finally *act*. Based on the results of this action, as well as the competitor's actions, both opponents then observe the altered circumstances and start the process again. Boyd referred to this cycle as the observe-orient-decide-act or "OODA" loop. His critical insight was that a combatant, which could consistently move through the OODA cycle more quickly than its enemy, could accumulate a tremendous advantage over time. By the time the slower enemy reacted, the quicker opponent had already moved on to a new maneuver. While none of the individual moves were decisive, their cumulative effect could create a gap that left the slower opponent vulnerable.

Of course, business is not war. But the analogy between time-competitive execution and the OODA loop is striking. The faster company makes an improvement which the slower one later emulates. By the time the laggard is catching up, however, the faster one has already moved on to the next thing. None of the operational improvements need to be a silver bullet or provide the decisive advantage. Their cumulative impact is what matters. Nor does secrecy or proprietary knowledge play any role. Competitors can usually discover which operational improvements their

rivals are pursuing, and hire the same consultants or buy the same books to copy them. The trick lies in the speed and effectiveness of execution. But rather than discussing further, let's illustrate time-competitive execution with the story of Brahma and Antarctica.

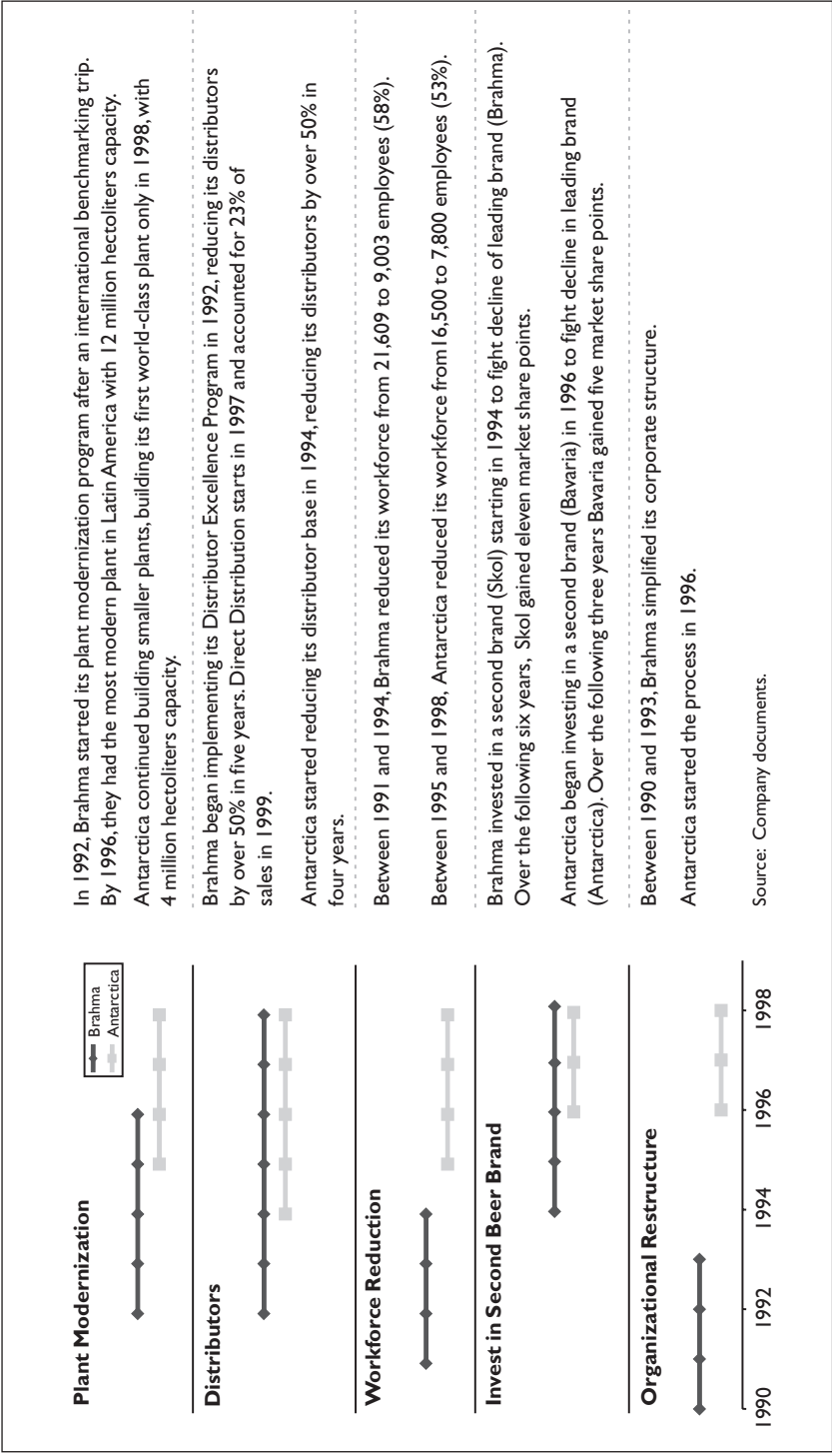
TIME-COMPETITIVE EXECUTION AT BRAHMA AND ANTARCTICA

During the 1990's, competition between Brahma and Antarctica followed the pattern of time-competitive execution described above. Brahma implemented an initiative, and Antarctica would imitate it a few years later. The cumulative impact of these initiatives added up over time, and increased Brahma's ability to seize opportunities and ultimately withstand the sudden-death threat posed by the 1999 devaluation of the Real. Negotiating from a stronger position, Brahma was able to merge with Antarctica on favorable terms. Figure 5:1 below summarizes these actions, including workforce reductions, plant modernization, distributor improvements, and launching a second brand. Before describing competitive OODA in action, we provide a brief history of the Brazilian beer industry.

Antarctica and Brahma: Neck-to-neck competitors for a century

For more than one hundred years, Brahma and Antarctica together shaped the brewing industry in Brazil. Companhia Antarctica Paulista (Antarctica) was founded by two German immigrants in São Paulo in 1885, and quickly assumed a leadership position in the local market. Joseph Villiger, a Swiss immigrant, founded Companhia Cervejaria Brahma (Brahma) three years later in Rio de Janeiro, and quickly emerged as an important local competitor. Over the next century Antarctica and Brahma consolidated Brazil's fragmented beer industry by acquiring smaller rivals and building national production, distribution, and brands. For most of their history, Antarctica had been faster than Brahma. Antarctica made the first acquisition (1904), introduced the first soft drink – guaraná – in 1921, a half-century before Brahma, and launched new products including dark beer (1921) and draft beer (1972) before its rival.

FIGURE 5.1 Time-competitive execution at Brahma and Antarctica



The 1980's had been a difficult decade for Brazil in general and for the beer industry specifically. Price controls prevented brewers from charging more to offset rising raw material costs, and thereby depressed brewers' margins. The high cost of capital made investment in new brewing capacity prohibitively expensive, and demand for beer often exceeded supply. As the weaker of the two major brewers, Brahma experienced particular difficulties in dealing with these challenges. In 1983 an investor group led by two Brazilian banks – Banco Bradesco and Sul America Seguros – launched a hostile takeover bid for Brahma, which the company successfully repelled with the help of the private equity firm Banco Garantia.

While all brewers had suffered during the 1980's, Antarctica weathered the storm better than its rivals. Antarctica enjoyed only a modest share lead over Brahma, but 60% of consumers cited Antarctica as their preferred beer. Antarctica was also more profitable than its rival in Rio, and enjoyed a gross profit margin of 44% in 1989, versus 16% for Brahma, and earnings before interest taxes and depreciation (EBITDA) margin were 25% for Antarctica, versus 5% for Brahma.

Marcel Telles takes charge

In 1989 Brahma was acquired by the founders of Banco Garantia (BG), the investment bank that had successfully defended the brewer from a hostile takeover bid six years earlier. Telles – then 39 years old – became Brahma's CEO after spending twenty years as a trader at BG. He brought with him a team including Magim Rodriguez Júnior, a veteran of Lacta (Brazil's leading chocolate company) with strong operational experience, Luis Claudio, who would become CFO, and Luis Brito, a freshly-minted Stanford MBA. Carlos Alberto Sicupira, another partner, advised Telles: "You don't know anything about beer, so for the first three years please don't do anything dramatic – otherwise you will be wasting my money". Telles took the advice to heart. Among the first things he did was stop an ongoing strategy study by a major international consulting firm. "The last thing we needed was a grand strategy", Telles later recalled.

When the new team arrived, they discovered that things were worse than they had anticipated. Brahma's apparently healthy market share masked deeper problems, and the company had maintained position only

because Antarctica's production capacity was insufficient to meet demand and consumers would drink whatever was available. It became clear to Brahma's management that addressing the low brand preference was urgent, since Antarctica was bound to increase production at some point to fill unmet demand.

Factory Rationalization and Modernization

As Telles took charge at the end of 1989, he and his team assessed the situation and concluded that Brahma's low brand preference resulted, in large part, from the low quality of its product. While the rest of the world's brewing industry had moved to standardized processes to improve quality, Brahma's production department still viewed brewing as an artisan's craft. The chief beer engineer considered himself an artist rather than a technician, with free license to brew in whatever manner he felt best. The company's four-story plant in Rio de Janeiro, for example, still brewed in uncovered tanks, a process that most large beer companies had abandoned years earlier because it caused a variation in taste. The new team realized that they needed to rethink production strategy to provide consistently high quality. Telles made consistent high quality the company's main effort.

Telles' predecessor had commissioned a well-known international management consulting firm to review Brahma's overall strategy, and paid for the study in advance. Telles instructed the consultants to abandon their strategic review and instead analyze what the optimal factory footprint would be if a new brewer were to enter the market without legacy plants. As Telles recounts, "We asked ourselves the following question: If we could start from scratch, what types of factories should we build and where? We then visited several companies around the world (Modelo, Coors, Anheuser-Busch) and made an ideal blueprint of the factories and their locations throughout Brazil... the great advantage of Brazil is that you can always take a plane and see how Brazil will be in 2-3 years. We came back with a lot of ideas". Based on this analysis, the team concluded that Brahma had too many factories, most of which were too small. Some plants were highly efficient, such as the Jacareí facility that produced up to 4,000 hectoliters (hl) per employee per day, while some of the older plants

produced only 150–200 hl per employee per day. The larger plants, moreover, produced consistently high quality brew, while the smaller ones churned out batches of inconsistent taste.

Between 1989 and 1991, Brahma closed more than ten factories, and in 1996 broke ground in Rio de Janeiro for its first state-of-the-art factory incorporating the latest in brewing technology and with a capacity of 12 million hl per year. Brahma executives secured incentives from government officials to defray the capital expenditure required to build the new plants. Antarctica, in contrast, continued to build small plants for several years, and only built its first world-class facility in 1998, two years after Brahma.

Improving distribution

Brahma managers realized early on that operational improvements could not be limited to production, but should also include the company's distribution network as well. In 1990 Telles articulated a set of priorities centered on enhancing the efficiency and professionalism among its distributors. Brito, the Stanford MBA, recalled:

We established a new rule in 1990: no friends, relatives, or former employees could be distributors. Although this was a very common practice at the time, such relationships created tremendous conflicts and distractions... and for the most part, family, former employees and friends turned out to be bad distributors because decisions were made for personal and not business reasons. This new rule was a watershed event.

Brahma wanted to put in place a system of incentives and metrics for its distributors, and scoured the globe to learn the best global practices in managing resellers. Telles recalled that they learned much from Anheuser-Busch:

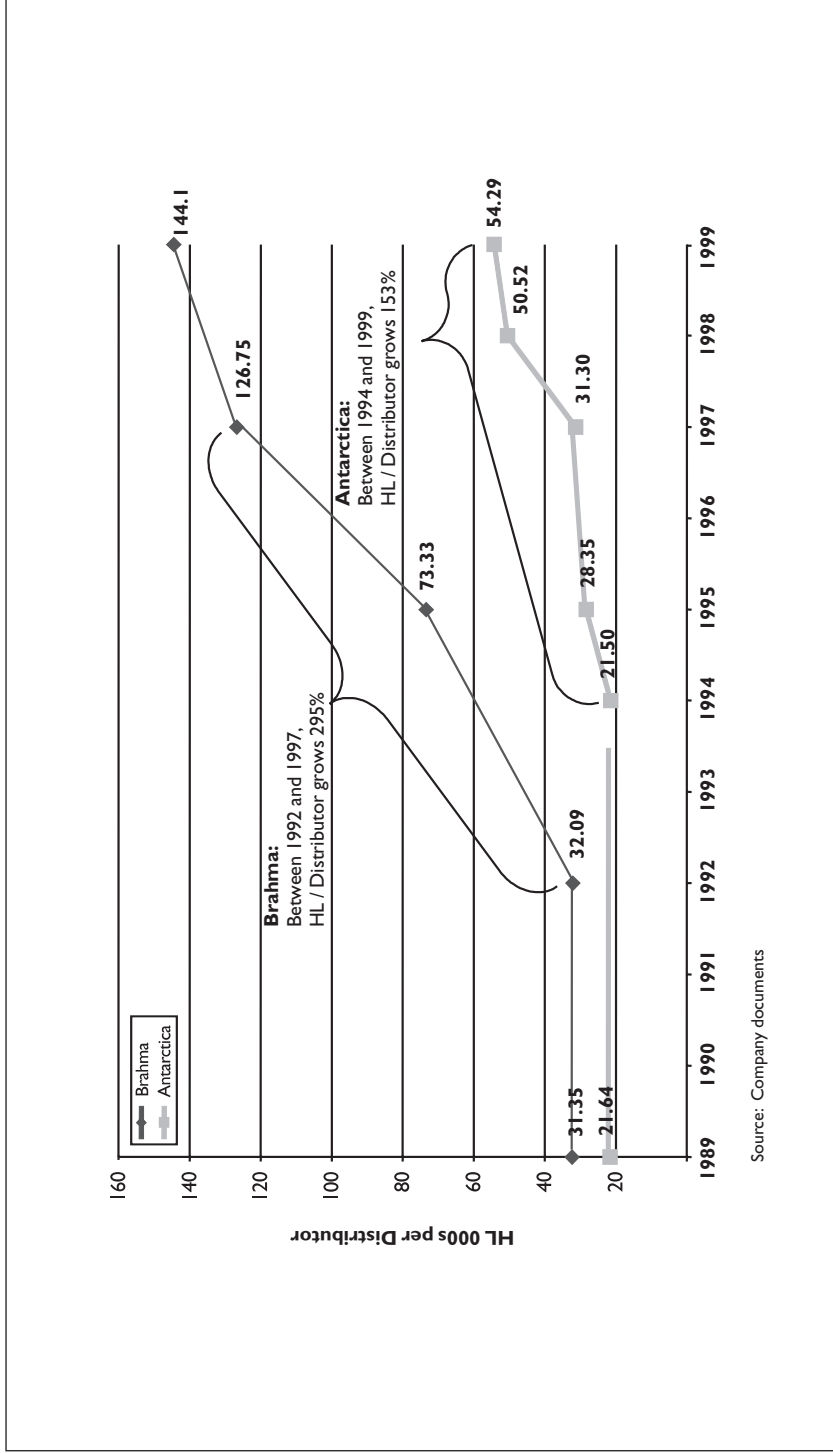
Every year Anheuser-Busch gave out Excellence Awards to its best distributors based on objective criteria. They used the same data to decide which distributors to keep and which to shed. We decided to use similar

criteria to start aligning our distributors with Brahma's goals. This way we could shape their decisions on infrastructure, warehouse size, and so forth. We could also help distributors make a lot of money, which created incentives for them to reinvest in the business. The program was a way of getting other entrepreneurs with their own agenda to align their interests with ours.

Initially, changing the rules of the game stirred controversy among distributors. Although benchmarking demonstrated that Brahma distributors earned some of the fattest margins in the world, the resellers were not keen on meeting Brahma's new demands. Brahma's management cut the number of distributors to focus on those excited about the new plan and to allow them to achieve scale. Brahma required applicants to demonstrate they had the requisite financial resources, maintained specified quality standards, controlled a minimum number of the distribution points, and had in place a succession plan for top management. It also put in place a training program for the children of distributors. In 1989, Brahma had 1,000 distributors but had cut that number to 300 ten years later. The average size of a distributor increased fourfold, from an average of 32,000 hectoliters per year (hl/year) in 1992 to 127,000 hl/year in 1996.

Antarctica studied the Anheuser-Busch Distributor Excellence program at around the same time as Brahma. Anheuser-Busch had a long-standing distribution relationship with Antarctica and took a 5% equity stake the company in 1996. Anheuser-Busch provided Antarctica with full access to its best practices in distribution (and other programs). Antarctica, however, was slow to emulate the program. Antarctica's increase in average distributor size was more gradual than Brahma's, and the bulk of the increase did not occur until the late 1990's (Figure 5:2 graphs the average size per distributor by year for both brewers). As of June 1999, Antarctica had not prohibited former employees and family members of current employees from holding a stake in distributors, although such practices were not explicitly encouraged.

FIGURE 5.2 Hectoliters per Distributor



Headcount Reductions

Brahma's management team recognized that factory rationalization alone would not suffice. By 1993 it became clear that Brahma would need to cut staff to achieve world-class productivity levels (see figure 5:3). Between 1993 and 1995, Brahma's management reduced the labor force by 30% (from 13,600 to 9,500). Sales per employee more than doubled over this same time period. Antarctica also made reductions in force, but started a year later than Brahma and made more modest cuts. Between 1994 and 1996, Antarctica reduced its labor force by only 12% (from 16,400 to 14,500). Antarctica went through a second wave of reductions later in the decade, but even these failed to achieve the levels of revenue per employee Brahma had achieved years earlier.

Factory modernization combined with reductions in staff allowed Brahma to achieve a 97% gain in productivity between 1993 and 1995, achieving 4,600 hl per plant/employee. Antarctica also achieved increased productivity. However, because the company lagged behind in both plant modernization and staff cuts, its productivity gains came more than three years later. More importantly, Antarctica's more modest improvements failed to close the gap in productivity with Brahma (see figure 5:4).

Cost reductions

The introduction of the Real as Brazil's currency in 1994 reduced inflation to an average of 4-10% per year. A stable currency increased disposable income, and hence demand for beer. But Telles noted that there was a dark side to the end of inflation as well:

Until 1994, companies needed good financial managers to stay afloat amidst hyperinflation. When prices stabilized, we had to control costs, something that was irrelevant in the past. During the hyperinflation years you could always pass on your cost inefficiencies to consumers via price increases and no one would notice. That all changed with the Real.

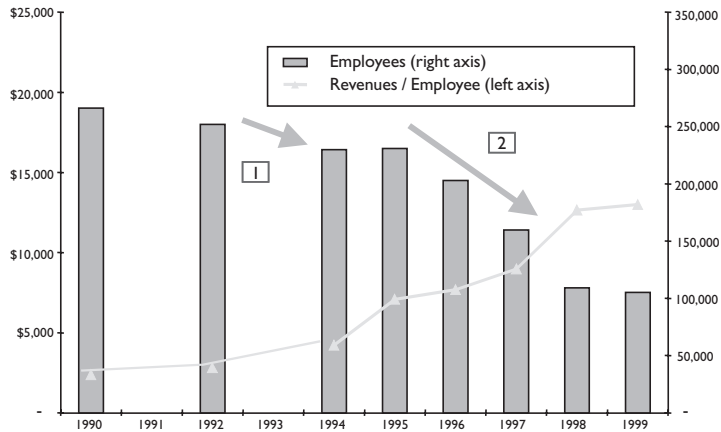
FIGURE 5.3 Headcount Reductions at Brahma and Antarctica



Brahma – begins to reduce payroll earlier.

1 Between 1993 and 1995 labor force is reduced from 13,600 to 9,500 (30%). Sales per employee increase 207% over the period.

Between 1997 and 1999 there is a 26% gain in sales/employee, resulted from sales increases and constant labor force.

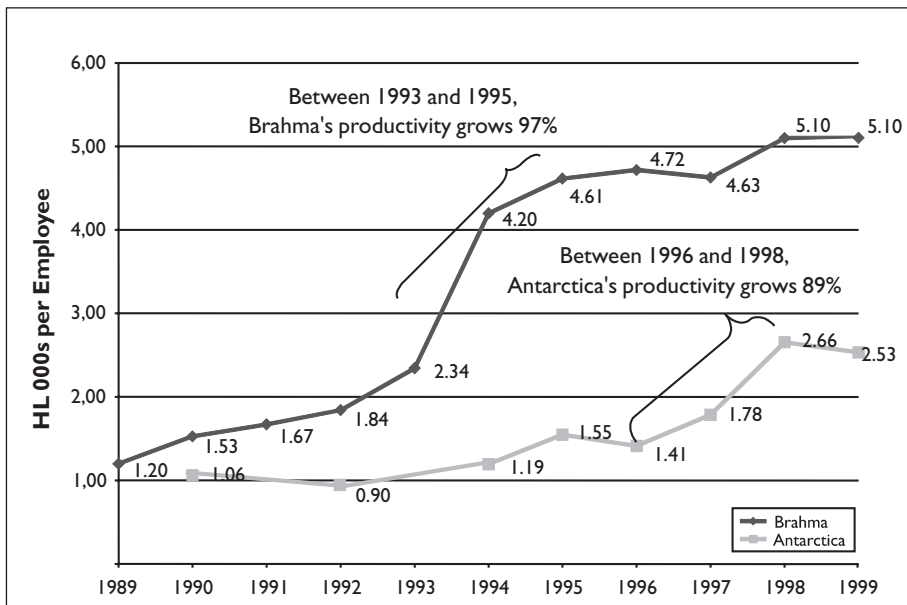


Antarctica – productivity gain is more gradual.

1 Between 1994 and 1996, labor force is reduced from 16,400 to 14,500 (12%) and there is a gain of 82% in sales/employee.

2 Between 1996 and 1998, labor force is further reduced to 7,800 employees, contributing to an additional 65% gain in sales per employee.

FIGURE 5.4 **Productivity**



Brahma's top management team quickly recognized that the company lacked the discipline to manage its costs, and responded to the new realities by setting aggressive cost reduction targets as priorities throughout the organization. The first step was further refinements in the accounting systems, to ensure up-to-date cost data at the product, package, and distributor level. The company also developed low-cost sources of raw materials and negotiated aggressive discounts with key suppliers including aluminum can manufacturers. Brahma reduced its cost of goods sold (in real terms) per hectoliter 10% between 1994 and 1995, and sustained those lower costs for the following four years.

Antarctica, in contrast, suffered cost increases of 32% between 1994 and 1996. In 1997, the company embarked on a very aggressive cost reduction program that achieved an impressive 16% reduction in cost of goods sold per hectoliter over the following two years. Unfortunately, it was once again too late. Antarctica failed to close the gap with Brahma in absolute terms and began three years later (see figure 5:5).

