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NATIONAL GEOGRAPHIC EXPLORER IN RESIDENCE

Organizational Survival

Profitable Strategies for a Sustainable Future

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Foreword

On Midway Island, halfway across the Pacific Ocean, I recently contemplated a nesting Laysan albatross sheltering her single egg. Observers who have documented her return to this place since the 1950s call her Wisdom. A serene gray and white bird, Wisdom began a lifetime of flying over the surface of the ocean at about the same time I launched myself into decades of exploring the depths below. Over the years, we have both witnessed the appearance of masses of drifting plastics, slicks of oil, and an increasing abundance of ships—as well as a steady decrease in the number of squid and fish necessary for Wisdom's survival, and that of her future hatchlings. Both Wisdom and I have experienced an era of unprecedented changes, but she cannot understand the causes, nor could she know what to do to about them even if she did understand. But humans can.

Owing to the advances of technology in the past century, humanity has learned more about the nature of the world and the universe beyond than during all the preceding time. By some accounts, at the same time, more has been lost. Since the middle of the twentieth century, half of the planet's coral reefs have disappeared or are in a state of sharp decline. Populations of many fish and other ocean species have decreased by 90 percent. Only five percent of North America's old growth forests remain from their former expanse across the continent. Globally, mangrove forests, coastal marshes, kelp forests, and sea-grass meadows have declined by as much 60 percent. Oxygen-generating, food-producing phytoplankton populations are changing, with hundreds of dead zones in some coastal

regions and reduced levels of production in others. Measurements of ice decline in polar regions are coincident with increasing temperature, sea level rise, and ocean acidification—all closely coupled with the swiftly increasing emissions of carbon dioxide generated by burning vast reservoirs of fossil fuels—coal, oil and gas—that were millions of years in the making.

Astronauts in training learn everything they can about the systems that keep them alive during journeys in the hostile environment beyond Earth's atmosphere. While flying through space, they take care of their air, water, food, and temperature control as if their lives depend on it, because they so clearly do. Less obvious to most people is that we are all aboard a great, blue spacecraft hurtling through an otherwise inhospitable universe. Until recently, we could take for granted the processes that generate oxygen, maintain favorable temperatures, yield water, furnish building materials, provide food, and much more. But complacency is no longer an option. Now we know: the world is not too big to fail.

From the smallest microbe to the largest whale, all living things impact the world around them, but never before has a single creature—humankind—so swiftly and so comprehensively altered the nature of the entire planet, with consequences that put much more at risk than profits on a balance sheet. Increasingly, there is evidence that our actions are eroding the underpinnings of the natural systems that keep us alive.

What about "Tomorrow's Child?" That is the message I heard from Ray Anderson, founder and CEO of Interface Inc., a highly successful carpet company, at a conference early in the twenty-first century. In a voice resonating with soft, drawn-out vowels, Anderson said he personally had come to recognize that what is taken from nature, or alters, contaminates, or destroys land, air, water, and wild plants and animals must be recognized as costs that we deal with or they will become debts passed along to our children. Leaders in business and industry not only have the power, he suggested, but also the responsibility to reverse the disastrous trends currently in motion. He challenged his colleagues to find ways to be successful in business using approaches that not only did not degrade

the integrity of the natural world, but also helped restore what already has been lost.

In this work, authors Greg Balestrero and Nathalie Udo provide provocative examples and thoughtful strategies on how companies can embark on a path to sustainability based on understanding the need to find an enduring place for ourselves within the natural systems that sustain us. They share stories of companies like Interface Inc. that have transformed in order to excel in a sustainable future—not just for the organization's survival, but also for the future of humankind. And they provide insights about how you can achieve similar goals. At a time when many despair about the near and distant future, here you will find engaging stories, practical solutions, inspiring examples—and plenty of reasons for hope.

Sylvia A. Earle
National Geographic Explorer in Residence
September 3, 2013

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Preface

The world needs dreamers, and the world needs doers.
But above all, the world needs dreamers who do.
—Sarah Ban Breathnach

GREG—After a long and successful career, I have come to the embarrassing conclusion that I may be a slow learner. It took over 30 years and three big "aha" moments to get to the point of writing this book. It boils down to the fact that unless people sense a real crisis, they most likely won't react. If you see a bus coming toward you, you step out of the way. If something is flying at your face, you duck. The right question is, how far ahead should you plan to avoid these risks to life and limb before they are upon you?

My first "aha" moment came in October 1980, when I was offered a position as program manager of a national program for improving energy efficiency in the industrial sector. Eight years in energy conservation had prepared me for this job, and the program was expected to have a dramatic effect on national industrial energy consumption. The funds for the program came from the newly created U.S. Department of Energy (DOE), formed in 1977. Although the start date was delayed until after the November presidential election, I was ecstatic and wildly optimistic about the future.

Then Ronald Reagan was elected, and he lived up to his campaign pledge. Funding was diverted from the DOE and other areas to rebuild the economy and the country's defense. At first I was confused and angry. How

could anyone make this trade-off when the data was crystal clear? Energy consumption was growing exponentially; production was flat. How could the government be so blind? My frustration gave way to understanding as I realized that the economic and defense crises were right in front of us. The bus was coming, and we needed to step out of the way. Government acts when the crisis is upon us.

My next "aha" moment came 10 years later. Working for the Institute of Industrial Engineers (IIE), an association dedicated to performance and productivity improvement, I watched one U.S. industry after another die on the vine due to shortsightedness about the challenges posed by emerging international competitive and technological trends. Shipbuilding, the auto industry, electronics, computers, and more were fast being eroded due to this lack of foresight. How could this happen again? I thought U.S. companies were recognized for their powerful strategic planning. I came to realize that the "strategic horizon" of U.S. companies tended to be about three to five years, and unless the crisis was upon them, most would not react.

Now fast-forward to 2011 for "aha" moment number three. I was preparing to retire as CEO of the Project Management Institute (PMI) and was reflecting on my nearly nine-year tenure. I had spent my career as an advocate for business excellence through project, productivity, and performance improvement. I'd had a great run. The turn of events in 1980 encouraged me to spend my career in the not-for-profit sector, bringing people together to solve common problems without government involvement and hopefully helping companies become more successful. I had traveled to nearly 70 countries, meeting wonderful, ordinary people who were doing extraordinary things.

However, I had been extremely restless for the last five years. I believed that there was a conversation we needed to have, but I couldn't quite put my finger on it. Beyond meeting thousands of wonderful people around the world, I had witnessed a world converging on a point in the future that was going to have a long-lasting negative impact on business and personal prosperity. My travels had shown me firsthand the dilemma of

an expanding population in an era of declining resources. Seven years of scenario planning and reading signpost reports for PMI had made me acutely aware of the problems that could emerge by the middle of the twenty-first century.

To confirm my conclusions, I picked up a copy of *Limits to Growth: The 30-Year Update* by Donella and Dennis Meadows and Jørgen Randers, and I read it carefully. The original set of scenarios, produced in 1972, was the result of the first computer-generated models showing how the competition played out between a rapidly growing population and a resource-limited planet. The book proved that sometime before the mid-twenty-first century, there would be a "kink" in the supply hose for society and businesses. Something had to give, or a global adjustment would put thousands of companies out of business, put millions of people out of work, and do long-term damage to global prosperity. Is no one listening or watching?

I decided to put sustainability on my own public agenda. I spoke globally on the pending dilemma and the changes that needed to be made. I engaged business and government leaders around the world in the conversation, and I began to see changes were brewing—significant changes—that might be able to effect a course correction. I was driven to get someone to listen to me, to act.

I did learn that great environmental entrepreneurs such as Ray Anderson of Interface Inc. and Yvon Chouinard of Patagonia were exercising their own initiative and taking a revolutionary approach to business. I owned BMW motorcycles and cars for years before I learned that the company was also a powerful force for fighting the AIDS epidemic. Companies like Whole Foods were demonstrating that growth with a commitment to building sustainable communities is not only possible but profitable as well. Thousands of individuals were proving that social innovation wasn't a fad but a powerful trend altering the way people interact and prosper.

These companies were transforming the traditional commitment of business capitalism from turning profits and maintaining market share to building global prosperity and improving the planet. But clearly they were

in the minority. I realized that this was the conversation we needed to have. Hope is built not in the political mechanisms that regulate solutions but rather in the boardrooms of the world. The initiative and innovation of businesses can be directed to building a sustainable future while still making money and staying in business. It was time to act. I was going to make people wake up and listen.

The idea of this book began to take shape. I was convinced that studying the transformations that were going on would reveal common approaches that could be shared and utilized. The information was out there, waiting to be mined, sorted, and shared. But I couldn't do it alone. I needed both the opportunity and a development partner. The opportunity came from a friend and colleague who is the epitome of a business entrepreneur—and a person whose default state is "action." That person was E. LaVerne Johnson, founder, president, and CEO of the International Institute for Learning (IIL). I knew from personal experience that she was committed to building sustainable communities and helping society. She understood the idea of shifting from profits to prosperity. We agreed that we would somehow work together, and in 2012 we committed to this book project.

I also realized I needed a balanced approach to this task. I needed to avoid my own linear view and try to be critical. I needed another strong perspective to uncover and tell the stories and to find the common thread that would transform companies. I needed someone to test my limits and understanding by sharing a strong opinion, a global opinion. I found that person in Nathalie Udo. Together, using the opportunity presented by LaVerne Johnson, we have carried on the conversation about shifting from profits to prosperity. We hope you continue the conversation after reading this book, with one important provision: that you act on it.

Years ago, I attended a workshop by futurist Joel Barker and picked up a saying that has affected my career and helped me motivate others: "Vision without action is a dream. Action without vision is simply passing the time. Action with vision is making a positive difference." Help your organization develop a vision and take action. That is all we ask. Just do it.

NATHALIE—I was very honored when Greg asked me to be his co-author. Growing up in the Netherlands—one of the most densely populated Western countries in Europe—I was keenly aware of the limited availability of untouched nature. Don't get me wrong; we have forests in the Netherlands, but the trees are all in nice, neat rows, almost manicured. In high school I was a member of Greenpeace and dreamed of becoming an activist to protect our planet's nature and wildlife from the exploitation of ruthless corporations. When I was in university, I longed for unlimited wealth so I could buy up large sections of the Amazon forest—the lungs of our planet—and put armed guards around those areas to punish anyone who wanted to cut down a tree. Then my working life began, and the day-to-day reality of paying bills pushed everything else to the side. I felt overwhelmed by the scale of changes needed for us and our descendants to continue to enjoy the world and all its natural wonders.

I have traveled a lot in my life, both for pleasure and work, and in the process I developed a healthy distrust of corporate intentions regarding nature, wildlife, and people, simply from seeing the damage done by corporations on land and under water. When I heard more and more companies talking about corporate social responsibility but could not see real progress, either due to lack of transparency or lack of action, it sounded to me more like a marketing tool than true intentions to sustain our environment and societies. My personal awakening came around 2008, when I started to work closely with Japanese corporations.

Corporations rooted in Japanese culture have long-term visions covering multiple generations. They are concerned with the sustainability of their organizations, but they also care about the societies in which they operate, since that affects the company's sustainability. Working closely with these corporations, learning their histories, hearing their executives talk about sustainability and how it is part of their value system, seeing how they support their words with actions and how they raise the awareness of their employees in this area made me realize two things. First, I realized I was not taking any action in this area that was critically important to me. Second, I realized that corporations hold the key to the social,

environmental, and ethical improvements needed to change the course we and the planet are on. They have the necessary reach through their value and supply chains, and they have the necessary resources.

The feeling of being overwhelmed by the gigantic problem we are facing had muted my "I'm in control" mentality. Experiencing the real passion some Japanese organizations have for improving the communities they touch convinced me that I needed to do something. So here I am writing this book with my dear friend Greg Balestrero. I want to do my part to raise awareness and inspire more companies to transform their organizations to become more sustainable. In the process, they will improve the health of the planet and of society at large—and also the health of their bottom line, as you will read in this book!

The Dalai Lama says, "If we make consistent effort, based on proper education, we can change the world. We are selfish, that's natural, but we need to be wisely selfish, not foolishly selfish. We have to concern ourselves more with others' well being, that's the way to be wisely selfish. We have the ability to take the long-term benefit into account. I think it is possible to make real change in this century." I also believe that real change is possible, even before the middle of this century!

Introduction

Why would we write a book on the relationship between global sustainability and corporate strategy when there are already so many other sustainability books out there? In part, we did so because we want to continue a meaningful conversation about the change that needs to happen. The massive global library of information on sustainability is not merely a virtual shelf filled with discrete, unrelated bytes of information. On the contrary, each book and every article contributes to shaping our beliefs about the future of business and the planet. Just as creating this book has shaped our beliefs, we hope reading it will shape yours and encourage you to act.

More important, we believe leaders at the corporate, business, and government levels continue to assume that we have plenty of time to change course. In reality, time is running out. We are now well into the second decade of the century, and while we have seen remarkable transformations taking place, there still isn't sufficient progress to avoid catastrophic damage to our businesses, our societies, and global prosperity. We want to raise the level of urgency in the conversation and spur rapid, transformational changes.

But we also believe the changes we need aren't just about the environment or natural resources. Most sustainability books focus on those angles, and no doubt they are critically important, but the change we need today is far more complex. Consumers expect companies to do the right thing and to help the society they serve. Ethics and trust have never been higher on the lists of important criteria for successful companies.

In addition to making profits and protecting their value chain, corporations have to stand up for society and demonstrate ethics above all. These changes have to be embedded at the very heart of the business philosophy.

We want to explain the common traits and actions that we have uncovered at the core of companies making this transition successfully and profitably—from entrepreneurial businesses to multinational titans. These organizations have identified the problems we face and have made real, meaningful commitments to changing the way they do business. Those changes have resulted in huge benefits to the organizations, to their brands, and ultimately to their long-term survival. We want to point the way: a way that is not only the right thing to do but also a way of surviving and thriving in a rapidly approaching future.

How This Book Is Organized

One of the common themes you will find in these pages is that *you cannot accomplish this change alone*. You will need to build alliances and partnerships to meet your goals. To that end, we have gone to great lengths to help you develop a strong argument for change and to build a common belief across your organization that change is no longer an option but a mandate for survival—a belief that will result in changes to strategy and execution.

The Case for Change

In Chapters 1 to 3, we lay out the case for change, not just from an environmental standpoint but also from a practical one. Of course you know that our global population is growing, but did you know that a huge percentage of that growth comes from an emerging middle class in developing countries? New cities are springing up all over the world, and people are migrating to these urban centers in record numbers, searching for a better way of life. The resulting demand for middle-class goods and services will put enormous strain on resources and supply chains that are already stretching to the breaking point.

The message of these chapters is crystal clear: there is no longer any doubt that global demand will become unsustainable by 2050. Sustainability is no longer a choice. It is an imperative. Businesses are in a unique position to meaningfully alter the shape of our future. The new paradigm has to be based on the belief that organizations' long-term prosperity is joined at the hip with global prosperity. Bea Perez, Coca-Cola's chief sustainability officer, is very clear on this issue: "There will be no companies 100 years from now if companies do not focus on sustainability!"

The Awakening of Organizational Leadership

The rapid demographic, economic, and environmental shifts we are facing will present unprecedented challenges—and also unprecedented opportunities for businesses willing to embrace sustainability in their strategic planning. In Chapters 4 to 6, we share our research into companies worldwide that are making dramatic changes and realizing dramatic successes as a result.

The organizations discussed in these chapters were carefully researched and chosen based on a set of very specific criteria. (See Appendix A for additional discussion on our selection process.) We hoped to find companies that either were founded on the values of sustainability or acted on the trends discussed in Chapters 1 to 3 by implementing strategic changes to reposition themselves for a sustainable future.

The companies we identified and researched have put sustainability at the core of their business. For some, sustainability was built into strategy and decision making from their founding. For others, sustainability has moved from the margins to the center of the corporate agenda. And for others still, new business paradigms are being created through social innovation that will shape an entirely new economic model. All of these companies believe that profits will follow sustainable business practices and have proven that this is the case.

We quickly found that these companies were making dramatic and innovative strategic changes throughout their supply and value chains, leading to impacts that could change entire industries. It is this corporate

performance and strategic change that we highlight in these chapters. Their stories show how organizations build respect, improve stakeholder loyalty, and increase profitability by doing the right thing and exercising leadership in their sector.

Payback Is Real

While consumers, employees, and society are scrutinizing companies more and more about their sustainability strategies, there is a widely held belief that Wall Street has not caught up yet. The prevailing view is still that investing in sustainability comes at the expense of the bottom-line results. One of the issues companies face is that the business case for long-term sustainability can seem ambiguous—the return on investment is not always immediately clear. Chapters 7 to 10 describe the value and payback elements of the transition to sustainability, dispelling the myth that sustainability comes at the expense of profits. These chapters show that the payback is real, puts money in the bank, and builds a valued brand.

The success stories shared earlier in the book may seem both remarkable and unrealistic to many in your organization, and you may be confronted with skepticism and roadblocks along the way. In Chapter 7, we provide a practical guide to anticipating and responding to the myths and questions that you may encounter during your transition. We will help you analyze the success stories and be prepared to respond directly to these challenges.

Chapter 8 shows that the stocks of those companies that have adopted a sustainable strategy consistently outperform those that haven't. Chapter 9 explains how companies can change the conversation by tailoring it to the values, ethics, and cultures of specific communities in which the company operates. We describe how the conversation with the financial community needs to change to recognize and reward sustainable behaviors, which would inspire many more organizations to adopt sustainable strategies.

Finally, Chapter 10 focuses on collaboration and the common traits we (and others) have observed in sustainable companies. This will help

you self-assess which traits you need to develop to guide your company through the transition. Cultivating these traits will allow you to successfully transform your business into an organization driven by sustainability while benefiting from the financial payback it provides.

A Road Map for Changing Our Future

The core of this book is a new approach to assessing and developing a strategy to transform your business. This approach focuses on using risk management, scenario planning, and the SEEE model™ we have developed in conjunction with International Institute for Learning, Inc.—a framework that takes into account the Social, Economic, Environmental, and Ethical factors of strategic change. This new model will help you integrate sustainability into your strategic plan and to create and instill a new, sustainable outlook throughout your organization that will enable real and lasting change. The last chapters of the book introduce the tools you need to make this change successful. We help you answer key questions like: Where do I start? How do I build an agenda for change? How do I create and balance the portfolio of change? And how do I make sure that this change survives me—that it becomes sustainable beyond any one person, management team, or board? All of these questions are critically important to the leader in transition. This will not be an exhaustive treatment, but it will be a guide to real progress and a compass, if you will, to get started on this important change process.

To build a successful, profitable, and sustainable company with a solid reputation, you must weave sustainability into business strategy and day-to-day decision making. When sustainability is incorporated in organizational strategy, the decision processes for all initiatives will include a basic question: How does this affect our plans for sustainability? More important, sustainability becomes a variable in the formula for determining value in all company operations.

At any company, an integrated strategy that affects the entire value chain of the organization is critical to success. Figure I-1 displays a framework for establishing sustainability integration using the SEEE model:

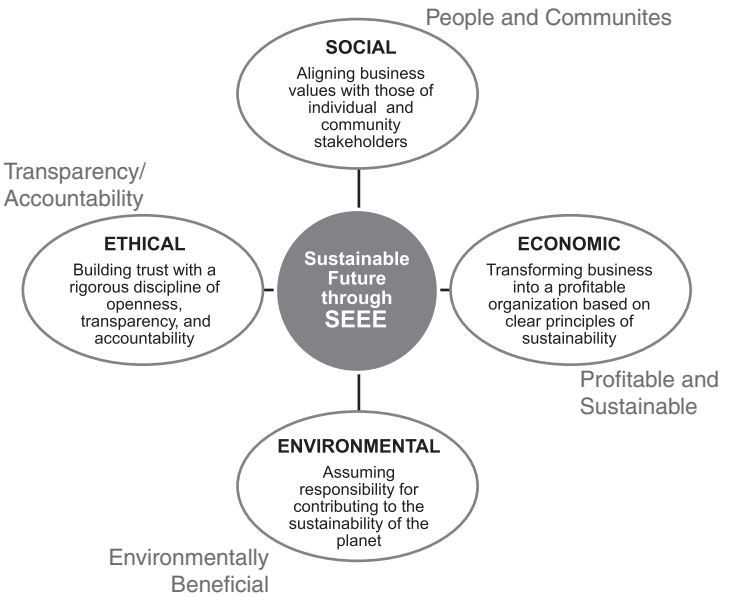

FIGURE I-1 The SEEE model makes sustainability an integral part of strategic decision making throughout the organization.

the Social, Economic, Environmental, and Ethical elements of strategic change. Strategy development and the associated strategic decisions must embrace all four of these elements:

- *A social commitment* that integrates key individual and community stakeholder interests into the company's strategy and aligns them with the business values and principles. This requires a clear understanding of the key stakeholders in the organization and of the impact that the organization has (and can have) on its stakeholders.
- *An economic commitment* that transforms the organization into a profitable business based on clear principles of sustainability. This goes beyond the cost savings from concepts like zero waste. It embraces an economic model with a long-term vision that avoids trading sustainability for profits during economic challenges and that values

commitment to sustainability as a corporate principle with intrinsic value.

- *An environmental commitment* that takes responsibility for contributing to the sustainability of the planet. This requires the organization to take a full and complete look at its impact on the planet throughout its entire value chain, accept responsibility for its products and services throughout their life cycle, and take action accordingly.
- *An ethical commitment* that builds trust through openness, transparency, and accountability. This requires an organization to set clear measures of change, to assign objectives based on clear metrics, and to provide public reporting on progress against these objectives. It also requires the organization to own the impact of its mistakes by taking responsibility for failure and committing to overcome it and change.

The SEEE approach covers a lot of territory, but it takes effort and perseverance to implement a profitable sustainability strategy. One of the common traits of truly successful sustainable companies is that they work toward long-term change. Most of the organizations we discuss in this book have based their plans on a 10-year horizon. Obviously, such a long-term view requires an investment in ensuring that the change is real and substantive. Strategies must be built on a solid foundation of knowledge. Accumulating this knowledge requires conducting detailed analyses of value and supply chains, engaging stakeholders in discussions about key issues in their communities, understanding the most critical risks in the future and how those risks drive strategic change, and embracing partnerships to address critical supply issues that are beyond the resources of the company. The last section of this book addresses the strategic changes needed. Chapter 11 goes into more detail about how to create this long-term view and collect the required information, and Chapter 12 describes the process of integrating them into your company's strategy and decisions.

A successful sustainability strategy must be built carefully, so the SEEE approach uses phase-based strategy development. Figure I-2 shows an example of the different stages the change can go through.

FIGURE I-2 The SEEE approach and the four stages of change: an information-gathering foundation that establishes a foundation or baseline, incremental changes to begin the transformation, a period of disruptive change moving the organization into the future, and finally a radical transformation of company operations and perceptions in the market.

Establishing a progressive step-by-step framework for strategic changes that embrace sustainability allows you to consider all of the changes needed to become a sustainable company. As you begin the process of strategic change, you will progress through four stages:

- *The foundation.* In order to build a socially responsible company, you first need to understand and meet the minimum required level of sustainability. The organization should understand, embrace, and comply with all legal and regulatory requirements for each element of the strategy. Compliance is the operative word for this level.
- *Incremental change.* In this stage, you ensure that the right steps are taken to begin the transformation, such as engaging stakeholders in discussions, measuring the organization's environmental footprint, and evaluating reporting methodologies. During incremental change, companies focus on finding efficiencies like reducing their carbon or water footprint and energy use.
- *Disruptive change.* Initiating deliberate, measurable change will disrupt the organization, but in a positive way. This is where the

organization moves from certainty to uncertainty, from the present into the future. In this stage, innovation is used to drive change. Strategic goals, for example, might include targeting a zero environmental footprint in carbon and water, or using only renewable energy sources and contributing to the communities in your value chain.

- *Radical change.* This is where aggressive changes occur that propel the organization into the future, not only in the way it operates but also in the way it is perceived. This could mean dramatic changes in product design, or taking an approach that actually removes more carbon from the atmosphere than your value chain adds.

The Central Message

This book is a story of hopefulness rather than gloom and doom. It is intended to show that there is a reason to change—a burning platform, if you will. More important, however, this book is intended to show that it literally pays to change, by providing many great examples of how companies changed, made a difference, and ensured survivability well into this century.

In addition, this book presents a model for changing strategy that integrates the elements of economics, social responsibility, environmental sensibility, and a long-term commitment to building public trust through a rigorous devotion to ethical behavior. Thus, the real leverage of this book is in a truly integrated model for strategic change. We believe that the model described in this book will help companies navigate the critical era ahead of us and contribute greatly to positive change in society and the planet.

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Part 1

The Case for Change

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Chapter 1

The Double Meaning of Sustainability

Before you start some work, always ask yourself three questions: Why am I doing this? What might the results be? Will I be successful? Only when you think deeply and find satisfactory answers to these questions should you proceed.

—Chanakya, Indian Teacher, Philosopher, and Economist (370–283 BCE)

GREG—Waking at six o'clock in the morning on the last day of our trip into the Amazon River basin and the Peruvian rainforest was both exciting and sad. My wife and I jumped out of bed and ran to the board ramps for the skiffs to begin our last expedition of the trip. We didn't want it to end, but we knew we needed to drink in the world around us one last time. We had spent eight days aboard a small riverboat with 25 other passengers, searching out and witnessing life and biodiversity in this amazing place. Our expectations weren't just surpassed; they were blown out of the water.