FIGURE 5.5 Costs of Goods per Hectoliter

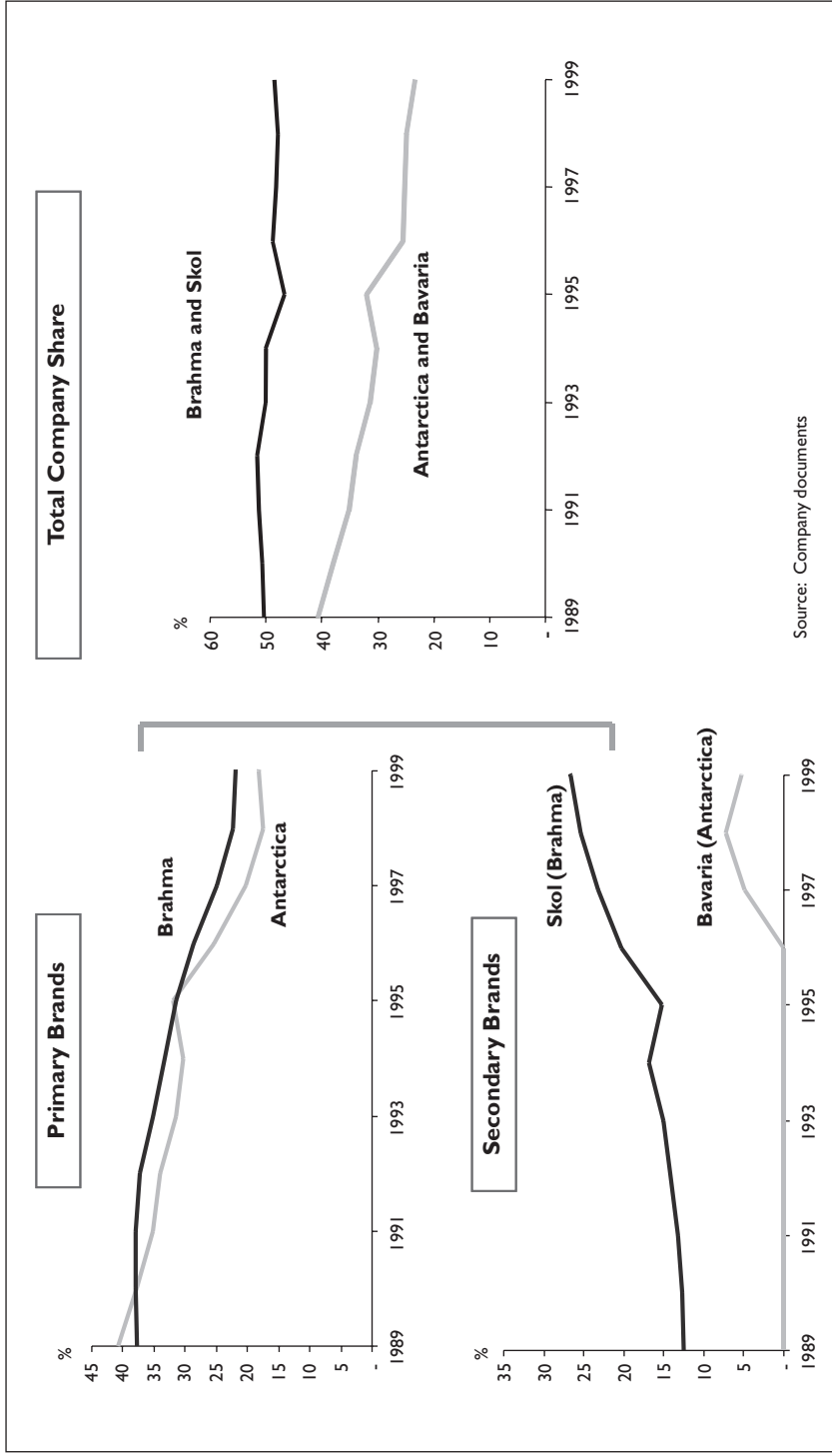


Strengthening the second brand

In 1992, local Coca-Cola bottlers launched Kaiser, a low-price beer targeted at younger consumers. The Kaiser brand gained share rapidly, mostly out of the hide of Antarctica's and Brahma's flagship brands. Between 1991 and 1994, Antarctica and Brahma both suffered declines of approximately 15% in market share for their main brand (See figure 5:6).

In 1994, Telles responded to the threat and made growing the company's second brand – Skol – a top priority. In 1994, the company invested to advertise Skol as an alternative to Kaiser, and used the second brand to conduct a series of experiments that top management was reluctant to try with the flagship Brahma product. The Skol brand introduced a series of innovations in short order, including a lighter taste, new packaging such as long-neck bottles and aluminum cans, advertising targeted explicitly at the youth market, and a lower price point than the Brahma brand.

FIGURE 5.6 Investments in Second Brand (Percentage Share of Brazilian beer market)



Source: Company documents

Although a management consulting firm had recommended consolidating the Brahma and Skol distribution networks to reduce costs, Telles and his team believed that the Brahma distributors – many of whom had run the franchise for two or more generations – were already wealthy and satisfied with the status quo. Most of the Skol distributors, in contrast, were still run by the first generation of entrepreneurs who had acquired the franchise, and in Telles' words “were hungry to grow their business. The Skol distributor would go out and drive his own delivery van to make sure customers were happy, while his wife would sit in the passenger seat and check the books. Most Brahma distributors resisted the new franchise manual, while the Skol distributors wanted everything we could give them that would help them win in the market”.

Through the combination of product and packaging innovations, Skol's aggressive distributors and a significant marketing campaign, Skol became the fastest growing beer in Brazil. Between 1994 and 2000, the Skol brand gained 11% of the market, which largely offset the loss Brahma suffered in its flagship beer. Brahma executives were surprised by the success of Skol. Telles later recalled: “We relaunched Skol as a light beer to hedge our bets against continued losses in the Brahma brand, not because we necessarily believed it could ever approach or outsell Brahma”.

Antarctica introduced a second brand – called Bavaria – two years after Brahma began its aggressive promotion of Skol. In the next three years, Bavaria won only 5% of the market, which failed to stem the losses incurred by its flagship Antarctica brand. Antarctica's disappointing results with Bavaria were surprising, because the company had historically excelled at branding. The company had cleverly positioned its Antarctica brand as the “best beer in Brazil” and won the best beer brand award every year between 1995 and 1998. Antarctica's distribution network, however, had not been upgraded and was not able to grow share. Bavaria apparently cannibalized other Antarctica brands rather than take share from competitors.

Building soft drinks as a call option

Brahma also invested heavily in to rebuild its soft drink division. In 1994, the company launched mineral water, ready-to-drink juices, teas, isotonic, and others soft drinks. Moreover, that same year, it regained the Pepsi distributorship from a rival which had gone bankrupt. In 1995, Brahma acquired the Marathon brand to compete directly with Coca-Cola's Gatorade. As of 1999, Brahma had not enjoyed the same level of financial and market share success in soft drinks as it had in beer. Telles, described the company's continued investment in soft drinks: "They are cheap call options, it costs us very little to offer soft drinks and one day it may prove itself useful. It also helps us compete with Coca-Cola distributors which also sell Kaiser beer".

In 1993, Brahma had lost its rights to distribute Pepsi products in Brazil, when Pepsi-Cola transferred the license to Baesa, an Argentine company with ambitions to distribute throughout South America. In 1996, however, Baesa went bankrupt in the wake of a recession in Argentina, and in the next year Pepsi returned to Brazil looking for a distribution partner. In addition to a ten-year contract to sell Pepsi products, the company was also offering four state-of-the-art factories and associated infrastructure, making the Pepsi deal an attractive opportunity to be sure. Theoretically, either Antarctica or Brahma could have seized that opportunity. Pepsi selected Brahma based in large part on that company's financial strength – Pepsi had no desire to repeat the Baesa fiasco. Pepsi executives were also impressed by the speed with which Brahma was able to negotiate and execute the deal.

BRAHMA BETTER POSITIONED FOR THREATS AND OPPORTUNITIES

Antarctica and Brahma pursued very similar strategies with regards to factory rationalization, distributor excellence, cost controls, headcount reduction, and second brands. The difference was that Brahma generally led by a few years in each initiative, executed more effectively and finished more quickly. As a result of these successive small wins, Brahma was better positioned to respond to threats and opportunities faster than Antarctica.

Surviving the threat from price wars

In the late 1990's, low-priced brands such as Schincariol began to gain share in Brazil's beer market. Brahma and Antarctica responded by cutting costs, thereby triggering a major price war. Average prices dropped 10% between 1997 and 1999 even though average consumer price inflation for the period was 17%. Antarctica initiated many of the most bruising price reductions, although its higher-cost structure resulted in greater operating losses when prices fell. Antarctica cut prices to maintain market share and capacity utilization. Antarctica was also forced to grant across-the-board discounts because it lacked Brahma's sophisticated information system, which enabled Brahma salesmen to target discounts to selected outlets where price competition was most intense, while maintaining higher prices in other regions.

As prices and profits declined, Antarctica's labor unions negotiated successive wage increases and threatened work stoppages if management failed to agree to their terms. Antarctica executives agreed to labor demands to avoid costly strikes. One industry observer compared Antarctica to "a slowly dying elephant, that did a lot of damage in its death throes. It cut prices, caved into the unions, and overinvested in marketing despite its low profits". Brahma's lower costs allowed it to maintain healthy profit margins despite the decreased prices.

Surviving the sudden-death threat of devaluation

Price wars left Antarctica with dangerously high levels of debt. In 1998, the company had long-term debt equivalent to nine-times annual cash flow, and the devaluation of the Real in 1999 essentially doubled the cost of servicing dollar-denominated debt. Antarctica's poor operating position had left it without the funds to manage its currency exposure. In an interview with the press, Antarctica's CFO explained that the company "could not afford" the costs of hedging its debt. As a result, Antarctica, like many other Brazilian companies, was caught with 60% of its debt denominated in U.S. dollars, and the devaluation triggered a liquidity crisis for the company. Brahma, in contrast, generated higher operating cash flows to cover its interest burden and enjoyed the financial cushion to hedge 100% of its dollar-denominated debt.

Brahma seizes golden opportunity to merge with Antarctica

The devaluation and resulting liquidity crisis required a rapid cash infusion by a strong company to keep Antarctica afloat. Brazil's recent history is filled with stories of multinational corporations swooping in to buy Brazilian companies in times of crisis, but in this case the white knight was local. Brahma's strong balance sheet and cash-generating capacity enabled it to move faster than any of its foreign rivals and clinch a deal with Antarctica in a record three months. The resulting entity, called AmBev, was the fifth largest beverage company in the world. The merger with Brahma also proved to be a profitable decision for Antarctica, which was attracted by the potential synergy gains from the alliance. Before the merger, Antarctica was valued under \$300 million. By 2003, its share participation in Ambev was valued at \$900 million.

AmBev seizes golden opportunity to merge with Interbrew

In August 2004, AmBev shareholders approved a \$9.7 billion merger with Belgian brewer Interbrew. The resulting entity, called InBev, displaced Anheuser-Busch as the world's largest beer company by volume. Some commentators have referred to the transaction as a simple takeover of AmBev by Interbrew, and indeed Interbrew took a 57% stake in AmBev. The reality, however, is closer to a true merger of equals. Both companies remain separately listed entities, the board consists of four representatives from both AmBev and Interbrew (with six independent members), and the Interbrew executives have publicly praised the strength of the AmBev management. Initially, the only day-to-day change in operations was the transfer of control of Canadian brewer Labatt from Interbrew to AmBev.



The comparison between Brahma and Antarctica illustrates the importance of time-competitive operating improvements in unpredictable markets. By initiating improvements earlier, doing them better, and finishing faster than rivals, a company gains higher efficiency and a larger cash

cushion to weather sudden-death threats and seize golden opportunities. In the next chapter we show how companies can actively wait for a golden opportunity, and mobilize the resources required to seize it.

Notes

1. For a comprehensive review of management tools and techniques and their comparative usage, see D. Rigby, (2001), "Management tools and techniques: A survey", *California Management Review*, 43(2), pp. 139-160.
2. W. S. Lind, (1985), *Maneuver Warfare Handbook*, (Boulder, CO: Westview Press) and R. Coram, 2002, *Boyd: The Fighter Pilot Who Changed the Art of War*, (Boston, MA: Little, Brown).



CHAPTER 6

Spearfishing

Consolidation of the Brazilian banking sector in 2001 reached the final stage in the seven-year cycle, which began with the implementation of the Real plan. During this cycle, the competitive environment has been altered by the privatization of basically all the state-owned banks, the restructuring of the federally-owned banks, the absorption of many large private-sector Brazilian banks, and by a free market for international banks... Itaú is clearly one of the winners in this consolidation process.

OLAVO SETUBAL, CHAIRMAN OF BANCO ITAÚ

2001 LETTER TO SHAREHOLDERS

Setubal had good reasons to feel proud. Between 1995 – the first year after the Real plan stabilized Brazil’s inflation – and 2001, Banco Itaú (Itaú) posted an average return on equity of 21%, grew its asset base from \$25.1 billion to \$34.8 billion, and enjoyed the highest market capitalization of any private sector bank in Latin America. Itaú’s performance was particularly impressive when compared to its rivals. Itaú has posted significantly better returns on equity than rival Brazilian banks Bradesco and Unibanco every year since 1998. Itaú has also performed well in relation to banks in comparable markets, including Spain and Korea, measured by financial and operating metrics (see figure 6:1). Itaú’s performance allowed it to avoid the fate of Mexican and Argentinean banks, which were for the most part displaced or acquired by multinational competitors.

FIGURE 6.1 Itaú's Performance Relative to Comparable Banks

	BANCO ITAÚ		UNIBANCO (Brazil)		BBVA (Spain)		KOOKMIN (South Korea)	
	2001/A	2002	2001	2002	2001	2002	2001/A	2002
PROFITABILITY								
Operating Profit Margin	27.1%	25.7%	15.9%	13.8%	22.6%	25.8%	29.5%	29.8%
Return on Assets	2.9%	2.1%	1.7%	1.4%	0.8%	0.6%	0.9%	0.8%
Return on Equity	32%	26%	16%	15%	18%	14%	17%	13%
LEVERAGE								
Leverage (equity/assets)	9.3%	8.1%	10.9%	8.9%	4.3%	4.4%	5.7%	5.9%
% Financial Income (1)	66%	70%	71%	67%	69%	68%	74%	83%
Charge off ratio (2)	3.1%	5.9%	6.8%	6.8%	1.8%	2.5%	1.8%	1.3%
Provision coverage ratio (3)	173.0%	198.0%	95.0%	95.6%	222.0%	147.0%	1.4%	1.7%
EFFICIENCY								
Revenue/Branch	3.5	4.4	5.10	5.57			5.50	5.90
Employees/Branch	14.3	13.6		18.80				
Cost/Income – adjusted	55.0%	49.3%	64.9%	65.5%	58.1%	54.4%	40.3%	41.7%
Market Share								
Loans	8.9%	10.2%		6.6%				35.0%
Deposits	7.7%	8.7%		5.2%				29.9%
VALUATION								
Price/earnings	8.22	8.03	5.20	4.90	6.50	8.90		
Price/book value	2.59	2.11	0.80	0.80	1.75	1.76	1.40	1.08

Source: Analyst reports.

(1) Percent of total income provided by net interest income. (2) Ratio of bad debt write-offs to total debt. (3) Provision for bad loans.

Banco Itaú, however, had not always been one of Brazil's premier banks. The bank was born in 1945 as Banco Central de Crédito, and for its first twenty years remained a credible, but small regional player. Between 1964 and 1974, the bank grew rapidly through a series of mergers and acquisitions, including a merger with Banco Itaú, which gave the combined entity its new name. In 1986, the Brazilian banking sector faced a sudden-death threat, when the government's Cruzado Plan stopped rampant inflation and endangered all Brazilian banks' profitability. The sudden end of inflation produced a onetime loss and decreased Brazilian banks' ability to generate income based on high inflation. The fiscal reform rendered Itaú unprofitable overnight. Banco Itaú successfully responded with triage, cutting its workforce from 80,000 to 55,000 and launching a major operational improvement effort. Surviving the sudden-death threat posed by the Cruzado Plan was necessary for Itaú to stay in the game, but not sufficient for them to thrive and improve performance in relation to their competitors in the years that followed.

How did Banco Itaú emerge as one of Brasil's leading banks? In this chapter we argue that much of their success resulted from management's ability to actively wait and effectively mobilize to capture opportunities as they arose. The privatization of Brazil's state-run banks in the 1990's, in particular, posed a golden opportunity that Itaú seized more successfully than its peers. In the remainder of this chapter we introduce a three step process managers can use to actively wait for golden opportunities in unpredictable environments. We illustrate this process primarily with the Itaú case, but also draw on stories from other companies we studied to give readers a broader sense of how the model applies.

SEIZING THE MOMENT: THE POWER OF SPEARFISHING

Most of the companies we studied excelled at actively waiting for and mobilizing resources to seize golden opportunities as they emerged. The less-successful comparison companies, in contrast, were generally less capable of seizing the moment.

In describing the process of seizing golden opportunities, we find it helpful to draw a comparison to spearfishing, a sport favored by a few of

the CEOs of companies we studied. In this sport, a fisherman dives under water without any equipment other than a spear gun. Once submerged, he waits motionless in the murky water, conserving oxygen and energy until the right fish approaches. He surrounds himself with bait, such as kelp, that both attract fish and provide cover while he hides in waiting. A good fisherman can hold his breath for up to four minutes, letting the small fish pass while waiting for prey such as white bass that can be as large as a person. At the right time, the fisherman shoots his spear with deadly accuracy. If he succeeds in spearing the fish, he must then reel it in and quickly kill it before surfacing with his catch.

Not a sport for the impatient or faint of heart, spearfishing provides a graphic metaphor to help describe the process by which companies can effectively wait for, identify and seize opportunities in a turbulent market. The sport illustrates the three steps required to effectively seize golden opportunities in a business context: select a domain, wait actively, and go for the kill. First, just as a spear fisherman carefully selects where to fish, top executives must clearly define the domain where their company will wait for opportunities. Second, a company will wait for the golden opportunity, just as the fisherman waits for the big prey. The comparison is not perfect, of course, since the diver stalks silently while a company waits actively, running experiments, exploring multiple scenarios, and constantly discussing the emerging situation. Spearfishing does, however, illustrate the importance of waiting for the right opportunity to emerge and the value of taking steps that increase a firm's lung capacity to wait longer than competitors. Finally, when the golden opportunity appears, a company, like the spearfisher, goes for the kill. In the corporate setting, finishing strong entails declaring the main effort for the entire company and mobilizing whatever resources are necessary to seize the moment.

Clearly define your business domain

Seasoned spearfishers succeed, in part, because they know where to drop anchor and dive. Managers in unpredictable environments must likewise clearly define their business domain. This definition allows them to sort out attractive opportunities from those which would distract them from their core business. In the early 1990's, the top executives of Banco Itaú

defined their organization as one focused only on “financial activities”. This domain definition entailed more than commercial banking alone, and was broad enough to expose the firm to opportunities in wholesale banking, for example. On the other hand, it was narrow enough to preclude the widespread diversification pursued by rivals such as Banco Bradesco, which invested in energy and cable television among other activities. This clear definition of strategic domain was not an accident. In 1992, Roberto Setubal led a series of internal discussions with senior management, board members, and external consultants to articulate Banco Itaú’s business domain, and later recalled:

We spent a lot of time discussing what kind of institution we would become. We asked ourselves whether we should play a role in other activities (industry, direct investments), and decided that we are a bank and had to focus entirely on financial activities.

The logic of selecting a domain is fairly straightforward for companies that compete in a single, well-defined industry such as Embraer. It is also possible to establish criteria for selecting a domain even in more diversified groups. Consider the Votorantim Group, which participates in a wide variety of businesses including cement, zinc, nickel, pulp and paper, hydrofluoric acid, and nitrocellulose. Despite the variety in the group’s portfolio, all the constituent businesses share a few common traits. They are industries where Votorantim can be globally competitive based on Brazil’s natural resource advantages. In pulp and paper, for example, Brazil’s 2002 cash cost per ton of pulp was of \$140, compared to \$213 in Indonesia (the next lowest cost producer), and \$300 in the U.S. The group also favors businesses with global markets for its products and dollar-denominated prices, which provide a natural hedge against currency fluctuations. Or consider the founders of Banco Garantia, the investor group that took control of Brahma in 1989. Founder Jorge Paulo Lemann articulated a clear set of criteria to define the types of companies Garantia would acquire and run. Lemann and his partners would only acquire companies with hard assets, high market share in segments with relatively few competitors, and high growth potential.

Wait actively for golden opportunities

Even in the most volatile environment, companies do not face a constant rush of golden opportunities. Instead, periodic golden opportunities are interspersed among many smaller chances. The trick is to keep in the flow of opportunities, experiment, and keep discussing potential opportunities as a management team to decide collectively which are golden.

In the case of Itaú, the golden opportunity came with the privatization of state-owned banks beginning in the mid-1990's. The Federal Government decided to privatize most public companies in telecommunications, energy, and banking to attract capital to these sectors after years of underinvestment. Roberto Setubal – a member of one of the families that controlled the bank – was appointed Itaú's CEO in 1994 in the midst of this privatization. In addition to a variety of operational positions in the bank, Roberto Setubal had received a masters degree in engineering from Stanford University, and apprenticed under John Reed, the legendary former CEO of Citibank. Setubal's breadth of experience helped him to quickly realize that the privatization process was a decisive opportunity for the bank's future, and he later explained:

We saw a huge opportunity with the state banks. The Brazilian banking industry was used to focusing on asset size. In fact, these banks had relatively modest assets. In contrast to our competitors, we focused on value. We measured value in terms of new products which could be sold to the customers of these banks and the cost synergies we could realize in integrating these banks' operations. Using this metric, we quickly concluded that these banks could add tremendous value, despite their limited asset base.

Between 1995 and 2002, Itaú purchased eight large banks. Major competitors, including Banco Bradesco and Unibanco, were less aggressive in acquiring assets during the privatization period (see figure 6:2). Itaú's ability to see this opportunity was not the result of luck. Rather, the top management team had actively gathered data and run experiments. From the earliest date the government began to consider the possibility of privatizing banks, Itaú's executives made themselves available to discuss options

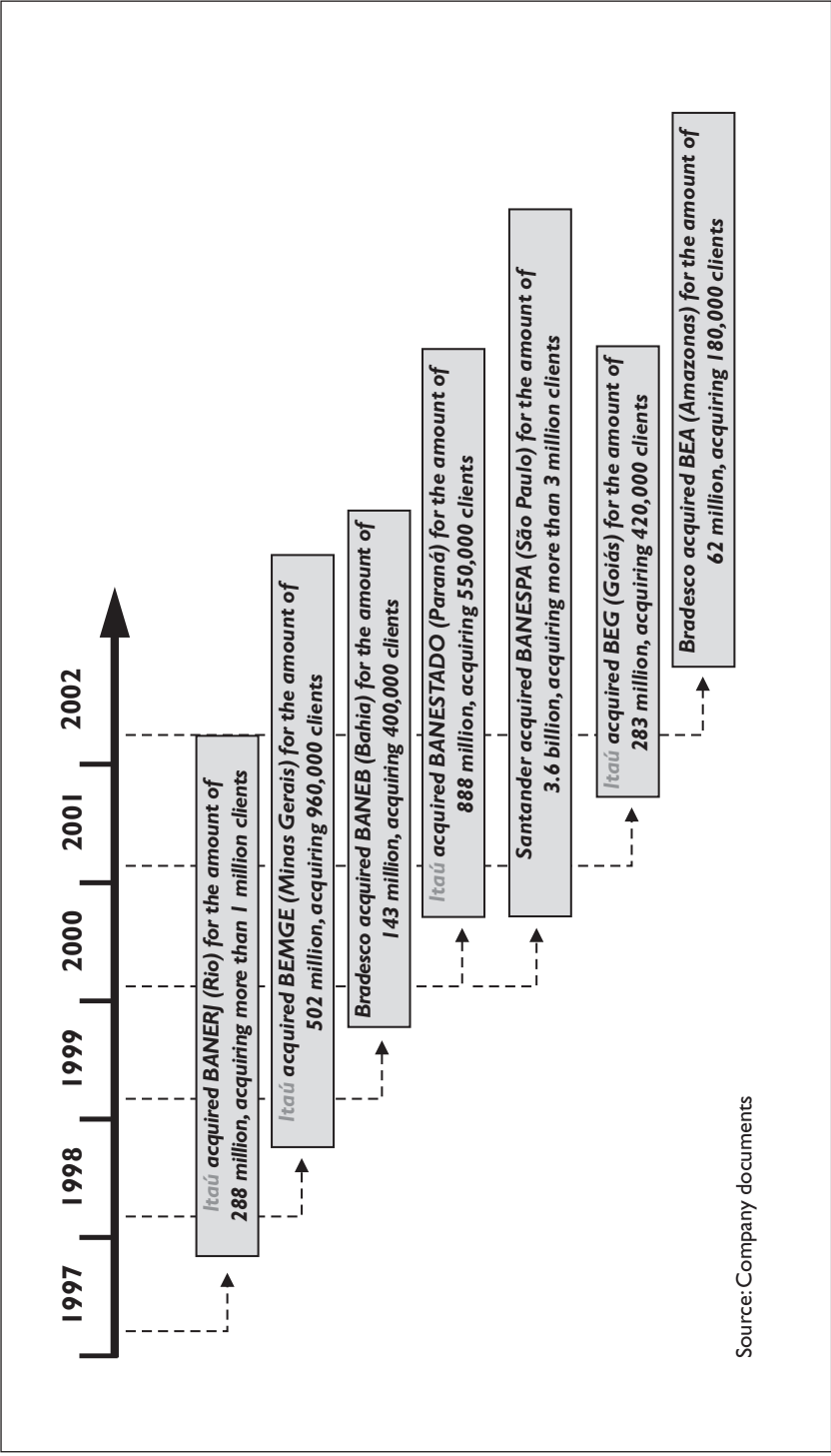
with government officials. The top executive team also spent a great deal of time discussing privatization among themselves, working through possible scenarios as to how the process might evolve and what it might mean for the bank. Moreover, when the first major bank – Rio de Janeiro’s Banerj bank – was put up for sale in 1997, Itaú was by far the most thorough in conducting due diligence on the possible acquisition. Henri Penchas, Senior Vice-President and Board Member later recalled:

We were clearly the bank which was most engaged in the due diligence process... When the due diligence process began, the bank created data rooms with historical performance information and other company documents. The bank set a 20-person limit on the number of people who could be conducting due diligence at any point in time. There were many times where 90% of the bankers in the room were Itaú people. The other banks were just not as interested as we were.

Itaú’s ability to seize the golden opportunity presented by privatized banks illustrates several key aspects of active waiting: the bank had run experiments, top management stayed in the flow of the situation, and talented executives were dedicated to exploring the opportunity. These different mechanisms of active waiting are described in greater detail below.

Reconnoiter by gathering information. In military strategy, generals often send scouts in advance of the troops to perform reconnaissance (recon). These recon troops identify both possible threats and potential opportunities. Top executives, similarly, can send out teams to gather data to help evaluate potential opportunities. Mechanisms include initial discussions – recall Itaú’s discussions with government officials – early negotiations, due diligence or customer surveys (recall Embraer’s survey of the hundred largest customers to assess the potential demand for a mid-sized commuter jet). One of the most effective ways to reconnoiter is what Banco Garantia’s Lemann calls “reading tomorrow’s newspaper today” by traveling abroad to see what the future might hold. Consider the case of the cosmetics company Natura. Co-president Guilherme Leal recalled the experiments Natura conducted between 1990 and 1994 in anticipa-

FIGURE 6.2 Privatization of State-Owned Banks



Source: Company documents

tion of the possible end of inflation in Brazil: “We studied Mexico and other countries to analyze what happened to cosmetics sales in countries after inflation was controlled. We learned that we could expect a dramatic increase in volume following stabilization. As a result, we decided to get the company ready for that surge in growth”.

Run experiments that are early, cheap and focused. In addition to data gathering, companies can design and run experiments to evaluate opportunities, such as small pilot projects, minor acquisitions, and prototypes of new product development.¹ Despite their different forms, all good experiments share three characteristics: they are early, cheap and fall within the chosen strategic domain. Itaú’s experiment with the Argentine market illustrates these characteristics. The experiment was clearly within Itaú’s strategic domain of “financial services”. Building a new branch in Argentina allowed Itaú to leverage its business know-how and even the software it had developed for its Brazilian operations. The experiment was also early. Itaú’s top executives decided to explore options in Argentina in 1992, well before that country’s economic meltdown in end of 1999–2000 gave rise to a host of acquisition opportunities as local banks floundered.

Finally, the experiment was relatively cheap. Itaú did not enter the market through a major acquisition of an Argentine bank, although they certainly could have leveraged their strong balance sheet to make a big purchase. Rather, executives sent two senior Itaú employees, who then hired a local team and spent the following two years learning about customers, identifying competitors’ strengths and weaknesses, and preparing a detailed plan of entry. In 1995, Itaú launched its first branch in Argentina, embodying the latest in information technology and tailored to the local market’s needs. The Argentina incursion in 1992 was early enough to provide valuable information about the attractiveness of the Argentine banking sector, and positioned Itaú to take advantage of future opportunities. Itaú made a larger commitment to Argentina with the medium-sized acquisition of Banco BuenAyre, only after the terrain was well mapped out. Itaú was one of the few banks to make money in Argentina in 2002.

Run multiple experiments. In an unpredictable environment, managers don't know which opportunities will turn out to be golden, at least not at the outset. Some opportunities that look promising initially will peter out. Others that appear only remotely interesting, may later emerge as critical. Given this unpredictability, managers should run multiple experiments rather than focus on a single potential opportunity. Returning to the military analogy, a prudent general does not send out scouts in only one direction. Rather, he conducts recon along several paths that the army might end up following.

Itaú excelled at running multiple experiments. Starting in 1992, for example, Itaú began to expand its international activities through small-scale forays into Europe, New York, the Cayman Islands, Paraguay, Uruguay, and of course Argentina. International operations are not yet a major source of earnings for Itaú, but they position the bank well for future growth. The bank's customer segmentation initiatives have allowed it to explore potentially underserved markets. Corporate clients, for example, are segmented in four distinct groups: very small, small, medium, public sector, and large corporations, which is considered one segment. Top executives believe the small and medium-sized companies represent a vast and underexploited segment. The bank has also experimented with a variety of free based businesses including credit cards, auto financing, and insurance to explore potential market demand. From a modest initial presence, Itaú is one of the largest issuers of consumer credit cards in Brazil.

Some of these experiments will reveal negative information, others will identify modest opportunities, but one or more may ultimately reveal the bank's next golden opportunity. In a turbulent environment, where managers do not know which direction to take, it is important to run multiple experiments.

Stay in the flow of information. In a constantly changing environment it is important that the key decision makers stay in the flow of information in real-time for two reasons. First, the situation is changing rapidly and top executives need to keep abreast of the fluid state of affairs to spot emerging opportunities and threats early enough to act on them. Managers who are deeply immersed in operating data on a real-time basis can also make connections among apparently unrelated events that can spell looming danger or a potential opportunity.

Management is not a solo sport, and it is important to have mechanisms to keep the entire top executive team in the flow of information.² Itaú has institutionalized a system of cross-functional committees that weekly – or in some cases daily – discuss critical aspects of the business. Several of the companies we studied had similar techniques for insuring that senior managers stayed in the flow of the fluid situation. The top 200 Ambev managers work on the same floor in an open office space that resembles a trading floor, with the senior team actually sharing the same large table. The interaction created by committee meetings with Itaú or sharing the same work place at AmBev creates a context that help managers make tough decisions on the spot.

Ensure a diverse management team. Frequent interactions among top executives are most effective when the members represent a diverse set of perspectives. This diversity allows them to see the situation from different angles, spot warning signals earlier from different positions, and disagree with one another (and the conventional wisdom) in a constructive manner. Looking at the composition of the executive committee of Itaú, 40% of managers came from acquired institutions, which injected diversity to the management team. Antônio Jacinto Matias, head of corporate marketing and formerly at Banco União Comercial, explained: “Itaú has always worked hard to retain management from acquired companies. Our ability to retain them brings diversity and creates a long-term advantage”. This diversity stands in stark contrast to competitors, particularly Bradesco, notable for the homogeneity of its top management team.

Consider alternative scenarios. In addition to informal discussions and cross-functional committees, Itaú senior managers follow a structured approach to scenario planning. Each week the economic department prepares forecasts on exchange rates, inflation, economic activity and interest rates, among other variables. The executive committee schedules meetings twice a month to review these forecasts and discuss the likely implications of alternative scenarios on the bank’s activities. As major scheduled events – such as elections or trade negotiations – approach, the process becomes even more thorough and time-intensive, with studies and formal discussion groups commissioned by the company. One critical aspect of

Itaú's scenario planning is that the alternatives discussed vary along a broad range of possible outcomes.

Allocate good people to experiments. A striking similarity among the successful companies we studied was executives' recognition that they must deploy their most promising people to run experiments. Seasoned generals know that they cannot afford to send "expendable" soldiers on reconnaissance. Inexperienced scouts are prone to exhaust themselves too quickly or, more importantly, fail to recognize a promising opportunity when it arises. In launching its Argentine branch, Itaú sent Ruy V. Moraes Abreu, a promising young executive who had earned his stripes in the treasury department and later in retail banking working closely with Roberto Setubal. This approach runs counter to the tendency to send high potential executives to solve crises, which often burns these promising stars out.

Go for the kill

Identifying opportunities early is necessary, but not sufficient, to seize them. A company must also be able to strike decisively when the time is right. Itaú managers recognized that the privatization of state banks made available a new set of valuable resources – customer relationships and locations which had not been obtainable previously, and Itaú spotted the value in these banks before its peers. Equally important was top executives' willingness to declare the acquisitions as the main effort and redeploy whatever human and financial resources were required to seize the moment.

Mobilize best people for golden opportunity. As with experiments, it is critical to put the best people on the best opportunities. Roberto Setubal commissioned one of the most senior members of his team, Henri Penchas, a Senior Vice-President and Board Member, to spearhead the analysis of opportunities created by the privatization process. Penchas, in turn, quickly appointed some of the bank's most promising executives to form a fifty-person task force to evaluate the opportunity and create a post-acquisition plan in case Itaú decided to make an acquisition. Itaú commissioned Ronald de Jongh, Vice-President of Retail Activities, to

head the post-acquisition team. Jongh recalls, “we set up a team of fifty people representing all key areas of the bank to perform the due diligence and integration... we all sat at the same table (it was a very long table) and discussed what might happen and what we needed to do”. Make no mistake, the managers appointed to lead this initiative were not corporate rejects whose careers were stagnated, rather they were among the most promising managers in the company, responsible for running its most profitable lines of business. Assigning them to this opportunity represented a real commitment on the part of Itaú executives.

Rapid approval processes. Sometimes, seizing a golden opportunity comes down to signing a deal faster than competitors can act. Efficient decision-making and capital approval processes provide the reaction speed to respond quickly when a fleeting opportunity arises. Most of the successful companies we studied had a small group of investors and senior executives who could make large decisions quickly without complex approval processes. Contrast this with multinationals working in Brazil, which must often send proposals through multiple layers for approval before reaching headquarters for final agreement. Brahma’s merger with Antarctica, for example, was decided by a few Banco Garantia’s partners sitting around a table. The negotiations with the sellers were made in a few weeks, and the deal was fully implemented in three months. This same transaction might well have taken several months for a potential foreign partner. Banco Itaú’s family ownership facilitated similar quick decision-making.

Operational excellence. The competitor with superior operations can survive sudden-death threats better than less efficient rivals, as the Brahma story in the preceding chapter illustrated. Operational superiority also positions firms better to execute when golden opportunities arise, be they acquisitions, new product development, foreign expansion, or new businesses. Itaú, for example, built the foundations for its growth through acquisition by focusing on operational efficiency between 1986 and 1995. During this period of active waiting, top executives rationalized costs, invested heavily in information technology and restructured key processes. Such investments allowed the bank to reach record efficiency levels. Between 1990 and 1995, Itaú invested more than \$800 million in technol-

ogy, which allowed it to achieve world-class position in the automation of key processes. Renato Cuoco, the bank's Chief Technology Officer, commented: "We have done extensive benchmarking and often receive international visitors. We are certain that we developed truly world-class IT systems which have been embedded in all core processes of the bank... and this helps us integrate acquired banks and reap synergies when we bring their systems in line with ours".

Slack financial resources. Part of the reason Itaú was able to execute so quickly on its acquisitions was the company's strong balance sheet. The company reinvested most of its retained earnings in the business throughout the 1990's, in contrast to other family-run banks that made large dividend payments to owners. Between 1990 and 2003, the net worth of Itaú grew five-fold, largely through reinvestments of retained earnings. Or consider Promon, a construction engineering company structured as a partnership, that was able to seize a golden opportunity in the telecommunications market because it had created a "war chest" of spare cash specifically to fund such opportunities as they arose. Since 1975, the firm has always set aside a certain amount of cash (usually in foreign currency deposits outside Brazil) to be used exclusively for financing new opportunities that might arise.

The deregulation of the telecommunications sector in 1998 allowed private groups to offer local telephony services, and Promon saw a chance to deploy fiber optic networks in São Paulo and Rio de Janeiro. Realizing that there was little time to negotiate with potential investors, such as private equity firms or banks, Promon executives used \$100 million from the firm's war chest to build out its network faster than cash-strapped rivals. When AT&T decided to enter the market the following year, Promon sold its network, and earned a 320% return on its investment. Much of current financial theory relies on the assumption that capital is always available to finance good opportunities, but managers in unpredictable markets like Brazil know that this is far from true. Capital is often unavailable when the most attractive opportunities arise.

Slack human resources. Access to financial capital is critical, but human resources are equally important to seize golden opportunities. In order to keep a

pool of talented managers to capitalize on opportunities, Itaú began to train a new generation of managers after 1986, rotating them among business units and funding two-year MBAs degrees in international business schools. Between 1990 and 1998 more than 70 managers were sponsored by the bank to study abroad, and more than 300 participated in a local in-company MBA. Itaú's pool of talented managers helped the bank capitalize on the privatization of the state-owned regional banks. The integration of the state-owned privatized banks was, for example, headed by de Jongh, one of the graduates of MBA programs sponsored by the bank.

Structure deals to manage downside risk inherent in golden opportunity. Even the most golden opportunity carries risk. Clever managers recognize there is no reward without risk, and take steps to manage the downside while pursuing the upside. Itaú, for example, structured sophisticated contractual guarantees when acquiring banks to avoid assuming risks from hidden liabilities, or disruptions from potential strikes which could interrupt the acquired bank's operations after the deal closed. Itaú negotiated a series of guarantees with the government when structuring the privatization of the Banerj bank. In order to minimize chances of political tampering, Itaú insisted that Brazil's Central Bank, and not the local Government, insured the buyer against undisclosed liabilities. Moreover, Itaú negotiated an indemnification in case strikes at the acquired banks after the privatization caused losses.

Some investors have begun to raise questions about the sustainability of Itaú's stellar results. High interest rates coupled with low inflation, have helped Itaú and the rest of the banking sector in recent years. Investors ask what will be the next big opportunity for Itaú to maintain historic returns on equity. We believe, however, that Itaú can succeed if it maintains its historical effectiveness in seizing golden opportunities.

Notes

1. For a fuller discussion of designing and running experiments to evaluate potential opportunities, see D. N. Sull, (2004), "Disciplined entrepreneurship", *Sloan Management Review*, 45(1), pp. 71-77.

2. For a fuller discussion of how top management teams can process information in rapidly-changing markets, see K. M. Eisenhardt, (1989), "Making fast strategic decisions in high-velocity environments", *Academy of Management Journal*, 32(3), pp. 543-576; and L. J. Bourgeois and K. M. Eisenhardt, (1988), "Strategic decision processes in high-velocity environments: Four cases in the microcomputer industry", *Management Science*, 34(7), pp. 816-835.



CHAPTER 7

Managing Risk

The statistics are against us. We are a diversified industrial conglomerate. We are in capital-intensive industries, in a country with a high cost of capital and volatility. Moreover, ninety percent of family-owned companies worldwide disappear between the second and third generation of owner-managers. We are the fourth generation of owner-managers at Votorantim.

CARLOS ERMÍRIO DE MORAES
CHAIRMAN OF VOTORANTIM

You might not expect to find a successful diversified conglomerate in Brazil, let alone one run by the fourth generation of the same family. Yet Votorantim has beaten the odds. The group has not only survived but actually continued to thrive despite Brazil's turbulence. Votorantim has faced its share of sudden-death threats and responded effectively, but more importantly, its enduring success has resulted from anticipating potential risks and nipping them in the bud. Effective risk management has allowed the group to protect its established businesses, even in the face of the many threats inherent in doing business in Brazil.

This chapter is about how executives preemptively manage the risks inherent in unpredictable markets. The word risk derives from “risicare”, an Italian term which means “to dare”. As we saw in the previous chapters, many of the companies we studied dared to seize golden op-

portunities – as well as the countless smaller chances – created by market disruptions. The flip side of turbulence, however, is that major shifts can also endanger the profitability and even the survival of a company's established businesses. In this chapter we will use examples from Votorantim and others to illustrate specific measures that companies can take to protect themselves from the potentially devastating effects of sudden-death threats. We begin this chapter by describing how Votorantim has successfully defended its businesses from successive threats throughout its history, and then introduce several generic strategies for managing sudden-death threats.

VOTORANTIM: MANAGING RISKS FOR THREE GENERATIONS

The Votorantim group has excelled for decades at managing risks. The company's founder, José Ermírio, left Brazil in 1917 at the age of eighteen to study in the Colorado School of Mines. José Ermírio believed that Brazil's future depended on its ability to leverage its rich natural resources to industrialize, and after graduating sought a job in mining. His first position was mapping mineral deposits for the Minas Gerais state, a position that required him to travel on horseback throughout the state, which occupies a larger area than all of France, and was suffering from an outbreak of leprosy at the time. In 1926, José Ermírio partnered with a Portuguese immigrant, Pereira Inácio, to turn around a small textile company, which the partners renamed Votorantim S.A. Just as the company was achieving profitability, the Great Depression virtually eliminated demand for Votorantim's products in the United States, then the company's largest market. The company struggled through the Depression, and emerged battered but not beaten.

Inácio and José Ermírio believed that Brazil's impending industrialization would create a once-in-a-lifetime opportunity to invest in infrastructure, and throughout the 1930's and 1940's they entered a series of basic industries including cement, steel, chemicals, and heavy equipment. When Pereira Inácio died, in 1950, José Ermírio assumed the presidency of the group and continued Votorantim's quest for opportunities. A few years later, he decided the moment was auspicious to begin producing

aluminum. In addition to the country's plentiful and low-cost reserves of bauxite (the key raw material in aluminum production), Brazil's rapid industrialization also created local demand for non-ferrous metals and the government had established an import substitution policy after the Second World War to encourage Brazilian production of basic materials. American companies dominated the technology for producing aluminum at that time, but refused to license their technology. As a result, Votorantim licensed technology from an Italian company and borrowed heavily to finance its first 120-furnace plant which began production in 1955.

Votorantim's first batches of aluminum were of poor quality and the factory required too much energy to operate economically. After four years of struggling to solve the smelter's problems, José Ermírio took what he considered the most dramatic decision of his life. Votorantim demolished the aluminum factory it had built from scratch only four years earlier. The company, however, still had the loans, and would spend the next decade living near the edge of bankruptcy, struggling to pay down its debt. It was not until the middle of the 1960's that the group once more achieved financial stability. Carlos Ermírio, grandson of the founder, later described the aluminum investment as a defining moment for the group: "This traumatic experience, in surviving with heavy debt, has influenced our decision to operate with relatively low levels of leverage ever since". More generally, this early encounter with a sudden-death threat instilled a healthy respect for risk-management deep into the group's DNA.

When José Ermírio died in 1973, he was succeeded by his son, Antonio Ermírio, who proceeded to diversify into new lines of business and regions in Brazil, including the Votorantim Bank founded in the 1980's. Antônio Ermírio explained his decision to enter the banking industry as a way to diversify the group's sources of cash, since profitability in the financial was generally counter-cyclical to industrial earnings in Brazil at that time. Votorantim subsequently entered zinc mining, the production of flexible film wrapping (1985), pulp and paper (1988), and concentrated orange juice (1989). To avoid another near-death experience brought on by too much leverage, the group relied on an informal rule that debt should never exceed 33% of the capital structure, even if this conservative financial policy restricted growth. This conservative financing contrasted to other diversified groups like João Santos and Itamaraty, which took ad-

vantage of subsidized credit and the sporadic opening of international debt markets to secure large amounts of debt.

In 1990, the Votorantim Group faced yet another sudden-death threat. President Collor's reform package reduced or eliminated nearly all import tariffs, which exposed Votorantim to competition with global players in the formerly-protected domestic market. Antônio Ermírio took what he later called the most difficult decision of his life: He restructured Votorantim's operations to ensure that each business could obtain a cost position competitive with the world's most efficient producers. In contrast to other Brazilian groups which delayed hard decisions and lobbied for continued government support, Votorantim managers bit the bullet and cut costs aggressively in anticipation of large-scale entry by foreign competitors.

Consider Votorantim's cement operations. Votorantim's 23 plants nationwide account for a 41% share of the domestic market. Cement was historically the group's most lucrative segment, contributing almost half of the cash generated from operations. Despite its profitability and large share, Votorantim managers engaged in the painful steps necessary to transform the company into the most efficient cement company in the country. In 1989, the business employed 60,000 workers who produced 11 million tons per year, but within eight years, produced 16 million tons per year employing only 22,000. Just as Antônio Ermírio predicted, foreign companies entered Brazil and cut prices in an attempt to gain market share, resulting in a four-year price war (see figure 7:1). By preemptively achieving world-class performance standards before foreign competitors could gain a toe-hold in the Brazilian market, Votorantim managed to survive the price wars and emerge with its market share of 41% intact.

In an era of domestic competition, the Votorantim group diversified its portfolio widely to manage the risk of any one business performing poorly. As Brazil was integrated more closely to the global economy, however, Votorantim executives recognized that a greater risk was posed by focused multinationals picking off their businesses. As a result, Votorantim spent much of the 1990's restructuring its portfolio to focus on businesses where Brazil's natural resource advantage allowed local companies to compete effectively against multinationals. Third-generation family member Carlos Ermírio explained:

In cement we can be as efficient as any company in the world. In many of our metals operations, we own the ore, the factory and are almost self-sufficient in energy. This gives us an edge. In other industries, we believe we can reach a low-cost position given Brazil's resource advantage. But that left us with a handful of businesses which we had to exit. In the last decade we have sold the textile, sugar and alcohol operations. They had tremendous emotional value to the group, because these are businesses we had from early years. It was difficult to let go.

For most of its history the Votorantim Group was structured around independent businesses, each of which was run by different family members. Antônio Ermírio de Moraes, for example, ran chemicals and orange juice while Clovis Ermírio de Moraes managed the cement operations in the north east region of Brazil, independent of other cement operations. Over time the owners realized there would be gains from greater interaction and coordination among the businesses. Moreover, the next generation of owner-managers already had more than sixty members. If each wished to run their own business, it would push the group to greater fragmentation at a time when integration was necessary.