The rainforest is an incredible place. I relished the scents, the sounds, the feeling—a remarkable experience. Each day we spent six to eight

hours in small skiffs, riding through the estuaries and tributaries, walking through the rainforest, and watching for signs of prey and predator alike. My mind ran through the huge variety of experiences we'd had and what this rainforest and others like it represent to the world.

The rainforests of the Amazon River basin cover parts of seven countries: Venezuela, Peru, Brazil, Bolivia, Colombia, Ecuador, and Guyana—approximately 40 percent of the continent. Though the percentages vary according to the source, experts estimate that the Amazon rainforest produces between 15 and 40 percent of the world's supply of oxygen, second only to the oceans of the world.

Oh, and let's not forget the biodiversity. More than one-half of Earth's millions of species of plants, animals, and insects live in rainforests throughout the world. In the Amazon basin alone, more than 1,500 species of birds are found. A recent study identified 1,500 plant species, 750 species of trees, and 900 tons of living plants in one hectare (2.47 acres). Nearly 500 reptiles find a home in the rainforests of the Amazon River basin. The river itself supports over 2,500 species of fish.[1] Can you imagine? I couldn't believe that I was there, witnessing this abundance and diversity of life.

And of course there is the Amazon River itself—nearly 6,500 kilometers (4,000 miles) long—stretching from its beginning just east of the Pacific Ocean in the Peruvian Andes to the massive estuary emptying into the Atlantic. The water passing through the Amazon in one day would meet the needs of the entire U.S. state of New York for a full year! Truly amazing.

But the marvels of the Amazon Basin aren't limited to wildlife. The river and forest people are wonderful. They are beautiful and friendly and very accepting of outsiders. They are extraordinarily resourceful, using the land, the water, and the wildlife to live, eat, and thrive. From the palm wood they use to build their homes, to the fish and animals they eat, these people owe their lives to Mother Earth, or Pachamama, as the Incas say.

The government of Peru invests in the education of its people, including the river and forest people. Every village, however small, has a state-

funded school building to educate children through the eighth grade. Literacy among these river and forest communities is nearly 98 percent. To continue their education, children must travel to and stay in a city with a high school. Many children make this journey, seeking more education and more opportunities for prosperity. As their knowledge of the world grows, their own desires change, encouraging them to look for more opportunity. More than anything, the people of Peru are its greatest resource.

The Story of Our Future

Storytelling is a remarkable means of sharing important parts of our lives. It has formed the basis of passing on traditions and principles of life and society over the millennia. However, in the era of broadcast, cable, and social media, it is difficult to tell which story is the right one to listen to, especially when you're trying to make concrete decisions. When one tries to understand the implications of climate change, the reports disputing and supporting the science pile up on either side. Each report, whether by a newscaster or a scientist, tells a story that is embellished by a host of facts, analyses, conclusions, and more important, opinions. To those of us trying to make a decision about strategic change to address the impacts of climate change, this presents a great challenge: a very complex subject, not yet fully understood, contested and supported by thousands of opposing sources. It's tempting to tune them all out and just live day by day.

The story of Peru represents another set of observations, more points of reference that clarify the challenges facing us in the world today and well into the twenty-first century. It helped reinforce our thinking that there are indeed very complex challenges in the future, for which many of us—individuals and organizations—remain unprepared. If organizations don't embrace change, then in all likelihood, their very survival will be in question in a few short years. In other words, the sustainability of companies in the next 40 years is inextricably linked to the sustainability of communities and the planet.

A Precious Link in Global Supply Chains

Leading organizations today have expanded their view to include the complete value chain of their products and services. The **value chain** is often defined as the successive stages in which value is created when producing, distributing, or servicing a product. The **supply chain,** on the other hand, is part of the value chain and is often defined as the integrated list of suppliers that provide everything from raw materials to semifinished goods to cleaning services and paper towels. When organizations scrutinize their value and supply chains to ensure that they are robust, it can allow them to ramp up and deliver without surprises. These leading companies also look at the supply chains of the *indirect* resources that contribute to their overhead, such as headquarters facilities, administrative personnel, energy to power the administrative offices, and so forth.

Looking more closely at Peru provides a sense of how the rainforest is tapped to provide input to global supply chains. Beginning with its natural habitat, the biodiversity of the Amazon River basin has been under attack for many years. Climate change, deforestation, commercial farming, city growth and overcrowding, pharmaceutical harvesting, and commercial fishing are doing tremendous damage. Since 1970, the Brazilian rainforest alone has lost over 600,000 square kilometers (230,000 square miles) according to satellite surveys by the Brazilian National Institute for Space Research (INPE).[2] This massive deforestation has stripped away countless species, some of which might have provided remedies for illnesses. Many prominent zoologists, such as Nigel Stork of Griffith University in Australia, warn that deforestation is responsible for the loss of thousands of plant, insect, and animal species per year. Some estimates place the rate of destruction at a staggering 50,000 species per year—an average of 137 species every day.[3]

Globally, there are many coordinated efforts to move toward net zero deforestation. One prominent effort is the UN-REDD Programme, a United Nations Collaborative initiative on Reducing Emissions from Deforestation and forest Degradation (REDD) in developing countries.[4] Launched in

September 2008, this program assists developing countries, with the help of several other UN programs, in preparing and implementing national REDD+ strategies. (REDD+ extends beyond deforestation and degradation to address conservation, sustainable management of forests, and "enhancement of forest carbon stocks in reducing emissions.")[5] The World Wildlife Federation is also working toward a goal of net zero deforestation for the Amazon rainforests by 2020. These programs and others like them are making a difference, but we are still a long way from reversing the destruction.

Why is so much effort expended to strip the forests in the Amazon River basin? We know this area represents a treasure trove of raw materials, food, medicines, and other supplies that can feed, cure, house, and clothe people throughout the region and the world. It is also the location of new cities and agricultural centers. And yet both the river basin and the forest have become exploited links in many supply chains, with insufficient attention paid to making these links sustainable. Recent efforts in Peru and Brazil have slowed this process, but a broad range of industries have been affected by these restrictions, since the Amazon River basin is the raw material link in hundreds of supply chains. This could result in a backlash of lobbying to remove restrictions.

In addition, the domestic transformation of the people of Peru provides a microcosm of the future workforces of the world. Peruvian villagers demonstrate a passion for improving themselves and building expectations of prosperity. Each of the villages has an odd thing in common: satellite TV. Yes, each of the villages has access to the world outside of the region and their country through TVs powered, not surprisingly, by diesel generators. It isn't hard for the villagers to see the numerous and exciting opportunities in the larger cities of Peru and in other developed nations. For them, local education is an answer, but it also provides motivation to move to the cities. They believe they need more education to become more prosperous, so they move to the cities, where they live with families and friends who are willing to house them. There in the cities, the bounty associated with educated middle-class people may very well be available to these relocated villagers.

The Race to the Cities

According to the UN Department of Economic and Social Affairs, 76 percent of Peru's 29 million residents live in cities, and the influx is growing, leaving small villages and agro-communities abandoned. By 2050, UN projections indicate that Peru will have a population of nearly 38 million, while the global population will have swelled to approximately 9.5 billion. If the percentage of Peruvian urbanites doesn't change, more than 33 million will be living in cities—nearly eight million more people than the current total population of Peru![6]

Globally, about 51 percent of the population lives in cities today, a first for humankind. Eduardo Lopez Moreno, in a recent report for UN-Habitat, calculated that there are more than 193,000 "city dwellers" added to urban areas across the globe *each day*—that's two every second.[7] The needs to supply this massive urban population grow by the minute: food, building materials, automobiles, public transportation, sanitary facilities, clean water, foodstuffs, educational institutions, and more. The Amazon River basin and forest and others like it are among the primary supply chains for many of the basic and raw materials to meet these needs.

The Exploding Middle-Class Market

In the past, developing nations were considered a great source of inexpensive, high-quality labor. Companies throughout the developing world became the low-cost assembly providers for autos, cellular phones, computers, televisions, and more. Along with this burgeoning industry came greater prosperity and—as is the case in India, Africa, and China—a new emerging middle-class market for domestic goods.

So not only is the urbanization of countries like Peru creating more demand on supply chains; so is the growth of consumption of this new worldwide middle class. Throughout the developing world (Latin America, Africa, Asia, and India) there is a passion to move more people than ever before out of poverty and into the middle class.

The 2012 report of the United Nations Millennium Development Goals (UN MDG) for 2015 included preliminary estimates indicating that the global poverty rate has already fallen to less than half of the 1990 rate.[8] If these results are confirmed, the first target of the UN MDGs—cutting the extreme poverty rate to half its 1990 level—will have been achieved well ahead of schedule. This was a massive collective effort by business, government, nongovernmental organizations (NGOs), church groups, and other not-for-profit institutions. It is a remarkable success.

However, this report defines the income threshold for emergence from extreme poverty to the lowest strata of the middle class at US$1.25 per day. This number may seem remarkably low, but it is a commonly accepted threshold. The economics of this new middle class in the developing world are very different than any in the developed nations. A special 2009 report by *The Economist* titled "Burgeoning Bourgeoisie" highlights these differences in the way the middle class is measured.[9] In the early 2000s, global economists tended to measure middle-class economics by reflecting on the existing middle class. The result was a daily earning power range of US$12–$62. This traditional middle class definitely contributes greatly to the engine of consumption, buying the things they have come to expect as a result of their economic status. However, the growth of a middle class in that range of earning power is in the single digits.

The new global middle class—and its measure of growth—is dramatically larger than the traditional middle class. A study by India's National Council for Applied Economic Research found that from 1995–2005 there was a movement out of poverty, emerging into a new middle class.[10] The new range was between US$2–$12 per day at 2005 purchasing power parity (PPP), and the percentage of the population that moved up from poverty into this range of earning potential grew from 18 percent to a jaw-dropping 41 percent!

As a result, the World Bank and the UN have formed a consensus to use a different figure to measure the daily earning potential of the class of people moving out of poverty: US$10.68 at 2005 PPP. With this number in mind, the new emerging middle class is massive. Today, India, Africa,

and China are leading the world in middle-class expansion. Based on the revised statistics, Africa, India, and China *each* have a middle class in 2012 that numbers 300–500 million! Any one of those new middle classes represents a population rivaling that of Europe or the United States.

GREG—The dream of having a better life is not limited to the developing world of today. People have always dreamed of gaining affluence and prosperity. Both of my parents were Italian immigrants who moved to the United States as children immediately following World War I. My grandparents received education only to the third grade, while my parents ended their education at the eighth grade. They were brought to the United States to seize the opportunity, the "dream," of moving out of poverty and into the middle class.

My parents were union workers. They wanted a home, a car, freedom from want, and the opportunity for my generation to attend university. To them, these were the hallmarks of being in the middle class.

Those same beliefs exist today in the minds of low-income earners throughout the world, along with the passion to have readily available transportation, a cell phone, a TV, a computer, clothes for every occasion, and the middle-class luxury of spare time to invest in activities not related to pure survival.

This rapidly escalating middle-class demand is wonderful for the global marketer or for the domestic marketer in the affected countries. However, the unexpected consequence of this improvement is a growing consumption of all things "middle class" and growing expectations for more products at prices far lower than ever before. The growth in this desire is exponential in developing nations. Mario Pezzini of the Organization for Economic Cooperation and Development (OECD) calls the middle class "the motor of consumption."[11] The African Development Bank calculated that while annual global population growth is down to 2.6 percent, the middle class continues to grow annually at 3.1 percent. In his

article on the middle class, Pezzini noted that in Brazil, documented poverty has dropped from 40 percent of the population in 2001 to 25 percent in 2009, a shift with important consequences.

Regardless of your measuring stick, this new, emerging urban middle class represents a massive global engine of consumption, most of which is domestic to the respective countries. And with that market comes a series of expectations that will create a demand for goods and services unprecedented in our history:

- Sanitary facilities (including clean water)
- Clothing
- Readily available food supplies
- Connectivity for family and work (cell phones, Internet)
- Mobility for work and necessities (inexpensive cars, motorcycles, public transport)
- Healthcare for families (medicines)
- Homes, hospitals, and educational institutions (building and construction materials)
- Entertainment (TVs)

A Paradox of Opportunity

All of this would seem to be a boon for manufacturers and service providers. If the UN predictions are correct, the population of the world will be approximately 9.5 billion in 2050, up more than 35 percent over 2011. Though various assumptions and projections surround the size of the middle class in 2050, it appears that there is some consensus that it will be well above 50 percent of the global population, with a vast majority of the global population (70 percent) residing in cities.

Why shouldn't business leaders be excited and aggressively pursue this burgeoning market? This is a great market opportunity for retail goods and services and for the movement and creation of fixed capital. It would mean creating a strategic plan to scale up capacity and distribution

in those regions of the world. In other words, how quickly can business scale up and provide the goods and services necessary to meet that growing demand?

All of us have read about companies that are following their marketing research and instincts and building capacities in developing regions of the world. At first, the move to set up manufacturing and assembly plants in the developing world was made to take advantage of low-cost, high-quality labor. Businesses believe there is a golden opportunity in Africa, India, and Asia to take on a share of these emerging domestic markets. Companies like Ikea, BMW, Samsung, and Ford Motor Company have been moving quickly to capitalize on this new market. This is less news than it is history.

A Distant, Fragile Middle Class

However, there are implications of this new, emerging middle class that create potential hazards for companies and organizations alike. First, this metamorphosis in the urbanization, population, and economic condition of humanity is not occurring in the same places as in the past. In fact, the highest growth in the middle class is moving east, with the largest contribution in Asia, India, and Africa. Homi Kharas, a Brookings Institution scholar appointed by UN Secretary-General Ban Ki-moon to lead the panel to develop the UN MDG for 2015, presented a compelling paper at the World Economic Forum in 2012.[12] He shared a projection that indicates 64 percent of the middle class in 2030 will be in Asia, while the middle class in Europe and the United States—today composing some 50 percent of the world's middle class—will fall to 22 percent in 2030. In addition, his research projected that 40 percent of global middle-class consumption in 2030 will come from Asia.

Second, and more important, this new middle class is fragile, dependent heavily on freedom to work, improvement in healthcare, improvement in education, a strong economy, and interlinked with issues such as national governance, domestic racism, and more. Those in the lower part of the US$2–$12 per day range are particularly vulnerable to all of

these factors. Also, there has been little reduction in what the UN calls *vulnerable employment*—that is, unpaid family members or own-account workers. Vulnerable workers account for 58 percent of all employment in developing regions. UN and World Bank studies have proven earnings in this income range are quite fluid, sliding up and down the scale and easily falling out of middle class and back into abject poverty. It is a difficult market to target and stay with.

The reality of this new middle class is that it is shifting from the traditional Western, developed nations to Latin America, Asia, and Africa. And this movement is not due only to a shift in percentages. While the new paradigm of the middle class proliferates in the developing world, the old paradigm of the middle class in the developed world appears to be shrinking. For example, a 2012 joint study by the Bertelsmann Foundation and the German Institute for Economic Research (DIW) found that "Germany's once robust middle class has been shrinking rapidly for years" and "confirmed that low-income earners in Germany hardly ever move up the social ladder."[13] Once the backbone of society, the German middle class has dwindled over the past 15 years:

> Based on a poll of 20,000 adults, the study found that [at the end of 2012], middle-income earners accounted for 58 percent of the overall German population, down from 65 percent back in 1997. In absolute numbers, the middle class thus decreased by 5.5 million over the period under revision to total 47 million people.
>
> At the same time, four million more people were added to the army of low-income earners, the survey said, while adding that once relegated, a renewed promotion to the higher income league was the exception rather than the rule.[14]

This convergence between the shrinking traditional middle class and the growing new low-earner middle class may very well mean a "motor of consumption" that will be greater than any we have witnessed in our history.

Unrelenting Demand and Diminishing Supplies

There is no question that this emerging motor of consumption and its associated urbanization is growing exponentially. Over the next 40 years, with continuing prosperity and proper supply, it will present a tremendous opportunity to provide thousands of classes of goods and services such as housing, clothing, food, transport, medicines, consumable goods, communication devices, and more. Even with the knowledge that the new market is in the developing world—and that it is also quite fragile, expanding and contracting with the cycle of fluctuating prices and changes in local and global economies—it remains a powerful magnet for new and existing providers of these goods and services throughout the world.

But this unrelenting demand is not affecting only the finished goods that are available. All one has to do is look up the supply chain to the source of the raw materials that are the genesis of most goods and materials. From the most fundamental resources such as water and wood, to the most enjoyable resources such as cocoa for chocolate, to the most exotic materials for telecommunications devices, supplies are diminishing and will continue to diminish at alarming rates unless something is done soon. Chapter 2 will address the issue in depth and how this demand will challenge nearly all supply chains, but a brief preview here will begin building a stronger case for the need for a new, more sustainable strategy.

Quenching a Global Thirst

In the 2012 UN MDG report, much attention was directed to one of the most critical goals: broad use of safe drinking water. The report indicates that while 19 percent of the rural population of the developing world used unimproved sources of water in 2010, the rate in urban areas was only 4 percent. However, the report further indicates that since safety, reliability, and sustainability are not factored into tracking progress on this goal, it is likely that these percentages overestimate the number of people using safe water supplies. Worse, nearly half the population in the developing world—*2.5 billion people*—still lacks access to improved sanitation like

toilets and proper bathing facilities. With rapid urbanization on the horizon, safe drinking water and sanitation become critical to a healthy and strong populace and global workforce.

Industry and manufacturing are the greatest competitors for fresh drinking water in the world today. Manufacturing, energy, and production must compete for a share of water not used in agriculture, drinking, or sanitation. When water is permanently polluted in the manufacturing process, the total clean water available—whether on the surface or below ground—is reduced. The need for water in agriculture will grow in developing nations, even if agriculture becomes more sustainable and productive throughout the world. The hidden competition for water among industry sectors anywhere in a food-related supply chain will become intense throughout the century.

The 2012 UN MDG report also indicated that progress in diminishing food deprivation had slowed or been reduced in many regions of the world. In fact, even though there have been dramatic improvements in moving people out of abject poverty, undernourishment rates—especially in sub-Saharan Africa and in Southern Asia (outside of India)—have not improved. Nearly one-fifth of children in the developing world remain undernourished. The battle for water is under way and with a growing population may very well become a battle for life.

Water is an undervalued resource. It sustains our people, it irrigates our crops, it cools our machines, it helps produce our energy, it creates our refreshment drinks, and it nourishes our animals. In short, freshwater is the most valuable of all resources on the planet. We often limit our thinking about water usage to drinking, cooking, and agriculture, but it is the factories and offices that will create an ever growing need for water as these engines of production attempt to meet the demand of the massive population of the mid-twenty-first century.

Supplying the Raw Materials

In his landmark 1970 book *Future Shock*, Alvin Toffler predicted that developing nations might very well leapfrog over mature technologies

and use new and emerging technologies in ways previously unheard of. Nothing proves this theory more than the use of cellular phone technology. The 2012 UN MDG report indicates that in 2011, more than 75 percent of mobile cellular subscriptions were in developing regions, up from 59 percent in 2005. In sub-Saharan Africa, mobile cellular penetration is 50 percent, while landlines are at only 1 percent! The International Telecommunications Union (ITU) 2012 statistical report confirms this growth. For consideration, in 2011:

- Mobile cellular subscriptions reached a global penetration of 86 percent
- 80 percent of the 660 million new subscriptions were in the developing world
- 142 million new subscribers were added in India alone
- 144 million broadband subscribers were added in the BRICS (Brazil, Russia, India, China, and South Africa), which is 45 percent of total global subscription growth
- 105 countries—including nations such as Botswana, Namibia, and Gabon—had more cellular subscriptions than inhabitants[15]

This increased use will drive greatly increased demand for the materials used to manufacture these products. Chapter 2 highlights the challenges in finding and accessing the raw materials to meet this demand—not the rosiest of futures for the information and communications technology (ICT) field, or for any other industry sector. The sources are few, and the locations are volatile, from both an economic point of view and a governance point of view. Regardless of the associated technology business, a clear understanding is required of the trade-offs and "deals" that have to be brokered to ensure some sort of supply in the future, and this brokering will challenge business ethics.

Outsourcing—What About Accountability and Ethics?

No doubt, the supply chains spanning the globe today will only stretch further in the years to come. Constant vigilance and negotiation will be

required to ensure that these supplies are readily available. However, a challenge that continues to grow is deciding who is ethically responsible for the work done by suppliers in other parts of the world. This question, or the lack of a suitable response, has made headlines for years.

GREG—In 2007, while I was in Singapore for my association, I was asked to be a subject matter expert on CNBC regarding a dilemma involving Mattel. That year, there were seven Mattel product recalls (toys) due to quality and safety problems.[16] All seven recalled toys were manufactured in China as part of Mattel's outsourcing processes. Mattel, by the way, had been outsourcing in Asia since 1959, and by 2007, more than 65 percent of its toys were manufactured in China. By most measures, Mattel was a very successful outsourcer.

Mattel's initial response to the recalls was to blame China, and frankly, the press tried to do the same. When I was asked about the so-called outsourcing responsibility, I was compelled to answer with the question, "Who owns the brand?" As I saw it, the responsibility sat squarely in Mattel's executive suite—a view later shared by Mattel's leadership. Mattel's products could be outsourced, but not Mattel's brand—and it was the brand that was tarnished by the situation. Mattel had become somewhat complacent due to its very significant success, and the company failed to maintain due diligence in supplier inspections. In many cases, Mattel allowed its trusted suppliers to do their own inspections.

This is not new, nor is it a surprise. Today the question focuses on where responsibility for the brand ends. Also, does that responsibility involve only product quality and safety, or does it also involve the way that employees are treated?

Apple, Inc. is one of the most remarkable ICT companies in the world. The successes of its iPod, iPad, iPhone, and Mac computers have become legend in the industry. In the interest of full disclosure, Greg, like millions across the globe, owns an iPod, iPad, iPhone, and an Apple Mac Pro. In 2012, Apple stock prices hit an all-time high for

any company in the history of publicly traded firms—valued for a time at nearly US$750 billion!

To produce these millions and millions of products, Apple—like many of its industry competitors—outsources some manufacturing and final assembly to Asia, Africa, and Latin America. In 2011, a problem surfaced that affected not only Apple but also its competitors. Specifically, the problem involved the quality of work-life practices at Foxconn, a provider of inexpensive, high-quality labor used to produce, manufacture, and assemble, among other ICT products, the iPad and iPhone product lines. Though Foxconn was founded and headquartered in Taiwan, the company has factories throughout the world. Fifteen of the world's largest ICT providers had outsourced the assembly and manufacturing of many of their products to Foxconn.

To some extent, many of these providers viewed Foxconn as responsible for the care and well-being of its employees. Typically, some of these client firms (but not all) have supplier codes of conduct and ethics, and they ask that contractors be responsible for maintaining their policies in accordance with the codes. It is up to the clients to verify compliance, but many do not.

In early 2011, the Foxconn factory in Chengdu, China, was targeted by two different Chinese fair labor practice NGOs for safety violations, employee suicides, and an explosion that killed three employees.[17] Unfortunately, Apple did not react quickly and publicly enough, and the problem went viral when employees at the plant began tweeting and publishing reports of problems on the Internet.

Apple was forced to act—and acted aggressively. Apple was also forced to provide a list of its outsourcing providers, and all of Foxconn's other ICT contracts were also vulnerable. The public's reaction to these events has shifted accountability for compliance with supplier codes from the outsourcing providers to their clients, and has created a need for companies to be transparent about such activities. The novel element of this situation is that the NGOs were Chinese nationals investigating labor practices in their own country, and the entire affair became public through social media, which served as the whistle-blowers' tool to reach the public.

With social media, it is now virtually impossible to keep a problem of this magnitude quiet.

The Double Meaning of Sustainability

We hope that this first chapter grabbed your attention and set up the *why* when you're considering a new strategy for your company. However, it is important for us to reiterate that this book—and more specifically, this chapter—is not intended to be a harbinger of doom. This book is intended to be an eye-opener, representing the contours of the playing field for your organization in the future. More so, we hope this book can help you develop a long-term strategy for your organization that will help maintain marketplace sustainability well into the twenty-first century while creating a strategy that is inextricably linked to survivability and sustainability for communities and the planet.

As we researched the book, it became clear that the *why* was attacking the very core of a company's strategy. The traditional model of sustainability was for a company to continue to maintain a lead in market share while providing the necessary return on investment to its stockholders and its board. Over the last three decades, companies have moved beyond the economic qualifier for success and have added environmental qualifiers. For some companies, sustainability has been about minimal compliance with regulations, while for other companies, it has been about creating a mission that would not be harmful to the planet.

Still other companies pursue sustainability with the "triple bottom line," as first defined by John Elkington in his book of the same name. The triple bottom line involves a strategy that somehow embraces social responsibility in the day-to-day operation of a business. For some companies, this means contributing funds or workers' time to a worthy cause; for others, it means recycling plastics; and for others, it means building an organization that creates real and continuing value in the world.

Today, however, there is an evolving fourth element of sustainability that must be addressed in all aspects of business: the ethics of strategy.

Like it or not, organizations today are custodians of the public trust. People expect companies to do the right thing, to protect their interests, and to provide safety and quality in the products and services they offer. Protection of this trust is watched over and reported on by all measures and types of stakeholders through broadcast, print, and social media. We are all reporters, we are all whistle-blowers, and we are all responsible.

This means that successful companies of the future will have an integrated strategy, driven by a mission, that meets all of these criteria:

- *Social responsibility.* The company will open its doors to a new stakeholder mentality, starting internally with its own labor force, the supply of future labor, the communities supporting the creation of the organization, and most important, the global social fabric of which we are all a part.
- *Economic performance.* The company must generate surplus money to support and maintain its investors, its employees, and its enterprise, and it must reduce costs and eliminate waste—not only in the office or on the shop floor but also throughout its supply chain, in partnership with all of its suppliers.
- *Environmental responsibility.* The company must focus on protecting the environment in all that it does throughout its value and supply chains, whether in the direct investment in products and services or in the creation of the indirect infrastructure to support the creation of value in its product and service line, including the utilization of raw materials and the removal of carbon from the atmosphere.
- *Ethical behavior.* Finally, the company will thrive on extreme transparency and accountability to a set of stakeholders far larger than the traditional list of stakeholders and customers. It will have to define its brand by ethical behavior throughout its value and supply chain, not just in the internal processes that define its direct work content.

There are many people in the world who genuinely believe that our efforts to date are sufficient and that innovation will solve the problems

of the world. There is no question that much progress has been made. However, the real question is when is enough, enough? It is well beyond the scope of this or any one book to highlight all of the initiatives, regulations, and laws that have contributed to the better world that we live in. Instead, we would like to refer to one of the most noted and profound studies done to project the impact of people on the planet.

In 1970, a man by the name of Jay W. Forrester, considered by many to be the father of system dynamics, quietly received a project contract to conduct a study called "Limits to Growth" for the Club of Rome. The Club of Rome is a global think tank founded in 1968 that deals with a variety of international political issues, and it sponsors and conducts research on root causes of the crises facing the world, particularly in growth, development, and globalization.

Forrester gathered some of the great systems thinkers of the time, including Dennis L. Meadows, Donella H. Meadows, and Jørgen Randers. The team developed a computer model for analyzing population and urban growth, current and future demands on the planet and its resources, and potential future scenarios. The results of the study were published in 1972 in a book titled *Limits to Growth*—the first landmark study on the subject.

Since that time, four 10-year updates have examined the progress made on the planet. The last living author is Randers. His recent book, *2052: A Global Forecast for the Next Forty Years*, looks ahead and provides "an educated guess," in his words, as to where we will end up in 2052.[18] He looked back at the original Limits to Growth study and highlighted the conclusions. At the time, the group's main conclusion was that "without big changes, humanity would grow dangerously beyond the physical limits of the planet."[19] But the required changes would take time: time to recognize that the problem is real, time to come up with realistic solutions, and time to implement those solutions. Even though the clock was ticking, consider that it took nearly 30 years before the United Nations could bring business and government leaders together to develop a set of global goals (the previously mentioned Millennium Development Goals) to coordinate action.

Though it presents a different picture and forecast than the original study, *2052* does not promise a happy future. Randers characterizes his view of the future as "gloomy."[20] In fact, his projection indicates that we may very well overshoot our use of planetary resources, like overfishing streams and oceans. We can do it for a while, but it will eventually cause irreparable damage. He believes that we need to consider different paradigms about the way the world will operate—different underlying principles. In short, we need to think differently about our future 40 years from now.

We remain optimistic that business and industry can still make a difference, in ways that can have a significant impact on the future of planetary resources, while still thriving in business. Hundreds of organizations are already succeeding along these lines. Later in this book, we will present examples of large and small organizations alike. Size doesn't matter; the actions in this book are scalable and actionable regardless of how challenging they may seem. As you will see, partnerships are the rule. You don't have to change alone, since this challenge affects all of us, competitor and partner alike.

Corporate sustainability is not about perfection but rather about deliberate progress in an integrated fashion. Each year, hundreds of companies around the world "get it" and begin to change. We want this book to change your mindset by sharing some of the many examples of successful transformation across the globe and the skill set that many have adopted to make this strategic change. Finally, we want to provide you with the tools to assess and change your organization. This book is about a realistic approach to change. We believe this book can build hope that change is possible, and can present a new perspective on what hope looks like.

I am not an optimist in the sense that I believe everything will go well. But neither am I a pessimist in the sense that I believe everything will go wrong. I am hopeful. For without hope, there will be no progress. Hope is as important as life itself.[21]

—Vaclav Havel

Chapter Summary

This chapter has provided much food for thought. In review, these are some of the complexities you will be dealing with in the future:

- Growing population will be dramatically more urban and will require all of the trappings of an urban environment, competing for the same supply chains companies need to produce goods and services.
- A new global middle class, more than double the size of the middle class of today, is emerging, and it may well represent the majority of the population of 2050.
- Middle-class growth dominates in developing nations, particularly in China, Southern Asia, and Africa, and not in the traditional markets we know.
- This new middle class will create an unheard-of demand for goods and services, without the robust prosperity that has accompanied the traditional middle classes of the past. This may lead to broader ranges of price without sacrificing quality.
- This new middle-class market will be fluid, fragile, and in many cases still teetering on the edge of poverty.
- The combination of urbanization and this new middle class will place great strains on governments around the globe to provide the education and social welfare needed to support the population and future workforces of the world.
- From water to food to exotic raw materials, supply chains in the future will be taxed more than ever in human history, and they will require innovation and entrepreneurial responses that have never been seen before.
- Companies must and will change, in an integrated fashion, to support:
  - Social responsibility
  - Economic performance
  - Environmental responsibility
  - Ethical behavior

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Chapter 2

Dwindling Supplies and Growing Demand

When the well's dry, we know the worth of water.
—Benjamin Franklin

NATHALIE—One of my passions is scuba diving. I have been diving all over the world for more than 15 years. Seventy percent of the planet is covered by water, and it is awe-inspiring to float around and admire an ecosystem where we humans cannot survive without technology.

In 2012, I spent eight days on the Nautilus Swell, a beautiful wooden dive boat converted from a 1912 tugboat. It was an amazing trip, exploring Alaska above water as well as below. Alaska definitely feels like the last frontier. The scenery is stunning and spectacular, with astounding wildlife. The country is rugged—some towns are reachable only by air or water—and large stretches are still unexplored. We watched crumbling glaciers, played around and on icebergs, soaked in hot springs, and observed feeding humpback whales, bald eagles, and running salmon. Underwater, the show continued: prehistoric-looking prowfish, lots of extremely colorful

rockfish, basket stars with hundreds of small tentacles, playful Steller sea lions, impressive shipwrecks like the *Princess Sophia* and the *State of California*, and walls so covered with brightly colored corals that you can't touch a single square inch without touching something that is alive.

In the short time I have been diving, I have seen the changes in the aquatic ecosystem with my own eyes: fewer large predators, more bleached corals, foreign species replacing native species, floating trash "islands" the size of the state of Texas, pollution, diminishing visibility, shoreline erosion, toxic algae blooms, and much more. As a scuba diver with a passion for this planet, seeing this change hurts my heart. As a business owner, I might think, "This does not affect my business; why should I care or take action?" As a consumer, I might not like fish, so perhaps it doesn't affect me. However, the changes that are taking place on our planet, not only in our oceans but also in the air and on land, affect us all! This chapter explains how current patterns of consumption and production threaten your business's bottom line—and potentially its survival—unless we make significant strategic changes. It will also highlight examples of companies that made these strategic changes and the benefits they reaped.

As Chapter 1 explained, we are faced with a growing world population, a skyrocketing number of people in the middle class who will send consumption rates soaring globally, and an environment that is cracking under the pressure. If we continue down the current path, it is not a matter of *if* but *when* we will run out of resources to run our businesses and to support the population. Let's take a look at the state of several raw materials—some basic and some more exotic—used in most businesses and in our daily life.

On the Road to Scarcity

Of all the resources in the world, water is the most critical. Freshwater is essential for human life, agriculture, and industry. Without it we, and most of the animal and plant world, would not exist. Ninety-seven percent

of the earth's water is in the ocean, and the ocean supplies almost all the water that falls on land as rain and snow. Of the approximately 3 percent that is freshwater, a little over three-quarters is frozen, 20 percent is inaccessible groundwater, and a mere 1 percent remains as accessible surface water (Figure 2.1).[1]

Most critically, the supply of freshwater on our planet is finite and irreplaceable. This means that when water gets contaminated by raw sewage, factories, power generation, or natural disasters, it must be cleaned or it is a threat to human, animal, and plant life. Desalinization is not an answer since desalination plants tend to be very energy intensive, adding

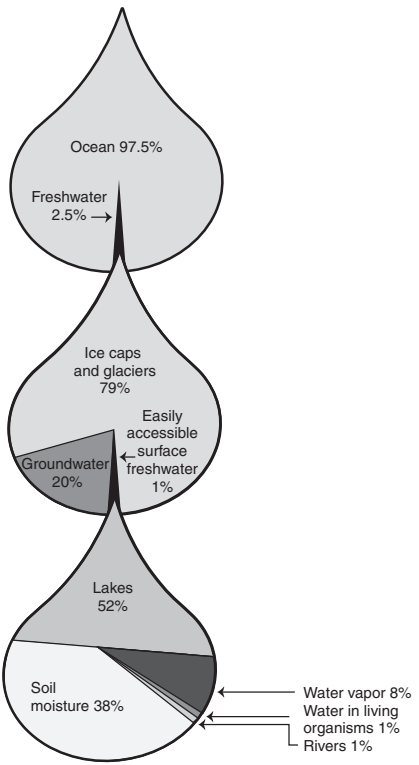

FIGURE 2.1 Earth has abundant water, but only a very small percentage of it is freshwater, and even less is easily available for human use. This figure shows the relative distribution of freshwater in terms of total water supply. Most communities get their water from river runoff and other surface water supplies (0.03 percent of the total planetary supply).

Source: AAAS Atlas of Population and Environment, http://atlas.aaas.org.

to the global warming problems of the world. In addition, the brine and chemical discharges from the plants negatively impact coastal water quality and marine life. The oceans are the source of livelihood for a significant portion of the people on this earth and are already under considerable stress from overfishing, pollution, invasive species, coastal habitat loss, and acidification. Large-scale desalination would only add to these stresses. Since we cannot create additional freshwater, it is even more critical to conserve the water we have.

Sadly, we are not good stewards of this scarce resource. Studies show that agriculture accounts for about 70 percent of global freshwater use each year.[2] Since the hydrological cycle is closed, this means that all other industries (manufacturing, energy, production, etc.) and the world population must compete for the rest. Agriculture is also a main contributor to water pollution from excess fertilizers, pesticides, and other pollutants. When water is polluted, the total clean water available, whether on the surface or below ground, is reduced. Agriculture is expected to produce even more food, feed, fuel, fibers, and building materials in the coming years to support the increasing world population and escalating consumption rates. Even if agriculture becomes more sustainable and productive throughout the world, the competition for water will become more intense during the century. Almost every industry and company will be impacted, either directly because agriculture is one of the ingredients or indirectly because they will need to fight over the remaining water.

Companies will have to actively manage their **water footprint** to protect their supply chains from future water scarcity, from the water needed by their raw materials to the water used in their factory operations. The water footprint is the volume of freshwater used to produce a product, measured over the full supply chain, from raw ingredients until it leaves the factory. It is a multidimensional indicator, showing water consumption by source and pollution amounts by type of pollution. The water footprint of a business consists of an equation of green, blue, and gray water. To produce goods and services, a business consumes a certain amount of the global green water resources (rainwater) and of the global

blue water resources (surface water and groundwater). In the process, it creates a certain volume of polluted water (gray water).[3] A business can lower its water footprint by purifying the water used in the sourcing and production process and returning it to nature in an as clean or cleaner form than it was withdrawn.

Every company is dependent on water, either directly or indirectly. For those interested in the details of global water management, an excellent analysis is provided in the UN World Water Development Report *Managing Water under Uncertainty and Risk*. (UNESCO, 2012). In this book, we will focus on what companies can do to manage the risk to their supply chain.

Let's look at how this precious resource is linked to everything we do. Every time you turn on a light, you use water—and a lot of it. Yes, it sounds crazy, but without water, our energy and power generation systems would come to an abrupt stop. A recent study by the Virginia Water Resources Research Center in Blacksburg, Virginia, provides some startling statistics.[4] The study compared the water use for producing different fuels and different power generation methods. Just to give you an idea, the thermoelectric industry in the United States alone uses more than 132 billion gallons (almost 500 billion liters) of freshwater *each day* to produce electricity to meet the daily demand—enough to fill six million swimming pools.[5] This translates to 95 liters of water (about 25 gallons) to produce one kilowatt-hour of electricity—the electricity needed to keep a 60-watt incandescent lightbulb lit for about 18 hours!

Why so much? According to the study, "Water is used in many ways when producing fuels and power, including pumping crude oil out of the ground, helping remove pollutants from power plant exhaust, generating steam that turns turbines, flushing away residue after fossil fuels are burned, and keeping power plants cooled." Table 2.1 shows the differences in water use efficiency between different fuels and power generation methods. From a water efficiency point of view, nuclear power is one of the least efficient ways to generate power, due to the need for special cooling and steam turbines to produce the electricity. However, the most

TABLE 2.1 Water Use Efficiency of Power Generation and Fuel Sources

	Efficiency (Gallons/MBTU)	
Fuel Source	**Low**	**High**
Coal	41	164
Natural Gas	3	n/a
Petroleum/Oil	1,200	2,420
Corn-Ethanol	2,510	29,100
Soy-Biodiesel	14,000	75,000
Hydroelectric	20	n/a
Fossil Fuel Thermoelectric	1,100	2,200
Geothermal	130	n/a
Nuclear	2,400	5,800
Solar Thermoelectric	230	270
Hydrogen	143	243

Calculated water use efficiency for various energy sources. Water is used in a variety of ways for energy production, including mining of the source material, irrigation for biofuel crops, steam generation, coolants, cleaning, and more. Table 2.1 details the relative efficiency of various energy sources in terms of gallons of water used per one million BTUs (British Thermal Units).

Source: Virginia Water Resources Research Center.

surprising one is biodiesel. When you look at the full life cycle to grow and produce it, biodiesel becomes the least efficient way to produce energy.

In developed nations, regulations have been imposed on the power generation sector to protect and clean water used in the process. This has helped maintain a continued supply of fresh drinking water. But in the developing world, the attention to restoring gray (polluted, undrinkable) water to drinking water purity is not nearly as intense, and industry is far less heavily regulated. Any manufacturing or production plant that utilizes electricity is consuming water upstream in the so-called life cycle of power and should show interest in protecting it no matter where in the world the plant is located.

What about product-specific uses of water? Think of that nice, cold beer or soda you might enjoy on a hot day. The water footprint of one liter of soda is 338–618 liters, depending on where the sugar originates![6]

Anywhere from 61 to 180 liters of freshwater is needed for your nice, cold beer, depending on where the barley is grown.[7] The vast majority of the water footprint is not in the manufacturing factories or bottling plants. In fact, most modern bottling companies throughout the world have reduced the operational use of water to less than 10 liters per liter of final product.[8] When one looks at the entire supply chain, most of the water is used in the fields where ingredients like sugar, barley, rye, and tea are grown (99.7 percent to 99.8 percent). These numbers get contested at times if the agricultural footprint is shared with multiple product companies using the same agricultural supplier, but even if that is the case the numbers are still staggering. As mentioned earlier, agriculture is the single biggest consumer of water, so any industry that depends on it has a large water footprint and should actively assess and manage that footprint to limit supply chain disruptions.

The United Nations projects that two-thirds of the world's population will face water scarcity by 2025.[9] One reason not discussed yet is climate changes that could create more severe weather and disrupt rainfall patterns.

Feeling the Heat

Climate change is a real business risk. It causes extreme weather events, including excessive rainfall and extreme droughts, affecting agriculture yields, livelihoods, and supply chains. It causes significant changes in the forests around the globe, impacting their ability to photosynthesize and their overall health. It is changing both the temperature and acidity of our oceans, directly affecting marine life and world coral reefs.

NATHALIE—I grew up in the Netherlands, where more than one-quarter of the country is below sea level, so since my youth I have heard about the dangers of climate change and rising oceans. Though climate change has been contested for decades, even the staunchest opponents of the idea that the human race is heating up this planet have finally conceded and agree that we are, if not the sole cause, at least part of the cause. At the end

of 2012, the World Bank released a report titled *Turn Down the Heat* that highlights the devastating effects of a temperature increase of just 4°C.[10] Four degrees might not seem like much, but it can create a vastly different world. During the last ice age, most of the northern hemisphere was frozen solid, and global mean temperatures were only 4.5–7°C (7–12°F) lower than today. The 4°C scenario is not a hypothetical analysis; it is a very likely reality by the end of this century if we continue down our current path.

When the average world temperature rises 4ºC, sea levels are expected to rise between one-half and one meter, inundating coastal areas. Scientists believe more extreme heat waves will become the norm, increasing the number of wildfires. Many regions will have to deal with increased water scarcity while others will become wetter with more frequent floods, and more severe weather will affect more people all around the world. You only have to look at today's headlines to know this trend has already started. In 2012 part of Australia was experiencing major floods, forcing thousands of people to leave their homes, while other areas were parched and fighting bushfires because of severe rainfall deficiencies for at least nine months. That same year, the sea ice covering the Arctic fell to record lows not seen since satellite tracking began 33 years ago, igniting a political quarrel about who owns the oil rich soils under the once vast icepack and opening new Arctic shipping routes.

No matter who or what is causing it, the effects of a warmer earth will directly impact businesses and economies globally through increased frequency and severity of extreme weather events. The 2011 Thailand floods—the region's worst in 50 years—disrupted automotive, electronics, and retail supply chains all over the world, creating global part shortages.

In addition to disrupting supply chains through flooded factories or failed crops, the trends noted earlier—growing global population, increasing wealth in the developing world, and climate changes—could also cause several direct threats for businesses. Raw materials could become scarce due to crop losses caused by changing climates, or loss of arable land caused by rising oceans and changes in rainfall patterns. Local governments could

hike prices or cut off supplies to foreign factories. Global reputations could be tarnished when local communities revolt against water shortages they perceive to be caused by factories. Coca-Cola experienced this firsthand in India, where local farmers blamed several Coca-Cola bottling factories for depleting groundwater and aggravating drought. One case still in Indian courts involves the Plachimada community in the Indian state of Kerala, which claimed that ever since a bottling plant was opened on their land in 2000, they have faced polluted and depleted groundwater, causing crops to fail. A scientific study has found even though the plant had "aggravated the water scarcity situation," the most significant factor was lack of rainfall.[11] Coca-Cola's reputation and brand, however, were damaged by this event, especially in India. Critics continue to question the ethics of locating bottling plants in drought-stricken areas. In March 2004, the local government decided to shut the plant down.

Supply chains could be further impacted by regional conflicts caused by large-scale migrations, which will take place when people are either forced to move because of permanent flooding or because the land can no longer support increasing demands for food due to depletion of the soil, water pollution, or water scarcity. The latest UN World Water Development Report (WWDR) highlights these challenges, indicating the immense threats posed by natural disasters.[12] Droughts, for example, strain agricultural production, leading to price increases and shortages of basic foods. Desertification, land degradation, and drought (DLDD) have already degraded, often irreversibly, nearly two billion hectares of land (nearly eight million square miles) worldwide—an area twice the size of China. Nearly 1.5 billion people live in DLDD-affected areas, putting them at risk of water insecurity and malnutrition.[13] The WWDR underscores other widespread effects of scarcity, including population displacement, disruption of livelihoods, regional conflicts, and health epidemics.

The Ethical Dilemma of Our Mobile World

The criticality of water, food, and agriculture is often discussed in the media. But there are other, less visible raw materials that we rarely

talk about that are used in products our businesses and daily lives now depend on.

No matter where you are in the world today, almost everyone around you has a cell phone. In developed countries, some people even have two or three. The "ingredient" list of a cell phone reads like an alchemist's shopping list, with many precious metals most of us have never heard of (Table 2.2).

TABLE 2.2 Selected Rare Minerals Used in Cell Phone Manufacturing

Mineral	Use
Aluminum	Wiring on circuit boards, housings
Beryllium	Heat dissipation of conductors in electronics
Cobalt	Rechargeable batteries, coatings for hard disk drives
Copper	Conductors in electronics
Gallium	Integrated circuits, optical electronics, LEDs
Germanium	Transistor components
Gold	Solders, conductors, and connectors
Indium	LCDs, photovoltaic components
Iridium	Surface acoustic wave (SAW) filters
Lithium	Rechargeable batteries, surface acoustic wave (SAW) filters
Neodymium	Neodymium (NdFeB, NIB, Neo) magnets
Niobium	Microcapacitors
Palladium	Conductors in electronics
Platinum	Hard disk drives, TFT LCDs, etc.
Sapphire	LEDs
Silver	Wiring on circuit boards
Tantalum	Capacitors and conductors
Tin	Lead-free solders
Tungsten	Makes cell phones vibrate

This table lists just some of the minerals used in manufacturing cell phones and other electronics. Most of these are base chemical elements rarely found in native deposits. For example, lithium is usually extracted from brines and clays, and indium is obtained from zinc ores. Neodymium is a rare earth element, primarily mined in China. The familiar gemstone sapphire has a variety of industrial uses, though synthetic forms are sometimes used.

If you are old enough, you might remember the large bricks we used to carry around that we called cell phones. We have the rare metal tantalum to thank for the small phones we use today. Tantalum is extracted from the ore columbite-tantalite (coltan). It is virtually corrosion proof and is used in the manufacture of capacitors, which regulate voltage, store energy, and are used in many electronic devices. Tantalum is an extremely good conductor of both heat and electricity, so it can be used in small components and withstands pressure. This makes it ideal for phones and other small electronic devices such as handheld game consoles, laptops, and digital cameras.[14]

The rare earth elements (REEs) also fall into the category of most important raw materials you have never heard of. REEs are found in ores. Although plentiful in the earth, they are not concentrated in large enough quantities anywhere, hence the name "rare earth." Lanthanum, one of the rare earth elements, is critical in the manufacturing of modern batteries. Each Toyota Prius, for example, needs about 10 pounds of lanthanum for its nickel-metal hydride (NiMH) battery. Where is lanthanum in the NiMH? It is the "metal" in metal hydride and makes the battery one of the most powerful on the road. Another rare earth element—europium, a phosphor—was used in the cathode ray tubes (CRTs) in older TVs and computer monitors. Today, it is used in the manufacture of LED lighting. Erbium, another REE, is used as an amplifier in fiber optic technology to speed transmission of data along the line.[15]

As you read in Chapter 1, there is no doubt the demand for cell phones and low-priced electronics will grow exponentially along with the population and new global middle class. A 2010 article, "How a Handful of Countries Control the Supply of the Earth's Most Precious Resources," by Kate Rockwood, reemphasizes this point:

> As our gadget dependency grows, so does our appetite for these bits of earth. In fact, demand for the 14 most-critical minerals for today's electronic technologies may as much as triple over the next 20 years, according to the European Commission. . . . "The era of access to

easy resources is over," says mining analyst Paul Bugala of Calvert Investments.[16]

This growth brings varied challenges. Only 30 milligrams of tantalum are used in a cell phone. But with billions of cell phones currently in use (there were six billion cell phone subscribers, based on SIM card count, at the end of 2011)[17] and many more expected, that's a lot of tantalum. The primary sources of the metal have been Australia, Brazil, and Canada, but due to the growing demand (and thus price), the Democratic Republic of the Congo (DRC) and Saudi Arabia have become new suppliers. Unfortunately, the receipts from the sale of tantalum have been used to fund opposing sides in the DRC's civil war, which has killed more than five million people since 1998, marking DRC tantalum as a conflict mineral (similar to "blood diamonds"). Neighboring countries have also been accused of smuggling the metal out of the DRC.[18]

The REEs, on the other hand, present a different business problem. Ninety-five percent of the world's supply is from China. The reformist Chinese politician Deng Xiaoping once observed that these minerals are to China what oil is to Saudi Arabia. His comment seems to be more accurate than once believed. In 2010, China suddenly restricted the export of raw ore for REE, seemingly for political reasons. This restriction had an immediate impact on the global electronics industry and initiated a worldwide search for new REE sources.[19] Complicating the picture is the fact that rare earth deposits require extensive processing to yield usable ores. The extraction and purification process is waste-intensive and uses radioactive materials. Plants are often located in the developing world where there are less strict regulations of waste treatment, permanently impacting the environment and surrounding communities.

Organizations need to take these supply chain constraints and ethical issues into account when looking for raw materials. Even if your raw materials are plentiful right now, that can change suddenly due to political issues or an exponential increase in demand. In addition, companies

should implement programs to recycle existing rare earth elements to help ensure a shortage-free transition to a reliable and sustainable international supply chain.