In the late 1990's, Carlos Ermírio, son of Antônio Ermírio, was appointed chairman of the board of directors and started to address a new threat – family succession. Statistics show that a tiny fraction of family-owned companies survive to the fourth generation. “We are 23 shareholders in my generation, but the next generation is over 60 people strong. We cannot follow our parent's corporate model, we have to design a new model”, said Carlos Ermírio. A team of board members studied the organization of many successful family conglomerates around the world. Based on their research, they developed a tailor-made process for separating governance into two boards, one composed of family members overseeing their investment and the other consisting of professional managers running the businesses on a day-to-day basis. As Carlos Ermírio explained, “we in the third generation were trained to run the company from the plant floors, but we are training our children to be good shareholders”.

STRATEGIC APPROACHES FOR MANAGING RISK

Sudden-death threats are a fact of life in unpredictable markets like Brazil. Many times, companies simply cannot avoid them and must respond with triage, as we will discuss in the next chapter. Sometimes, however, it is possible to identify potential sudden-death threats early on, and limit their potential impact or avoid them altogether. The Votorantim history illustrates how a company can repeatedly identify emerging financial, operating and governance risks, and preemptively take actions to manage them before they grow into full-grown sudden-death threats.

Lock up key resources

One effective way to protect an existing business from the sudden-death threat of competitive entry or other shocks is to secure access to unique resources. Such action deters competitors from easily entering the market. It also hedges against volatility in prices or unavailability of critical raw materials. Recall how Votorantim Cement established a dominant position in the São Paulo market, and protected it in part by locking up many of the best sources of raw materials. In another example, Votorantim realized its vulnerability to energy prices and availability, particularly in producing aluminum, which Votorantim executives describe as “packaged energy” because of the large amounts of electricity required to produce the metal. To manage the risk of energy shortages or spikes in cost, the group constructed its own hydroelectric plants near its biggest aluminum smelters. Backward integration insulated Votorantim from the energy crisis in 2001, when electricity was rationed throughout Brazil, and also enabled the group to remain cost competitive against even world-class producers. Following the same logic, Votorantim opted for integrating a number of other resources such as lime pits, mineral reserves, and pine forests for its pulp and paper business.

Pursue related diversification

Most academic literature on unrelated diversification arrives at a simple conclusion: don't do it. From early studies that exhorted managers to

“stick to their knitting”, to recent large-sample studies, most management experts have argued that prolonged corporate growth is most profitably achieved by concentrating on a single core business.¹ The line of argument for strategic focus is very straightforward. Focusing on one core activity allows management to build upon the company’s existing competencies and experience. The case against diversification can be summed up in two words: size and complexity. Size slows down decision-making and complexity can create confusion.

Major investors in the U.S. stock markets generally prefer pure-play firms that focus on a single line of business, and impose a “conglomerate discount” on more diversified companies, by valuing the whole as less than the sum of its parts.² Finance theory suggests that corporate diversification adds no value to the shareholder, since investors who wish to diversify their portfolio can do so most efficiently by buying shares in a broad range of individual pure-play stocks. Counter to the conventional wisdom, we found that most of the companies we studied were *more*, not less diversified than their less successful peers. The main benefit of diversification is that it provided protection from the sudden-death threats inherent in turbulent environments. Brazilian executives recognized that anyone business was vulnerable to unforeseen shocks.

Votorantim represents the extreme of unrelated diversification among the companies we studied. The other companies we studied maintained no more than two or three large lines of business to achieve diversification. Moreover, these businesses leveraged some shared resource or competency the company possessed, such as distribution at Brahma, engineering at Promon or operational expertise at Banco Itaú. The other successful companies we studied followed a strategy of pursuing a small number of related diversification activities. Some of the most successful strategies of related diversification are described below.

Diversification leveraging a common core of services. In contrast to Votorantim that hedged its bets by entering entirely distinct businesses, the engineering firm Promon diversified by leveraging common expertise in two different market segments. Historically, Promon had relied on large government contracts. During the late 1980’s, however, the government cancelled many construction contracts, and Promon’s margins

plummeted as the government killed contracts and delayed payment on completed work. Amidst tremendous internal discord, Promon began downsizing in 1986 (it would reduce its payroll by 42% over the following three years) and searched for a new business model. Carlos Siffert, then planning director of Promon, presented a “New Company Model” at the 1986 annual partner meeting, which proposed leveraging its expertise in managing complex construction projects into telecommunications and international project management. The surge in telecommunication investments during the privatization of the telecommunications sector in 1998 proved a golden opportunity for Promon, and drove a twenty-fold increase in the firm’s inflation-adjusted revenues between 1990 and 1998. Promon’s international expansion, in contrast, failed to take off. After several unsuccessful (but cheap) experiments, the company wound down most international operations by the late 1980’s.

Diversification through economies of scope. Economies of scope refer to a company’s ability to move multiple products through the same distribution channel. Recall how Brahma reinvigorated its second beer brand, Skol, to offset losses in its market share of its flagship brand. At the time, Brahma’s CEO Marcel Telles noted: “We relaunched Skol as a light beer because we had to hedge the company, not because we necessarily believed in it at the time”. Brahma also invested heavily in rebuilding its soft drink division. To date, Brahma’s performance in soft drinks has not been anywhere as successful as beer. In explaining the reason why the company continues to invest in soft drinks, Telles explained: “it is a cheap option, it costs us very little to offer soft drinks and one day it may prove to be useful”.

Diversification by product segmentation. A company does not need to create two separate businesses to reap the advantages of diversification. Segmentation of existing business while managing each business with a differentiated approach can serve the same purpose. Take the case of Banco Itaú. Since 1994 it has carefully segmented its retail customer base, separating the high net-worth customers from others. The high-end segment has its own brand – Itaú Personalité, a dedicated branch network and a completely separate management and client service team. Customer segmenta-

tion enables a company to pursue focused strategies within a given segment, while insulating the company from shocks that affect one segment only. In the banking industry, for example, inflation has a more severe effect on low-income customers than it does on *Personnalité* clients.

Pursue unrelated, but disciplined diversification

Unrelated diversification is difficult to manage successfully, and companies that do so, such as Votorantim and General Electric, are exceptions rather than the rule. They manage to capture the benefits of diversification without falling prey to the dangers by managing their portfolio with strict discipline. Below are a few mechanisms for pursuing disciplined diversification.

Protect your anchor business. Votorantim's anchor is the cement business with enormous cash generation potential. In 2002, cement accounted for 38% of revenues and 61% of the group's overall net income. Votorantim has more than 40% share of Brazil's domestic cement consumption, and is particularly strong in São Paulo, where the company maintains a dominant position. Low-cost raw material sources, efficient operations, and structural characteristics of the industry (cement is costly to transport relative to its value) have enabled Votorantim to defend its position from foreign entrants up to now. Since 1996, foreign cement companies have acquired 11 cement plants in Brazil, but none were able to shake Votorantim's dominance in the São Paulo market.

Keep business units independent. Each business unit has a general manager who reports to the shareholders and manages the business as a stand-alone company. This allows executives to focus exclusively on their core business and achieve world-class performance. While the group has shared activities such as purchasing on a limited basis, it has wasted little time attempting to pursue elusive synergies where none exist. Moreover, the business units do not cross-subsidize one another, or make loans across divisions.

Choose businesses based on a clear competitive advantage at the business unit level. Votorantim limits its portfolio to businesses where

managers believe Brazil has a competitive advantage, generally resulting from low-cost and abundant raw materials. Moreover, it is not afraid to divest from businesses that do not fit this profile, as it did in the early 1990's, when it sold its textile, transportation and sugar cane facilities and reduced its production in chemicals.

Manage risk ruthlessly within every individual business. The defining characteristic of Votorantim's culture is executives' attention to risk management. In the early 1980's, for example, Votorantim entered the nickel industry by building a factory in the north of Brasilia. The government promised to deliver electricity to the plant in time for activation, but Votorantim executives recognized the risk that energy would not arrive on time. As a result, they decided to build their own energy-generation facility, just in case. The government did deliver the energy, but only a full three years after the plant began production. The new business was saved by Votorantim's prudent risk management. Carlos Ermírio de Moraes summarized his view on this subject: "We currently face three major risks: business risk, Brazil risk and the risks associated with being a family-run business. We mitigate business risk by insuring we are low-cost providers on a global scale. We are trying to limit Brazil risk by assuring we have a large portion of revenues linked to the dollar (currently we are at 40% but plan to be at 50% in the near future). With regards to 'family risk' we are implementing a new management model where the family will be distanced from day-to-day management".

FINANCIAL APPROACHES FOR MANAGING RISK

Seizing golden opportunities requires cash on hand. Promon's ability to invest in internationalization and telecommunications simultaneously, for example, required the company to draw on a war chest it had set aside in the flush years. Surviving sudden-death threats also requires capital – recall Embraer's response to September 11th. Unfortunately, there is no guarantee that Brazilian or global capital markets will be willing to invest when these events occur. In fact, it is more likely that sudden-death threats in particular will coincide with periods of capital scarcity. Money in the bank can spell the difference between surviving and drowning

when the tsunami strikes. The companies we studied pursued a number of innovative strategies to manage the risk of running out of money when they needed it most.

Self-funding from operations even if it means sacrificing growth

Votorantim has developed a genetic aversion to debt. Votorantim now prefers that each business unit fund its growth from self-generated funds, even if this means a slower growth. Votorantim's paper company, for example, was started in 1988 with an initial \$400 million equity investment followed by another \$200 million in 1992 to acquire a local paper producer. Since then, the company has had to finance itself independently from operations. Since 1988, the company's capacity grew from 590,000 to 1.4 million tons per year, and this expansion was funded largely by internally-generated cash flows. Contrast this prudent fiscal policy with some of the South Korean *chaebol*, or family-run conglomerates that borrowed heavily and appropriated funds from profitable businesses to fund losses in weaker divisions.

Rely on partners to finance projects

Another approach is to shift the costs associated with development and projects to partners. In conducting a \$100 million project, for example, Promon might incur direct costs of only 5% of that sum, with partners bearing the remaining costs. Embraer applied a similar model, in which its risk-sharing partners bore approximately two-thirds of the direct costs of developing a plane, but Embraer reaps disproportionate gains for putting all the pieces together and having the commercial relationships to make the sales. The cost of the project is parceled out to suppliers via contractual agreements. Cosmetics-maker Natura avoids the financial burden of maintaining a sales force or stores by relying on over 300,000 direct sales representatives (like Avon sales representatives), who are not formal employees and thus do not represent a fixed cost for the company. When business is slow, the company incurs no costs since their payment is completely variable.

Sell minority stake to foreign companies

Brazilian companies also raised money by selling a non-controlling stake of their company's equity to multinationals. Recall, for instance, how Embraer sold 20% of its equity to a consortium of French aerospace and defense companies. Pão de Açúcar followed a similar approach when it sold 21% of its equity to Casino, a French food retailer in 1999. These deals were attractive to multinationals hoping to enter the Brazilian market because they helped the multinationals manage the risk of moving to a new market. These deals proved most attractive when the foreign investors brought more than just money. In Embraer's so-called "French Connection", the partners also brought access to global customers and technology that otherwise would not have been available to Embraer. It is also important to structure the contract carefully to maintain control. In its deal with Casino, for example, Pão de Açúcar negotiated a clause that prohibits Casino from buying shares in the open market and potentially launching a hostile take-over.

Secure financing from the government

All of the companies we studied at some point in their history secured loans from Brazil's Bank for Industrial Development (BNDES). However, government financing comes in a variety of forms and the more aggressive companies successfully pursued multiple sources of government financing. In the two privatized companies we studied – América Latina Logística and Embraer, for example – the government assumed debt and liabilities before selling the companies. The government also assumed debt and other liabilities of the privatized banks that were subsequently acquired by Banco Itaú, thereby indirectly financing those acquisitions. The Brazilian government's PROEX program also financed export activity by compensating exporters for the higher real interest rates prevailing in Brazil, and offering them longer-term financing than was generally available locally. The Brazilian government, it should be noted, was not alone in helping to finance critical industries. Embraer CEO Botelho explained:

Around the world, governments understand the gains to the country from having strong technology industries like aircraft, so that developed economies use commercial policies to support key industries. In 2001, for example, Boeing received \$2.9 billion from the U.S. Export-Import Bank, while Airbus received \$4.2 billion from the European Union, and Bombardier received \$3.4 billion from the Canadian government. Embraer, in contrast, received loans of only \$1.2 billion from BNDES.

Government support can prove particularly vital in times of crisis. In June 2001, for example, less than 40% of Embraer's exports were financed by the BNDES' PROEX program. After September 2001, however, the global capital markets dried up for the aviation industry. As a consequence, the percentage of exports covered by BNDES grew to over 50%.

Manage foreign exchange risk

Volatility in interest rates, inflation and exchange rates have proven to be the undoing of many companies in Brazil over the past decade. Difficulties in raising capital to survive sudden-death threats or to capture golden opportunities represented another challenge to Brazilian businesses. The most successful companies took steps to identify these financial risks and manage them before they grew into major threats. Brazil's currency has fallen by more than 30% within a single year in three of the four years between 1999 and 2002. Given this volatility, the reader might assume the best policy is to avoid all foreign currency liabilities. Unfortunately the situation is not that simple. The Brazilian financial system offers limited access to long-term financing in local currency. The next common sense suggestion might be to fully hedge any long-term financing against sharp drops in the Real. Again, the reality is not so simple, because the costs of financial hedges can be prohibitively expensive. In general, the successful companies we studied were more conservative in terms of assuming foreign exchange risk than the comparison companies, and they also adopted a variety of innovative strategies to hedge the currency risk they did assume.

Match finance payments and receivables. One approach, sometimes referred to as natural hedging, occurs when a company matches its foreign currency obligations with a comparable level of receivables in that same currency. Aracruz and Embraer, for example, derive over 90% of their revenues from export revenues priced in dollars. This allows them to take on dollar-denominated debt, since their receivables provide a ready source of dollars. As a result, both companies are able to borrow in dollars at lower interest rates than they could obtain in Brazil. In 2002, for example, Aracruz had 66% of its long-term debt, and Embraer had 95% in foreign currency. Any drop in the Real relative to the dollar would increase their interest costs, but also raise dollar-denominated revenues.

Shift from domestic markets to exports as exchange rates shift. Votorantim uses another innovative strategy. Votorantim's pulp and paper unit sells 70% of its output to the domestic market. However, the prices in the domestic market are based on international prices in U.S. dollars, because paper is a global commodity that travels well. If prices in the domestic market were below global prices (minus the direct export costs), paper suppliers can simply sell their product overseas. Votorantim maintains a minimum percentage of its sales overseas, to maintain credibility as a global supplier, and retain a global customer base. If prices in the domestic market fall, Votorantim can easily increase exports. This same natural hedge is also observable in Votorantim's chemical units, which produce nitrocellulose, hydrofluoric acid, aluminum fluoride and sulfuric acids. In all its product lines, the company sells primarily to domestic markets but retains the option to sell in the international markets.

Shift capital outside Brazil. Itaú maintains branches in New York, the Cayman Islands, and Argentina and has a strong presence in the European Union. Moreover, Itaú is active in the currency markets to control its exposure to fluctuations of the Real. Alfredo Setubal recalled, "Carlos da Câmara Pestana, a Portuguese manager who had headed Portugal's largest bank before coming to Itaú and running the bank from 1989 to 1994, helped us realize that we needed to move more of our capital abroad, not just in terms of operations but also in terms of hedging our capital (from

currency risk). Today, at current exchange rates, more than 60% of our net worth is outside Brazil”.

Shift production based on exchange rates. An alternative strategy was employed by Brazilian automotive parts maker, Sabó Retentores, which both manufactures and sells overseas. In 1992 it purchased a plant in Argentina, and in 1998 it built a factory in Enesa, Hungary close to its research, and development labs in Germany. Not only is Sabó protected by currency fluctuations because 60% of its sales are in dollars, but the company can also shift production among its plants in three countries to leverage currency differentials. Recently, for example, it increased its production capacity in Argentina to take advantage of the devaluation of the Peso, which made Argentinean labor costs comparatively less expensive.



In this chapter we reviewed strategic and financial strategies managers can use to mitigate downside risk inherent in unpredictable markets. Despite companies’ efforts to mitigate risk, however, they are likely to face sudden-death threats at some point in their existence. In the next chapter we will discuss how companies can effectively deal with these shocks.

Notes

1. See T. Peters and R. Waterman, (1982), *In Search of Excellence*, (New York: Warner Books), and C. Zook and J. Allen, (2001), *Profit From the Core: Growth Strategy in an Era of Turbulence*, (Boston, MA: Harvard Business School Press).
2. D. Sadler, A. Campbell and R. Koch, (2000), *Break-Up! When Large Companies are Worth More Dead than Alive*, (London: Capstone Ltd).



CHAPTER 8

Triage: Responding to Sudden-Death Threats

Managers' response to sudden-death threats often determines whether their company survives to fight another day, or ends up acquired by a stronger competitor as Antarctica was. Responding to a sudden-death threat is a difficult process that demands decisive action under trying circumstances. Many management scholars take the view that such corporate change is essentially impossible. Companies, according to this line of reasoning, resemble living organisms, and possess the equivalent of a fixed genetic code. Their corporate DNA prevents firms from adapting quickly enough to survive when their competitive environment shifts abruptly. Like dinosaurs that faced extinction in the wake of an abrupt climatic catastrophe, companies cannot modify their genetic routines rapidly enough to avoid destruction.

The Brazilian companies we studied, however, demonstrate that it is indeed possible to successfully respond to a sudden-death threat and reemerge as strong or stronger than the company was before the shock. In fact, the majority of companies we studied successfully survived at least one sudden-death threat during the late 1980's or 1990's. A common link among the successful companies was their use of the triage approach, in which managers quickly sorted various options and acted immediately to stop losses before they drained the company of its vitality. The remainder of this chapter describes the various types of sudden-death threats the

companies we studied faced, highlights preconditions that must be in place to successfully survive, and discusses some practical steps a manager must take to successfully execute triage.¹

SUDDEN-DEATH THREATS

You will recall from chapter three that the interaction of multiple, uncertain variables can give rise to sudden-death threats (major negative jolts that seriously threaten the profitability, or even survival, of a company's existing business). These jolts are discontinuous and difficult to foresee, and differ from countless small threats because they can put a company out of business in a relatively short period.

Sudden-death threats are almost impossible to predict, since they generally arise out of the interactions among multiple uncertain factors. Sudden-death threats resemble what aviators call clear-air turbulence. Clear-air turbulence results from erratic currents that occur in altitudes between 7,000 and 12,000 meters. This turbulence emerges from the clashing of wind streams of various velocities and temperatures, and can occur unexpectedly even in apparently tranquil and cloudless conditions, thereby exposing aircraft to abrupt updrafts and downdrafts. These powerful wind changes constitute a hazard to aircraft, yet they defy prediction even with the world's most advanced instruments and sophisticated computers. As a result, aircraft must be designed to survive them, and pilots must understand how to quickly and successfully respond when their plane hits one of these pockets. Otherwise the pilot, plane, and all passengers on board risk a fatal crash.

Eight of the ten industries we studied faced at least one sudden-death threat during the late 1980's or 1990's. Their response determined whether they stayed in the game to wait for the next golden opportunity. Figure 8.1 summarizes some of the shocks that affected both the successful and less successful companies we studied. These sudden-death threats came from a variety of sources, and in many cases resulted from the interaction of more than one variable.

FIGURE 8.1 Sudden-Death Threats

INDUSTRY	CHANGE IN ENVIRONMENT	TIME	SUCCESSFUL FIRM	LESS SUCCESSFUL
Brewing	Price wars and currency devaluation	1999	Brahma	Antarctica
Pulp & Paper	Fall in prices, interest rate increase and currency devaluation	1992 & 2002	Aracruz	Klabin
Aircraft	Sudden drop in demand and unavailability of financing	2002	Embraer	Fairchild Dornier
Banking	Sudden end of inflation	1986	Itaú	Unibanco
Automotive parts	Sudden end of protective tariffs and global recession	1990	Sabó	Metal Leve
Diversified	Interest rate hikes with limits to government credit	1994	Votorantim	Itamaraty
Retail	Sudden 50% drop in demand	1990	Pão de Açúcar	Paes Mendonça
Services	Sudden drop in demand and stopped payment on government contracts	1986-89	Promon	Engevix

Macroeconomic shifts

Sudden-death threats can be caused by rapid changes and fluctuations in exchange rates. Antarctica, for instance, faced a devastating liquidity crisis during the devaluation of the Real in 1999, when the brewer was caught with most of its debt denominated in dollars. Klabin, the paper company which competes with Aracruz, was forced to sell premium assets when a 52% devaluation in the Real in 2002 caught it with its dollar-denominated debt unhedged. Banco Itaú, you will recall, faced its worst crisis in history in 1986, when the Cruzado plan temporarily halted inflation that had been running at 14% a month. The sudden end of inflation produced a one time loss due to Itaú's uncovered positions between fixed interest rates on its payment obligations (which embedded higher inflationary expectations) and interest rates which were indexed to inflation on its receivables (which dropped suddenly). More importantly, without float gains from inflation, Itaú was made unprofitable overnight. To survive this shock, Itaú had to completely rethink how it would make money from that moment on.

Volatility in commodity prices

Shocks can also be caused by sharp swings in commodity prices. Aracruz, the pulp and paper company, faced its worst crisis in history in 1992, following the rapid decline of pulp prices, which went from \$900 per ton in 1989 to less than \$400 per ton three years later. This drop unexpectedly followed the company's investment to double production capacity. A decline in prices, combined with high interest rates, impaired the company's ability to service the debt obligations it had assumed to finance capacity expansion.

Industrial policy

Sudden shifts in tariffs can also challenge established businesses. In 1990, President Collor abruptly eliminated most import tariffs. After more than three decades of protection under Brazil's import substitution strategies, companies had to face up to global competition overnight. Sabó, the auto parts company, for example, saw import tariffs of 350% on its competitors disappear. The company's profitable position as sole supplier to many car manufacturers in Brazil was severely weakened. That same year, Votorantim Cement also saw tariffs on cement imports drop from 15% to zero. In 1990, the retailer Pão de Açúcar suffered its most dramatic crisis, when President Collor froze all prices and confiscated financial assets in an (ultimately unsuccessful) attempt to break the back of inflation. Pão de Açúcar had \$130 million in assets confiscated, forcing it into a liquidity crisis in which it was unable to pay its suppliers. Moreover, Brazilian retail sales fell approximately 50% within a few months, as the freezing of deposits dried out liquidity throughout the entire economy.

Shifts in consumer demand

Sudden-death threats can also arise out of sudden shifts in consumer preferences or demand. The aircraft industry is particularly sensitive to demand-based shocks. The end of the Cold War abruptly reduced demand for Embraer's military aircraft, and the aftermath of September 11th terrorist attacks several years later, cut demand for regional jets by nearly one-half within a few months. Embraer also saw its leadership in turboprop technol-

ogies become almost irrelevant as customer preferences shifted to quieter and safer jet technology, although this shift was more gradual. The Brazilian government's inability to raise capital in the mid 1980's resulted in a sudden evaporation of profitable government contracts that engineering firms relied on for survival. The engineering firm Promon saw its lucrative business in government infrastructure projects come to a sudden halt in 1987 with the collapse of government finances. The introduction of Kaiser beer in the mid 1990's, as you will recall, quickly cannibalized demand for Brahma's and Antarctica's flagship brands.