Replenishing Raw Materials

We've investigated the exotic raw materials mined from deep in the planet's crust. Now let's move back to the surface and look at a more traditional natural resource: wood. Since the beginning of humanity, forests have been a source of raw material for buildings, transportation, communication, and fuel for cooking. As Ahmed Djoghlaf, executive secretary of the Convention on Biological Diversity, said in the foreword of the 2009 *Forest Resilience, Biodiversity, and Climate Change* report:

> The world's forest ecosystems provide environmental services that benefit, directly or indirectly, all human communities, including watershed protection, regional climatic regulation, fibre, food, drinking water, air purification, carbon storage, recreation, and pharmaceuticals.[20]

Continent after continent, forests have succumbed to population growth. According to the UN's Food and Agriculture Organization (FAO), over 13 million hectares (30 million acres) of forests are destroyed by human activity every year.[21] Leading causes are illegal logging, poor forest management practices, growing demand for forest and agricultural products, and human-related fires. The destruction of the world's remaining forests is a major concern. The world's rainforests are said to be the source of more than one-third of Earth's oxygen, the remainder being produced by the world's oceans.[22]

Aside from the direct problems caused by deforestation—flooding, loss of nutrient-rich soil, desertification ("persistent degradation of dryland ecosystems by human activities . . . and by climate change"[23]), biodiversity extinctions, and deaths during land disputes caused by illegal

logging—wood is also a main raw material for many industries such as housing, furniture, transportation, sanitation, paper, clothing, art, and musical instruments. These industries compete with approximately two billion people who still depend on wood to cook and preserve their food. Additionally, forests play an important role in the global carbon cycle. After our oceans, forests are the biggest absorbers of carbon dioxide. Deforestation is a double whammy; it leaves fewer trees to provide oxygen, and removing the trees releases stored carbon back into the atmosphere.

Population growth, urbanization, water scarcity, and the changing climate are all affecting the world's forests by increasing the demand for wood and reducing the available supply. In addition, we should expect that a sustainable global economy will use more wood for energy, shelter, and an increasing array of products. This is possible only if we practice sustainable forest management.

Forestry has been practiced for thousands of years. Sustainably managed forests can redirect demand from nonrenewable rainforest hardwoods to renewable, sustainable supplies. In addition, sustainably managed forests provide benefits such as clean air and water, wildlife habitat, and sometimes recreation opportunities.

Our businesses are dependent on these and many more raw materials. The simple reality is that supplies are dwindling or getting harder to extract or grow. To deal with these decreasing supplies, organizations need to preserve and closely manage their full value and supply chains. Organizational supply chains are complex, and many organizations do not look further than their direct suppliers. However, a full supply chain is a complex system of organizations, people, technology, activities, information, and resources. All players in this chain should work together to ensure sustainability.

Organizations are in the best position to drive the necessary change, since they have the financial leverage and reach as well as the need to secure their own sustainability and survival. In the process, organizations will also guarantee the sustainability of our planet.

The Path to Change

As we have seen, a paradigm shift is needed. Organizations must be responsible for managing their full value and supply chains, from the very first ingredient necessary to create the product until after the product is discarded. They need to manage and ensure their supply chains are sustainable. It is not just a matter of being eco-friendly; it will be a matter of long-term financial viability and, for some companies, of survival. If you are not convinced by now of the need to change, maybe you will be convinced by the benefits.

The *Supply Chain Report 2012* by the Carbon Disclosure Project (CDP) has identified four key benefits of managing the full supply chain to become more sustainable (Figure 2.2):[24]

- Reduced risks from minimizing the supply chain disruptions
- Lower costs due to energy efficiencies and collaborative activities
- New revenue opportunities because of innovations or finding new markets
- Better brand positioning, since today's customers are prepared to pay a premium for sustainable products

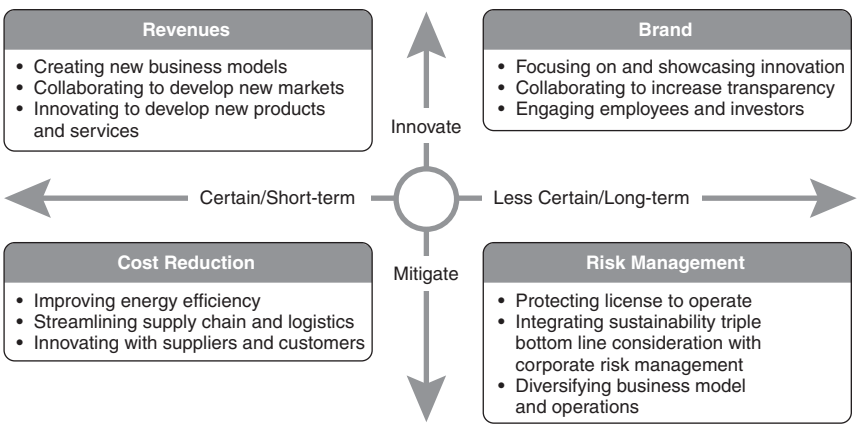

FIGURE 2.2 Active supply chain management not only reduces organizational risks and costs, it also improves revenue opportunities and brand positioning.

Source: Carbon Disclosure Project with Accenture, *CDP Supply Chain Report 2012*, 5.

Companies that have already made this paradigm shift have changed their business models to incorporate sustainability into their strategy, thus driving innovation and long-term change along the entire value chain. We will look at two examples in more detail: the cocoa industry and the retail industry.

Cocoa: Feeding the Sweet Tooth

NATHALIE—I love chocolate. Real chocolate, that is—the kind with at least 70 percent cocoa. Cocoa originates from the river valleys of the Amazon and the Orinoco in South America. Today, West Africa is the largest supplier of cocoa, accounting for 70 percent of global cultivation.[25] About 60 percent of the world's cocoa is used in chocolate products, with the remaining 40 percent used for a range of bakery, confectionery, and beverage products.[26]

Cocoa production is plagued with issues touching all four axes of the SEEE model, including poor health and safety measures (social), poor payment of the farmers and uncertain property rights (economic), and depleted soils because of bad agriculture techniques (environmental), not to mention child labor and poor safety measures (ethical).[27] The cocoa supply chain is complex. Before I can enjoy that lovely chocolate bar, families on mainly small farms grow the cocoa beans in faraway tropical countries, often in bad labor situations. Intermediaries buy the cocoa beans from the farmers, and sometimes after many intermediaries, the cocoa arrives at the cocoa processors who process the beans into cocoa powder or butter, which is then sold to the chocolate manufacturers. The final product then finds its way through distributors and wholesalers to retailers where we, the consumers, buy it. The cocoa supply chain involves anybody who plays a role in producing chocolate. There are many more links in the supply chain than I just described (see Figure 2.3).

Due to increasing demand—especially in markets where there is an emerging middle class, like China—and constrained supply caused by political unrest, unsustainable agriculture practices, and low income for

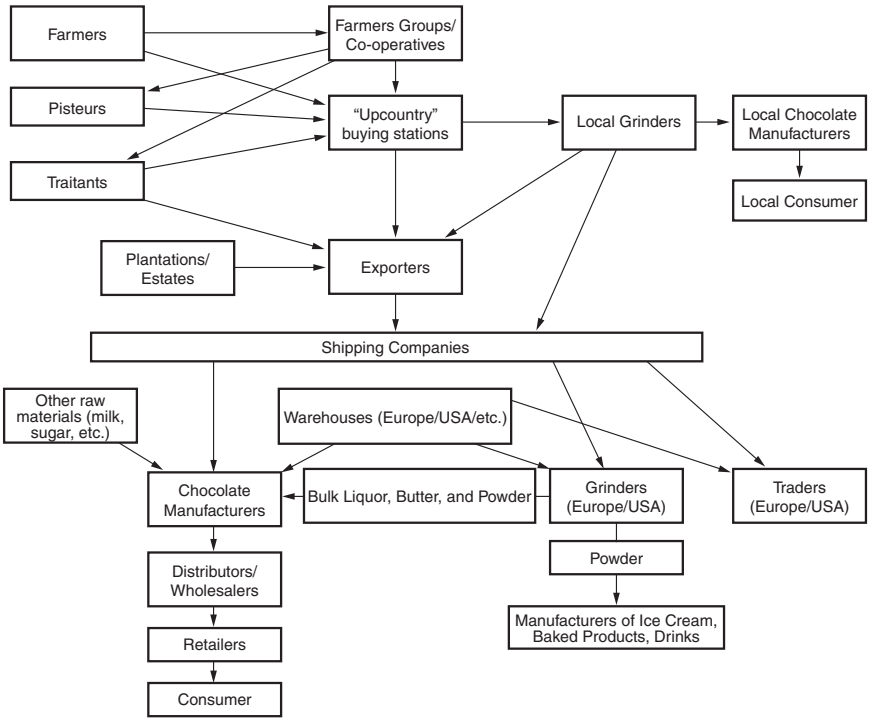

FIGURE 2.3 The cocoa supply chain is extremely complex. Before the cocoa reaches the end consumer, it travels through many hands in many different countries.

Source: Information from a variety of cocoa industry sources, esp. Federation of Cocoa Commerce.

farmers who cannot invest in long-term improvements or convince their children to enter the business, cocoa prices have been rising steadily over the last decade. Some of this money finds its way back to the farmer, but not enough to provide a solid living.

In the last several years a paradigm shift has taken place within the cocoa industry. Several cocoa and chocolate companies, including Mars and Unilever, which manufactures Magnum and Ben & Jerry's ice creams, have started to manage their full supply chain. They recognized the extreme risk their supply chain is under and the potential impact on their business if the children of cocoa farmers pursue a living in the city and refuse to take over the business because the families are so poor, or if the

soil is so depleted and the trees so old that they don't produce a decent harvest.[28] And of course no company wants illegal child labor in its supply chain. Today's consumers simply will not accept it.

To make the cocoa supply chain sustainable, all participants in the supply chain have to collaborate. It starts with the supply chain companies and manufacturers that have the financial strength to make a real difference. In the cocoa industry, cooperation began in the cocoa trade associations, especially the World Cocoa Foundation, where decisions were made to invest in ways to increase farm productivity, reduce the incidence of cocoa pests and diseases, and train farmers in good agricultural practices. Everything starts with educating the farmers to provide them the tools and skills they need to make their farms more sustainable and their businesses more financially viable. This improves not only the cocoa bean quality but also the quality of life in the local communities and the prosperity of local farmers because yield is increased. One key technique used is certification of cocoa producers. Certification ensures that farmers do not use child labor, do use sustainable farming methods, and receive a fair price for their produce. A 2012 research report showed that certified farmers in Côte d'Ivoire were receiving higher yields and higher revenue from their cocoa crops compared to similar noncertified small-scale farmers.[29]

Unilever set itself a goal to source cocoa sustainably for its Magnum ice cream by 2015 and for all other products by 2020. Unilever works with the Rainforest Alliance, Fairtrade International, and Unilever suppliers to help certify new farmers. Let's take the Rainforest Alliance relationship as an example. The Rainforest Alliance certifies cocoa according to the Sustainable Agriculture Network (SAN) standards. These standards cover ecosystem conservation, worker rights and safety (including the prohibition of child labor), wildlife protection, water and soil conservation, agrochemical reduction, decent housing, and legal wages and contracts for workers. Unilever pays the farmers a premium for cocoa beans that are certified sustainable.[30]

The cocoa industry is also attacking social and ethical problems. In 2002, the International Cocoa Initiative (ICI) charitable foundation was

established through a partnership between nongovernmental organizations (NGOs), trade unions, and the chocolate industry. ICI works toward eliminating the worst forms of child labor and forced labor on cocoa farms and for chocolate production. The foundation was the result of active campaigns by concerned consumers and NGOs targeting the chocolate industry to eliminate child and forced labor from its supply chains. This activism led to the Harkin-Engel Protocol, an industry-wide agreement signed in 2001 with the goal of putting an end to forced child labor in chocolate by 2005, which in turn led to the founding of the ICI.[31] Some of the largest players in the cocoa industry are founding members, including Archer Daniels Midland, Cargill, Ferrero, Hershey Foods, Mars Incorporated, and Nestlé. The ICI has lowered the percentage of child labor in the Côte d'Ivoire and Ghana, increased awareness, improved access to education for children, and provided access to basic services like healthcare, water, and sanitation.

The results of this paradigm shift in the cocoa industry have been significant. The education and certification of the farmers brings economic, social, and environmental benefits. It starts with the farmers getting a premium price for their products, but more important, their new knowledge allows them to improve the quality and yield of their products, providing long-term economic benefits. Social and ethical benefits include prohibition of child labor, better labor situations, and health benefits. The environment benefits from sustainable agriculture practices that result in healthy soil, clean water, and no deforestation. Companies minimize the risks to their supply chain since they are actively managing it from the first ingredient to the last, guaranteeing quality and future supplies. In addition, they are able to receive premium prices for certified sustainable products.

The key lessons from the success of the cocoa industry are:

- *It is a joint effort* by everyone involved in the value chain. Key players in improving the sustainability of the cocoa supply chain include the cocoa suppliers, manufacturers, nonprofit conservation certification

organizations, local farmers, local traders, local governments, local NGOs, trainers, auditors, and many more.

- *Companies drive the change* by committing to source only sustainable resources and realize this commitment by (1) providing and financing education and tools and (2) tracking local community impacts on all four SEEE axes (Social, Economic, Environmental, Ethical), including health, education, women's empowerment, family welfare, farm performance, and protection of the environment.

Of course there are still many challenges. One is diversification. The Côte d'Ivoire is the world largest cocoa producer, producing approximately 40 percent of the world's supply of cocoa, but the country is extremely unstable and faces many social issues such as child labor and unequal rights for women. World supplies of cocoa were disrupted in 2011 when a civil war broke out in Côte d'Ivoire, and at the end of 2012, the Côte d'Ivoire government was dissolved. So there is definitely a need for diversification.

Retail: Darth Vader Goes Green

Even if you are not a manufacturer but a reseller, there is a lot your organization can do. Walmart has a lot of critics, and it definitely has a lot of room to improve on the Social and Ethical axes of our SEEE model; however, the company has been revolutionary on the Environmental axis within the retail sector. In 2005, Walmart set goals to be supplied 100 percent by renewable energy, to create zero waste, and to sell products that sustain the world's resources and environment. As in the other industry examples, the key to success was cooperating with all stakeholders in the supply chain, including NGOs, regulators, and supplier firms. Walmart quickly realized that it had no way to measure if it was on track to meet its goal, so in 2009 Walmart introduced the concept of its Supplier Sustainability Assessment (SSA), which is a scorecard used by buyers to assess a product's or supplier's carbon footprint. This assessment set a trend in the retail business.

At the same time, Walmart provided funding to create The Sustainability Consortium (TSC), a consortium of universities, suppliers, retailers, NGOs, and governments that aims to develop a global retail standard for assessing product sustainability. Using the research done by this consortium, Walmart released new sustainability requirements in 2012. The objective is to work with suppliers to identify opportunities within the supply chain so Walmart can eliminate 20 million metric tons of greenhouse gas emissions from its supply chain by the end of 2015. One of its apparel suppliers was able to save 71 percent in annual energy costs by implementing energy efficiency practices identified in the assessment.[32] (For more about Walmart's sustainability journey, see Chapter 6.)

Walmart has used its size and market position to revolutionize the retail industry's approach to sustainability. There are roughly 100,000 companies—from giants like P&G to small suppliers—that now need to make their own processes and products more sustainable if they want to continue to sell to Walmart. Of course the upside is that by doing so, they will eliminate inefficiencies from their own supply chains and lower their production costs.

We can't solve problems by using the same kind of thinking we used when we created them.
—Albert Einstein

Chapter Summary

No matter what industry you are in, you will be impacted by the changes that are already in motion, which include:

- Global climate change impacting supply chains by affecting (to name a few) agriculture, water supplies, ocean acid levels, and extreme weather events.
- Availability of freshwater because of the growing world population and a growing consumer demand for products.

- Scarcity of raw materials driven by growing demand and by limited supplies and reduction in supplies due to changing weather patterns or polluted soils or oceans.

As the examples in this chapter show, within the reality of dwindling supplies and growing demands, organizations that work toward a sustainable value and supply chain reap profound benefits. They lower the risk of supply chain disruptions, identify new revenue opportunities, improve their market position by improving their brand image with customers, and lower their overall costs through supply chain efficiencies. As Chapter 8 will show, it pays to be a value-based company.

Several things are required to successfully make the supply chain sustainable:

- Clear, measurable sustainability goals
- Cooperation between all stakeholders involved in the supply chain
- Protection of scarce and fragile resources
- A standardized system to measure progress and sustainability
- Local resolution of issues in partnership with NGOs, local governments, communities, and local businesses

Sustainable supply chain management is not an option. Rather, it is necessary for business continuation and growth. As the list above indicates, there are many actions that companies can take to minimize the risks to their supply chains and improve the sustainability of the planet at the same time. Recognize that you cannot do it alone no matter how large or small you are. Sustainability is a team sport involving companies, local communities, NGOs, government, and even competitors. No company can do it alone, but one person can initiate the change.

Companies have the ability to change the path we are on and create a sustainable planet. As Chapter 3 will show, your customers, communities, and society at large are expecting it.

Chapter 3

Reluctant Caretakers of Public Trust

How can the people trust the harvest, unless they see it sown?
—Author Mary Renault (1905–1983), in *The King Must Die*

GREG—On a recent trip to New York City, I decided to make the trek to the Apple retail store at the southeast corner of Central Park. I wanted to see what the Midtown Manhattan store looked like and compare it to other stores I had seen around the country.

The store swelled with people viewing and handling every conceivable Apple product. Literally hundreds of people were streaming in and out or looking at products, especially the latest iPad. I have to admit, as an engineer, I considered the iPad a work of art. The entire experience was amazing. I own four Apple products, so it was very interesting to see how the world continued to react to the release of this new device.

But in spite of Apple's wow factor, the company tested my loyalty once again. In Chapter 1, we discussed the challenge that Apple faced with one of its suppliers (Foxconn) in China. Apple responded quickly, hiring the

Fair Labor Association to do an independent investigation, and revised the contract with Foxconn based on the results of the investigation to ensure that future work conditions and labor practices in Chengdu would be better. Apple also published its list of suppliers and made available its supply chain code of conduct. Tim Cook, CEO of Apple, personally visited two of the China-based Foxconn facilities in one year to show his commitment to addressing the problem. Apple proved that it was listening.

However, within three months, Apple faced another challenge. Newer Apple computer designs did not fit neatly into the Electronic Product Environmental Assessment Tool (EPEAT) standards. After a series of disagreements stemming from a dispute over the manner in which the battery in certain Apple computers was recycled, Apple dropped its products from the voluntary certification.[1]

Customer response was swift. In a press release, Bob Mansfield, Apple's senior vice president of hardware engineering, stated that the company "heard from many loyal Apple customers who were disappointed" in the change.[2] Probably the most significant customer complaints came from municipal and state governments, whose acquisition specifications sometimes require EPEAT certification. The City of San Francisco, for example, said it would drop Apple from its preferred supplier list since the city can buy only EPEAT certified equipment.[3] Although Apple computers represented only about 1 percent of the computers purchased by the city, San Francisco's policy was a harbinger of other possible boycotts. Universities across the country also began to consider dropping Apple computers. Since nearly 15 percent of Apple's sales are to educational institutions, this could have hurt the company financially. Just days later, Apple reversed its decision.

Even though Apple responded promptly, the company's reputation may have been harmed by the incident. In November 2011, Greenpeace ranked Apple fourth in its Guide to Greener Electronics, up from ninth the previous year. In November 2012, it slipped to sixth.[4] Will these events continue to slowly erode Apple's reputation? Was Apple's temporary rejec-

tion of EPEAT a knee-jerk reaction based on political disagreements, or was it merely an uninformed decision?

I believed at the time—and I continue to believe—that Apple is a great company that, like many others, is finding that the path to becoming a sustainable global company may get tougher in the future. But Apple's recent behavior made me think about the relationship between ethics, trust, and company values. Luckily, shortly after Apple's EPEAT controversy, I had the opportunity to spend time with Dr. Harold Kerzner, senior executive director at International Institute for Learning and a personal mentor, as well as a well-respected author and consultant on strategy deployment and business execution. Our conversation focused on the subject of ethics and trust. We discussed issues related to public trust of companies and how far down (or up) the executive chain of command decisions should be made regarding a breach of public trust or ethics. We discussed many scenarios and personal experiences. Surprisingly, our mutual conclusion was that there isn't a right or wrong answer but rather that what is most important is the conversation about public trust, values, and ethics, which should be conducted with executives in every company and deployed throughout organizations. In the unlikely event a breach of public trust occurs, a company should be ready to act, and act quickly, to repair the damage. Call it "exercising the ethics muscle."

As I said, I believe Apple is a great company with a remarkable product line and a great service model. But like thousands of other companies, Apple is still finding its way in this very transparent and open global marketplace. Here's the question: is there a direct relationship between public trust and the value of a company as well as the sale of its products and services?

The Shaping of Public Trust

The last several years have seen many significant errors in business judgment and ethics, some of them far more damaging than those faced by Apple. The millennium began with the bursting of the dot-com bubble

followed quickly by the Enron scandal and the resulting Sarbanes-Oxley Act, the 2008 collapse of the global financial sector and the housing bubble, the post-tsunami Fukushima Daiichi nuclear disaster, repeated controversies involving conflict minerals and materials, and a lack of sufficient consideration for the value of humanity in global supply chains. All of these problems have led to a gradual erosion of trust in business and government.

Some leaders are optimistic that they will get over these problems like they've gotten over other problems in the past. But things may have changed. It appears that, especially in business, a lack of trust leads to buyer rejection, or buyers deciding to boycott a product or to opt for a competitor's product. Product quality and performance alone no longer determine a buyer's decision. Never before has there been clearer evidence that consumers and stakeholders around the globe expect companies to "do the right thing." And doing the right thing seems to include the way companies treat and build relationships with employees, the environment, society, and communities. Whether organizations realize this fact yet or even appreciate its importance, they have become the reluctant caretakers of public trust.

Trust and Buyer Decisions

The 2012 Edelman Trust Barometer provided great insight into one of the most important drivers of strategic change. Since 2000, Edelman Communications has been assessing and analyzing the perceptions of intelligent, global consumers and business professionals regarding trust in business, government, and other institutions. The 2012 study led Richard Edelman to clarify a growing trend. He concluded from the survey results that businesses can no longer act solely in their own self-interest but must execute on both profit and societal good.[5] His conclusion was based on the observation that half of the 25,000 respondents (49 percent) felt that government doesn't regulate business enough. But, surprisingly, what stakeholders wanted was more consumer protection and responsible corporate behavior, actions that can be provided by businesses without any govern-

ment regulation. In short, the public was wary and mistrustful of business and believed that government intervention was necessary to ensure the "right thing" was done.

The 2013 results released in conjunction with the World Economic Forum confirmed this impression. In his executive summary, Edeleman wrote:

> Business must embrace a new mantra: move beyond earning the License to Operate—the minimum required standard—toward earning a License to Lead—in which business serves the needs of shareholders and broader stakeholders by being profitable and acting as a positive force in society.[6]

Edelman further concludes that in order to earn the "License to Lead," an organization must:

- Establish a vision and transparently share reasoning, purpose, and results
- Enlist a broader range of advocates, including employees, action consumers, social activists, academics, and think tanks, seeking their input and reaction
- Embrace all channels of communications, actively listening to new voices of influence, and adapting
- Shift from vision to implementation with transparent measures guided by continual engagement

Edelman's findings tell us that our future leadership must be different in order for the public to trust business. For both publicly traded and privately held companies, public trust is critical to survival. Transparency, broad stakeholder engagement, and accountability are hallmarks of those companies that will be able to sustain themselves in the future. Clearly, gaining public trust in the future is going to require a different approach than it has in the past.

The Critical Importance of Trust

Reading Edelman's summary, we wanted to know which characteristics or attributes matter most. Digging deeper into the survey, we found a list of 16 attributes most important to building trust (Table 3.1).

As in 2012, there has been a shift in what the respondents considered most important. The 16 attributes fall into five categories:

- Engagement
- Integrity
- Products and services
- Purpose
- Operations

TABLE 3.1 Edelman Trust Barometer Attributes for Building Trust

16 Attributes for Building Trust
• Listens to customer needs and feedback
• Treats employees well
• Places customers ahead of profits
• Communicates frequently and honestly on the state of its business
• Has ethical business practices
• Takes responsible actions to address an issue or crisis
• Has transparent and open business practices
• Offers high-quality products or services
• Innovator of new products, services, or ideas
• Works to protect and improve the environment
• Addresses society's needs in its everyday business
• Creates programs that positively impact the local community
• Partners with NGOs, governments, and third parties to address societal needs
• Has highly regarded and widely admired top leadership
• Ranks on a global list of top companies
• Delivers consistent financial returns to investors

The 2013 Edelman Trust Barometer highlights "16 specific attributes which build trust" in a business. The attributes are organized into five "performance clusters" (not indicated here).

Source: 2013 Edelman Trust Barometer Executive Summary, 9.

Most important, three of the categories—engagement, integrity, and purpose—represent more than half of the characteristics. The results are even more startling when assessed using the question, "How important are each of the following actions to building trust?" The difference between what is most important and the performance of organizations against these attributes is striking. There is no doubt that product and service quality are still most important, particularly in the buyer's mind. However, fair treatment of employees and customers; quick and responsible actions in a crisis; ethical business practices; and protection of the environment, society, and local communities are all ranked far higher than consistent financial returns and global corporate listings. This is not a unique response for 2013. On the contrary, a growing trend indicates a far more concerned and informed consumer.

Building Trust and Reputation Globally—A Difficult Challenge

Building trust is not simple, nor is it possible without significant effort. Chapter 1 delved into the growing global population and the significant growth of an emerging middle class. Remember, this emerging middle class will not be in the developed world; the greatest growth will be in Asia, Africa, and Latin America. The Edelman Trust Barometer in 2013, as in years past, shows that trust varies considerably from one country to the next. Companies headquartered in developing nations face a significant "trust discount," according the survey summary, while trust in companies headquartered in Canada, Germany, and Sweden has remained steady since 2008.[7] Clearly there are considerable differences in the way that companies and their leaders are perceived across the globe.

This difference translates to company reputations as well. The Reputation Institute's 2012 RepTrak 100 represents the opinions of nearly 50,000 professionals from 15 countries, who contributed almost 150,000 ratings of companies throughout the world. The findings also reflect the variation in trust and reputation across borders. Even the companies with

the best-surveyed reputations failed to maintain that lead across the 15 market countries surveyed. As the survey reports, "Only 11 out of the 100 companies made the Top 10 in five or more of the 15 markets underlining the challenge of building a strong global reputation."[8] Sixty-four of the companies in the top 100 suffered significant decreases in reputation outside their home country, and only 11 had reputations that were greater than in their home country. It seems that maintaining a reputation that's as strong globally as it is locally is quite difficult.

And yet the most significant conclusions in the RepTrak 100 Survey involved buying decisions. The survey concludes that consumers will buy from companies with the best reputations, whether by industry or globally across the board. Figure 3.1 demonstrates that word-of-mouth advertising works in your favor when you have a great reputation. These findings probably won't surprise anyone. The real issue is whether or not companies are changing to ensure that their reputations—and more important

FIGURE 3.1 In its 2012 RepTrak 100 report, the Reputation Institute concludes that "Reputation is your #1 driver of support." This chart shows reputation score and its effect on buyer decisions and word of mouth, using percentage of respondents. "If a company improves its reputation by 5 points, the number of people who would definitely recommend the company goes up by 7.1 percent."

Source: Reputation Institute, 2012 Global RepTrak 100: *The World's Most Reputable Companies*, 19–21.

the public trust placed in the companies—are based on the attributes that will make a difference in the future.

The Future Is Here—But It Is Unevenly Distributed

This phrase (usually attributed to science fiction writer William Gibson, who also popularized the term *cyberspace*[9]) reminds us that the goal is always deliberate progress, not necessarily perfection. So even after reading these fascinating surveys and acknowledging their startling results and trends, we still have to ask the question, "Are organizations reacting in a way to become better caretakers of public trust, and if so, what are they doing?" Or, more simply put: "Are we really making progress?"

Let's start with the size of the marketplace. It is difficult to fix a truly accurate count of the total number of government-registered companies in the world due to the variation in the manner and process for registering companies; however, estimates today put the number between 75 and 100 million.[10] Of that number, less than 50,000 are filing or publishing any sort of sustainability or social responsibility reports and attempting to share their targets publicly in a standardized fashion.[11] However, a growing number of firms are evolving into more socially and environmentally responsible organizations but have yet to publicize their efforts. On the other hand, companies such as Whole Foods, IKEA, and Patagonia were founded with principles centered on social and environmental responsibility. Their founders recognized that sustainable companies should concern themselves from the beginning with contributing to sustainable communities and a sustainable planet.

Balancing Risk Mitigation with Accelerated Change

For the vast majority of firms, however, change has been evolutionary rather than revolutionary. There are several reasons for the slow transition. For larger companies, it takes time to develop and integrate a feasible plan while mitigating the risks of failure.

The Coca-Cola Company, for example, had a lot at stake when it began contemplating a net zero water strategy. Coca-Cola has more than 145,000 employees worldwide, over US$47 billion in annual revenues, more than 3,500 individual product lines, over 25 percent of the market share in soft drinks, and one of the most recognizable brands in the world.[12] The company has 1,110 manufacturing sites and operates in virtually every country in the world. It uses over 10,000 suppliers to provide over 20 million customers 1.8 million servings of Coca-Cola products every day. Coca-Cola also remains the world's largest juice producer. "Big" may be an understatement in this case!

To mitigate the risk of the change, Coca-Cola had to educate and bring along its franchised global bottling plants, since only 30 percent of Coca-Cola bottling plants are company owned. Education was critical before the company could implement a deployable strategy to move toward net zero water usage (i.e., to return all water to the communities in which Coca-Cola operates as clean, safe drinking water). It took Coca-Cola nearly 15 years to conduct internal and external studies, to collaborate with the World Wildlife Federation (WWF), to engage and educate a wide array of internal and external stakeholders, and to establish realistic goals. However, once the effort was completed, then chairman and CEO E. Neville Isdell made it clear that The Coca-Cola Company was implementing a net zero water strategy worldwide.[13] In a recent discussion, Jeff Seabright, vice president of environment and water resources, explained that Coca-Cola utilizes about 320 billion liters (84.5 billion gallons) of water per year. To become water neutral in its bottling operations, Coca-Cola would need to return one liter for every liter used—no small task.

To meet this ambitious goal, an entire engine of change was developed. It has been integrated into the current 2020 Vision, Coca-Cola's strategic plan. Accountability is assured through a clear objective-setting process, which assigns tasks to individuals like Seabright who are deploying this program. A Source Water Protection Plan was developed and implemented that included a rigid accountability process for local bottlers and suppliers.[14] Specific processes, directions, and commitments

were required in order to establish the necessary infrastructure and ensure deployment.

This type of change is not only profound and long lasting, it is also costly. But Coca-Cola recognizes that water is a critical resource for corporate sustainability, one the company must cherish and carefully manage. Coca-Cola also recognizes that it is in its best interest to embrace and work with the local communities to contribute to their own sustainability.

Clearly, this effort would not be possible without investment and commitment. And to maintain the effort, continuity in leadership must be at the top of the list in ensuring that 2020 Vision is achieved. A breach of vision by one leader could destroy the ability of the company to deliver. In a recent interview with *Harvard Business Review*, Coca-Cola CEO and chairman of the board Muhtar Kent was asked how the company plans to stay ahead as a good corporate citizen when the ground is shifting, and consumers are demanding more and more out of companies. Kent replied:

> You stay ahead by being absolutely truthful to yourself about the fact that you are doing these things not because they sound good, but because they are part of your business philosophy. And the beauty of some of these things is that they're actually very good for business, too.[15]

Without a doubt, Isdell and Kent share the same belief, the same passion, and Kent recognizes that it is up to him to make sure Coca-Cola succeeds in this important initiative. (Chapter 6 will address some of the significant changes under way at The Coca-Cola Company, where the engine of change runs at high speed.)

The Carrot and the Stick

One of the most glaring reasons that sufficient and rapid change has not been undertaken is that executive leaders today are rarely rewarded for being socially and environmentally responsible, either by their boards,

management committees, or shareholders. An example of this phenomenon is shown in the 2013 "Best Performing CEO Study" conducted for the *Harvard Business Review*. Over 3,000 CEOs and their companies were analyzed and assessed on their long-term financial and corporate social performance. Financial performance was tracked along six different indices, while MSCI ESG IVA (MCSI Environmental, Social, and Governance Intangible Value Assessment) was used to analyze their social and environmental performance.

The study demonstrated that there is a great opportunity for CEOs to focus more on sustainability than they do at this time. The reason? *Performance objectives and associated incentives*. The study authors stated:

> Everyone in the business world seems to agree that executives should be less obsessed with quarterly earnings and more focused on the long term—everyone, that is, except the decision makers who hire and fire executives and the people who buy and sell company stock. The short-term emphasis won't change until a new paradigm for evaluating performance emerges.[16]

This is a fact of life that leaders and others in decision-making positions have to deal with. Leaders today, *not* tomorrow, must bring to the table a stronger long-term vision of company sustainability, whether they have incentives to do so or not. They need to recognize that sustainability *pays*, not *costs* the company. In some cases, this type of vision has led to the creation of an entirely new organization. In others, however, the change has been slow and evolutionary. In either case, when such vision leads to a corporate awakening, a strategy can be developed to prepare the company for the future. Even reluctance can be overcome by risk assessment, mitigation and growth strategies, and strategic evolution. For most, this is the path to take.

Whether companies, businesses, and enterprises realize it or not, the stakeholders place their trust in them to act in an ethical fashion and expect the company to do the right thing. Companies have found that

"spinning" communications about breaches of trust is no longer manageable or acceptable. Readily available Internet tools, pervasive social media, and mission-driven NGOs have created an unlimited number of channels to expose and attack such behavior and, ultimately, the value of the organization. And the understanding of *stakeholder* (the "who and where") has broadened well beyond stockholders and direct consumers. To provide more clarity, let's look at two companies and their reactions to ethical, social, and environmental challenges.

Johnson & Johnson: A Principle-Based Decision Pays Off

It wouldn't be fair to talk about trust and ethics without first reviewing the classic case of Johnson & Johnson and Extra Strength Tylenol**.** Anyone who has pursued an MBA or participated in a leadership forum in the last 20 years has most likely reviewed the case study. It was one of the most profound examples of how a company can demonstrate its care of public trust.

To recap: In 1982 several bottles of Extra Strength Tylenol capsules, manufactured and distributed by Johnson & Johnson, were apparently tampered with and contaminated with cyanide. Before the crisis was over, seven people had died.[17] Overnight, Tylenol became a dreaded product. James E. Burke, then CEO of Johnson & Johnson, immediately recalled all bottles of Extra Strength Tylenol capsules from shelves and inventories worldwide, at a cost of more than US$100 million.[18] Johnson & Johnson also ceased production of all Extra-Strength Tylenol capsules, switching to caplets, until the source of the cyanide could be identified and further contamination prevented. Burke's justification was simple—the credo written by Robert Johnson in 1943: "We believe our first responsibility is to doctors, nurses, and patients, to mothers and fathers and all others who use our products and services."[19]

It was painful. Johnson & Johnson went from 35 percent market share in the nonprescription pain reliever market to 8 percent before the year was over.[20] Still, the company continued to communicate with the public and to have regular press conferences. By spring 1983, Johnson &

Johnson released a new safety bottle—a market standard since then—that had a triple seal. The company regained the public trust and completely recaptured its market share while revolutionizing safety in handling over-the-counter medications. Furthermore, the company's stock price exceeded its precrisis mark. Johnson & Johnson demonstrated true leadership in the industry and to stakeholders around the world. It was a brilliant example of a company adhering to its founding principles in assuring stakeholder safety.

Less than four years later, there was another contamination crisis. Johnson & Johnson knew what to do, and the public knew the company would act appropriately and quickly. Johnson & Johnson removed Tylenol capsules from the market permanently to demonstrate its commitment to public safety.[21] Public trust was maintained, and Johnson & Johnson didn't lose market share or even experience a significant loss of value. People believed that Johnson & Johnson would do the right thing. The public *knew* that Johnson & Johnson would be trustworthy. In short, Johnson & Johnson acted as a caretaker of the public trust, and repeatedly demonstrated an awareness of this role.

It's impossible to prepare for every event that might endanger the various stakeholders in an organization. But taking responsible and immediate action, prompted by strategy, is often the way to establish public trust. Looking back at Table 3.1, we can see that Johnson & Johnson excelled at the following attributes of public trust:

- Placed customers and stakeholders above profits
- Took quick, responsible action to address a crisis
- Demonstrated ethical business practices
- Addressed society's needs in its everyday business
- Had transparent and open communications about its solution to the problem
- Communicated frequently throughout the entire crisis
- Demonstrated innovation by creating a new safety standard for the industry

Johnson & Johnson recovered from the crisis and grew in reputation and stature as a result of this incident. To maintain the public's trust, the company had to be decisive and deliberate, relying on its founding principles rather than a rulebook of do's and don'ts.

BMW: Embracing Society's Issues and Building a Sustainable Workforce

GREG—In 2006, I attended a CEO forum in New York City conducted by Forbes Group. About a hundred CEOs were in attendance, from nearly every sector of the economy. The forum focused on organizational success, and the speakers were some of the most successful individuals in the world, including Helmut Panke, then chairman of the board of BMW AG.

Panke is an extraordinary leader. He has a PhD in nuclear engineering, taught at the University of Munich, consulted with McKinsey and Company, and has held several leadership positions with BMW. In particular, he was CEO of BMW USA, where he opened the Spartanburg, South Carolina, plant and brought it to full production of the Z3 and X5 models. As CFO of BMW AG, he was instrumental in divesting Land Rover, restructuring corporate finances, and bringing the company back to financial health. He was also the corporate leader of the group that revolutionized the manufacturing software process, allowing customers to select and customize their vehicles from the showroom, and preparing the manufacturing process for significant transformation. Once he was promoted to chairman in May 2002, Panke led BMW through one of the most remarkable transformations in the history of automotive manufacturing. Under his leadership, the company revamped all existing models and introduced several new ones in both the automotive and motorcycle divisions. In short, he worked miracles at BMW, and I couldn't wait to hear his story.

Panke's presentation centered on the transformation of BMW from a German manufacturer to a global car company. His style was smooth and engaging, and when he finished, he took questions from the audience. Panke's answer to the last one caught my attention: "What issue about the company keeps you awake worrying at night?" Panke paused,

looking out at the audience, and finally said, "I guess it is whether, as a global manufacturer, we can still deliver on the brand promise of BMW." Anyone who has seen BMW ads knows the phrase "The Ultimate Driving Machine." Panke felt that every BMW owner should be able to identify a BMW, blindfolded, only by touch and smell, regardless of where it was manufactured and assembled. However, he was still worried about his elite company's brand promise.

He had reason to be concerned. While serving as CEO of BMW USA, Panke managed the division's recovery from a disastrous Z3 launch. He knew that transferring manufacturing and assembly across the globe to serve new markets required careful planning. He also knew that he needed a motivated, well-trained workforce, regardless of its location. Intrigued by the presentation and by this exchange, I began detailed research.

The BMW brand has become a global icon of high performance vehicles. In addition, BMW is one of the most sustainable car companies in the world, recognized globally for its work in sustainability and, just as important, in helping to build sustainable communities.

One of the most remarkable examples of BMW's contributions to building sustainable communities involves the BMW manufacturing facility in Rosslyn, South Africa.[22] Launched in 1975, it was the first BMW manufacturing and assembly facility built outside of Germany. Over the years, the Rosslyn facility became one of the best in the BMW family. Throughout the 1980s, the facility drew accolades from the auto industry, both in South Africa and around the world. It was a great example of globalization.

Then the HIV/AIDS epidemic struck at the heart of the employee community. By the late 1990s, a significant percentage of Rosslyn's 3,000 employees and their families were impacted in some way, either by HIV infection or by experiencing personal losses from AIDS. In response, BMW SA implemented a special employee treatment program that went well beyond a typical employee healthcare program. It included education and awareness programs, a voluntary counseling and testing program, and

comprehensive care including access to highly active antiretroviral therapy (HAART). The program was successful in helping BMW associates diagnose and treat HIV/AIDS victims.

BMW chose to support the local community as well, investing in its source of future staff and employees. One of the most significant examples of this effort was the ambitious private-public partnership that created the Soshanguve Health and Wellness Centre in April 2008—a joint venture between the BMW Group (now under the leadership of Norbert Reithofer), SEQUA (an agency of the German Federal Ministry for Economic Cooperation and Development), the Karl-Monz Stiftung, 3M South Africa, the Gauteng Education Department, Tshwane Local Council, and the Ikhwezi Group. The Soshanguve Health and Wellness Centre forms an integral part of the BMW Group's ongoing HIV/AIDS campaign and demonstrates BMW's recognition of the fact that the problems associated with HIV and AIDS extend beyond the workplace. Considering that Soshanguve is home to a community of approximately 700,000, the support extends well beyond the fewer than 5,000 direct BMW employees and associates. The center was sited in Soshanguve because it is the home to many of BMW South Africa's employees, but it provides counseling and treatment, training on in-home services, and primary healthcare to the entire community. In time, this program became part of a global strategy to reduce and eliminate AIDS that extended to Thailand and Southern India.

Over the last 15 years, BMW has continued to expand its HIV/AIDS program to include:

- A youth center in an underprivileged community in Knysna, South Africa, with a program that includes special education for youth in AIDS prevention
- Global fund-raising for the Nelson Mandela Children's Fund, which directs support to children with AIDS
- The Schools Environment Education Development (SEED) Project, designed to develop a stronger sense of the environment

among South African children and to teach them about growing vegetables, health education, and hygiene standards

This BMW program, and the company's global program against AIDS, exemplifies Edelman's conclusions about what it means to be licensed to lead in the future. BMW demonstrated its license to lead by tackling a critical social issue threatening not only its employees but also communities in which BMW operates around the globe. As a result, BMW has not suffered but in fact has thrived, becoming the automotive industry's 2013 Super Sector Leader of the Dow Jones Sustainability Index, which recognizes BMW as the most sustainable car company in the world.[23] In addition, BMW was recognized in the RepTrak 100 as the most reputable company in the world in both 2012 and 2013.[24]

Are the challenges faced by BMW to remain a technological leader in automotive design and technology getting easier? On the contrary, it has never been more challenging, and in the future (2020–2025), governments throughout the world will be regulating emissions to ensure that BMW and other car makers deliver emission-free, sustainable mobility. BMW must focus on remaining the leader in sustainable mobility design as well as building both direct and indirect supply chains that are ethically, environmentally, and socially sustainable. It will also take a healthy and competent workforce, with investments such as those made by BMW in combating HIV/AIDS. This effort is an absolute necessity for BMW to remain a market leader throughout the twenty-first century.

Chapter Summary

Chapter 3, and the entire first section, has provided a look at the challenges ahead, explained why significant change is necessary, and described how some companies are changing to be worthy caretakers of public trust. Among the conclusions in Chapter 3 are:

- Richard Edelman's clarification of the importance of change: "Business must embrace a new mantra: move beyond earning the License to Operate—the minimum required standard—toward earning a License to Lead—in which business serves the needs of shareholders and broader stakeholders by being profitable and acting as a positive force in society."
- Engagement, integrity, and purpose compose the majority of the attributes influencing public trust in organizations. In fact, the attributes included in these three groupings are rated far higher than consistent financial returns and global listings.
- Both the Edelman Trust Barometer and the 2012 RepTrak 100 Survey confirmed that trust and reputation vary worldwide, while RepTrak confirmed that few companies can maintain the same reputation they enjoy at home in other countries.
- Few if any incentives are provided to top executives to implement strategic change embracing social and environmental responsibility.
- Companies like Coca-Cola, Johnson & Johnson, and BMW have demonstrated the attributes that help shape public trust.

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Part 2

The Awakening of Organizational Leadership

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Chapter 4

Sustainability as a Core Value

We must be the change we want to see in the world.
—Mahatma Gandhi

NATHALIE—Near the end of 2007, my dear friend Kimberly Wiefling introduced me to ALC Education, a Japanese education company. Through ALC, I started working with Japanese companies to develop leadership skills among their managers so their companies can continue to thrive in the global marketplace. This experience was an eye-opener for me. Many of these corporations have long-term visions, a hallmark of Japanese culture. Because of that, these Japanese corporations are concerned not only with the sustainability of their organizations but also with that of the societies in which they operate. You could say that sustainability is part of their DNA. Seeing them put their values into action was a true awakening for me.

The quotation from Gandhi at the beginning of this chapter is one of my favorites. When there's a problem, it is so easy to blame others or the situation and think that we cannot make a difference. If everyone thought that way, nothing would change. We probably would still be eking out a scant existence as hunters and gatherers, isolated from other communities and at the mercy of disease, disasters, and the elements.

In my workshops with Japanese corporations, I often hold an object at shoulder height above the ground and let it drop to the floor. I then ask the participants, "What caused it to drop?" The overwhelming response is always "gravity," which of course is one answer. But after some encouragement, someone will softly say, "you." Gravity is a force we have to live with and cannot change, but the real reason the object drops is because I let it go. Only after I let go can gravity do its work.

It's a lot easier to think that something is out of our control. It means we don't have to take action or responsibility. We can keep sitting on the sidelines and complain about everything that is wrong in the world, blaming "them": politicians, capitalists, investment bankers, you name it. Accepting the viewpoint that we are in control suddenly implies that something is within our power to change. Instead of seeing ourselves as a victim of circumstances, we are compelled to act to improve the situation.

It takes courage to step up and be different. This chapter will highlight some companies that decided to be different from the outset or that decided to change their business model decades before corporate social responsibility (CSR) became fashionable. These owners founded their companies—or drastically changed their business models—believing they should do good for their employees, their communities, the environment, and society at large. More important, they followed through and did not give up when they were challenged. They believed they could run a successful, profitable business without causing unnecessary harm to the communities they touch, while implementing strategies to improve existing environmental stresses.

Patagonia: Do Things Right and Profits Will Follow

NATHALIE—Like many who have experienced a personal awakening regarding the planetary situation we are in, I'm looking at what I personally can do to improve it. One personal goal is to buy only organic food, preferably locally grown. However, while conducting research for this book, I realized I have not extended the same discipline to my clothing closet. My best friend tells me that I am her example on how to declutter. I go through all my closets almost every year and give away anything I don't use or wear. But I've never deeply thought about the environmental and social impact involved in the creation of my clothes and shoes. If I had, I would have shopped a lot more often at Patagonia.

Yvon Chouinard, Patagonia's founder, has been in business for over 50 years. He started out selling climbing equipment out of the back of his truck before founding Chouinard Equipment in the 1960s. In 1972, he founded Patagonia, a manufacturer of high-end outdoor clothing and equipment. He is an eclectic executive, as a 2007 *Fortune* profile illustrates:

> Scaling the likes of Yosemite's El Capitan, Chouinard had learned big lessons. The biggest was that reaching the summit had nothing to do with where you arrived and everything to do with how you got there. Likewise, he thought, with business: The point was not to focus on making money; focus on doing things right, and the profits would come. And they did.[1]

Chouinard has always put the environment at the core of his business ventures. An avid rock climber, he designed pitons that would not permanently damage the rock. This new style of climbing equipment became a huge success, and Chouinard became a reluctant businessman. His distaste for business stems from his conviction that most companies focus on their short-term returns rather than on their long-term liabilities.

The fact that analysts focus only on quarterly returns and do not care at all about sustainability reinforces this short-term view. Patagonia takes a different approach. The company mission statement is, "Build the best product, cause no unnecessary harm, use business to inspire and implement solutions to the environmental crisis."[2] Patagonia makes clothing for climbing, skiing, snowboarding, surfing, fly fishing, paddling, and trail running—all sports that are closely connected to the very nature they are looking to protect.

Building your company around sustainability means you have to ride it out when your business hits rough waters. It means being prepared to go out of business rather than compromise your values. It means you never concede to a way of business that is not sustainable simply to stay in business. This is how Patagonia makes decisions.

In the mid-1990s, Patagonia's rapid growth was followed by financial distress. Chouinard first made the necessary changes, including the first ever layoffs at the company, and focused on eliminating the company debt. Then he evaluated how well the operations and supply chain were living up to the company's values and made changes accordingly. For example, after finding out that toxic chemicals were used in farming Patagonia's cotton, he insisted on sourcing 100 percent organic cotton. Insufficient supply at that time meant sharply increased supply costs.[3] Chouinard didn't care:

> Even organic cotton is bad. It's better to make clothes out of polyester if you can recycle them into more clothes, and keep doing it—like we do with aluminum cans—instead of growing more organic cotton and selling cheap clothes that people just throw away.[4]

Organic cotton is significantly better for the environment than conventional cotton, which uses toxic chemicals that poison the soil, air, and groundwater. However, organic cotton still uses an inordinate amount of water, and cotton cultivation depletes the soil, so it cannot be grown year after year on the same piece of land. Being true to your values also

means you need to think outside of the box. What innovative ways of doing business will help you optimize running a profitable, sustainable business? With that philosophy in mind, and understanding the drawbacks of organic cotton, Patagonia introduced the very first fleece jackets with polyester from recycled plastic bottles in 1993,[5] and partnered with a Japanese fabric company to create polyester clothing that can be recycled almost indefinitely.

A commitment to true sustainability implies that, as a company, you have nothing to hide and are fully accountable when things go wrong. Full disclosure should be provided about the company processes, supply chain, and ecological footprints, as well as any mishaps that might affect the environment or local communities. Patagonia provides this full transparency on its website through "The Footprint Chronicles," which details the company's supply chain.[6] In the quest to find environmental solutions, its latest campaign employs large advertisements discouraging customers from buying new Patagonia jackets. The Common Threads Partnership between the company and its customers promotes this mindset with the slogan "Reduce, Repair, Reuse, Recycle, Reimagine."[7] For example, Patagonia creates long-lasting, high quality products in a sustainable way, and as customers, we promise not to buy anything we don't need. Together, these choices and actions reduce the overall impact of our transactions. Patagonia also offers to repair its products and provides a way for customers to reuse products by selling secondhand Patagonia clothes and gear on the company's website. Patagonia will even take back worn-out Patagonia products for recycling.

Many companies still believe they have to choose between making profits and implementing sustainable practices. On the contrary, making your business more sustainable maximizes efficiencies on all operational levels while reducing costs. It also opens new market opportunities and expands your customer base while increasing brand loyalty. Profits will follow if you do things right. Patagonia is a great example. The company is able to demand premium prices for its products because of its brand image and environmentally friendly reputation.

We can hear the skeptics now: "Patagonia has it easy. It's just a small company. It's privately held, so it doesn't have to deal with shareholders who are looking for a quarterly return." However, this small, rebellious company has influenced thousands of companies worldwide, including some of the world's largest.

We Are in This Together

Sustainability is a team sport. No company can do it alone, and Chouinard recognized that early on. It takes a different kind of leader to be able to stick to your values, recognize that you need others to succeed, and make yourself vulnerable so people can trust you and are willing to create important partnerships with you.