SEVEN QUESTIONS BEFORE ATTEMPTING A TRIAGE

The fact that a company faces a sudden-death threat doesn't mean it can or should be saved. If a manager is facing a sudden-death threat her first step should be to reflect on the following questions to help evaluate whether the firm can respond effectively to the threat. Many turnaround efforts fail for very predictable reasons, and the following list can help surface obstacles to executing triage successfully. If the answer to two or more of these questions is no, the best course of action is generally to let the company go out of business or be acquired by a more vibrant competitor. Attempting a turnaround under those conditions is likely to waste resources that could be put to better use by healthier competitors.

Do you have a good resource or position?

Before attempting a turnaround, it is crucial to establish whether the firm controls some resource or position that worth saving to serve as a foundation for growth after the triage. The crucial resource or position can take many forms: natural resource advantage, world-class production facility, installed customer base, inherent advantage relative to substitutes, a uniquely qualified management team, or a protected market position. Luiz Kaufmann, a CEO who specialized in turning around Brazilian companies, recalled that this question loomed large for him as he decided whether to join pulp and paper company Aracruz during the midst of a financial crisis in 1992. Kaufmann later recalled:

In 1992, Aracruz had over \$1 billion in debt on its balance sheet, and was paying real interest rates of 33%, while revenues had fallen below

\$400 million a year, reflecting an all-time low in pulp prices. The situation was completely unsustainable. When you approach a turnaround situation it is important to identify whether there is a key asset and/or competitive advantage to support your turnaround strategy. Without such an asset or competitive advantage, your efforts will be fruitless. In the case of Aracruz, the company had fantastic forest reserves, state-of-the-art manufacturing facilities and port facilities near its factory.

Luís Antônio Viana, another well-known turnaround CEO, followed the same logic when deciding to join Abilio Diniz at food retailer Pão de Açúcar in 1991:

It was obvious to me that Pão de Açúcar needed major changes. The company lacked focus, strategically and geographically. But it had the five most important assets necessary for success in retailing. These assets, in order of importance, are: location, location, location, location and location.

Do you have a plan?

In unpredictable environments, managers cannot see far into the future, yet they must have a short-term plan for initially restructuring a company in the midst of a crisis. When a company faces a sudden-death threat, executives will see a myriad of problems, and it is impossible to attack all areas at once. Therefore, a leader needs to have a clear set of initial priorities to preserve cash and prevent creditors and other key stakeholders from abandoning the company. The exact actions that need to be taken in the first 100 days must be clearly mapped out and all targeted to improving the firm's cash position and strengthening the balance sheet. In the case of Aracruz, Kaufmann prepared a confidential 30-page memo on what he intended to do when in office. This memo served a dual purpose: It provided clear initial direction for him, his team, and managers throughout the company. It also allowed him to ensure that Aracruz's shareholders were aligned with Kaufmann's vision to save the company. The sidebar summarizes the main items covered in Kaufmann's memo and serves as a useful model for other managers undergoing a restructuring.

KAUFMANN'S PLAN TO RESTRUCTURE ARACRUZ

The action plan Luiz Kaufmann prepared within thirty days after taking the CEO position at Aracruz was divided into three sections, which are summarized below:

I. Situation assessment:

The company has solid values, great technical know-how and is considered a “great place to work”. However, financial results are worse than generally recognized. Accounting rules (especially with inflation) hide problems. Moreover, even if pulp prices returned to previous highs, and current plan of cost cutting were implemented, the results would not compensate for the costs of capital tied up to produce such results. Change needs to be more dramatic.

II. Action Plan:

People

- Changes in the leadership team: bring in and/or promote results oriented by managers
- A strong and quick downsizing plan
- Eliminate two levels in management hierarchy

Strategy

- Focus efforts (including R&D) to serve more profitable markets – stop all investments not tied to this goal
- Leverage technical “know-how” to improve return on assets
- Focus on reengineering – including mechanization of forestry operations – in the forestry division
- Investments focused on resolving production of bottlenecks, in order to increase capacity with high returns
- Sell non-core assets (buildings, regional offices, employee housing)
- Need to focus the organization on results
- Need to consolidate areas and stop fragmentation of responsibilities

Culture

- The company's success model was based on a context of abundant resources: need to rethink the formula
- Need to change paternalistic attitude toward employees
- Need to impose a posture of greater self-criticism and complete focus on results
- Need to introduce variable compensation and reward for performance

Processes and Information

- Need aggressive process reengineering and outsourcing of non-core functions
- Implement new information system – focusing on information that aids decision-making
- Change office layouts to establish an open environment and eliminate bureaucracy

Financial

- Rebuild credibility in the financial markets – transparency
- Redesign financial strategy to take advantage of the export nature of the business

III. Projections:

High-level projections on cash flow impact on the proposed changes.

Do you have support from the top?

Managers leading a restructuring in response to a sudden-death threat must have a clear mandate from the owners of the company. It is often necessary for one shareholder to assume control of the company to consolidate support before proceeding with a wrenching restructuring. Pão de Açúcar's Diniz, for example, bought out his brothers' shares prior to turning around the company. The Garantia founders also bought out three shareholder groups at Brahma to consolidate control and ensure that Telles and his management team could quickly make decisions. In the case of Aracruz, for example, the shareholder group stayed intact, but Kaufmann used his memo to secure approval on a restructuring plan and win a clear mandate for change. He later recalled:

Before committing to the job, I discussed with all the shareholders and board members the major actions which were necessary to turn the company around. We agreed upon a very clear definition of roles and responsibilities for the board and management. Once I saw that they were behind the plan, and that I would have the necessary support to implement the dramatic necessary changes that were required, I knew we could move on.

Even when you have a mandate from shareholders, it is important, as a manager, to ask if that mandate will be recognized by the management team. Before taking the job as CEO of Pão de Açúcar, Viana was concerned about potential turf battles with Abílio Diniz, a major shareholder and the man leading the company's turnaround until that point. Viana later recalled: "I was concerned about Abílio's strong personality and reputation for centralizing decisions. I went directly to Abílio to clarify how much leeway I would have, and he reassured me: 'You are the CEO and I want Pão de Açúcar to have two very distinct phases – before and after Luis Antonio Viana'".

Can you finance the transformation?

Managers neglect this question at great peril. Many turnarounds fail because there is no possible way enough funds can be harnessed to save the company, much less build long-term competitiveness. Many managers focus on the "soft side" of transformations – such as strategy, human resources, and so forth while underemphasizing the hard financing that must undergird any turnaround. Consider Josmar Verillo at Klabin. Upon arriving in 1998, he set out to transform the company by reducing Klabin's dependence on low margin undifferentiated products. He invested heavily to build the packaging division including a major acquisition in 2000. Klabin, however, did not have a strong enough balance sheet to fund such an ambitious transformation. Verillo borrowed heavily to finance his new strategic direction, and this debt eventually caused a liquidity crisis, which forced Klabin to sell its best assets in 2002, five years later. The strategy might have been sound, the change in culture admirable, without the funding, however, it was destined to fail. Since there are always uncertainties about availability of financing and potential hidden liabilities, it is crucial that management has a grasp, before the fact, of how much it will cost to pull the company out of its current troubles. How much cash will the company need if it succeeds? And if it fails? What are our potential sources of capital? A solid plan, like Kaufmann's in the sidebar above, can help convince creditors and investors to stick with a company through its turnaround.

Will key partners stand by the company?

Restructuring a company in crisis will stretch already strained relationships with key stakeholders and managers must assess the ability and willingness of critical partners to help weather the storm. If a company is already in the midst of a crisis, the existing management team has probably squeezed its customers, suppliers, and employees, perhaps to the point of straining these relationships. Brahma executives, for example, had to reach out to company employees to finance the unfunded pension liability that Telles discovered on assuming the top spot. Telles realized that it would be impossible to cover these liabilities from the capital markets or banks, and he visited every single Brahma office during his first few months to convince employees and their unions to agree to a new pension plan. Embraer relied on government support (directly and indirectly via export financing) to prepare the company for privatization and to underwrite working capital to survive the sudden-death threat of September 11th.

What is your margin for error?

Before beginning triage, a manager must assess the company's margin for error. A good asset will certainly give you more breathing room, since it should be capable of producing cash flows quickly and provide something to sell if necessary. In order to assess margin for error, managers can ask themselves three simple questions: What are the three worst things that could happen? What would be the impact? How could we survive them? In the case of Embraer, for example, marketability of the small regional jet (ERJ-145) was critical to the firm's survival. If customers wouldn't buy the planes, the company was beyond redemption. That is why outside investors commissioned a specialized consulting firm to assess market demand for the small regional jet before agreeing to acquire the company, and allow Botelho to lead a turnaround.

Do you have enough time?

Finally, managers will need to see if they have enough time to implement the turnaround. A good asset will not help if the business is dete-

riorating at a speed that will deplete the asset before necessary changes can take effect. A simple way to assess how much time you have is to calculate the company's "burn rate", that is how much cash it consumes per month. Then compare that to cash that could be raised quickly – e.g. sale of liquid assets, securitizing accounts receivable and inventory, loans that could be secured, etc. This back-of-the-envelope analysis of liquid assets and burn rate will provide a rough idea of how much time you have.

IMPLEMENTING TRIAGE

We use the term "triage" to describe the main effort appropriate when a company faces a sudden-death threat. The term triage comes from the field of emergency medicine and describes a system for rapidly assessing patients' urgency of need and chances for survival. The initial assessment is used to quickly assign patients into one of three categories: clear survivors, clear fatalities, and question marks. Doctors then devote their limited resources (e.g. time, medicine, bed space) to the question marks that could survive with proper care. Patients who will survive without care are given an aspirin and placed in a quiet corner. Those who could not be saved no matter what are given stronger pain killers and are also placed in a quiet corner. (This implies, by the way, that if you ever find yourself in a quiet corner in an emergency room it is either very good or very bad news).

The triage system is a useful model for managers responding to a sudden-death threat because it provides guidance on how to quickly make the difficult sorting decisions and take the rapid actions required to survive a major threat. Below are some guidelines for implementing triage. Much like doctors in an emergency room, managers must quickly sort a company's key resources in three categories: (a) Clear winners: resources that are valuable and vital for the company's recovery (b) Clear losers: non-core resources that can be sacrificed without much cost, and (c) Question marks: resources that do not fit clearly into either of the previous categories. These resources can take many forms, including business units, locations, employees, customers, etc.

Carlos Ermírio, from Votorantim, described how the board used a triage approach to analyze their portfolio of companies in 1990:

We were in more than twenty businesses and realized we could not continue that way. In our cement and steel companies, we thought we could be as efficient as anyone in the world, but we needed to focus on reducing costs. In some industries we had a small presence (paper, orange juice) but these were industries in which Brazil had long-term competitive advantage. We decided to keep them since they had long-term value. And then there were companies in industries we thought we would not be able to compete. Those had to be sold. One example was the textile operations. These operations were where Votorantim started in 1918 and where my great-grandfather worked. It was not an easy decision, selling a business was part of the legacy of Antônio Ermírio and José Ermírio. To them, another business meant a new area where one of our cousins could work. But we came to the conclusion that this way of thinking had to end in order to assure the survival of the group.

In another example, Pão de Açúcar sold all non-retail businesses including tourism, convenience stores, poultry farming, and automobile distribution after the 1990 crisis. That year the company also closed or sold over 300 stores, going from a peak of 626 units in 1985, to 262 stores in 1992. Family member Abílio sent a clear message to the organization. “Our mission is to cut, concentrate and simplify”, he said. In deciding which stores should be shut down, the outside CEO Viana and his team carefully mapped locations, target markets and logistics costs to make informed decisions. As was the case of Votorantim, triage sometimes required taking actions that were emotionally difficult. Viana recalled that some of the stores had emotional value to the family and were hard to be shut down: “People didn’t want to close some stores that the family had inaugurated. However, these stores were unprofitable, and we had to move on, without exceptions... eventually we all agreed to shut them down”.

Make rapid and deep headcount reductions

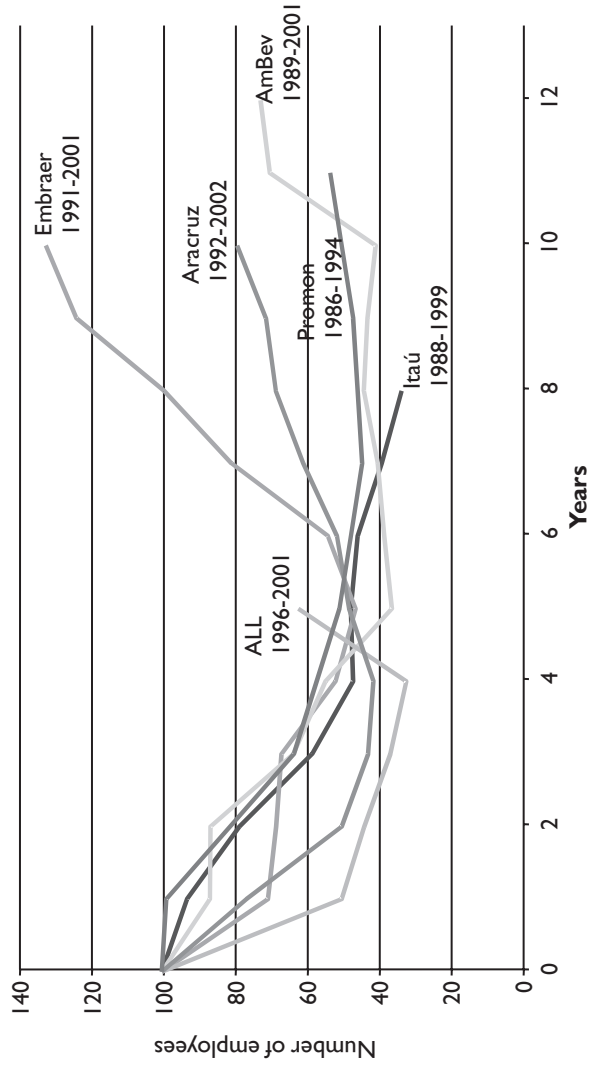
The most painful step in triage is terminating employees. Under normal circumstances, reductions in staff could be achieved through planned retirements coupled with a hiring freeze. In response to a shock, managers do not have the luxury of time. One of the lessons we drew from the successful companies we studied was that layoffs should be done quickly and follow a process that maximizes perceived fairness. For the companies we studied, layoffs were done in big rounds and the decline in staff was dramatic. Figure 8.2 shows the headcount reductions of companies we studied. Measured from the emergence of the sudden-death threat, average reductions approached 50% over a two to three year period. During periods of layoffs it is almost impossible to keep the morale high. Kaufmann, who led or participated in half a dozen corporate turnarounds, explained: “It is impossible to speak of morale during layoffs; actions speak louder than words. My experience is that you should complete the layoffs fast and only then focus on rebuilding morale”. The one upside of layoffs is that they afford management an opportunity to weed out employees who do not buy into the company’s direction going forward.

Focus on cash

Successful triage requires a relentless focus on generating cash. This does not mean a major change in strategy, which generally takes time to develop and may not be necessary at all. Instead, top executives must change how employees and managers throughout the company measure success to focus on cash flow. For example, before the crisis, Pão de Açúcar measured success in terms of revenue growth and compared their growth to that of local rivals. In order to survive the crisis, however, top executives made it very clear that only one metric mattered for success – cash flow generation. Moreover, executives set a target for cash flow based on the level necessary to solve the company’s liquidity problems and weather the storm. Paper-maker Aracruz followed a similar approach, as Kaufmann recalled:

One of the most important things we did at Aracruz was to change the definition of success. The company needed to focus on cash flow generation

FIGURE 8.2 Headcount Reductions During a Sudden-Death Threat



Source: Companies documents

and the amount of capital that was tied up to generate these cash flows. Management's vision was blurred by a focus on projects rather than results, and cash and capital metrics solved that problem quickly.

Speed is of the essence

Speed is the most critical aspect of the sorting process. The appropriate categories must be defined immediately (some variation of the three categories above) and management must scan and categorize resources quickly. This allows them to devote more time to fixing the question marks and prevents them from wasting time and attention on clear survivors or inevitable goners. In a stable environment, managers might conduct this sorting exercise with the luxury of time. Stretching the process over months or years, in turn, might enable them to conduct more thorough analysis and soften the impact of painful actions on the organization. Unfortunately, a company facing a sudden-death threat does not have the luxury of time.

Create options to reclaim assets

Sometimes it is necessary to sell good assets, which under ideal conditions managers would prefer to keep. In such cases, it is possible to structure the transaction to allow the company to recuperate the resources when times improve. At Pão de Açúcar, a store-by-store analysis revealed that some locations, which at the moment had negative marginal contributions, could be turned around and fit in the company's long-term strategy. Whenever they identified such a store, executives attempted to franchise it to the store manager rather than sell it outright. This way they could raise cash in the short term but also preserve the option to reclaim the franchise in the future. When the economic picture improved some years later, Pão de Açúcar exercised those options and recaptured several of the franchises it had established in the triage period of the early 1990's.

Consider the long-term consequences of short-term actions

Although managers must act quickly, they must also consider the long-term consequences of their decisions. In 1986 Itaú, like all Brazilian banks, recognized the need to cut costs immediately in order to survive in a low inflation environment. Where to cut was less obvious, however. Itaú's Chief Technology Officer recalled: "Itaú chose to cut costs, not customers. Why didn't we cut the low-income customers as some of our competitors did? Because the cost to acquire customers was very high. We fought like dogs to bring them in... and it would be short-sighted to throw them out". Keeping the low-end customers was not an obvious decision because it was unclear whether in a non-inflationary environment Itaú could earn healthy profits serving low-income accounts. In contrast, other Brazilian banks, including Unibanco, Mercantil, Real, Econômico, and Bamerindus, chose to shut down branches and shed low-end customers. In making this decision, Itaú managers were forced to ask themselves a fundamental question: "What kind of bank are we?". They decided to remain a mass-market retail bank, even though that meant incurring short-term costs. Faced with the same dilemma, Unibanco, for example, decided to close branches and shed retail customers to focus on wholesale banking. In the coming years, when Unibanco decided to reinvest in retail banking, their 1986 decision would come back to haunt them. This story illustrates an important aspect of sorting during triage – it often forces executives to grapple with the most basic questions of what their strategy is.

CREATE THE CONTEXT TO CONDUCT TRIAGE

Managers do not conduct triage in a vacuum, but rather in the context of an organization. Executives must generally make rapid changes in the organizational context while pursuing triage. A few of the more important changes are listed below.

Declare a “sudden-death threat” to create a sense of urgency

The key to successfully responding to a sudden-death threat is speed, which sometimes requires executives to make dramatic changes before the rest of the organization has understood the gravity of the threat. In these situations, managers have to communicate that the organization faces a sudden-death threat necessitating immediate action. Otherwise employees will erroneously believe they have the luxury of time to respond, or worse yet continue to do more of what worked in the past.

One efficient way to establish a sense of crisis is to kill the icons and symbols of the past. Beyond any material gains from the disposal of such assets, the real value comes from the message it sends to the organization. Closing an executive cafeteria, eliminating first – class air travel and lavish expense accounts are typical examples that send a strong message: “Business as it is usually done is over – we are in a crisis mode”. In the case of Pão de Açúcar, the icon was the company’s flashy new headquarters on Berrini Avenue in São Paulo. Ana Maria Diniz, former COO of Pão de Açúcar, recalled:

The sale was important in many symbolic ways. First, the new office showed that these were frugal times. Second, the fact that there was little office space sent the message that if you or your department did not fit in the small office, Pão de Açúcar had no room for you. Our new building symbolized a new era.

Change top management

Restructuring the senior management team also sends the strong message to the company that the shareholders are serious about executing a change. Triage is emotionally difficult, especially for those who have a long-standing relationship with the company, its employees, suppliers, and customers. In most successful turnarounds, a new generation of managers will be less burdened by the past and existing commitments, which enables them to make the tough decisions quicker.

There is no uniform strategy for switching top management, but the companies we studied that responded effectively to a sudden-death threat changed 50–100% of the senior management team. They were generally replaced by a combination of outside managers (often known for their turnaround skills) and insiders elevated from the level reporting to the top management team. At Aracruz, Kaufmann restructured the entire top executive team upon his arrival, and similarly Viana changed all eleven of his direct reports within a year of taking over at Pão de Açúcar.

The new management team does not need to come from the same industry. Some of the most dramatic turnarounds were led by outsiders with no previous experience in the industry: Kaufmann joined Aracruz from a diversified financial conglomerate, Viana came to Pão de Açúcar from the petrochemicals industry, Botelho entered Embraer with a background in industry, and recall that Telles was a trader before assuming the helm at Brahma. All these outsiders, however, had strong financial backgrounds. This is critical to ensure that the organization remains focused on cash.

Consolidate the resource allocation process

Triage must be implemented by top management. Many executives believe that employees on the front line have the best information about what should be cut. And that may be true. But in a financial crisis, there is no time for proposals to seep up from the bottom of the organization. More importantly in such crisis, there are strong disincentives for front-line employees and middle managers to provide accurate data (especially bad news) to senior management. These employees know that their jobs are on the line.

For accurate decision-making, management will most often have to gather its own data directly and drive all major decisions from the top. A critical component is establishing tight controls over the most scarce resource: cash. The only person Botelho brought with him to Embraer was Antônio Manso, who had worked as his finance chief for the preceding twenty-six years, and became Embraer's CFO. Every payment was scrutinized to insure that it was vital to the company.

In order to consolidate resource allocation, critical information must flow accurately and in a timely manner. At Brahma, Carlos Brito was put in charge of developing a new management financial system that allowed the

company to track profitability and costs across business units, products, package size, and territories in almost real time. The system was rough, and did not initially reconcile with accounting reports at the end of the month. However, this crude system allowed real time decision-making during the initial restructuring. One of the first things Viana did at Pão de Açúcar was to end the complex and bureaucratic cost allocation system, which made store profitability reports unintelligible. He later recalled:

We had to end the ‘allocation syndrome’ at Pão de Açúcar. Before I arrived, a special committee met for days to allocate overheads every month. They had invented second and third derivatives of cost allocation. To give you an example, the IT department would allocate 20% of its costs to the headquarters, which would in turn allocate 10% of its IT costs to the finance department, which would then pass down these costs to all the stores. It was madness! We ended this at once. Central costs were central costs and they had to be dramatically reduced and store costs were just store costs, and they also had to be reduced. And we needed the information for yesterday.



In this chapter we described a variety of sudden-death threats, and discussed the steps executives should take to increase their odds of weathering the storm. These steps included a candid assessment of the odds of success, the triage process itself, as well as changes in the organizational context required to make triage work.

Note

1. This chapter builds on arguments we put forward in D. N. Sull and M. Escobari, (2004), “Lessons from Brazil: How to save a company from a sudden-death threat”, *Harvard Business Review Latin America*, (February), pp. 94-104.





CHAPTER 9

The Flexible Hierarchy

Companies advancing into an unpredictable future resemble troops marching through the fog of war, which is characterized by disorder, uncertainty, friction, and fluidity. To survive and thrive, companies must maneuver to seize unexpected opportunities and avoid or respond to risks. Maneuverability requires companies to focus organizational attention on opportunities and threats, and rapidly reallocate human and financial resources as the company's main effort shifts. Moreover, firms must develop a cadre of employees and managers sufficiently flexible to move from one main effort to another, and execute them effectively and quickly. Over the span of a decade, a company's main effort may shift from leading triage, seizing a golden opportunity and implementing multiple operating improvements. Finally, if the company is successful, employees will be tempted to let their guard down in periods of relative calm rather than actively waiting.

Thus, executives who would like to build and maintain an agile organization face several fundamental questions: How can we translate the main effort throughout the organization? How can we balance the need for centralized priority-setting with decentralized initiative? How can we develop and maintain a cadre of flexible employees and managers? How can we avoid complacency and sustain a sense of urgency even in periods of relative calm?