Patagonia also believes in philanthropy and has donated 1 percent of its sales to domestic and international grassroots environmental groups since 1985. Chouinard recognized a kindred spirit in Craig Mathews of Blue Ribbon Flies, a retail fly-fishing store in West Yellowstone, Montana. In 2002, Chouinard and Mathews realized they could have a larger impact by partnering and created the "1% for the Planet" movement: an alliance of businesses that promise to donate 1 percent of their sales (*not* profits) to approved environmental organizations worldwide.[8] Over 1,300 businesses in 38 countries have joined so far.

Size doesn't matter for partnerships. In 2008, Chouinard received a phone call from Lee Scott, then CEO of Walmart, asking the Patagonia founder to help him create a sustainability index and criteria for apparel products.[9] Patagonia taught Walmart's internal buyers how to do a social and environmental assessment of everyone they do business with. Even though the companies' core values are different, Walmart's leaders had gone through a gradual environmental awakening and realized that if they did things right for the planet, profits would follow. In their case, sustainability meant a lower cost of doing business and higher revenues because of a better brand image.[10] This unlikely partnership eventually led Walmart to create the supplier sustainability assessment tool mentioned

in Chapter 2 (and discussed in detail in Chapter 6), for which Walmart is now exemplary in the retail business.

This partnership between Patagonia and Walmart also contributed to the creation of the Sustainable Apparel Coalition (SAC). Chouinard and John Fleming, then Walmart's chief merchandising officer, sent a letter inviting competitors to join them in creating a sustainability standard for the industry. The letter's last paragraph said it all:

> Creating a sustainability standard will improve the welfare of our workers, communities, consumers, and environment far more effectively than the fragmented, incremental approaches that characterize existing efforts. Together we are better. We hope you will join us.[11]

The moving appeal struck a chord, and some of the world's largest apparel companies—including Levi Strauss, C&A, Nike, Adidas, H&M, and Target—joined the effort. Almost three years after its initial formation, the SAC now includes NGOs, universities, and government agencies as well as dozens of corporate manufacturers. This innovative coalition is focused on reducing the impact to society and to the environment of apparel and footwear production. The core of SAC's work is the Higg Index, "an indicator based tool for apparel (and footwear products) that enables companies to evaluate material types, products, facilities, and processes based on a range of environmental and product design choices."[12] The Higg Index gauges sustainability performance and drives improvements through a series of "practice-based, qualitative questions" clothing and footwear manufacturers can use to evaluate and select designs, materials, and manufacturing processes. Instead of starting from scratch, the SAC used existing indexes as input. One of the major ones was Nike's Materials Sustainability Index (MSI) database. After the public condemnation Nike received in the 1990s regarding child labor in its suppliers' factories, the company developed and has been using an index to improve the sustainability of its products.

The SAC coalition might not bring immediate change, but it will bring transparency. The apparel supply chain is marred with labor issues, from child labor to dangerous work environments, and it significantly pollutes the environment, sometimes beyond repair. Shockingly, many apparel companies do not know exactly where their products are made or under what conditions.[13] Even Walmart, with its vast reach, has been caught unaware. The company discovered that one of its suppliers had illegally subcontracted to an unsafe Bangladeshi factory when clothing with Walmart labels was found after a terrible fire that killed more than 100 workers.[14] The SAC's vision is to create a database scoring every player in an apparel item's value chain on various social and environmental metrics like water use, pollution, waste, energy efficiency, and labor practices, thus allowing apparel companies to select suppliers based on their own sustainability goals. Hopefully, in the future, customers will be able to check the label of a piece of clothing to see its sustainability rating.

The Patagonia example shows that no matter the size of your company, if you truly believe you can make a difference, you can, sometimes simply by inspiring others to act. Chouinard is a collaborative, purpose-driven leader, but he does not have to be an exceptional example. All companies can follow in Patagonia's footsteps. It starts with taking action and sticking to your values no matter what. The next step is to find partners. You cannot do this alone.

Natura: Changing the Face of the Beauty Industry

Since the time of Cleopatra (and probably before) people have used cosmetics. The global market in personal products, including cosmetics and fragrances, was $308 billion in 2012.[15] Most of us use skin products, soap up in the shower, wash our hair, brush our teeth, put on sunscreen, use deodorants, and apply fragrances from time to time.

The cosmetics industry is not known for sustainable practices. The industry's use of animal testing has been widely publicized. Less well

known might be the fact that some of the ingredients used are toxic for both humans and the environment. Two examples are parabens—widely used synthetic preservatives that have been linked to breast cancer and lower sperm count[16]—and 1,4-Dioxane, a carcinogen that forms as a by-product during the cosmetic manufacturing process. Dioxane has been banned in Europe since 1976 and is also banned Japan, but it is only monitored in the United States.[17] Another looming issue is that many cosmetic ingredients are sourced from the lush rainforests of the Amazon. Increased demand for cosmetics means more demand for these ingredients. Sourcing them in a nonsustainable way leads to Amazonian deforestation and a loss of biodiversity.

Unlike the food and beverage industry, the cosmetics industry is largely unregulated, and government regulations are not expected any time soon. In the United States, the natural regulator would be the federal Food and Drug Administration (FDA). Instead, the FDA website states, "The Federal Food, Drug, and Cosmetic Act (FD&C Act) does not authorize the FDA to approve cosmetic ingredients. In general, cosmetic manufacturers may use any ingredient they choose, except for a few ingredients that are prohibited by regulation."[18] There are some standards, but these vary from country to country and sometimes even within a country. When you see the label "organic" on a cosmetic product, you can't know what standards were applied. We are dependent on self-regulation within the cosmetics industry.

One cosmetics, fragrance, and personal hygiene company that is striving to meet this goal is Brazil's Natura Cosméticos. In 1969, Antônio Luiz Seabra founded Natura with the goal of building a better world by creating harmony with oneself, with others, and with nature. Well ahead of its time, Natura has used environmentally sustainable practices to develop its products since 1970. Five years after its founding, Natura changed to a direct sales model, economically empowering thousands of mostly poor women. In 2012, Natura had 1.2 million resellers worldwide. Training and other incentives are offered to develop the direct sales force, provide social independence, and limit attrition.

In the 1990s, when inflation was driving prices sky high in Latin America and most of Natura's international competitors decided to leave Brazil or halt investments, Natura stayed true to its direct sales model and lower prices, which helped spur the company's growth. Natura is now the number one beauty company in Brazil, surpassing Unilever (manufacturer of Dove and St. Ives products, along with many, many others) and even Avon.[19] Natura has remained true to its environmental and social values as well. In the company's 2006 annual report, Natura's "Reason for Being and Beliefs" are described as follows:

> Commitment to the truth is the route to perfecting the quality of relationships. The greater the diversity, the greater the wealth and vitality of the whole system . . . The company, a living organism, is a dynamic set of relationships. Its value and longevity are connected to its ability to contribute to the evolution of society and its sustainable development.[20]

Like Patagonia, Natura realized conducting business with sustainability as a core value involves doing business in the best interest of the environment, providing full transparency, and working toward zero impact on the planet. To minimize its footprint on this world, Natura uses sustainable sourcing techniques for its core ingredients, especially since many come from the Amazon rainforest. To reach this goal, Natura works closely with cooperatives, scientists, NGOs, and farmers, and the company supports Brazilian governmental efforts to eliminate illegal logging. The company promotes conservation by partnering with certification organizations and even helps communities find alternative sources of income so they are not economically dependent on Natura.

As early as 1992, Natura started to focus on limiting waste by providing refills for high-volume products, which reduces packaging waste and keeps prices lower for its consumers. An environmental label was introduced on all Natura products in 2007 to increase transparency and

counteract the uncertainty regarding cosmetic ingredients due to the lack of industry standards and regulation. Similar to food nutritional labels, it displays the origin of raw materials in both the product and package. The label also indicates whether the package can be reused or recycled.[21] In addition to informing consumers of the product's origins, the voluntary label highlights Natura's commitment to sustainability.

Sometimes sticking to your values means that you need to make business decisions that seem like bad business at first. The payoff is in brand value, customer trust, and the ability to ask premium prices in certain markets. For example, Natura decided against a presence in China because local regulations require cosmetics to be tested on animals. Natura has also decided against acquisitions that would have significantly increased market share because those companies did not live up to Natura's sustainability and ethical standards.[22] This commitment to principles paid off in 2012, when "clean capitalism" magazine *Corporate Knights* listed Natura as the second most sustainable corporation in the world in its yearly ranking.[23]

Natura's model is not without flaws. Its products contained parabens before anybody knew they were harmful, and Natura used animal testing until 2006. The company held itself accountable to its values and principles and started the process to replace all animal, mineral, and synthetic raw materials with vegetable-based materials.

One of the key lessons of Natura's growth is to put partnerships at the center of one's business model. Natura lowers the risk to its supply chain by partnering with the communities sourcing its ingredients. This ensures the sustainability of the environment as well as of the communities. Natura partners closely with its direct sales force, providing empowerment and creating brand loyalty. The company even partners with universities and research centers for its product research and development (R&D) in order to help innovate new sustainable product ideas. This allows Natura to employ just about 150 R&D staff—a fraction of the staff other large cosmetic firms retain—while 70 percent of Natura's sales each year come from either new products or improvements to existing products.[24]

Suntory: Water for Life

NATHALIE—One company that inspired me to write this book is Suntory, the Japanese food and beverage company featured in the movie *Lost in Translation*. Suntory founder Shinjiro Torii strongly believed in social responsibility. "We are able to earn profits from our business thanks to people and society," he said. "I want those profits to be useful not only for reinvesting in business and providing services to our customers and business partners, but also for making a contribution to society."[25] Based on that belief, over 110 years ago, he put into practice the idea of "sharing the profit with society." This spirit is still alive today within the company. Suntory's mission statement is "In Harmony with People and Nature," and every employee is aware of and lives by this motto. The current chairman of the board, Nobutada Saji, has extended Torii-san's vision to include environmental management practices that show respect and gratitude for the natural resources Suntory uses and that help create a sustainable society. In Saji-san's words, "Many of our businesses rely on such indispensable natural bounties as water and agricultural crops, and we believe that one of our most important duties is to pass on a healthy global environment to coming generations."[26]

Suntory's core business is whisky, beer, and soft drinks. Realizing its tremendous responsibility for the indispensable resource of water, Suntory chose "Bringing Water to Life" as its corporate social responsibility slogan and has positioned water sustainability—which aims to ensure subsequent generations still have access to good quality drinking water—at the core of its business. Programs include ensuring water safety through quality control, water conservation in its plants, strict drainage controls, and water education projects aimed at teaching the younger generation about the importance of water. One specific program goes back to the very first ingredient of Suntory's core products: water. The program focuses on protecting freshwater sources and the environment that produces water by creating sanctuaries around Suntory plants. By conserv-

ing forests, Suntory hopes to cultivate groundwater in amounts greater than the company uses in its plants. Since 2003, Suntory has created more than 7,000 hectares (17,000 acres) of natural water sanctuaries to meet its goal of achieving water sustainability. As with the cocoa supply chain, all members in the value chain need to collaborate in order to be successful. Suntory works together with local governments, local communities, and experts to achieve its objectives to develop forests that have a great capacity for cultivating water resources, are rich in biodiversity, are able to withstand flooding and landslides, have great carbon dioxide absorptions capabilities, and are a pleasure to visitors.[27]

Suntory's program focuses on safeguarding the future supply of freshwater. Initiatives like this need to be combined with other sustainability initiatives along the full supply chain, like zero waste, energy efficiency, water efficiency in production of raw materials and in operations, and recycling in both factories and consumer packaging.

There's no such thing as sustainability. It's just kind of a path you get on and try—each day try to make it better.[28]
—Yvon Chouinard

Chapter Summary

The common threads of the companies highlighted in this chapter are continuous innovation, staying true to core values, willpower, and passion. The companies are closely connected to their customers. They care about the communities they operate in and look for ways to give back socially and economically. They understand that driving change takes commitment—a lot of it.

We have an immense task ahead of us to deal with climate change, dwindling supplies, and growing demands, but that's no excuse to remain paralyzed and continue business as usual. As the examples in this chapter show, staying true to your values and acting accordingly will make a

difference, and you might inspire others to follow your example. It will take determination, persistence, and patience, but results will follow.

To remain sustainable and profitable in the future, companies need to focus on long-term value, not just short-term returns. Organizations are responsible not just for competitive returns but also for improving the social, environmental, and economic conditions of the communities they touch throughout their entire value chain. These responsibilities are two sides of the same coin. To survive in the long run, organizations need to manage their products and services from cradle-to-cradle: from the raw materials they use to manufacture their products all the way to encouraging changed customer behaviors like Natura's refill options or Patagonia's "Reduce, Repair, Reuse, Recycle, Reimagine" initiative.

Successful sustainability efforts depend on business models and product innovation as well as real partnerships with communities, governments, international governmental bodies, NGOs, and sometimes competitors. The problem is already here. Something must be done. Instead of waiting for others to act, be the change you want to see in this world.

Chapter 5

Social Innovation for Sustainability

Innovation is anything but business as usual.
—Anonymous

We have an unprecedented opportunity to reshape our world. We have accumulated more knowledge than ever before. The last 100 years have yielded astounding advances in engineering and technology. We have put men on the moon, put satellites in the sky, created worldwide communication networks, and explored the ocean to record depths. Through satellite photography, we can see the world in a way that none of our ancestors could. In the words of National Geographic explorer-in-residence Sylvia Earle, "Now we *know*."

We are starting to understand our impact on Earth. With that knowledge, we can take action to change things for the better. We are at a crossroads: continue business as usual and deplete the Earth, or take action to preserve it. The good news is this: now we *know*—while we still have

choices available. The crises affecting our planet require fundamental and innovative changes to every aspect of our lives. We need to change our mindset and create a bold new future. Business as usual will not get us there. We need innovations that focus on solving real problems without creating new ones. We're not talking about incremental changes in products or services, though they do play a part. We need revolutionary innovations: sidewalks that power streetlights, buildings that eat smog, nuclear plants that run on radioactive waste.[1] This is not science fiction. These are real innovations people are either working on or have already created and implemented.

This chapter is about **social innovations** rather than pure technology or product innovations. There are many definitions of social innovation, but we like the one used by the Canadian Centre for Social Innovation:

> Social Innovation refers to new ideas that resolve existing social, cultural, economic and environmental challenges for the benefit of people and planet. A true social innovation is systems-changing—it permanently alters the perceptions, behaviors and structures that previously gave rise to these challenges.[2]

To deal with the problems of dwindling supplies, climate change, population increases, and consumption growth, we need new innovation technologies or business models that have a real, positive impact on society and the planet. Global commitments from governments are desirable but are unlikely to occur. As we have seen over the last two decades, getting all two hundred or so governments[3] to commit to the same objectives is not realistic.

Innovation is crucial for the long-term survival of any company. Social innovation takes different forms: process innovation (like the open source movement), business model innovation, or innovation with a social purpose. Innovations can come from business, government, not-for-profit organizations, individuals, or communities. Increasingly, they arise from partnerships between several of these groups.

Why Own When You Can Share?

NATHALIE—Look around your home. Do you really need everything? I know I don't. From personal experience, I know we tend to fill the space we have. When I lived in Amsterdam in the 1990s, I lived mainly in sublet apartments that I rented from people while they were traveling, and I moved seven times in six years. (I guess I was an early adopter of the collaborative consumption economy.) During that time, I learned to live as a minimalist. If I hadn't used an item since my last move, I decided it was not needed and either gave it away or threw it away. But after living in the same apartment for 10 years now (a record for me), I have somehow accumulated far more "stuff" than I could ever need.

One innovation trend gathering speed worldwide is variously referred to as "**collaborative consumption**," "the sharing economy," or "peer-to-peer economy." Whatever one chooses to call it, we're excited about this trend. Collaborative consumption is a process and business model innovation. It is driven by a shift in consumer values from product *ownership* to product *access*. Collaborative consumption is based on the growing realization that we own too much stuff and that by continuing to consume as we do, we accelerate the planetary problems of exhausting our resources and increasing our waste.

The collaborative consumption philosophy holds that instead of buying more stuff, we should rent, lend, swap, barter, gift, and share products with each other. This will reduce the number of new products bought and thus the number of products manufactured. It will also reduce waste, because if fewer products are purchased, fewer will be discarded. Product life spans may extend as well, since even though we have no use for a product anymore, someone else may still have a use for it. Overall, this philosophy will reduce the pressure on our natural resources and improve the sustainability of our lifestyles.

In the sharing economy, you can share anything you can think of, from office space to unoccupied seats in your car (hitchhiking in the Internet

world) to clothing. What percentage of your clothes and shoes have you not worn in the last six months? How about instead of throwing those out and buying new ones, you swap them with someone else? More and more people are getting comfortable with the idea of paying for use instead for ownership.

So how does the collaborative consumption model work in reality? We rent out our stuff to perfect strangers: our car, guitar, empty spare room, surfboard, motorcycle, or anything else that's collecting dust in our homes. Sharing is as old as humankind. Forty years ago, you would walk over to your neighbor's house to borrow the lawn mower, pin a note on the announcement board of your local grocery market, or put a classified ad in the newspaper. Now that we have moved from the Industrial Age to the Internet Age, we can use online services that serve as virtual marketplaces.

Craigslist and eBay were some of the earliest online markets in the United States, both of which started in Silicon Valley. They took the concept of the newspaper classified ad and created an online marketplace with a significantly larger reach. They also changed the cost structure. Where normally you paid up front to publish a classified ad, with eBay you pay only after a successful sale (plus a nominal listing fee), and you don't pay at all with Craigslist. Instead of creating a sales platform, the collaborative consumption model focuses on sharing things. Instead of buying a product from a store or an individual, you can pay a small fee for the use of the product without ever owning it.

Many of these peer-to-peer sharing companies—companies that enable individuals to share directly with other individuals—were founded during the financial crisis of 2008 as an innovative way to deal with hard economic times. It's a win-win business model. As the owner of the asset, you get to make some money for something you already own but aren't using; as the renter you pay for access, which is significantly cheaper than ownership. The companies providing the sharing platform collect a fee for their infrastructure and in many instances for insurance and background

checks. Society wins too: since consumption is reduced, fewer products are made, fewer resources are depleted, and less waste is generated.

The wide availability of smartphones is one of the key enablers of the sharing economy model. At the end of 2012, there were six billion active mobile phones worldwide, of which more than one billion were smartphones. Smartphones are the fastest increasing segment in mobile phone sales.[4] The Internet and smartphones have drastically reduced the transaction cost of renting assets and have made the transaction itself significantly easier, enabling millions, if not billions, of people to participate.

Do you get goose bumps at the thought of renting your car, spare room, surfboard, or drill to a complete stranger? It sounds risky, but the approximately five-year track record of most sharing economy companies like Airbnb, Fon, and TaskRabbit has shown that these exchanges seldom go wrong.[5] Most peer-to-peer companies also provide insurance, but in the end transactions are all based on trust. Here again, technology is the enabler. All sharing companies allow you to leave reviews about your experience and about the person you rented from or rented to. Reviews build trust. In addition, getting bad reviews means you will get less business or will be less able to rent things, creating peer pressure to provide a certain level of quality. When did you last buy something online that didn't have several good reviews? We don't stay in hotels or rental vacation homes without checking the reviews first. A nonscientific survey of colleagues and friends reveals that we are clearly not alone in this.

Current fears and concerns about the sharing economy are similar to the fears people had about e-commerce in the 1990s. People were very worried about privacy and security at first, but once they had several good experiences and companies like Amazon and eBay provided a sense of security, people adopted e-commerce wholeheartedly. Today, most people buy products and services online without reservation. eBay is an interesting case: it started out as individuals selling to other individuals, but these days many established companies, including Barnes & Noble and United

Kingdom's Tesco, use eBay as a sales and distribution channel.[6] The sharing economy might move in the same direction, with established companies stepping into the space.

Mobility over Ownership

Let's look at one specific example. On average, a car in the United States, Canada, or Western Europe sits idle for 22 hours a day.[7] What if we put these idle assets to use? There are three mobility models that replace the need for car ownership:

1. *Car sharing.* Self-serve access to cars that are parked at designated spots in the city and are owned by the car sharing company. In general, you must return the vehicle to its initial location. You can reserve the car by the hour or day via smartphone app or Internet. In most cases you pay a membership fee instead of a rental fee, and you unlock the car with your membership card.
2. *Peer-to-peer car sharing.* Existing car owners make their vehicles available for you to rent for short periods of time. The peer-to-peer car sharing company provides the technical capabilities (e.g., a mobile app or website) for the transaction and takes a transaction fee. You get the keys from the owner of the car.
3. *Ride sharing.* Individuals pick you up in their own cars, in general for very short shared rides and on very short notice. The ride sharing company provides the technical capabilities for the transaction.

Car sharing has been around for decades. One of the first large-scale initiatives was Witkar (Figure 5.1), which shared one- to two-person electric cars in Amsterdam in the 1970s, following in the footsteps of the citywide Witte Fietsenplan (White Bike Plan) started in 1968. Sadly, the Witkar project died in the mid-1980s due to lack of funding and government support, which goes to show that being profitable is crucial to survival. It seems the original social inventor of the project is looking to revive the Witkar in 2013.[8]

FIGURE 5.1 A Dutch Witkar (White Car) from the 1970s. The all-electric vehicles featured a 24-volt motor, three wheels, two seats, and a maximum speed of 30 km/h (about 18 mph). *Photo credit:* Amsterdam Museum / CC-BY-SA-3.0.

Throughout the 1980s and 1990s, Europe was at the forefront of car sharing with projects like the Dutch Greenwheels (1995) and German StattAuto (1990), most of them small initiatives. Inspired by these European projects, U.S.-based companies like Zipcar and nonprofits like City CarShare in San Francisco were founded in the early 2000s.

Of course, with car sharing you still have to get to the car sharing parking spot, which is what got RelayRides founder Shelby Clark thinking. While biking through Boston in some very nasty winter weather to get to the nearest car sharing parking spot, he passed thousands of parked cars that were not being used. Inspired, he founded RelayRides, a peer-to-peer car sharing company, in 2010. Peer-to-peer car sharing takes the concept a step further. Companies like RelayRides do not own any cars.

Instead, they serve as a matchmaker between people looking to use a car and people looking to rent one out. As the owner, you set the rental rate for your vehicle and decide when it's available. The renter picks up the car from you and delivers it back to you. RelayRides provides the online and mobile interfaces to locate a car for rent close to you and enables the transaction. The company takes a 40 percent commission on the transaction amount, mostly to cover the US$1 million insurance offered. In a way, it's a no-brainer. So many cars sit unused, sometimes for days or even weeks. Why not use them? Peer-to-peer car sharing delivers several economic benefits: Car owners make some money. Renters save money by renting instead of owning. The environment benefits from the reduction in car ownership, which means that fewer cars need to be manufactured, which in turn means that fewer raw materials are extracted. Social benefits include possible reductions in air pollution and fewer required parking spaces, which could mean more green space for leisure time.

Especially in the United States, the car has long been the ultimate status symbol. Where would James Dean have been without his car in the movie *Rebel Without a Cause*? But this status symbol isn't inevitable or unchangeable. These days, people are shifting their mindset from needing a car to simply wanting mobility. In San Francisco, not owning a car probably gives you more status than owning one. Social media has altered the way we express ourselves. Instead of projecting our identity with the stuff we own, we use our social networks. This is especially true for the generations that have grown up as digital natives.

Established car companies have taken notice of this phenomenon and are moving into the field. General Motors (GM) was one of the first on board. In 2010, GM partnered with RelayRides to make the OnStar navigation and roadside assistance system, automatically installed in all GM vehicles, available to RelayRides customers using GM cars. The OnStar system allows RelayRides' mobile application to lock and unlock the car without having to get the keys from the owner. In addition, OnStar provides security against theft or unauthorized use of the car, because the system can slow or stop the car remotely.

You might wonder about the benefit to GM. Stephen Girsky, GM vice chairman, put it this way: "Our goal is to find ways to broaden our customer reach, reduce traffic congestion in America's largest cities, and address urban mobility concerns."[9] GM realizes that more and more people are looking for mobility, and not necessarily to own a vehicle. Of course, personal car ownership for everyone is not even a sustainable model in a future with more than nine billion people. GM recognizes this reality, and is looking for innovative ways to deal with it. Instead of just selling cars, the company is starting to look at part of its core business as being a mobility service provider. It aims to make the driving experiences people have in GM cars, though any venue, as pleasant as possible. As a result, people will hopefully favor GM in any mobility solution they adopt. And if someone does decide to buy a car, it might be one of GM's.

GM is not the only company that recognizes the need to prepare for a world with fewer resources and more environmentally conscious customers. Overall, the majority of the major players in the automotive industry understand they have to find other ways to make money. As early as 1997, Volkswagen pioneered car sharing with very localized programs[10] and in 2011 launched Quicar, a service similar to Zipcar. In the same year, Daimler launched an all-electric Car2Go car share service in several large cities around the world, allowing customers to drop off the car at any Car2Go charging area—not necessarily the one where they picked up the car.[11] (Today Car2Go also provides conventional gas cars in certain cities, which you can park in any parking spot.) In 2012, Zipcar invested US$14 million in Wheelz, a peer-to-peer car sharing firm,[12] and in January 2013 Zipcar itself got snapped up by the Avis Budget Group for US$500 million cash—a 49 percent premium over Zipcar's stock value.[13] The hope is that both car sharing models—commercial and peer-to-peer—will reduce the number of cars on the road, along with the pollution and waste they create. In addition to providing an alternative to car ownership, these models provide an alternative to public transport in areas where public services do not provide good coverage. Ideally, car sharing would also provide transportation options to less privileged segments of the population.