The answer to these questions represents one of the most surprising findings of our research project. Most strategy and organizational theory

argues that highly decentralized organizations will do better than hierarchies in turbulent environments. Loosely-coupled teams, according to this line of argument, should receive minimum guidance from top management. This may work in theory, but what we found in fact was very different. The top executives we studied were extremely active: They scanned the external environment, set a small number of priorities for the entire organization, periodically declared a sudden-death threat or golden opportunity, and closely monitored progress towards these goals. The companies were highly centralized in priority setting. On the other hand, mid-level managers and front-line employees enjoyed great flexibility in achieving the priorities. In this respect, the companies were highly decentralized.

We introduce the term “flexible hierarchy” to describe the organizational form that combines clear direction from the top of the organization with decentralized execution. Such an organization is hierarchal in priority-setting, but flexible in execution. In this chapter we describe how such an organization functions and the steps necessary to build it. We illustrate the flexible hierarchy with the impressive transformation of the América Latina Logística (ALL), a privatized railway. Six years after privatization, the company’s peers continued to generate heavy net losses, and ALL’s comparison company in our sample – Novoeste – had defaulted on payments to the government. Other operators, including the largest in the most dynamic economic regions in Brazil (the states of São Paulo, Rio de Janeiro, and Minas Gerais) booked losses. Meanwhile, ALL cut costs, radically transformed its culture, grew the top line, acquired railway assets in Argentina and merged with Delara, a leading Brazilian trucking company, becoming a unique model of efficiency and innovation in an old and troubled industry.

TRANSFORMATION TO A FLEXIBLE HIERARCHY

A formerly state-run railroad may be the last place you would expect to find insights on how to create a flexible organization. However, it is the very difficulty of instilling agility into a hidebound organization that makes the ALL case so instructive.¹ To provide context, let’s start with a little background on the Brazilian railway industry prior to privatization.

Up until 1996 the entire rail network in Brazil, extending approximately 22,000 kilometers, was grouped under a state-controlled corporation, the Rede Ferroviária Federal SA (RFFSA). State ownership of the railways had emerged by chance over several decades, as the federal government took over private railways rather than allowing them to fail. Successive administrations neglected the RFFSA, which never received the investment and allocation of management resources required to maintain, let alone improve its assets. A 1996 study of the Brazilian rail system reported that 50% of the network's bridges needed repair (20% were on the verge of collapse), that only 14% of the rails had been upgraded to the standard that prevailed in most developed countries, and that the system still utilized more than 20 steam-engine locomotives.²

As hyperinflation plagued the country in the 1980's, the rail lines were starved of capital, prices that the carriers could charge for inferior service eroded and trucking lines took over more and more shipping business. The RFFSA slowly deteriorated into a patchwork of rotting rails with incompatible widths and obsolete equipment. The government of Fernando Henrique Cardoso decided to privatize the network in 1995, adopting a model of 30-year concessions. The network was split into 7 separate branches, and an investor group led by GP Investimentos (the private equity firm that acquired Brahma) acquired the southern branch in 1996, renaming it at first Ferrovia Sul Atlântico, and later América Latina Logística (ALL).

After privatization, Alexandre Behring, formerly partner at GP Investimentos, was appointed as the CEO. He set as his first goal to change the company's culture. To transform the culture of an old state-owned enterprise was no easy feat. RFFSA had not hired a single new employee since 1985, and fewer than 6% of employees were under 30 years of age. There was no career planning, no performance evaluation mechanisms and no training programs. Promotions and salary increases were disconnected from performance, and middle managers quickly learned to lay low while political appointees mismanaged the company. To make matters worse, the company was greatly overstaffed (until headcount was reduced from 12,000 before privatization to 2,102 four years later).

Setting priorities and translating them into objectives

In his initial time at ALL, Behring focused on operational improvements. In preparing for the job, he sought the guidance of Alberto Sicupira, another GP partner, who had joined the retailer Lojas Americanas as CEO in 1983 and grew sales from \$280 million to \$1.9 billion a decade later, thereby building one of Brazil's largest non-food retailers. Sicupira gave Behring the same advice he had given Brahma CEO Marcel Telles seven years earlier – avoid strategic change and focus on operations until you truly understand the industry. Behring followed the advice, and focused on operational improvements in his first years at ALL.

It is one thing to decide on the most important initiatives for a company, but another is to get a large organization focused on those initiatives across levels in the hierarchy. Particularly for an organization that had been poorly run for decades. Again, Behring sought guidance from an expert. He met Professor Vicente Falcone, who was well-known in Brazil for designing and implementing a highly effective management-by-objective system in Aços Gerdau, a Brazilian steel company. Falcone subsequently helped many other companies implement similar systems. In addition, Behring met top executives of U.S. railways to understand how they divided their operations into separate business units and managed by objectives.

Based on these meetings, ALL management began implementing a new process for translating priorities throughout the organization. Each year, top management would decide on up to five key objectives for the corporation as a whole. Between September and November of each year, mid-level managers would meet with their boss to agree on five targets for the following year (each with a different weight for a total of 100 possible “points”). These objectives were then translated into goals for lower employees in the organization. Thus, corporate priorities cascaded down the hierarchy to the entire organization.

The targets were linked to the overall corporate priorities, but were also achievable by the individual manager. Train conductors, for example, might be measured on fuel efficiency, sales people on growing sales to existing (and originally dissatisfied) customers, and back office personnel on cutting controllable costs. The five targets were quantitative and typically

included categories such as margins, asset turns, cost, service indicators, etc. Behring selected five objectives because he believed that a larger number of objectives would distract managers.

When ALL encountered golden opportunities, Behring and his team declared these the main effort, and redeployed the company's capital and best people to seize them. In 1999, ALL finalized a deal to acquire prime rail assets in Argentina, and in 2001 merged with a large trucking firm to seize the opportunity to provide integrated logistics services to customers. In both cases, developing a plan, negotiating the deal, and managing the integration represented the company's main effort for a period of time, and therefore had a call on all other corporate resources to support the main effort.

Objectives specify what to achieve, not how to achieve it

The agreements on objectives in ALL resembled a contract between a manager and his or her subordinate. But this is a contract of a specific sort. The key objectives – e.g. fuel cost reduction, speed of acquisition integration – cascaded down from top management's priorities, which were not subject to negotiation. But this is not to imply that top executives simply handed orders down from on high. At each level of the hierarchy, subordinates had the opportunity to help translate the overall goals into specific objectives that they could achieve. Subordinates could also specify the resources they would need from top management and other parts of the organization to achieve their objectives.

Finally, and most importantly, the executives granted their subordinates great discretion and autonomy in *how* they achieve the agreed-upon objectives. There was no micro-management from above in this system. The process adopted by ALL and most of the other successful companies we studied resembles a system called “mission-based orders” in the military. In this approach, a commanding officer provides his subordinates with clear objectives, such as “take that hill”, and clearly explains the overall rationale for the order. In exchange, the superior officer agrees not to meddle in the actions his subordinate takes to achieve the objective. Mission-based orders, in short, specify *what* must be done, but not *how* to do it.

Mission-based orders contrast with more traditional military orders, which specify exactly what the subordinate should do as well as how and when. The great advantage of these mission-based orders is that they grant autonomy to the junior officers and soldiers in the field to execute based on their in-depth and timely assessment of the situation. This form of agreement, as a result, unleashes creativity and initiative throughout the organization. Coordination is ensured through the close coupling to overall priorities.

Transparency in monitoring performance against objectives

Most companies have some form of management by objective systems, but they rarely work as effectively as ALL's. The difference, of course, lies in how effectively they are implemented. In many companies, each employee or manager's objectives are guarded as jealously as a state secret. It goes without saying that in these organizations, performance against objectives is held in confidence between a boss and her subordinate. The secrecy breeds distrust and undermines the effectiveness of the objectives system.

Successful companies make both the objectives and performance against them a matter of the public record. After years of poor management under RFFSA administrators, ALL employees were initially skeptical, as one might well imagine. Despite agreement on clear objectives and criteria, employees initially believed that only new people or senior management's protégés would receive bonuses. In order to "bring transparency of our intentions to our people", Behring explained, "we posted colorful score panels with weekly updates and hung them across the company's offices in 1998. With transparency, and after the first bonus payment based on meeting objectives, employees realized that the program was fair, and mistrust faded".

Nor were top managers exempt from this transparency. At ALL, behind each senior executive's chair hung a chart with the five goals that particular manager had for the year. Next to each goal was a color-coded dot denoting progress to date against the objectives: green signified achieved, yellow for work-in-progress, while red denoted trouble. Man-

agers updated these dots frequently. Because the ALL executives shared an open space (just as executives do at AmBev, Natura, and Pão de Açúcar), any employee or middle manager could monitor top executives. Needless to say there is a strong correlation between levels of stress and colors of the dots on the walls at ALL.

By publicly posting objectives and performance, top executives commit themselves to these targets. These public commitments, in turn, increase the credibility of the objectives. They are no more “soft targets” that maybe the company will achieve, maybe not. The constant public monitoring of ongoing results also builds trust with the management and with regards to the fairness of the system as a whole. Thus, transparency engenders a sense of fairness, which in turn builds trust throughout the organization. This trust, in turn, serves as the oil that lubricates the entire system.

Rewarding contribution

Incentives are another important part of effectively implementing objectives. In many companies, managers see a miniscule bonus – perhaps 5-7% of their base compensation if they hit targets. In contrast, there is no real penalty for failure to achieve their objectives. They may not be promoted as fast as they had hoped, but there is little chance of being fired for missing targets.

One common characteristic among the successful companies in our sample was the high-powered incentives they put in place. On the upside, these reward systems provided employees a share of the value provided by their effort and initiative. Performance-based bonuses represented a significant portion of their compensation in any year. Performance against objectives translated into variable payment that ranged at ALL from 26% to 44% of annual salary for top executives, from 14% to 24% for middle managers, and from 7% to 24% for other employees. At AmBev, the system is even more extreme. Employees are ranked every year and only the top ten percent receive the most aggressive bonuses, which can be 100-300% of annual compensation for senior management. There is also a downside for employees who fail to achieve their objectives. At ALL, career advancement is accelerated for star performers, but dismissal of under-performers is strictly enforced.

Reductions in force during triage are a particularly painful time, but even in this situation managers can apply the principles of transparency and rewarding performance. AmBev's Telles, for instance, recalls how in 1993 the company's main effort of triage dictated a massive reduction in labor force in a short time span. Telles devised a process to maximize transparency. Over a weekend, Brahma's senior managers 'auctioned off' all the employees they could not keep in their business areas to meet top down targets. Each area head would describe the person he was letting go, focusing on their performance against objectives. Managers in other areas would decide if they could hire the person. As a senior manager told us, "someone would get up and say, 'I have to give up Paulo, his background is this, he has performed against his objectives, can someone else use his skills?'".

Managing the downside risks of decentralization

Many managers recoil at the extreme levels of decentralization displayed by ALL because they fear the risks of devolving so much autonomy throughout the organization. In many cases, we believe, this reluctance actually stems from a desire to retain power and unwillingness to let go. But that said, decentralization does entail risk. ALL, and the other successful companies we studied, managed these risks in a number of ways. The most obvious, of course, was tightly linking corporate priorities to concrete objectives and cascading these throughout the organization. This process managed the risk of employees losing focus on what was truly important.

Top executives also reserved the right to quickly centralize decision-making and resource allocation in response to sudden-death threats or golden opportunities. At Itaú, for example, all systems linking the bank's 3,086 branches were networked to allow top executives to quickly make fundamental changes to credit policies, introduce new products or change processing routines. These changes could be triggered centrally and immediately distributed to all branches. This system has been instrumental in rolling out rapid reactions to sudden changes in macro-economic conditions, regulation and competitive conditions. Even at the engineering company Promon – notable for its employee ownership and

consensual style, decisions were periodically centralized in extreme events. The decision to build and later sell the cable network in São Paulo (which yielded \$220 million in profits to Promon), were both concentrated in the hands of CEO Siffert and his team. AmBev's Telles noted the solitude top executives experience when concentrating decision-making in response to a sudden-death threat or to seize a golden opportunity: "When I had to react to a great opportunity or crisis, the job of the leader was very lonesome. The decision was for me to make alone and stand with the consequences".

Senior managers can also manage risk by providing strict boundaries that prohibit specified actions under all circumstances. In the case of ALL, for example, safety rules can never be compromised to meet efficiency targets. ALL has the best safety record of Brazil's seven privatized railways (measured in accidents per million train miles), and has one fifth the accidents per million train miles of U.S. carrier Conrail. At AmBev, certain commercial terms, like extending distributor credit, are off limits for the sales team. Banco Itaú, to cite another example, requires management and the bank's main suppliers, to sign an ethics codebook that specifies the constraints to which all Itaú employees are bound. By posting these constraints publicly, everyone in the firm can monitor compliance.

Senior management can also perform periodic spot checks. The existence of clear objectives and frequent updates of performance against these objectives allows senior executives to focus their scarce time and attention on targets that are not being met. Antônio Ermírio at Votorantim is known to make 6:00 am calls to plant managers to question plant performance metrics from the previous evening. Similarly, Luis Antônio Viana earned the nicknames "Rambo" and "Exterminator" for making spot calls to check on the expense reports of store managers.

Some companies establish separate performance monitoring structures. At Itaú, for example, the risk control group maintains complete autonomy to supervise all areas of the bank. The bank uses sophisticated real-time statistical models to monitor current positions against preestablished risk limits. Their oversight is extended to Itaú's wholesale bank focused on corporate clients, which is a business separately run on all other fronts. Similarly, at Pão de Açúcar, the company established an ombudsman figure to insure customer service levels were preserved. In 1993 Vera Giangrande, a spirited

former journalist, was appointed to the position, and became a public figure by visiting stores and publicly scolding store managers when conditions were not up to snuff. She would even pester senior management when she thought cost cutting had gone too far.

The structure of incentives can also play an important role in managing risk. In many companies, employees and middle managers receive stock options that give managers the right to sell their stock at a specified price. If the stock price goes up, they are rewarded, but since they do not have to pay for the options, they bear no cost if the stock price drops. This incentive structure may encourage managers to take reckless actions that increase the odds of their option being in the money. In doing so, they may ignore the downside risk of their actions, because they bear no penalty if the stock drops.

AmBev has addressed this risk with its compensation program in which senior executives borrow to buy stock, rather than receiving options. AmBev allows selected employees to borrow (at subsidized rates) to purchase shares. As of late 2003, AmBev had approximately 250 employees that held equity (and were referred to as “Partners”). For some employees who have been in the company for more than a decade, these holdings amounted to a few million dollars. Leveraged equity, unlike stock options, acts as a risk-control mechanism. Management benefits from stellar performance, but also suffers (via stock depreciation) if things go poorly.

BUILDING A CADRE OF FLEXIBLE EMPLOYEES

A well-designed and implemented process for translating a company’s main effort into action throughout the organization is a powerful way to increase flexibility. But this system can become even more powerful by attracting, retaining and developing a cadre of employees who thrive in such a system. These employees share a few basic characteristics. They take initiative in their actions and thrive in a decentralized environment. They are willing to bear the downside risk of failing to meet objectives because they value the upside reward if they achieve their targets. They are sufficiently well-educated to shift from one position or assignment with relative speed and ease.

Getting the right team on board

When Behring joined ALL as the CEO, he wanted to assess the troops he had inherited. Behring spent the first ten days on the job conducting 15-minute interviews of the top 150 managers of the company (a tactic Behring had learned from Sicupira, who had done the same at Lojas Americanas). The managers were asked to bring a single-page memo with their name, function, and suggestions for improving their own operations and the company as a whole. Based on these interviews, Behring selected a group of approximately 30 mid-level managers to serve as a “Praetorian Guard” and help top management lead further changes. Behring and his team also identified managers whom they believed could not make the transition to the new culture. These managers were let go or reassigned to less prominent positions. Behring later recalled:

We soon realized we could rank the employees in a three-layer pyramid. The top was composed mostly of a few dozen political appointees. We had to give up all of them. In the middle there was a team of approximately 150 engineers and managers. They were usually very good employees. In the old days the state-mandated admission test was very challenging. This group felt powerless and demotivated by years of political interference. At the base of the pyramid were a couple of thousand front-line employees, such as train engineers and technicians, who were very proud of their work. However, they felt ashamed for the sorrowful condition of the company after years of mismanagement.

Behring and his new management team worked to identify high-potential workers, and assign them to roles in which they contributed to the company. During four months, the team reassigned approximately 100 middle managers and front-line employees to new positions. Behring recalled the criteria they used:

When we found someone who had a ‘spark’ in their eyes, who wanted to do something, and was strong technically, we’d give them space, authority, managerial training and then a new challenge. Since the new

challenge usually represented an upgrade – also financially speaking – that created instant loyalty to the new project. These people really bought into our vision.

Behring and his team brought in more than 500 young people into the group over a few years. Most of the companies in our sample worked hard to attract and retain new employees that bought into their flexible organizational structure. As a result, they had a relatively younger labor force compared to their peer companies. They also had large structured internship programs which are designed to bring young talent into the company. At ALL for example, the proportion of employees that are under 30 years has grown from under 6% in 1996 to 40% in 2003.

Investing in training

ALL created the “ALL University” as well as formal internship and trainee programs, recruiting people from leading universities. The first trainee program was launched in June 1997, and recruited 32 students straight from college. After the program, all trainees assumed positions as analysts or coordinators, depending on their performance. As time passed, the appeal of a young, meritocratic, results-oriented company increased the prominence of ALL’s trainee program, and in 2002 more than 9,000 candidates applied, landing it a spot among the five most popular internship programs in Brazil. Banco Itaú launched the Career Opportunities Program, which allowed 300 employees per year to transfer at their own initiative to other areas of the bank, facilitating internal mobility. Moreover, Itaú sends 20 employees per year to get MBA’s in top American business schools while also partnering with local business school to offer a parallel local MBA program for 40 employees per year.

Formal training programs are important, of course, but the most important investment in training generally comes on the job. The tendency in many companies is to allow employees to become experts in a single function. This allows employees to become extremely good at a narrow skill set, and then leverage these skills in their functional expertise over a long period of time. Promotions, when they come, tend to result from

rising through the functional area. This system excels at producing very strong functional managers, and is in many ways very efficient.

Shifting employees across different functions and assignments, in contrast, is inefficient as employees do not fully leverage their functional skills and expertise. In this sense, rotating employees frequently represents an investment in foregone efficiency in functional expertise. The payoff for this investment is an increase in employee flexibility. Managers who are rotated through different initiatives become very adept at switching from one initiative to another. As a result, they can be redeployed quickly and effectively to support a new main effort.

ALL, like many of the other companies we studied, invested heavily in new recruits by rotating them through a series of positions. Young trainees rotated throughout the company and received exposure to different areas as they built a diversified skill base. Having a large pool of talent with broad skill sets allows companies greater leeway in reallocating human resources in response to sudden changes in the environment.

Promising managers are also required to rotate through a series of positions. Take the example of Carlos Brito, who served as head of AmBev's Brazilian operations. His career maps closely the history of the main efforts at AmBev. He entered Brahma fresh out of Stanford's MBA program in 1989 as the junior member in Garantia's takeover team. His first task was to prepare a daily profitability reporting system that allowed managers to track progress toward objectives. With soaring inflation, traditional accounting measures were all but useless. Subsequently, Brito worked as plant manager, non-alcoholic drinks director, operations and logistics director, human resources director and head of Brazil operations, until his most recent promotion to head the Canadian brewer Labatt, as part of the merger agreement between Interbrew and AmBev in 2004.

Cross-functional teams are another way to develop general managers who can quickly shift to contribute to a new main effort. The frequent cross-functional committee meetings at Itaú, for example, help to develop managers who are accustomed to and excel at working with a team to solve a specific, pressing problem. Even employees with strong functional backgrounds are forced to interact with the other functional areas of the organization. In addition to improving coordination, such interactions allow a better understanding of different functional areas. These interac-

tions create the shared context that allows the organization to spot opportunities and threats. As AmBev's Telles notes, "many companies fail to see an opportunity or react to a crisis fast enough because they are too compartmentalized to see it coming."



This chapter discussed how ALL, and other successful companies we studied, maintained flexible organizations that allowed them to rapidly reallocate human and financial resources in response to shifting priorities. The next chapter shows how companies establish and manage successful partnerships with customers, technology partners, suppliers, investors, distributors and other stakeholders.

Notes

1. For a more detailed description of ALL's transformation, see D.N. Sull, F. Martins, and A.D. Silva, (2004), "América Latina Logística," *Harvard Business School Case*, number 804-139, from which portions of this chapter are adapted.
2. Translated and adapted from Sergio de Azevedo Marques, (1996), *Privatização do Sistema Ferroviário Brasileiro*, (Sao Paulo: IPEA).



CHAPTER 10

Networked Organization

In the last chapter, we focused inside the organization on the flexible hierarchy. In this chapter, we turn our attention outside the boundaries of the firm to discuss how companies in unpredictable markets can work with partners to seize golden opportunities and avoid or manage sudden-death threats. Working with partners, rather than trying to do everything in-house, confers several advantages, including speed in seizing opportunities, risk sharing, access to critical resources, and lower fixed costs. However, not just any partnership will do it. We also argue that companies in unpredictable environments should pursue what we call “stretch relationships.” These are links with world-class partners which expose managers and employees to best practices and create external pressure to increase performance. Transparency is required to maintain stretch relationships, and we argue that it pays to be transparent.

We will illustrate the power of external networks with the story of Promon, an engineering company that we have referred to in passing in earlier chapters. Promon initially grew on the back of government-funded infrastructure projects that were the mainstay business of Brazil’s engineering firms during the 1970’s and early 1980’s. This all changed when a fiscal crisis in 1986 prevented the Brazilian government from commissioning new projects and forced it to renege on existing contracts. Most Brazilian engineering firms collapsed in the face of this sud-

den-death threat and disappeared. Others, such as our comparison company Engevix, lived on as pale shadows of their former selves. Although it was similar in size to Promon in the early 1980's, by 2002 Engevix was less than one-sixth the size of Promon and lagged significantly in terms of financial performance.

Promon survived and thrived while its competitors floundered, in large part, because the company successfully transformed itself into an innovative systems integrator for the telecommunications, power and industrial segments. The company developed sophisticated skills for forging and managing partnerships, which allowed it to increase net revenues (including both revenues for services and the value of goods and services procured under its responsibility) from \$10 million in 1987 – the year after the Brazilian government's fiscal crisis – to \$197 million in 2003, while decreasing total staff from 4,000 to approximately 600 professionals over the same time period.

PROMON: THE BENEFITS OF PARTNERSHIPS

Promon was founded in 1960 as a joint-venture between a U.S. company and a Brazilian firm to work as an engineering consultancy. After Brazil suffered a severe political and economic crisis in 1963, Promon was technically bankrupt and a group of employees bought out the U.S. partner over the next few years. Promon's engineers decided to remain an employee-owned partnership and established a Statement of Principles, which laid out a participative decision-making process that the firm uses to this day. The newly formed partnership was well-positioned to seize the golden opportunity for government-funded infrastructure projects during the era of the Brazilian Miracle. Promon grew dramatically as it participated in major projects, including the Itaipu Power Plant and the High-Voltage Direct-Current Transmission Lines from Itaipu to São Paulo and Rio. The company's success in Brazil allowed it to seize opportunities in other developing companies, including Nigeria, where Promon helped build the telecommunications infrastructure and Iraq where Promon engineers designed a subway system for Baghdad that included bomb-proof stations.