Here to Stay

It is tempting to dismiss the sharing economy and collaborative consumption as a fad, but this social innovation is disrupting established businesses and industries right now. *Forbes* estimates that the peer-to-peer sharing economy will gross more than US$3.5 billion in 2013,[14] and some advocates believe it could be a US$25 billion industry by 2016.[15] This model is redefining consumption patterns and businesses operations.

Current laws, regulations, and policies are based on the consumption model of ownership. Warranties and insurances are linked to the owner, and sometimes the product itself, but rarely to the user of the product. Most of these laws and regulations were written well before the invention of the Internet. As a result, regulators are struggling to understand how to manage the sharing economy. Take as an example services like Lyft, a ride sharing company that enables individuals to offer rides in their own personal cars in exchange for donations. Are these collaborative consumers taxi drivers or not? In Amsterdam, regulators have used Airbnb to track down people who rent out their spare bedrooms and crack down on them for not having a permit or satisfying lodging requirements.[16] Clearly some rules and regulations are needed; however, if individuals have to live up to the stringent standards that apply to conventional brick-and-mortar businesses, the peer-to-peer economy most likely will not survive.

Some regulators are realizing that existing rules need to be adapted to the new reality of a networked world. The city of San Francisco is currently reviewing existing regulations and tax systems—most created between 40 and 50 years ago—and updating them to fit the Social Era.[17] As more and more established businesses step into the sharing economy or partner with peer-to-peer companies, legal and policy aspects will have to adjust accordingly.

Constrained by circumstances and lack of resources, citizens of developing countries are very familiar with the concept of sharing products. Still, the emerging middle classes might want to adopt the unsustainable mass consumption model of the developed world as a symbol of success

and prosperity. April Rinne, chief strategy officer of the World Economic Forum's Collaborative Lab, described a conversation she had with a middle-class friend from India. When Rinne shared her enthusiasm for the peer-to-peer car sharing industry, her friend told her that the previous generations of his family had worked very hard so he could own a car. He could not imagine a better use for his car than to sit in front of his house for all his neighbors to see, honoring the hard work of his parents and grandparents.

We hope developing economies will leapfrog the developed world in methods of consumption, just as they did by skipping fixed telephone lines and jumping immediately to mobile networks. If the value proposition of sharing is large enough, we believe the developing world could skip the mass consumption ownership economy entirely. The question is what can prompt the developed world to make that leap.

The sharing economy will not replace traditional industries; rather, both models will coexist and provide consumers with more options. This social innovation also provides a potential source of income for owners. When most of these companies began during the Great Recession of 2008, unemployment rates were up around the world. Unemployment is still at an all-time high in Europe at the time of this writing. Even well-educated people with extensive résumés struggle to find jobs. According to the Edelman Trust Barometer, trust in traditional businesses and government dipped to a low point in 2012. In the 2013 Edelman report, experts and peers top the scale of trusted sources, with CEOs and government leaders at the bottom of that same scale (Figure 5.2).[18]

The sharing economy model works only because of the self-created community where peer reviews create or corrode trust. Thanks to the online world, it has never been easier to create a livelihood. Technology has enabled the sharing economy, and this in turn has created microentrepreneurship: people monetizing their assets, skills, and knowledge directly through the Internet. Technology has empowered people to decide when and how much they work, for what reward, and which skills or assets they will share. This allows people who might otherwise find themselves on the margins of the economy to thrive and support their communities.

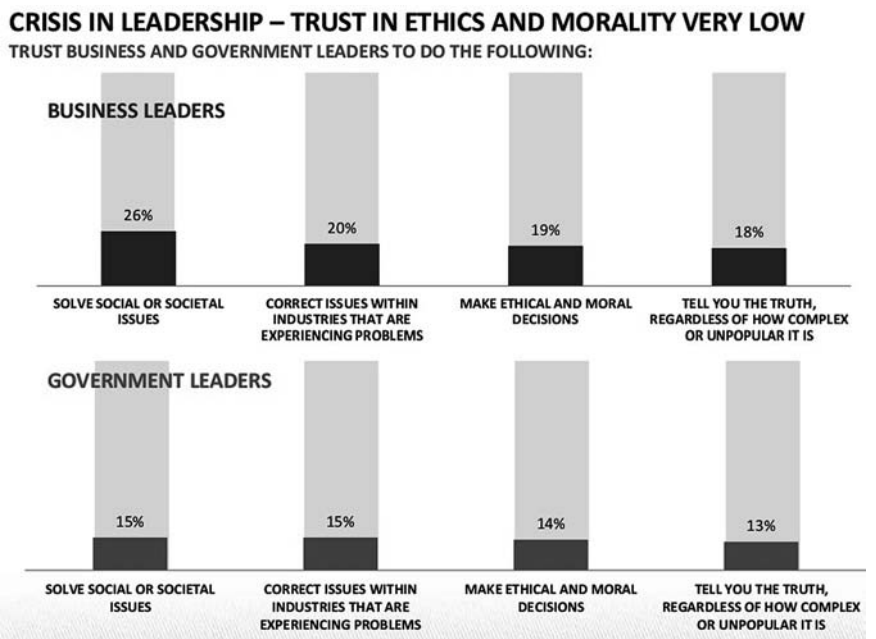

FIGURE 5.2 The 2013 Edelman Trust Barometer surveyed 26,000 people in 26 countries and found that their trust in business and government leaders was extraordinarily low. These graphs show positive responses ("Trust a Great Deal") to the question "How much do you trust business leaders (or government leaders) to do the following?"

Source: Edelman Insights, Global Deck: 2013 Edelman Trust Barometer.

When innovation threatens your business, you have a choice: you can embrace it and ask what this change makes possible, you can do nothing, or you can fight it. History has shown that fighting innovation might slow the process but has seldom, if ever, stopped it. Instead, the businesses that fight change are, in general, the ones that end up on the margins of the economy or simply obsolete (think of Kodak and Blockbuster).

From Producer to Service Provider

Another social innovation that goes even further than the sharing economy is the **circular economy** model, which is based on the natural world. In nature, things live, grow, die, and are reused by other organisms. There is no real waste. In contrast, our current economic model is based on cheap,

easy access to available resources. We use those resources to make products, which are then used and discarded in ever-growing mountains of garbage. This toss-and-replace attitude causes many of the problems we have been discussing. Forty percent of the food produced in the United States ends up in the trash![19] This is a shocking and inexcusable waste.

The circular economy combats this waste with a performance-based system. As with the sharing economy, customers in this model are looking for access to products and services rather than ownership: they shift from being consumers to being users. Companies keep ownership of their products and license them for a small monthly subscription fee, providing services when needed, sort of like a car lease service. Maintenance and repairs are part of the service, and potentially even operational costs like electricity. Companies retain ownership of the precious materials used to make their products, and it is in their best interest to design for high quality. Product design in the circular economy focuses on quality so the product will last for a long time. Reusability must be part of the design as well. It's important to incorporate the ability to disassemble and reuse the components at the end of the product's life—a world apart from today's "throwaway" products.

Not many companies have tried this model yet, but Japan's Ricoh Group has implemented it for its copiers and printers. In 1994, Ricoh introduced the Ricoh Comet Circle initiative. The Ricoh website describes it this way:

> The Comet Circle expresses the greater picture of our environmental impact reduction scheme, which includes not only the scope of the Ricoh Group as a manufacturer and sales company but also the entire lifecycle of our products, including upstream and downstream of our business activities.[20]

Ricoh copiers and printers that return from a lease are inspected, dismantled, and "renewed" by installing new components and updating software. After going through the renewal process, the "old" copiers and

printers are reintroduced in the market under Ricoh's GreenLine label, with the same warranty provided on brand-new products. This emphasis on recycling extends to individual product parts as well. When parts and products can no longer be recycled in the "inner loop" of the Comet Circle, a variety of recovery technologies are used to reclaim components and materials for use in another generation of long-use primary products.[21] This innovative focus makes the Comet Circle a central component of portfolio planning for Ricoh management.

Customers in the circular economy model would care most about access and quality of performance, not ownership. Car sharing initiatives from the major manufacturers could fit into this model if the cars were designed to be dismantled and the parts reused. Nonownership systems are on the rise, displacing the producer-consumer relationship. Nobody knows how large this movement will be, or how disruptive, but it will inevitably have an impact. Every company should join the emerging market and find a role in it.

Instead of mass-producing, companies in the circular economy would move toward make-to-order models, thus significantly reducing waste from the mass production model. Here again, technology is providing the tools. Current technology enables us to print one book instead of the traditional five thousand or more. 3D printing enables us to make cheap prototypes from virtual blueprints of almost anything, significantly reducing the cost and waste of designing and prototyping products.

The point of the circular economy is not just to reduce our ecological impact but to strive to eliminate it. Michael Braungart and William McDonough championed this worldview in their 2002 book *Cradle to Cradle: Remaking the Way We Make Things*. Braungart and McDonough call for a mindset shift from merely minimizing the harm we do—"reduce, reuse, recycle"—to ecologically intelligent design where we co-create in a way that emulates nature's cycle: create things, use them to their full extent, break them down at the end of their life cycle, and use the components to create new things without ever generating waste. Products will be designed in such a way that after their useful life, they provide

nourishment to the Earth or to other products. Repurposed products in a circular economy would not be "downgraded" to a lower-grade use (e.g., office paper becoming newspaper becoming paper towels) but would continue as high-grade ingredients in a closed loop, circular system like the Ricoh copiers and printers. In a way, businesses would "mine" old products to create new ones, cradle-to-cradle. The challenge is yours. How can you transform your products or services so they co-create instead of simply minimizing their damage? In McDonough's words, being less bad is *not* being good.

Using the Power of the People

We have mentioned the critical importance of partnerships several times now. In today's world, it is no longer possible to run a profitable business while single-handedly managing your full value chain and continuing to innovate to stay viable. More and more companies are realizing that they need to reengineer their business models and start using the knowledge of the masses, also called **crowdsourcing**. Wikipedia—itself a great example of the power of crowdsourcing—defines the concept this way: "The practice of obtaining needed services, ideas, or content by soliciting contributions from a large group of people, and especially from an online community, rather than from traditional employees or suppliers." Not that long ago, when we needed to know something, we would ask our elders or flip through the pages of real books, such as encyclopedias. (Remember those?) Today, we use a search engine like Google (*google* has even become an accepted verb in major dictionaries), or we look it up using online encyclopedias like Wikipedia.

Wikipedia owes its very existence to people just like you. Anyone in the world can create a page in the crowdsourced encyclopedia, and almost every page is available for public editing as well. There have been some challenges as to the correctness of the information, and expert validation is important—but with each new innovation there are always new problems to tackle. No single company could have assembled the knowledge

base aggregated in Wikipedia. The numbers are staggering: worldwide, 39 million registered users and uncountable anonymous contributors have created over 25 million articles in 285 languages, all accessible to anybody with an Internet connection.[22]

As with the sharing economy, crowdsourcing existed before the Internet. The original *Oxford English Dictionary* was crowdsourced in the 1800s, and the vast genealogical resources of the Mormon Church provide another prominent example. However, modern technology has made the barrier to entry extremely low and extended access to users worldwide. Current generations have grown up using collaboration sites and sharing information. The Information Age has even made the baby boomer generation more familiar with sharing information online. Visionary executives can use the power of the crowd to identify new, innovative products and services to drive future revenue and cost reductions. The collective knowledge of humanity is much more powerful than that of any single executive or even the knowledge of a company's employees, taken together.

This new interconnected and sharing era was named the Social Era by Nilofer Merchant, a columnist for the *Harvard Business Review*. In the Social Era, businesses need to realize that power lies with the community and not the company. The youngest generations especially are loyal to their networks and not necessarily to corporate hierarchies.

Unilever is one example of a company taking advantage of this new era. The Unilever Consumer Creative Challenge used crowdsourcing to create ad content for several Unilever global brands in 2010.[23] In the United Kingdom, Unilever actually dropped the ad agency it had used for 16 years in favor of crowdsourcing ideas from creative individuals.[24] Unilever is even crowdsourcing the solutions to its sustainability challenges. In 2012, the company created a new Open Innovation website to gather ideas for meeting the targets set in the Unilever Sustainability Living Plan.[25] Unilever's leaders realize they need the knowledge and creativity of the crowd to find solutions for the problems we face.

Crowdsourcing also breaks down the barrier between the developed and developing world since the Internet does not have borders. Consider

99designs, which launched in 2008 in Melbourne, Australia, as a marketplace for crowdsourced graphic designs, typically a very expensive service. Imagine you need a company logo. You create a "design contest" detailing your needs. Designers all over the world compete. You pick the design you like best, and that designer gets paid; none of the others do. It does not matter where you are or what social class you are from; if you have a computer and an Internet connection, you can participate. 99designs has some heartwarming stories of designers in India and Indonesia who have been able to support their families and communities by winning design contests. 99designs' revenues are growing about 120 percent a year, a remarkable figure given that the company doesn't invest in marketing or sales. It grows through word of mouth: more than 90 percent of 99designs' customers come from referrals.[26]

Crowdfunding is another example of crowdsourcing enabling rapid innovation. In this model, individuals pool their money through an Internet platform to fund social initiatives. Kickstarter is a great example. If you have a project idea that falls into one of the many areas supported by Kickstarter, you can list it on the Kickstarter website along with a funding goal and deadline. If the crowd—people like you and me—think it's a good idea, they pledge money to support it. In many instances, supporters get a token of appreciation, like a signed DVD of the movie you funded, but sometimes there is no tangible exchange—your only return is knowing you helped launch the project. Funding and payment take place only when the project hits its funding goal. Kickstarter enables otherwise hard-to-fund projects to find the money needed to realize their potential. For example, SkyLight, which was funded through Kickstarter, is a smartphone accessory that can be used with a microscope to make diagnostic images that can be sent to medical experts for potentially life-saving diagnoses. The most famous Kickstarter project to date is the *Veronica Mars* movie, which reached its US$2 million goal less than 11 hours after it was posted.[27]

Even limited funds can make a world of difference. Consider the crowdfunding platform Kiva. Kiva's mission is to connect people through lending to alleviate poverty. Kiva works with microfinance institutions

on five continents to provide loans to people without access to traditional banking systems. One hundred percent of your loan is sent to these microfinance institutions, called Field Partners, who administer the loans. Unlike Kickstarter, your Kiva loan is generally repaid, though without any interest.

The world of the near future will increasingly be about the value you are adding to society. Look at how you can engage with new trends and technologies instead of focusing on how to maintain the status quo. The travel agents, bookstores, record stores, and newspapers that tried to fight innovations are no longer around. Those that innovated are. Companies like 99designs level the talent field worldwide. People in the developing world have as much chance of winning a design contest as those in the developed world. The money they earn by doing so may be more than their annual salary at their usual job. These kinds of innovations are helping communities throughout the world!

What will you innovate? Those companies that collaborate with the power of the people instead of trying to resist change or attempting to do everything themselves will excel.

Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.
—William Pollard

Chapter Summary

We stand at a unique moment in history. In the Industrial Era, we were focused on producing things and mass consumption. The Social Era is all about networks: connecting people, ideas, and things. The power is with the people, and they are looking for ideas and products that benefit society and the planet. Some of the resulting social innovations are highlighted in this chapter. Customers, employees, and citizens are getting more and more vocal, and they have tools they never had before. Technology in general and social media in particular have changed the business land-

scape by giving a direct voice to customers and employees, who demand transparency, social innovation, and corporate consciousness. We know the consequences of our current way of doing business—something we didn't really understand before, at least not on this scale. It is inconceivable for us to continue "as is." We have the opportunity and the ability to change our ways. Let's seize this moment:

- Focus on shared value that connects people inside and outside the organization.
- Use the power of the people. It is not the hierarchy that counts but the community.
- Crowdsource innovative ideas.
- Collaborate, collaborate, collaborate—establish co-creative relationships.
- Think circular instead of linear. Design for the circular economy—high quality and fully reusable. Your current products should be the "mines" for your future products.
- However intimidating it may be, embrace the change!

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Chapter 6

Companies in Transition and the Need for Strategic Change

No one has to change. Survival is optional.
—Dr. W. Edwards Deming

GREG—At a recent luncheon, I got into a great discussion with someone who was, well, a sustainability zealot. I tend to bring that out in people when I speak publicly on the need for the type of organizational change we advocate in this book. This young woman approached me after my presentation. She was enthusiastic, but I was taken aback when she said that the change I described is only just starting today and is guided only by a few leaders who are truly "aware." Corporate leaders in the past and those in large companies today, she maintained, were never committed to sharing values with communities, nor did they realize that the care of society must always be foremost in their minds. She sounded almost cynical, but I sensed she was more of a skeptic. I always say that the world needs skeptics to keep us honest and cynics to keep us laughing. Though

I understood her point of view, I don't agree. To offer her a different perspective, I shared several examples.

In 1990, I was in my second full year as CEO of the Institute of Industrial Engineers (IIE). We were undergoing massive change, and we needed to rethink ourselves as an organization. I felt that I needed help to expand my capabilities as a leader. And so, after much personal research, I settled on an organization in Greensboro, North Carolina, called the Center for Creative Leadership (CCL). CCL had developed a brand and global reputation for advancing the understanding, practice, and development of leadership for the benefit of society worldwide. My attendance at the program shifted my perspective significantly. I found it so valuable that I sent many of our other executives over the next several years. CCL clearly drove home a message about the impact organizations have on society and the important role leaders can play in ensuring that this impact is beneficial.

As I was putting together a report on the program for our HR director, I was surprised to discover that CCL had been created by H. Smith Richardson. The son of the founder of the Vicks Chemical Company, the man who brought Vicks VapoRub into my home, was the founder of one of the most profound leadership programs I had ever experienced. After 60 years in business, he was still a visionary.

After an hour of good dialogue, the skeptic became less skeptical. It's satisfying to bring someone around to your point of view, but I still hope she never abandons her skepticism. A healthy dose of skepticism holds us all accountable for our motives, our beliefs, and our mission. In an age where social, broadcast, and print media are merging, we need engaged skeptics to help us all ask the right questions and seek out the right answers. In this century, the questions skeptics ask are the questions associated with real strategic change.

H. Smith Richardson founded the Center for Creative Leadership (CCL) because he believed certain questions were not being answered correctly. For many years before commissioning the program, he struggled with—and continued to ask critical questions about—the keys to sustainability of

companies like his own. In particular, he wanted to know how businesses could "remain vital and continue to provide useful, innovative products and services through economic ups and downs, in the face of changes in the marketplace, and in spite of the inevitable succession of management groups."[1] Simply put, Richardson was suggesting that individual leaders needed to possess the ability to look well into the future and become more adaptive to the changes ahead. He was describing one of the key leadership characteristics needed to transform a company into a sustainability leader.

Richardson eventually concluded that most leaders lose "the ability to recognize and adjust to new and changing conditions," which often led to business failures.[2] He felt that organizations needed innovative leadership with a broader focus and a longer view, not just a view of the present and short-term future. He concluded (over 40 years ago!) that these new leaders needed to be equally concerned with the place of business in society, not just with profits, markets, and business strategies. For long-term sustainability, businesses and leaders needed long-term vision, adaptability to changing conditions, and an understanding of the need to have a beneficial place in society. This perspective raised my awareness of what it would take to remain sustainable in the long run.

It would be wonderful if all organizational transformations were due to the "awakening" of the corporate leaders to the real benefits of a socially and environmentally conscious organization. While this does occur, it is the exception, not the rule. This is neither good nor bad. It is simply reality. Visionaries like Richardson help us raise that awareness, but most organizations will not act until the risks of not changing are seen as a real threat to organizational sustainability.

The risks outlined earlier in this book are neither new nor surprising. And yet there are leaders today who continue to ignore them. Unless these leaders act on them in time, these sustainability-related risks may very well undermine a company's ability to exist in the mid-twenty-first century. The most responsive organizations build the strategic competency to see far enough into the future to realize that if they don't change, a burning platform might take them down. They have the kinds of leaders Richardson

described, leaders who possess "the ability to recognize and adjust to new and changing conditions." Then there are those who wait until they feel the heat of the fire on the soles of their shoes. For those who ignore their own burning platform today, we hope that they react in time.

It takes continuity of leadership to sustain real change. Many company leaders around the world recognize the importance of leadership succession and understand the need to have a series of leaders that can bring continuity to massive changes. Take the Coca-Cola Company, for instance. When Asa Griggs Candler bought the formula and rights to Coca-Cola from John Stith Pemberton in 1889, the global population was just over 1.5 billion, and the majority of the world was still uncharted. The industrial revolution had barely started, there was abundant clean water, fresh air was the norm in nearly every corner of the globe, the oceans remained stocked with every conceivable species of fish, and the jungles and forests were barely touched by humans. Widespread water scarcity, overpopulation, epidemic obesity, and climate changes were unimaginable problems.

Over the last 25 years, these issues have become real environmental, societal, and organizational risks. They remain a threat to our planet, our people, and even to Coca-Cola's future survival. To address these risks, the top leadership at Coca-Cola has advanced unprecedented strategic change. Coca-Cola, BMW, Walmart, Patagonia, and the rest of the companies we profile in this book all possess the ability to look ahead, assess risks, and mitigate those risks by making strategic changes.

Adapting to Change Breeds Success

To some extent, this book is about being responsive to an onslaught of change beginning now that will have a significant impact in the future. It is about addressing the facts: the growing population, the expanding middle class and its associated consumption, the limited availability of many raw materials, and the need to build sustainable communities. The examples that follow in this chapter demonstrate how large multinational corporations have taken their highly successful models and dramatically

altered them to deal with the significant changes looming in the future. The companies in this chapter have a cumulative personnel complement approaching one million employees and cumulative annual sales of nearly US$1 trillion. Their highly visible brands are known globally, and they are recognized as leaders in their industry sectors.

These companies also cut across a wide variety of industry sectors: automotive, consumer beverages, chemistry, communications technology, and pharmaceuticals. Given that diversity, what could these organizations possibly have in common when it comes to sustainability? From a product point of view, the obvious answer might be "nothing." In fact, many of these organizations probably don't even see themselves as competitors. However, from a strategic perspective, they have a great deal in common. These stories illustrate the common elements in each company's strategy and show how these common elements lead to strong and effective transformation.

Coca-Cola: Refreshing the World

Of all of the companies investigated in the course of writing this book, Coca-Cola is one of the more interesting ones. It has one of the most visible brands in the world, based on its namesake beverage. It is the largest nonalcoholic beverage producer in the world and surprisingly also the largest juice producer. Coca-Cola has over 500 brands, with more than 3,500 labels in its own product portfolio. Big? Yes. Well known? One of the five most recognized brands in the world. Profitable? The company's impressive annual report speaks for itself. Is Coca-Cola becoming more sustainable for the long haul? In our opinion, yes.

One crucial aspect of Coca-Cola's journey to sustainability is its drive to identify critical risks that may affect its long-term survival. This is one of the most important competencies impacting the company's ability to manage through the uncertainty of the future. Any successful organization must stay focused on the future and navigate around obstacles. It is the strategic radar, if you will, that keeps businesses poised for change.

Coca-Cola's risk identification exercises include evaluating the risks associated with sustainability. Chief sustainability officer Bea Perez told us in an interview that these risks are clearly documented at Coca-Cola and are integrated into the company's sustainability strategy. The approaches selected to deal with these risks aren't shared only with Coca-Cola's internal stakeholders, either. Perez caught our attention by mentioning that Coca-Cola discusses these risks in detail in the annual 10-K reports required by the U.S. Securities and Exchange Commission (SEC) and told us that she wished the analysts on Wall Street would ask how companies deal with these issues. Naturally, we reviewed Coca-Cola's 10-K reports to see how those risks are addressed.[3]

The 10-K report for 2011 lists 34 critical risks that could directly affect the financial performance and survivability of the organization. Obviously, there were specific references to financial and regulatory issues. You would expect that in an SEC filing. Risks like the cost of capital, pension expenses, indebtedness, and uncertainty in the credit market, among others, are included. However, there were many additional risks not directly linked to traditional financial indicators, which Coca-Cola's management believed could have a significant impact on long-term organizational survivability:

- Obesity and health concerns
- Water scarcity, quality, and quantity
- Ability to meet demand in the developing world
- Well-being of the relationship with bottling partners (part of the strategic value chain)
- Escalating energy costs or a disrupted energy supply (part of a critical raw material for operation and distribution)
- Escalating raw material costs or a disrupted raw materials supply (supply chain of such things as sweeteners, fruits, etc.)
- Adverse weather patterns due to climate change affecting supply of raw materials
- Product safety and human rights

The 10-K report is designed to help potential investors understand how an organization is poised for change. What makes this list interesting is the mix of risks focused on social, environmental, and ethical challenges. As a successful organization, Coca-Cola realizes that these factors can undermine its future if the company doesn't prioritize these risks and mitigate the most significant ones through a clear, integrated strategy.

Another aspect of managing through uncertainty is the art and science of understanding the greatest trends and forces shaping consumer interests. Tom LaForge, global director of human and cultural insights, told us about Coca-Cola's approach to identifying and understanding emerging global trends and their impact on the future of the company. This approach translates into a strategic competency through the thorough study of megatrends and macroforces. Furthermore, it is not limited to the traditional spectrum of marketing, branding, and positioning; it is also used to expose factors that could affect the way the company is perceived by existing and emerging customer bases.