The era of golden opportunity was followed by Brazil's "Lost Decade" in the 1980's, when the Brazilian national and state governments essen-

tially went bankrupt, and were forced to eliminate most new and some ongoing investments in infrastructure projects. Currency devaluations and several economic packages failed to reverse the situation, and Promon, like most of its competitors suffered declining revenues in the mid-1980s. Engineering firms resorted to “buying business” by extending credit to government agencies—a policy that resulted in low margins and high accounts receivable.

For many Brazilians, the Cruzado Plan represented a crucial attempt to revive the economy, and its failure in 1986 was the last straw for Promon. In response to the sudden-death threat, Promon senior partners led a triage effort that resulted in a staff reduction of 42%. Carlos Siffert, then Planning Director, proposed abandoning the existing business model of consulting engineering, in which engineering hours were billed to clients on a cost-plus basis, similar to the billing system used by most U.S. law firms. Instead, Promon would become a systems integrator and project manager. Under the new approach, Promon would take responsibility for turnkey projects, weaving together the network of suppliers and technology partners and committing to overall management of projects.

A first version of this model was presented in the Annual Management Seminar in February 1988. Although the plan represented a radical departure from Promon’s past and the industry’s conventional wisdom, a proposal to make the shift received nearly unanimous approval in a secret vote by Promon’s partners. Under the new vision of the company, Promon would keep relatively few employees in the firm with most of the labor-intensive projects outsourced to business partners. “We wanted to move away from a service contractor to becoming an asset-light systems integrator company,” said Carlos Siffert, who subsequently moved from Planning Director to become the CEO charged with implementing the transformation to the new model. The new “asset-light” model provided several benefits, which we describe below.

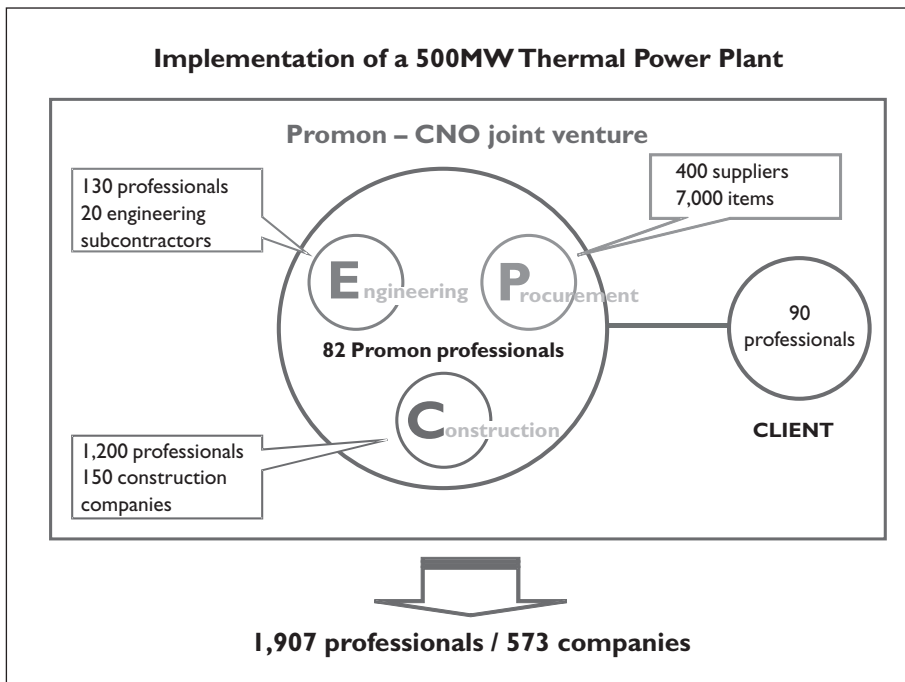
Minimize resources committed

Companies that try to do everything in-house must make a tremendous investment in people and hard assets. Relying on partners can allow a company to minimize its resource commitment. Lower commitment of resources has three advantages. First, lower resource commitment mini-

mizes the company's losses if the situation changes and the business is no longer viable. Second, it enables the company to pursue more initiatives and diversify its portfolio of projects. Finally, by decreasing the equity investment, it can increase the percentage return on invested capital.

Consider how this worked in practice at Promon. In a typical project, the company would supervise over 1,500 employees but maintain only 50-100 on its own payroll. Since Promon would act as a systems integrator, it could still claim a high margin for its services because it takes final responsibility for delivering the project on time and on budget, and manages all interactions with the final customer. Figure 10:1 shows a specific example of a project under the new company model. In the sample project illustrated below, the joint-venture formed by Promon has 82 employees who supervise a project with 1,907 workers representing 573 separate subcontractor companies. Promon rolled out this system throughout the 1990's. System integration projects increased from less than 20% in the late 1980's to over 90% by the end of the 1990's.

FIGURE 10.1 Promon's System Integration Example



The obvious benefit of this approach is higher leverage on resources committed. More fees with fewer people increased Promon's revenue per employee eleven-fold in the 1987-97 period. The "asset-light" model conferred a less obvious benefit as well. The lower staff requirements allowed Promon management to selectively cull out those employees that had not fully bought into the vision or did not have the required skills. By the late 1990s, the remaining staff consisted of the professionals most committed to the asset-light organizational structure, and most capable of managing relationships with external partners.

Share risk with partners

One of the main advantages of partnering is the ability to pool and parcel risk with partners. For risk transfer to succeed, however, the allocation of risk between parties must be clearly agreed and formalized. When Promon formed a consortium with Nortel to deploy a cellular network for Brazilian cellular provider Americhel, for instance, speed of deployment was critical to the client. Americhel stipulated a penalty of \$6 million if the consortium missed its agreed completion deadline by even one day. Promon and Nortel had a master collaboration agreement, whereby each party would be liable for its own faults. Nortel was responsible for the bulk of the equipment supplied, while Promon provided required systems integration services. Service provision entailed a greater potential for delay than product delivery, and Promon was therefore more likely to incur the penalty than Nortel, exposing Promon to a large risk. Since Nortel and Promon jointly acquired the contract, however, Promon convinced Nortel to split the penalty, irrespective of who caused the delay. (The contract was awarded and the network was successfully completed on time).

Embraer has also excelled at managing risk through partnerships. You will recall from chapter four that Embraer increased its reliance on its risk-sharing partners who provide entire sub-systems (rather than individual components) and bore the majority of research and development costs. In developing its first commuter jet, Embraer had only four risk-sharing partners, but increased the number to 22 in developing its next generation jet. Other partnerships have helped Embraer manage the risk of designing a plane that no customer would purchase.

Close working relationships with Italian and French aerospace firms have transferred a portion of the responsibility for lining up customers to Embraer's partners, and allowed the consortia to secure pre-orders for the jointly-developed aircraft.

Seize new opportunities quickly (and exit quickly)

Partnerships can provide firms the flexibility to seize golden opportunities. Executives can generally secure the use of necessary resources through partnerships much more quickly (and at lower cost) than they can build them from scratch internally. Promon's "asset-light" model was particularly well suited to seizing the golden opportunity in Brazil's telecommunications market in the 1990s. The Brazilian government invested heavily to prepare the state-owned telecommunications companies for privatization. Over the same time frame, corporate clients were investing to upgrade their data communications capability. And, of course, the rise of mobile telephone technology created tremendous demand for local cellular networks. In nearly all of these cases, corporate and government customers preferred turnkey solutions rather than dealing directly with hundreds of subcontractors.

Promon leveraged partnerships to quickly seize these opportunities. In 1988, for example, Promon established a strategic partnership with Hughes Network Systems to supply data communication systems to large corporate clients. In 1993, Promon and Nortel jointly won the bid to build the cellular network in four Brazilian states. With partners, Promon was able to couple and uncouple resources quickly in response to demands for specific projects. External networks also prevent companies from holding on to businesses too long. Too often, executives view internally developed projects as "sacred cows" that can never be slaughtered, because the company has invested so much in them. A networked approach fosters agility in getting out of opportunities quickly as well as getting into them fast.

THE POWER OF STRETCH RELATIONSHIPS

Although partnerships confer several benefits in unpredictable markets, not all partners are created equal, and they often differ widely in their level of sophistication. An interesting characteristic shared by Promon and several other successful companies we studied was their willingness to partner with sophisticated, global partners. We use the term “stretch relationships” to describe those partnerships where managers commit to leading-edge customers, demanding investors, or accomplished partners.¹ Most managers avoid such relationships like the plague. Sophisticated partners place “unreasonable” demands on the organization and are generally a pain in the neck to deal with. They demand data, impose high standards and push for constant improvement. It is much easier to work with less demanding collaborators.

What executives fail to recognize is that these unreasonable demands represent a boon, not a bane. By actively locking into stretch relationships, managers create pressure to pull their companies out of second-rate practices and drag their organization—often kicking and screaming—to world-class performance levels. While the process may be painful, it helps companies close the gap with global leaders in their industry. Managers can enter in to stretch relationships with leading-edge customers, technology suppliers and investors among others, and we discuss each of these below.

Stretch relationships with customers

All the successful companies we studied sought out demanding customers, but the most dramatic example comes from Sabó Retentores. Unlike many of the other companies in our sample, Sabó is not a household name in Brazil. Founded in 1939 by the Hungarian immigrant José Sabó, the company booked 2003 revenues of \$300 million by selling gaskets and seals to the automotive industry. Not necessarily a glamorous business, but the company’s customers love Sabó. And they are among the most demanding buyers in the world—Delphi and General Motors have selected Sabó as a “Supplier of The Year” eleven times, based on benchmarking against the best component suppliers in the world. In 2002, 60% of Sabó’s sales were outside Brazil, and the company had production facilities in Brazil, Argentina, Hungary, Germany and Austria.

More impressive still, Sabó is one of the few survivors among Brazilian automotive parts suppliers. When President Collor cut tariffs from 350% to 15% in 1990 and eliminated domestic content requirements, Brazil was flooded by multinational automotive-parts suppliers. In the three years following the end of protectionism, multinationals acquired nearly all of Sabó's competitors, including the long-standing industry leaders Metal Leve, Cofap, Varga, Braseixos and Nakata.

The company survived, because José Sabó was obsessed with product quality even during the cushy years of government protection. The company invested to create products that exceeded the demands of Brazil's most sophisticated customers, and met the needs of global customers. Luis Gonzalo Guardia Souto, head of process development at Sabó, commented, "there were times when decisions to buy machinery were made without looking at the payback. José just wanted to make the best possible product. When the market was still using leather seals we were already using rubber which was more expensive but had much better performance."

In 1975, engineers from General Motor's Opel plant in the U.K. were looking for a more reliable seal to solve a particularly thorny leakage problem. They had heard reports from their Brazilian plant about a supplier with incredibly low defect rates. At first, the English engineers thought the numbers were a measuring mistake, but nevertheless they invited Sabó to visit them to learn more. What was originally meant to be a one-hour interview ended up as a full-day working session and eventually a sale. Today 95% of all Corsa cars use Sabó's seals as result of a relationship that started in 1975.

Sabó continued to serve demanding customers, which forced the company to move well beyond standard practices followed by its Brazilian peers. As Newton Chiaparini, President of Sabó recalled:

We came to the conclusion that if we only had operations in Brazil, in the long-run we would end in the category of low-margin suppliers that just conduct manufacturing, rather than research and development. Most leading suppliers have offices in Germany and Detroit working together with the General Motors and Volkswagens of the world. We needed to be close to our customers to remain world-class.

To continue satisfying its demanding customers, Sabó acquired Kaco, a German seals company with strong research and development capabilities located in Germany. This was a rare moment among Brazilian companies, since generally German companies acquired local firms, not the other way around. In fact, the government agency charged with the approval of the acquisition repeatedly sent back Sabó's application to correct the "error." The bureaucrats were sure that it was Kaco acquiring Sabó and the form must have been filled in incorrectly. Sabó subsequently secured subsidized credit from the German government to build a plant in Hungary and acquired operations in Argentina as well.

The Sabó story illustrates how entering into a stretch relationship with customers can lead a company to make decisions that are uncomfortable, yet prepare it to better survive sudden-death threats. These decisions, such as Sabó's investment in Germany, also positioned the company to seize golden opportunities that they might otherwise not have seen, such as building the plant in Hungary or acquiring a factory in Argentina.

Sabó was not alone among our sample companies in seeking out stretch relationships with customers. Aracruz, for example, has signed large long-term contracts with customers such as Procter & Gamble and Kimberly-Clark, some of the most demanding companies in the world, and served their needs by continually investing in research and development to ensure low cost production and high quality products. Maintaining these relationships is particularly critical in the down cycles of world commodities markets. In launching its ERJ-145 jet in 1996, Embraer targeted the world's most demanding customers including Continental Express and American Eagle, considered leaders in the emerging regional jet segment at that time.

Stretch relationships with technology providers

Brazilian companies often cannot go it alone when it comes to technology, particularly advanced technology. Sabó was forced to acquire a German research and development shop. Promon learned the challenges of trying to go it alone technically the hard way, when the company invested along with a government research lab (that had formerly been Telebrás Research Labs—the Brazilian equivalent of Bell Labs), in digital switching

technology through its Trópico subsidiary. Promon managers believed that the Trópico-developed switch was at the cutting-edge in 2001, and at least 9 months ahead of its global competitors such as Nortel and Lucent.

Despite its technological edge, the product could not compete globally. International customers doubted that a Brazilian company could make the follow-on investments required to maintain its early technical lead, particularly in the face of competition from companies with much deeper pockets. The government's support was modest, when compared to the level of support that other countries provide to technologies developed internally. In contrast to governments in most developed countries that support domestic technology, Brazil's industrial policy failed to support technology-intensive sectors (the aerospace industry being an early success that subsequent administrations failed to replicate). Promon's CEO Luiz Ernesto Gemignani noted:

The Brazilian government fails to understand that for the development of Brazilian technologies, it must create positive incentives for Brazilian companies to develop significant share in the local market to use as a spring board to enter global markets. Take the case of Germany. Do you think it is a coincidence that 90% of telecom equipment used by Deutsche Telecom is made by Siemens?

Given the reality of limited government support, the Brazilian companies we studied generally partnered with global technology firms and universities to stay near the frontier of technology in their industry. Embraer's partners shared not only risk but also access to their technology. Promon has employed this strategy for the last fifteen years to keep up to date in the evolution of the data communications market. Promon always captured, through different partners, the latest technological waves, just as they were starting in Brazil, including X.25 telecommunications protocol (Telebrás Research Center), VSAT satellite communications (Hughes Network Systems), Frame Relay Wide Area Network Protocol (Nortel and ACT), Asynchronous Transfer Mode technology (Nortel), and finally Internet Protocol (Cisco). Promon's adoption of the Internet Protocol (IP), interestingly, allowed the company to consistently rank first in

Brazilian IP deployments, and its partnership with Cisco helped Promon grow IP-related revenues from nothing in 1986 to approximately \$100 million in 2001.

The same logic also applied in relatively low tech industries such as cosmetics. Natura top executives recognized from an early date that their success depended on their ability to constantly innovate. The company's managers also recognized that Natura could not compete with its global competitors in creating technology from scratch. Instead, it focused on developing innovative new products, tracking patents, and buying required technology from universities and research centers around the world. According to Philippe Pommez, Natura's R&D director, this efficient patent-tracking system was a sustainable R&D policy because the technology already existed. Pommez explained: "The hard part is not to find the new technology; it is usually out there. The hard part is to decide what you are looking for."²

Natura's R&D department had close connections with universities in France and the U.S., and these ties allowed Natura to innovate at a competitive rate, producing a new product every third working day, an output comparable to leading innovators in cosmetics industry globally. Approximately 40% of Natura's revenues were derived from products introduced within the preceding two years. This was achieved with an R&D department of only 150 people. Most of Natura's competitors, in contrast, spent more than ten times that amount on R&D. Consider Natura's comparison company, L'Oréal, which produces Lancôme and Maybelline products. In 1998, L'Oréal worldwide spent \$370 million on research and development, equivalent to 3% of consolidated sales, versus 3% of net income spent by Natura.

Stretch relationships with demanding investors and banks

Managers can also commit to stretch relationships with demanding investors and lenders. Many executives fail to think of investors and banks as partners. Rather they are a necessary evil to which managers must resort when they cannot fund their requirements with internally generated cash flows. Given this view, managers around the world often try to raise capital from the easiest source they can find. South Korean *chaebol* and Japa-

nese *keiretsu* both rely on loans from the bank at the center of their network for capital. Historically, European companies have relied on long-standing and cozy relationships with local banks for funding. Companies in these contexts, like many Brazilian firms, have tried to avoid global equity markets and multi-national banks at all costs.

But stretch relationships with sophisticated bankers and investors can offer several advantages. The most obvious, of course, is access to lower cost capital. But there are other benefits as well. Exposure to global capital markets provides an external perspective on how the company is doing, which serves as an excellent check on management's internal situation assessment. Changes in credit ratings and shifts in stock prices can provide early warning signs of potential threats or opportunities provided by people with money at risk. Stretch relationships also provide external pressure for change that managers can harness, and for greater transparency, which confers benefits that we discuss below.

Most of the successful companies we studied tapped international capital markets in one way or another. Consider Aracruz. In 1992 the company had a debt of \$1.1 billion and was paying an average 33% of interest rates. In that same year, Aracruz was the first Brazilian company to issue shares on the New York Stock Exchange, selling 50 million non-voting shares to raise \$133 million. The company chose to list American Depositary Receipts, which required the highest level of disclosure and adherence to U.S. reporting standards. The stock offering not only raised equity capital. Following the initial public offering, Aracruz built a transparent and intensive relationship with the capital markets. Having developed credibility with the financial community and investors, Aracruz could tap global markets, by issuing Eurobonds for example, export securitization and other low cost financing. Within a few years effective interest rates for Aracruz dropped from 33% to 6%. Kaufmann reflected on this:

I took over the company during a bad time for Brazil, and pulp prices were still low. But we created a very professional investor relations department, and learned how to develop transparent relations with analysts and investors. We provided abundant information on the company on a consistent basis. In addition, the intense scrutiny of analysts and the pressure of the market helped senior managers think in terms of economic value added.

IT PAYS TO BE TRANSPARENT

One similarity among the successful companies we studied, and consistent difference compared to their less successful peers, was their commitment to transparency both inside and outside the firm. Many seasoned managers find this surprising. “You must be joking!” was the reaction of one seasoned Brazilian CEO when we argued that transparency pays in an unpredictable market. He went on to explain his rationale:

Historically in Brazil, success has required using information your competitors don't have, leveraging privileged contacts (often in the government), and sometimes playing the stock markets with insider information. This is the opposite of transparency.

We agree that historically this has been the case in Brazil, but also believe that the same forces inexorably forcing global competitiveness are also pushing for greater transparency. Entering into stretch relationships with customers, technology partners, investors and suppliers enhances firms' ability to survive and thrive in an unpredictable market. But these sophisticated partners often demand a high level of transparency before they will do business with a new partner in Brazil (or anywhere else for that matter). Aracruz's institutional investors and banks demanded open reporting before providing low-cost funds. Sabó's global customers such as General Motors and Delphi demand to see suppliers' books to better manage their global supply chain. In exchange for absorbing risk and paying development costs, Embraer's partners also demand greater insight into the company's future development plans.

Internal transparency within the firm confers critical advantages as well. Recall from the ALL case described in the previous chapter how top executives publicly posted their goals, with green, yellow or red dots denoting progress to date. This willingness to make objectives and performance transparent built trust in the system. Public results from competition such as ALL's diesel cup competition among train engineers to save fuel, spur a healthy rivalry. Transparency also helps private companies lure top executives away from multinationals. Professional managers running Votorantim's businesses, for example, stated that they joined

the group in part because of steps the owners had taken to increase the transparency of governance.

Thus, when we say that “it pays to be transparent,” we are not expressing naïve wishful thinking, or an idealistic quest to make the world more open. We are simply stating a cold, hard reality. Global competition imposes transparency on companies, which must yield to this imposition if they wish to survive. This shift towards greater transparency, we believe, extends beyond the corporate sector. China’s Communist Party, for example, did not choose to make the business practices of its state-owned-enterprises more transparent. The demand of international capital markets is forcing transparency upon them.

Committing to transparency

When it comes to transparency, Brazil as a whole has significant room for improvement. In 2001, PricewaterhouseCoopers studied 35 countries to create an “opacity index,” which measures the absence of transparency. This index measured the level of opacity in the countries’ legal systems, regulations, tax policies, accounting standards, business practices and corruption, and estimated the impact of opacity on attracting investors.³ Brazil scored in the middle of the pack, alongside other Latin American countries such as Argentina and Colombia, but well behind Western Europe and the U.S. The study also concluded that transparency at the national level was correlated with economic development and investment flows.

But how can a company become transparent in a low-transparency country? The companies we studied demonstrated a series of innovative steps to commit to transparency at the firm level, and in effect became islands of transparency in an ocean of opacity. In reporting, they generally exceeded the legal requirements or norms of their Brazilian peers. We describe a few of these steps below.

Open up the books. From its inception, Promon was an employee-owned company. This choice of organizational form meant that Promon was required to disclose all of its transactions to its shareholders, more than 400 in total. Many executives might see this requirement as a burden, but

Promon's senior partners actually saw it as a source of competitive advantage. Promon's reputation for professionalism and honesty consistently attracted customers and partners. In 1993, for example, when Nortel was looking for a local partner they came directly to Promon. Former CEO Siffert explained their rationale: "Nortel had been burnt by a previous relationship with a Brazilian company. They told us they were looking for a company that they could trust."

Report more information than the capital markets require. Banco Itaú has also benefited from its commitment to transparency with the capital markets. In 2001, Itaú voluntarily joined Level 1 reporting in the São Paulo Stock Exchange Governance Index, thereby committing to greater reporting than that required by law. That same year, it began trading its American Depository Receipts on the New York Stock Exchange. The company has won a series of awards for its reporting and investor relationships from the Fitch Atlantic Rating and the Board of Governors of the U.S. Federal Reserve Bank among others. The investments Itaú has made in disclosure and fair treatment of minority investors may have contributed to the bank's stock outperforming its peers, and certainly helped it tap the Eurobond market.

Commit to a clear governance structure. In 2001, Votorantim issued an annual report for the group as a whole. It has established a new governance model with a separate family council to handle family-specific issues, thus insulating the operating companies from these potential distractions. To ensure clarity, Votorantim is implementing the transition plan gradually and communicating the process internally and externally. For example, owner-managers currently run the major units, with professional managers at the operational units reporting to them. Over time, however, the owner-managers will migrate to the family board, leaving the operational units reporting to the executive board charged with overseeing the group's day-to-day business operations. Transparency around the family's role has helped to attract top-notch professional managers from leading multinationals.

Make transparency the core of your organization. Cosmetics maker Natura made transparency the core of the entire organization in the 1990s. Natura was founded in 1969 by Luiz Seabra and a partner, who worked in a garage to create a line of cosmetics suited to Brazil's climate and local skin types. Sales gained momentum in the late 1970s when Natura introduced its direct-sales strategy, similar to that employed by Avon and Tupperware. Amidst the Brazil's economic crisis, Natura found a large pool of qualified women, eager to embrace the opportunity offered by the company. Moreover, Brazil's economy was closed to foreign competition, allowing Natura to avoid multinationals. To establish national distribution, Natura was divided into five separate companies focusing on specific regions.

The economic crisis in 1989 and the opening of Brazil's economy a year later interrupted Natura's growth. The company laid off 15% of its labor force. Internal conflicts among the five companies and their owners made planning for the long-term impossible. The shareholders disagreed on positioning, investment horizon and business priorities. Guilherme Leal, President of Natura, recalled: "We saw many things we did not like. Our people were working in seven different locations, each division had different compensation systems. We had some authoritarian leaders. The energy created by the five companies which had helped us grow became negative at this point."

Seabra and his partners decided to return to the company's core values to enter this new phase. Natura's self-imposed mission had always been to create and commercialize products that promoted harmonious relationships, and they viewed transparency as a critical component of healthy relationships. While this might all sound a bit cosmic, Luiz Seabra argued that the importance of transparency was part of a broader social movement at the time: "We have to place this period in context. The Berlin Wall fell in 1989; President Collor was being impeached. The world was waking up to the need for greater ethics and transparency. We decided to anchor the transformation around these values which were already part of our DNA".

Management committed to a series of actions, which were consistent with transparency. The seven offices were consolidated into one headquarters. In the new space, there were no walls, everyone sat in cubicles

and everyone ate in the same cafeteria. Seabra, Leal and a third partner bought out the shareholders who did not support the vision, and hired seasoned professionals from Procter & Gamble, Unilever and Johnson & Johnson to bring new discipline to decision-making and operations. The compensation systems were homogenized and made transparent. In 1991, Natura decided to anchor its entire marketing campaign around the theme of transparency, under the motto “Truth in Cosmetics.” The company committed to honestly conveying the benefits its products conferred, without relying on hype to drive sales. In marketing its Chronos anti-wrinkle cream, for example, the company used actual consumers rather than models, and selected women older than thirty. Leal explained the rationale: “we were committed to our customers and would not lie to them by claiming they would look like Claudia Schiffer if they bought our products. Instead, our ads told the truth that you will still be beautiful without looking like a young model.”



This chapter discussed the benefits of partnerships, particularly stretch relationships, and argued that it pays to be transparent in an increasingly global world. The next, and final, chapter describes the nature of leadership required in an unpredictable world.

Notes

1. For a fuller discussion of stretch relationships see D.N. Sull, (2003), *Revival of the Fittest: Why Good Companies go Bad, and How Great Managers can Remake Them*, (Boston, MA: Harvard Business School Press).
2. For a more detailed discussion of innovation in emerging markets, see D.N. Sull, A. Ruelas-Gossi and M. Escobari, (2003), “Innovating around obstacles” *Harvard Business School Press Strategy & Innovation*, (November), and D.N. Sull and A. Ruelas-Gossi, (2004), “The Art of Innovating on a shoestring,” *Financial Times Mastering Innovation*, (24 September), pp. 10-11.
3. PricewaterhouseCoopers conducted a survey of 35 countries in 2001 to create an “opacity index”— which measures the inverse of transparency. This index measures the effects of unclear legal systems and regulations, tax policies, accounting standards and practices, and corruption on firms’ ability to raise capital. See J.R. Barth, et al., (2001), *The Opacity Index*, (New York: PricewaterhouseCoopers Endowment for the Study of Transparency and Sustainability).





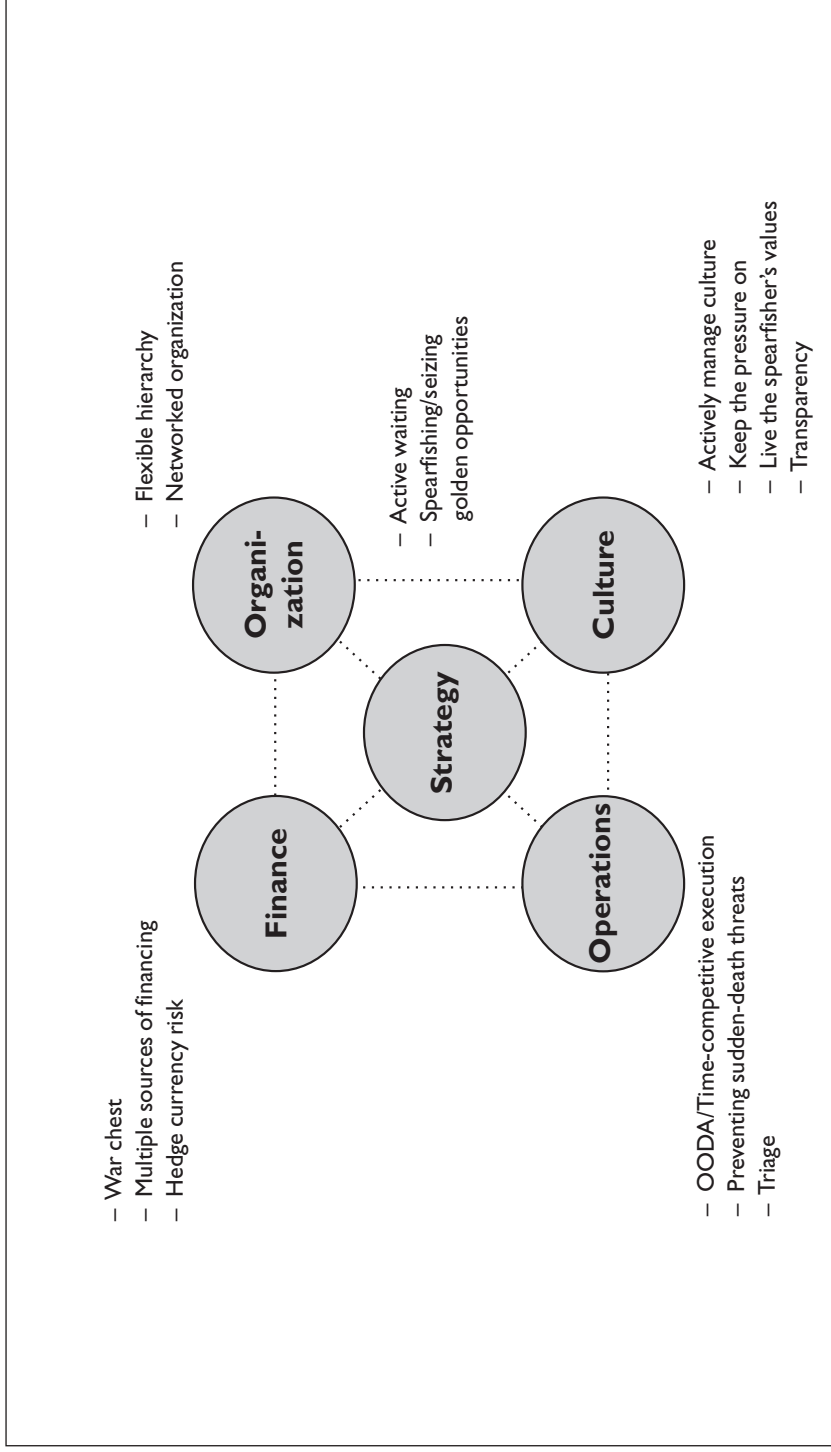
CHAPTER 11

Leadership in an Unpredictable World

Throughout this book we have discussed different insights about managing effectively in an unpredictable market derived from our study of Brazil's champions. Figure 11:1 summarizes the key insights and ideas along the five dimensions of strategy, finance, organization, operations, and culture. (We discuss the cultural elements later in this chapter). Taken together, we believe that these insights provide the outline of a comprehensive model for managing effectively in an unpredictable market. This model, moreover, applies not only in Brazil, but in any volatile market characterized by limited visibility into the future.

One of the most striking findings of our research was the importance of active management at the top of the organization. Much of the general management literature based on U.S. companies assumes that the CEO plays a largely symbolic role, and has limited impact on organizational performance. Indeed, it may be true that a well-established company in a stable industry and country may be able to run on autopilot for years or decades with minimal guidance from the top. Brazilian firms, however, do not enjoy that luxury, and instead require active guidance and direction. The top executives at the companies we studied were active managers: they monitored the environment for emerging threats and opportunities, they set corporate priorities, periodically declared a main effort, made bold bets to seize golden opportunities and took hard decisions to deal

FIGURE 11.1 Comprehensive Framework for Managing in Unpredictable Markets



with sudden-death threats, built and maintained flexible hierarchies, and managed networked organizations. These managers also took steps to shape and manage the corporate culture, kept the pressure on and lived the spearfisher's values.

ACTIVELY MANAGE CULTURE

Hard-nosed managers often dismiss culture as “soft,” and prefer to instead devote their time and attention to the “hard” elements of finance and operations. Executives like Mauricio Botelho, Roberto Setubal, Carlos Ermírio, Marcel Telles, Carlos Siffert, Alexandre Behring and Luiz Kaufmann are as hard-nosed as they come. Yet all of these executives considered shaping and maintaining their company's culture absolutely critical to ongoing success. Among all the actions he took to transform Embraer into a world-class competitor, Botelho seemed most proud of how he transformed the aircraft company's engineering-culture to a customer-focused culture:

What was perhaps most important is that we could change people's mind in terms of what was our mission. People thought our mission was to manufacture aircraft with quality. That was the main change in culture in this company. If today you go through the company and observe different labor stations, you will see that the workers at the floor level understand that they are there working for a certain customer, and the commitment Embraer has to that customer, and how important that customer is to our operation. This is the most fundamental change in the culture of this company. We shifted from an engineering-minded company to a business-minded company.

Why is culture so important? Strong values can elicit fierce loyalty from employees: at ALL, for example, over 9,000 students applied for 18 trainee positions in 2002, drawn in large part by the company's open and meritocratic culture. Core values can also strengthen the bonds between a company and its customers, as they did at Embraer. A clearly articulated and deeply embedded culture attracts like-minded partners, and holds together a company's

far-flung operations. Natura's network of consultants is not on the company's payroll, but they are fiercely loyal, in part, because they are drawn by the organization's commitment to truth in cosmetics and broader social causes. Finally, employees who embody a company's core values can be trusted to do what the CEO would do in any given situation, without extensive monitoring or control systems. This is critical in a flexible hierarchy, where employees enjoy wide latitude in how they meet their objectives.

We argued in the previous chapter that all of the companies we studied were committed to transparency. However, other elements of their culture differed widely. Embraer—after Botelho—is characterized by a deep commitment to serving customers. Banco Itaú succeeded, in large part, because the co-founders—a lawyer and an engineer—imprinted a deep philosophy of operational efficiency that worked well in the retail banking sector. Many other Brazilian banks, in contrast, had deal-making cultures more appropriate to investment banking than the retail sector. Natura's culture of truth in advertising and the value of relationships permeated every aspect of the organization, including its product offering, marketing, training programs and human relations policy. There is no specific culture that fits all companies, but all leaders must actively manage their company's culture.

LIVE THE SPEARFISHER'S VALUES

Earlier in this book, we used the sport of spearfishing as a metaphor for active waiting. Success in spearfishing requires adhering to a certain set of values, which we describe below. The executives we studied exhibited these same values in leading their organizations.

Patience is a virtue

In an unpredictable market where the situation is evolving rapidly, many managers are tempted to seize every opportunity they see. This temptation is understandable, but it is also dangerous. Trying to pursue every opportunity as if it were golden dissipates an organization's focus and resources. When the big opportunity does swim by, the company lacks the

energy and resources to pursue it. The image of the spear fisherman, floating motionless waiting for his prey accurately captures the uncomfortable patience necessary in choppy waters.

This patience does not come naturally to managers, even to the successful ones we studied. AmBev's Telles explained how he learned to be patient in volatile markets. Telles, you will recall, began his career as a trader. And like most traders, he was initially anxious to make lots of big bets. Early in his career, however, Telles made some trades that did not pay off, and he learned a valuable lesson:

I have learned to sit on my hands, as I wait for the obvious opportunity. It is not easy, because I am an impatient trader, but past mistakes (and successes) have taught me a lesson. In a highly volatile market, every few years or so a big opportunity comes along. When you see it, it is obvious, but you have to be prepared for it.

Many multinational firms have failed in Brazil, precisely because top executives lacked patience. After being attracted to Brazil's vast internal market, rich natural resources, and occasionally the promise of market protection, they are the first to flee when a shock temporarily reduces their subsidiary's profitability.

Patience is particularly valuable in riding out business cycles. Leaders recognize that good times will not last forever, and consequently avoid the temptation to over invest. They also know that bad times are not forever, and continue to invest in downturns. This sense of perspective allows them, among other things, to purchase assets cheaply in the hard times and sell them at a premium during bubbles. Votorantim, for example, has repeatedly ridden out Brazil's business cycle. Votorantim decided to enter the pulp and paper business in 1988 during an industry-wide depression. In 1996, pulp prices dropped by 50% and many global cellulose producers found themselves sitting on too much capacity and debt. Votorantim took advantage of the crisis to buy used equipment at bargain basement prices. Raul Calfat, President of Votorantim's Cellulose and Paper business, recalled: "we were able to expand capacity at a capital expenditure of \$627 per ton of annual production capacity

versus a historical average for the industry of \$1,200 per ton of annual production capacity.” This expansion positioned Votorantim to seize the upside when pulp prices rebounded in 2000–2001.

Maybe the other guy is right

Carlos Siffert, the former president of Promon, is fond of quoting the Austrian composer Anton Bruckner’s motto that “maybe the other guy is right.” This simple phrase captures an important insight about intellectual humility when one must act in the face of uncertainty. In some cases a manager will know what she doesn’t know. A manager might recognize, for example, that the effectiveness of a new technology is key to a new venture’s success, without knowing whether the new technology will work. This is the customary uncertainty common even in stable environments. When multiple uncertain variables interact, however, executives must also deal with what they don’t know they don’t know. Situations will arise that no one could have even foreseen, often because of complex interactions of individually uncertain variables. Some of these unpredictable situations will pose threats, others opportunities, but responding to them is critical to success.

Throughout most of their education and early career, people are rewarded for what they know. They get good grades on exams and promotions based on technical expertise. However, top executives in unpredictable environments must have the humility to recognize how much they don’t know. In talking to successful Brazilian executives, we were often struck by how well they listen. The complexity and unpredictability of the Brazilian market teaches managers the humility necessary to listen.

Keep knocking

“Opportunity knocks” as the common expression goes. Sometimes, managers see a great opportunity but recognize that the moment is not right. In these circumstances it is critical to reverse the old phrase, and instead, the manager should knock on the opportunity. In fact, he should

keep knocking, as long as it is not too expensive or distracting to do so. Recall the story of auto-parts supplier Sabó, a minnow with \$300 million in annual sales compared to Delphi with \$27 billion in revenues. After Sabó CEO Newton Chiaparini identified an attractive acquisition candidate in Germany, he visited the company every year for five years to explore potential cooperation. The German owners were always polite and received him for a brief meeting, but were slightly amused that a Brazilian company had such high ambitions. On the sixth year, however, the German owners asked Chiaparini to stay a little longer at their annual meeting. The company, it turns out, was in financial distress and desperately needed a capital infusion to avoid bankruptcy. Sabó acquired the company outright three months later as a result of Chiaparini's persistence.

Remain calm when others panic

In an unpredictable environment, companies run the risk that employees and managers will panic at every minor threat and opportunity. In this context, managers play a critical role by remaining calm in the midst of the storm. This calmness reassures the troops, and conserves organizational energy, attention and resources for those critical events that constitute true golden opportunities or sudden-death threats.

Carlos Brito, COO of AmBev explained the role of Marcel Telles at AmBev in helping the troops avoid panic.

Over the last few years, during a few periods of peak anxiety, Marcel has written one of his famous letters. He uses these letters to tell the entire organization his views and assures us that things are not so bad, that we stand in good footing and hints at opportunities that are to come. And he is careful not to overuse this letter. Last year, I was concerned with our ability to meet our targets and asked him to write a letter. He declined. 'It was not a crisis.'

KEEP THE PRESSURE ON

One thing we noted across all of the successful companies we studied: they were not comfortable places to work. The pressure is always on. That is no coincidence—the pressure comes from the top. Carlos Alberto Sicupira, a Garantia partner summed it up well when he described the culture of companies where the bank invests: “Our companies are not comfortable places of work, if you want comfort, lie on a sofa at home. At work you need to be constantly challenged.” And it is precisely that constant pressure that enhanced their ability to avoid and to respond to sudden-death threats, seize golden opportunities and wait actively.

However, the very success these companies experienced as a result of their past urgency gives rise to a new risk. They can become complacent. We fear that we are already seeing signs of complacency at some of the companies we studied. Pão de Açúcar faces the challenge of keeping the pressure on, now that Abílio Diniz has stepped down from day-to-day operations. Companies in a turbulent business environment, just like armies during war, cannot afford to let down their guard. The imperative to maintain constant pressure is particularly acute in times of active waiting when the temptation is strong to take a little longer or slack off a bit at operational improvements. Andrew Grove, Intel’s Chairman and former CEO sums up the argument in a single phrase: “Only the paranoid survive.”

So how can leaders maintain the paranoia, or pressure if you prefer, in the wake of success and in relatively calm interludes? Managers can, of course, take symbolic actions that signal the importance of maintaining urgency. At ALL, for example, managers including the CEO must travel by bus, share hotel rooms, and transfer their frequent-flier miles back to the company. Banco Itaú’s Roberto Setubal, for example, ordered that the air conditioning be shut off after 5 pm to keep costs down. Although the impact on the bottom line was modest, his action was a loud (and hot) signal that he was serious about cutting costs. Leaders can move beyond symbolic actions, and a few concrete steps are listed below.

Set ambitious targets

One obvious way to maintain the pressure is by setting ambitious targets. A natural way to do this is to ask people to achieve the same results with

fewer resources. The companies we studied were often forced to do this when responding to a sudden-death threat. One of the key factors that allows executives to rebuild morale after triage is that employees see themselves doing much more than they originally thought possible. This approach works best, of course, if the compensation system rewards the additional responsibility and effort.

The trick here is to set targets that are almost impossible, but not actually impossible. This is particularly difficult when an external sudden-death threat is not forcing higher targets. AmBev's Telles notes that setting the right target level is one of the CEO's toughest tasks:

My biggest challenge is to set the right targets that are almost impossible but not impossible. Management will always tell you that growth and profitability targets are impossible. They will tell you that there is an inherent tradeoff between the two. The good CEO has to know how far he can push his people.

At AmBev, Telles challenged management to match the 15% annual growth in earnings that was historically embedded in the company's stock price. In order to obtain this number, AmBev analyzed the market value of the company in relation to annual cash flows, and inferred investors' expected future growth rate. This analysis revealed that AmBev would need to deliver 15% annual growth in cash flows to maintain its current valuation, and exceed that number to create value. The methodology was transparent, and since most AmBev senior executives were share-owners, the conclusions were compelling motivators to grow cash flows at more than 15% per year.

Constantly setting and achieving ambitious targets engrains not only self-confidence, but also restlessness for continuous improvement. In a 2003 AmBev Board of Directors meeting, for example, senior management presented results for the fiscal year 2002, including EBITDA margin increases from 30.5% to 37.0% and earnings growth of 92.5% over the preceding year. The presentation focused not on self-congratulation, however, but on the opportunities AmBev had missed. One of the Board members tried to cheer management up, but Telles explained that self criticism was built into AmBev's DNA.

Foster internal competition

Executives can also use internal competition among business units or employees to keep the pressure on. In some cases, employees are ranked, not only according to accomplishment of goals but also relative to one another. This forced-curve approach obliges employees to constantly re-evaluate their performance in relation to their peers. Public posting of goals feeds competition and reminds employees of relative performance.

Companies like AmBev link their forced-curve mechanisms to compensation, with only the top 10% receiving bonuses. However, there is a risk with this approach that employees will view one another as rivals in a zero-sum game rather than collaborators in a joint-undertaking. Companies with strongly embedded values of teamwork and common goals can manage this risk. Other companies may prefer alternative mechanisms to stimulate internal competition.

Internal competition can be fun. At ALL, lowering diesel consumption was a key initiative, because fuel is the company's largest single cost item. Behring and his team designed a "Diesel Cup", a competition among train engineers and machinists to minimize fuel consumption (adjusted for tonnage transported). Machinists were divided into 17 groups of 30 to 40 people, with each group lead by a supervisor. The two teams with the best average results earned a bonus equal to one year's salary, and were eligible for additional prizes including large-screen televisions. More importantly, the winners had bragging rights among their peers.

The competition had the obvious advantage of focusing employees on fuel usage: One machinist noted, "I travel with one eye on the clock and the other on the fuel consumption." (And recall, ALL also has the best safety record of any railway in Brazil). The real benefit was to create a healthy competition among the teams that translated into significant results. In a single year, fuel productivity measured by consumption per ton per kilometer traveled decreased 11%, more than it had improved in the previous decade.

An extreme example is AmBev's decision to keep two separate distribution forces for Skol and Brahma, which competed with one another for the same customers. This decision flew in the face of conventional wisdom, which held it was more efficient to have a single sales force calling on customers. However, AmBev's top management team worried that the

longer-established Brahma distributors had grown complacent while the Skol distributors, who had a smaller market share and brand presence, were hungry to win more business.

In a funny way, successful managers and employees can be made to compete with their own past achievements. Frequent job rotation, described above, not only has the advantage of training generalists, but also forces employees to constantly prove themselves over and over again in new situations. This prevents them from settling into a smooth groove of incremental improvements in their area of functional expertise.



Success against the odds. We conclude this book as we began it: by recalling Brazil's upset victory in the 2002 World Cup. No one thought they could pull it off, and yet the national squad emerged victorious against the best soccer teams in the world. We have learned much by studying Brazil's champions, not only about competing in Brazil, but about winning in unpredictable markets more generally. We hope this book provides practical frameworks and insights to help managers around the world emulate Brazil's most successful companies.



About the Authors

Donald N. Sull is an Associate Professor of Management Practice at the London Business School, and was formerly an assistant professor at the Harvard Business School. He has authored or co-authored over fifty articles, book chapters and case studies, as well as four books including *Revival of the Fittest: Why Good Companies go Bad and How Great Managers Remake Them* (Harvard Business School Press, 2003) which was named a finalist for the Academy of Management's George R. Terry Award for Outstanding Management Book, and translated into seven languages. He serves as an adviser to firms in the United States, Europe, and Asia. Before entering academia, he worked as a consultant with McKinsey & Company and as a member of the management team that restructured the Uniroyal-Goodrich Tire Company.

Sull's research has won awards including the George S. Dively Award for outstanding dissertation, the Newcomen Prize for the best paper in business history, and inclusion in the Academy of Management Best Paper Proceedings. He received his A.B., M.B.A., and Doctorate from Harvard University.

Donald N. Sull
London Business School
Regent's Park
London, NW1 4SA
dsull@london.edu

Martín E. Escobari is a founding partner in Orange Advisory, a consulting company focused in merger, acquisitions and corporate strategy in Brazil. At Orange Advisory, Mr. Escobari has advised on the turnaround of a local telecommunications company with over US\$ 1 billion pre-restructuring debt, and advised major private equity and hedge funds on acquisitions.

Mr. Escobari previously worked for GP Investimentos, first as an officer executing private equity investments and then as senior manager at two portfolio companies: President of Officenet Brasil (distributor of office supplies) and Co-Founder and Vice President of Submarino.com (e-commerce). Previously, Mr. Escobari was an Associate at Boston Consulting Group in New York City and President of Let's Go Travel Guides.

Martin Escobari has published articles in the Harvard Business Review Latin America, the Harvard Strategy Newsletter, and Business Strategy Review, and been quoted by the Wall Street Journal, Gazeta Mercantil, Exame, and America Economia.

Mr. Escobari received his AB with honors from Harvard College and an MBA with Distinction from the Harvard Business School, graduating as a George F. Baker Scholar.

Martín E. Escobari
Orange Advisory
Sao Paulo, Brazil
mescobari@orange-advisory.com