According to LaForge, Coca-Cola uses a number of tools to look at these trends and forces. In a presentation at the 2010 Sustainable Brands Conference, he shared several macroforces he believes are shaping the future (see Table 6.1).[4]

TABLE 6.1 Macroforces Coca-Cola Believes Are Shaping Our World

Macroforces Shaping Our World
Growth of populations
Spread of capitalism
Increasing affluence of consumers
Advances in medicine and psychology
Developments in technology and mobility
Environmental changes
The spread of education

At the June 2010 Sustainable Brands Conference, Tom LaForge of The Coca-Cola Company identified and discussed "macroforces" he believes are shaping the world of the future.

Among these macroforces are growth in global populations, environmental changes, and globalization—all of which were discussed earlier in this book. This background makes it obvious that Coca-Cola sees a great potential for growth in the emerging regions of the world. However, these macroforces are interrelated, and one of them will definitely have an effect on customer perceptions of Coca-Cola and other companies: the spread of capitalism, in one form or another.

Over the last 10 years, the "dark side" of capitalism, as LaForge called it (e.g., the collapse of Enron, the banking system, and the housing markets, etc.), has altered current and future perceptions of capitalism.[5] This, in turn, is affecting the future face of capitalism. In fact, LaForge said the two most important macroforces changing business are forces relating to environmental issues and social justice. The environment and social justice are becoming more important to consumers, and these perceptions are forcing a change in business values to embrace environmental sustainability and social responsibility.

One of Muhtar Kent's first tasks when he became CEO of Coca-Cola was an enterprise-wide effort to develop an overall company strategy that would address these issues. Kent described his goals in an interview with *Harvard Business Review*:

> There were two [top priorities]: establishing a long-term vision and restoring growth in North America. I felt that we needed a vision, a shared picture of success—both for us and for our bottling partners . . . It's not for the faint-hearted, but it's clearly doable.[6]

When it was announced in 2010, the 2020 Vision strategy was one of the most ambitious plans in Coca-Cola's history. It identifies six critical elements—profit, people, portfolio, partners, planet, and productivity—referred to by company leaders as "the 6 P's."[7] The plan sets company-wide goals as well as specific key objectives (performance indicators) in all areas, along with metrics for measuring movement toward each goal. One

of the most ambitious targets is to more than double revenues in 10 years. 2020 Vision calls for doubling the number of servings consumed, as well.

Not for the fainthearted? That may be one of the greatest understatements of Kent's term. These are not subtle or incremental goals. According to Kent, "When we first talked about achieving growth in the U.S., people thought we were trying to go to the moon in a glider."[8]

Though the company is moving noticeably toward meeting that goal, the question that immediately arises is how can you be that aggressive and still be a company focused on sustainability while staring down clearly identified risks such as obesity, water quality and quantity, energy supply, and so on? After interviewing leaders across the organization, we can describe the foundation of Coca-Cola's success in two words: strategy and accountability. Coca-Cola's strategy is robust, and sustainability is integrated throughout. Accountability is open and transparent, with clear measures and metrics, and is pervasive throughout the organization—at the top, in communications to the public, within the objectives of each organizational leader, and in relationships with all bottlers around the globe.

The best way to learn about the depth of change at Coca-Cola is to read the Sustainability Report, published as part of the company's commitment to the Global Reporting Initiative (GRI), which describes the WE–ME–WORLD initiative.[9] Let's look at a few of the accomplishments contributing to Coca-Cola's sustainability and long-term profitability:

- *Energy conservation and climate change.* Approximately 25 percent of all refrigeration equipment has been replaced with hydrofluorocarbon-free equipment, with a goal that all new refrigeration equipment will be HFC-free by 2015.
- *Sustainable packaging and recycling.* Ten billion fully recyclable PlantBottle packages have been distributed across 24 countries, significantly reducing petroleum demand (by over 200,000 barrels since 2009).

- *Water stewardship.* Since 2005, over 382 community water projects have been conducted in 94 countries in cooperation with local governments and nonprofit partners.
- *Product portfolio and well-being.* One of the changes in Coca-Cola has been the deliberate expansion of its product portfolio as a way of addressing such issues as obesity. Coca-Cola currently provides 800 products with low or no calories, including waters, juice drinks, energy drinks, teas, coffees, and milk- and soy-based beverages. Obviously, this is a controversial issue due to the use of artificial sweeteners in some of the beverages. As Coca-Cola moves forward, it must maintain a clear, deliberate focus on its product portfolio in context with its impact on well-being.
- *Diverse and inclusive culture.* Coca-Cola has directly empowered 131,000 female entrepreneurs—with a goal of five million by 2020—through access to "business skills training, financial services, assets, and support networks."

These accomplishments map directly to the strategic risks to Coca-Cola's long-term survivability identified in the 10-K report in 2011. Clearly, Coca-Cola is using critical risks identified by its strategic radar to drive strategy and is using clear accountability to ensure that those strategies drive business and sustainability planning and execution. But how does the company handle a global effort when it has bottlers in every country in the world—nearly a thousand of them being franchised operations? It would take hundreds of pages to answer those questions for every area listed above. Instead, let's take a look at water stewardship and diversity, since without clean water, Coca-Cola could not survive as an organization.

To find out about water stewardship, we talked to Jeff Seabright, vice president of environment and water resources at Coca-Cola. Seabright has been instrumental in achieving the company's targets in this area. He was quick to tell us that of all his work and accomplishments since joining Coca-Cola, this has been the most personally satisfying and rewarding. The two critical areas in water stewardship are the water used in creating

products and the water treated in manufacturing (bottling). Clearly, the bottling plants are a critical element of the value and supply chains. Coca-Cola's vision calls for being water-neutral by 2020, meaning that the water used in its bottling plants will be returned to local communities and to nature. This is an immense challenge. According to Seabright, Coca-Cola plants use about 180 billion liters (over 264 million gallons) of water annually and generate 120 billion liters (over 31 billion gallons) of liquid waste. To up the ante further, remember that the revenue and serving goals for 2020 are double the 2010 rates.

Seabright outlined a few critical issues that are moving the company toward these ambitious goals. First, a source water protection plan provides a specific strategy for water stewardship. This plan, mentioned briefly in Chapter 3, governs the design and construction of new plants as well as the retrofit of existing plants. Each bottler is held accountable to a plan requiring it to bottle to a specific quality standard, to treat wastewater to the highest standard possible, and to work with local experts and other important stakeholders to determine its water source and investigate how the plant might create water stress in the area. Essentially, bottlers are asked to learn about, manage, and protect the local water source. Compliance with these goals is checked through an independent audit, which helps Coca-Cola hold the bottlers accountable. If a bottler doesn't comply and refuses to upgrade after receiving below-standard ratings, Coca-Cola will replace it with another franchise bottler.

In addition, the water stewardship platform is tied into production volume. As production grows, more resources are invested in water stewardship and protection. Coca-Cola chose to work in tandem with other organizations to achieve this goal, including manufacturers like Nestlé and NGOs like the World Wildlife Federation.

Along with the governance and planning efforts in its source water protection plan, Coca-Cola is investing heavily in innovative technologies for water usage and treatment, which the company believes can and will contribute greatly to water stewardship. A new water reuse-recycling system called the multibarrier system is being pioneered and tested in

Mexico. Technologies like these could lead to a reduction of 35 percent in water usage for bottling operations—a total of 100 billion liters (26 billion gallons) per year! This reduction would be a breakthrough not just for Coca-Cola but for bottling operations all over the world.

The diversity efforts at Coca-Cola are also significant and show how connected the company's business and sustainability goals are. Charlotte Oades, Coca-Cola's global director of women's economic development, told us that women must be empowered as entrepreneurs to create and maintain thriving communities worldwide. For example, women in the developing world often devote the majority of their daylight hours to hauling drinking water for their families and villages. Worldwide, this represents over 200 million hours of effort every day. If this time could be halved and the women empowered to become entrepreneurs, the global financial impact would be extraordinary.

With that in mind, the 5by20 program aims to provide economic empowerment to 5 million entrepreneurial women by 2020 throughout the entire Coca-Cola value chain, including farmers, shopkeepers, micro-distributors, recycling collectors, artisans, and others. To accomplish this goal, Coca-Cola is helping women build the necessary skills, providing access to financing, and introducing them to mentors who can build and nurture their entrepreneurial spirit, knowledge, and self-confidence. Initially, the program is focused on Brazil, the Philippines, India, and Africa, covering 12 countries in total. As of December 2011, the program had empowered 131,000 women through educational programs, mentoring, and business development opportunities.

Finally, Coca-Cola pursues and embraces partnerships and alliances in the pursuit of sustainability. One recent example is the September 2012 partnership with Dean Kamen and his design team at DEKA (creators of the two-wheeled Segway mobility device). Coca-Cola is supporting distribution and implementation of DEKA's innovative Slingshot, a compact, effective, inexpensive, and highly efficient water purification device.[10] Simple devices like this could put a huge dent in the 200 million hours women spend every day walking to get clean water, and they could

dramatically reduce waterborne diseases as well. With Coca-Cola behind Slingshot's distribution, the goal of empowering women worldwide by 2020 is beginning to look realistic.

Another of the more visible partnerships over the last decade is the well documented alliance with the World Wildlife Federation addressing water scarcity, widely acknowledged as a tremendous effort producing great results. And yet another partnership—this one critical to the future of sustainable agriculture—is with Bonsucro, an alliance of producers and manufacturers that depend on sucrose from sugar cane, a natural sweetener used in many Coca-Cola products. Sugar cane is one of the most water-intensive crops in the world, which presents a huge challenge to all beverage producers using it. The Bonsucro alliance is intended to be "precompetitive" by providing standards that help individual farmers improve their yields while embracing human rights and becoming better stewards of the land. It also provides better confidence and visibility in sourcing sugar cane. A quick look at the list of members reveals a who's who of Coca-Cola competitors, yet they work side-by-side to ensure that sugar cane agriculture is sustainable.[11]

The Coca-Cola Company is a world-class example of a company awakening to the risks threatening the twenty-first century and transforming the organization to address these risks. Coca-Cola has undergone a remarkable transformation over the last 15 years, especially considering the way the company was perceived with regard to water stewardship. There is no doubt that Coca-Cola has more work to do; all successful companies recognize that they must continue to evolve, or they will go out of business. Coca-Cola will be challenged in many quarters as it continues on the path to being recognized not only as a great brand but also as a great leader in sustainability. However, Coca-Cola is focusing on the right enterprise competencies that will allow it to be profitable and sustainable, and it continues to evolve through an integrated strategy that embraces the crucial aspects of growth, profitability, and sustainability. Coca-Cola is forging new paths for others in its sector and for business in general.

BMW AG: An Ultimate Driving Experience Through a Global Supply Chain

BMW is a global provider of motorcycles, automobiles, and trucks. The company has manufacturing and assembly operations in Europe, the United States, Egypt, South Africa, Southeast Asia, and China. The supply chain supporting these facilities stretches around the world, with more than 12,500 suppliers in 70 countries. That means at least 70 different cultures, at least 70 different perspectives on business ethics, and 12,500 different approaches to sustainability. Embracing a sustainability strategy that produces real results in this environment is not an easy task; however, it starts with a clear, enterprise-wide commitment.

Earlier in this book, we mentioned BMW AG's commitment to the fight against the HIV/AIDS epidemic. This was a social commitment, rooted in BMW's understanding of the threat the epidemic posed to its future workforces in locations around the world. No doubt, BMW addressed this as a business risk. However, the company chose to move beyond the local communities of its factories and support global efforts. It was a remarkable example of a corporation "fighting the good fight." When BMW signed an agreement to adhere to the UN Millennium Development Goals (MDG), it committed specifically to MDG Goal 6: "Combat HIV/AIDS, malaria, and other diseases." Clearly this is a local community risk in the company's production value chain, but BMW responded with a global commitment to waging war against a crippling disease.

BMW also made a serious commitment to MDG Goal 7: "Ensure environmental sustainability." To appreciate BMW's focus on sustainability, you have to look at everything the company has done since 2001. It made a voluntary commitment to the 10 principles of the UN Global Compact and to the UNEP's International Declaration on Cleaner Production.[12] These commitments were not one-offs but rather the cornerstones of a strategy for success. As the new millennium unfolded, BMW AG began a remarkable internal transformation.

This commitment to sustainability is driven by consumer demand. Consider the words of Dr. Norbert Reithofer, CEO and chairman of the management committee at BMW AG:

> Today, our stakeholders do not just want to know about the efficiency of our vehicles. They are also asking: How environmentally friendly is the production process for the BMW Group's vehicles and motorcycles? What alternative mobility concepts are we developing? And: Do we look for sustainability in the Supply Chain?[13]

In fact, BMW is continuously asking its consumers and other stakeholders about the critical issues they want in the mobility services offered by BMW. Direct stakeholder engagement has helped shape the global growth strategy for BMW as well as the sustainability strategy. Reithofer continues:

> At the BMW Group, we take a long-term approach to our strategy and actions. We see ourselves as part of society and embrace our responsibilities . . . We want to demonstrate that BMW Group is shaping its future. In doing so, our focus is on all three aspects of sustainability—economic, environmental, and social.[14]

In 2007, BMW AG established its 2020 strategy in a program called Strategy Number ONE (Opportunities and New Efficiency). The overall mission was to become the world's leading provider of premium products and mobility services, with a primary goal of becoming the world's most sustainable car company by 2020. The BMW "balanced scorecard" shown in Figure 6.1 illustrates this commitment. As you can see, one critical aspect is the "Environmental Radar," which is embedded in BMW's risk management processes.

Let's look at three key aspects of Strategy Number ONE that are designed to make BMW the most sustainable car company in the world. First is the Environmental Radar and Risk management process. BMW

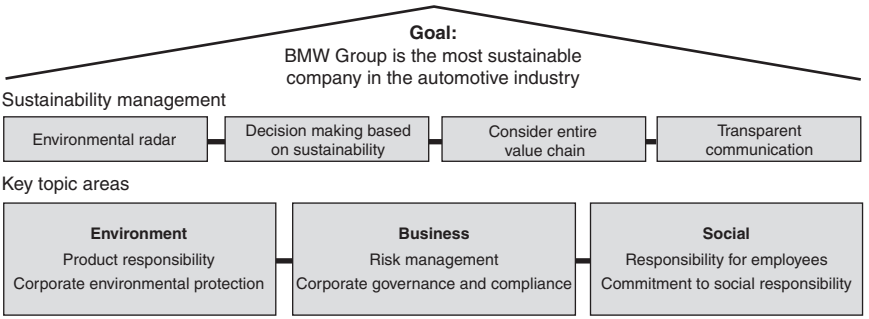

FIGURE 6.1 This diagram, from the 2010 Sustainable Value Report, illustrates the BMW Group's sustainability goal, the strategy for achieving it, and the key topic areas that support the strategy.

Group has a comprehensive risk management system, decentralized and embedded into the entire group. Risk assessment is an ongoing activity, and a key group of executives meets twice each year to review risks and the associated mitigation strategies. In addition, since sustainability is a key strategic principle, every project brought before the board of management is assessed for sustainability and verified with that in mind. The risk management team focuses on a variety of risks but looks carefully at political, social, and economic risks; industry-specific risks; climate risks; supply chain risks; risks rising from dwindling natural resources; and personnel risks. Just as it is at Coca-Cola, risk assessment is embedded in BMW's corporate consciousness in order to achieve long-term strategic goals.

Next, BMW Group focuses on recycling and "cradle to cradle" concepts in all aspects of production and manufacturing. BMW was a European auto industry leader in designing for recycling and was instrumental in rallying European auto manufacturers to collaborate on automobile recycling. Since the early 1980s, the European Economic Community had been considering extended producer responsibility (EPR) legislation that would make a product's manufacturer responsible for taking the product back at the end of its life cycle. This is critical in Europe, where a population of 400 million occupies a landmass only one-third the size of the United States, leaving little room for landfills. EPR legislation was finally

passed in 2004 and included phase-out schedules for many toxic materials used in products and manufacturing processes.

BMW did not wait for the legislative mandate, though. In the early 1990s, anticipating EPR regulations, BMW sought out other German auto manufacturers to discuss common recycling approaches and facilities. Together, the group developed a common goal for regulations that provided the right kind of incentives for innovation to eliminate waste and toxic elements. For 10 years, Horst-Henning Wolf, the BMW representative, dedicated his life to making this goal a reality and assisting the EU in passing the 2004 EPR regulations.[15] As a result of this remarkable journey, BMW has had great success in meeting and exceeding the regulations in place in the EU:

- The Steyr plant uses production processes that do not produce wastewater.
- In 2010, producing an average BMW vehicle generated just 10.9 kilograms (24 pounds) of disposable waste. Per-vehicle waste at the Munich and Leipzig plants was down to just 30 grams (1 ounce). Yes, you read it correctly: *grams*!
- The Tiexi/Shenyang joint venture plant opened in China in 2012 is one of the top three sustainable production plants in the BMW family. The breakthrough technologies used at this facility—some of which are world-class benchmarks—yield extremely low energy and water consumption, and reduce wastewater, waste products, and solvent emissions.

As BMW Group looks forward to new products, it addresses new challenges for recycling and life cycle responsibility. Among these is the use and recycling of carbon fiber materials. To date, carbon fiber has been used sparingly in BMW vehicles. One of the most extensive applications is the roof on the 6 series coupe, where it was used to reduce weight and lower the center of gravity. However, beginning in 2013, BMW will release its new "electro mobility" vehicles: the new i3, and soon its sister

car, the i8. The i3 uses powerful lithium-ion batteries to provide power to a 125kW (170 hp) electric motor. The passenger cells in these cars are made with lightweight carbon fiber reinforced polymer (CFRP)—50 percent lighter than steel and 30 percent lighter than aluminum.[16]

Unfortunately, recycling processes for CFRP are not mature. In anticipation of future challenges for recycling and compliance with EPR regulations, BMW has recently signed an alliance with Boeing Aircraft Corporation.[17] Boeing is deeply invested in CFRP, since nearly half of the new 787 Dreamliner is made from the material. This is an alliance born of a need for sustainability, though their respective "mobility" industries are very different in nature and customer base. BMW's alliance with Toyota to work on hydrogen and electric propulsion and its participation with competitors in the Auto Aluminum Alliance are additional examples of collaborating to solve common problems associated with sustainability and innovation. Such alliances, even when the partner may be a competitor, are the trademark of a company committed to building a sustainable future.

The last unique aspect of the BMW Group's strategy that we would like to highlight is its sustainability governance model. The governance model is crucial in the deployment and integration of sustainability initiatives. Locate it too far down in the organization, and governance takes on tactical characteristics. Governance at the board level, without a method for strategic alignment, means sustainability initiatives probably will not be implemented, and goals won't be met.

BMW's model is a logical and powerful compromise, with three distinct components (see Figure 6.2). First, there is the Sustainability Board, with responsibility and authority for strategic decision making. This board comprises members of the BMW Board of Management, with Dr. Reithofer serving as chair for both boards. The "board within a board" concept allows for a discussion agenda completely devoted to sustainability and for changes to strategy as necessary.

To deploy sustainability strategy, the Board of Management created a Sustainability Circle with the department heads from all divisions, chaired by the BMW group sustainability and environment representative. The

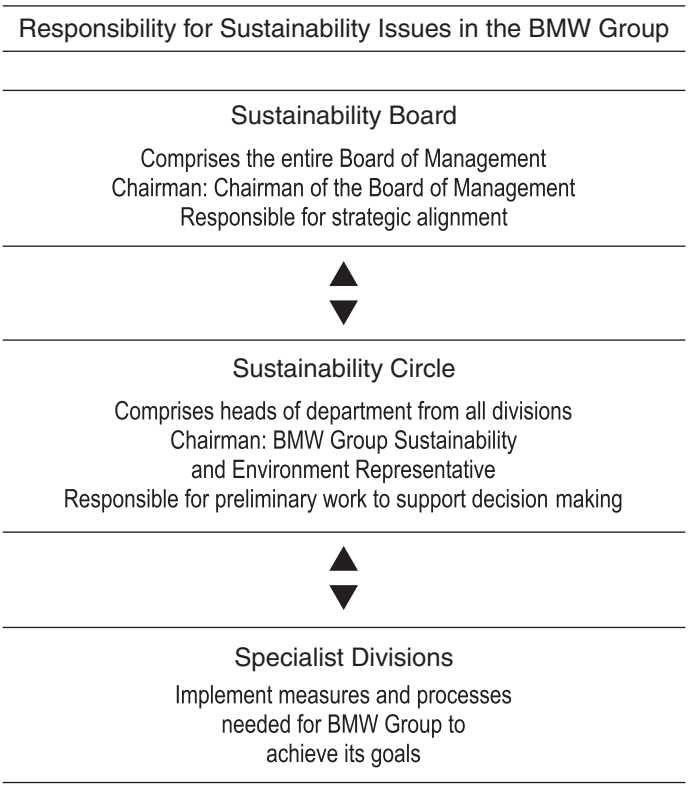

FIGURE 6.2 BMW sustainability governance permeates organizational decision making at every level. The Sustainability Board, which includes all Management Board members, meets twice a year to assess progress, and implementation is guided by the Sustainability Circle, which meets at least twice a year to identify and evaluate risks and opportunities.
Source: BMW 2010 Sustainable Value Report.

Sustainability Circle is responsible for preliminary support of sustainability strategy implementation. It's an organization dedicated to strategic alignment between strategy and execution. Finally, there are various Specialist Divisions to implement processes and measures that help BMW Group achieve its goals. There is direct line of sight responsibility and accountability from the board down through the organization.

Governance models like this one support quick decision making and deployment. BMW has a Sustainability Board for strategy and strategic designs, a Sustainability Circle for planning the implementation of

strategic initiatives, and Specialist Divisions to build the necessary capabilities into the organization. These are the elements of a world-class sustainability governance model.

BASF: Integrated Strategies with a Passion for Sustainability

GREG—In 1980, in the "dark ages" of recording media, I believed I had assembled a world-class audiophile system. At the time, music was transported primarily on vinyl records or recording tape. Of the tape systems, the reel-to-reel, open spool tape systems provided the highest quality recording, due to the speed of the tape drive and the quality of the recording heads. Coupled with Dolby Noise Reduction Systems, one could get a very high fidelity sound. I was always on the hunt for quality tapes, and my favorite brand was BASF because of the excellent performance of its magnetic coatings. For many years, I believed that BASF stood only for quality tape coatings and quality recordings. I bragged about them, gave them away, and prided myself on my collection of BASF tapes. Little did I know I was talking about one of the largest and most diverse chemical companies in the world, one whose products and services cut across nearly all industry sectors.

From airline fire retardants and interiors, to solutions for renewable energy, to automotive coatings, to sustainable agricultural solutions, to oil and gas exploration, BASF is a leader in chemical research and production worldwide.[18] The chemical giant boasts €72 billion in annual gross revenues, 110,000 employees, and more than 380 production sites around the world, including six Verbund sites (more about this concept a little later).

First and foremost, however, BASF is committed to sustainable production and a sustainable world. Dr. Kurt Bock, chairman of the board of executive directors, is a vocal advocate for sustainability. He speaks often about how important it is to the success of the organization. "For us," Bock says, "sustainability means aligning economic success with

environmental and social responsibility. This will ensure our long-term business success."[19] Though it seems like an extraordinary commitment for a company this size, sustainability is achieved through innovation and integration. The effort is based on the philosophy that "in the future, sustainability will increasingly become a starting point for new business opportunities."[20] BASF seems to embrace sustainability as a fundamental element for growing the business and creating value. BASF's mission statement embodies this singular mindset: "We create chemistry for a sustainable world." There is no question as to the company's purpose and no question that sustainability is integrated into its goal and strategy. Even BASF's core strategic principles are expressed with sustainability in mind:

- We add value as one company
- We innovate to make our customers more successful
- We drive sustainable solutions
- We form the best team

BASF is very aggressive about realizing its strategy. The company's goals for 2020 include producing €30 billion in gross sales from products that did not exist in 2010. BASF's sustainability goals for 2020 are equally aggressive, including a 50 percent reduction in the use of freshwater in production processes and a 70 percent reduction in emissions of air pollutants, both over 2002 baselines. These goals were established with full knowledge of the growing challenges we outlined in Part 1 of this book. But BASF leadership clearly believes it is possible to achieve these goals through innovation efforts focused on three key areas: resources, environment, and climate; food and nutrition; and quality of life.

There are many unique aspects of BASF innovation and sustainability, but we found two that set the company apart: The *Verbund* principle and BASF's sustainability governance model.

The unique principle of Verbund is a significant contributor to enterprise-wide innovation at BASF. There is no exact translation to English, but the German word *verbund* means something like "composite"

or "to combine"; it could be expressed as "integrated" or "linked." Verbund is a combination of practice and infrastructure.[21] The fundamental principle is focused on intelligent linking of assets to produce value, and it covers production, technology, customers, and employees. The foundation is based on integrated knowledge management with all stakeholders, whether this means linking the R&D departments around the world or linking customer needs to new technologies.

In the case of manufacturing, Verbund is about integrating production processes, energy flows, and infrastructure. BASF has six Verbund sites around the world, which are the most sophisticated production systems in its network. The largest and most sophisticated is in Ludwigshafen, Germany, where the concept was developed and optimized. The integrated systems allow BASF to reduce energy consumption with high-efficiency power plants, reduce raw material usage, and reduce cost. These sites allow the company to produce anything from basic chemicals to high-value-added-products such as coatings for the automotive and aerospace industries. More important, by-products of one production system may be used as the input or raw material for another process.

One of the most visible examples of the Verbund principle is the joint work being done by BASF and Daimler on the Daimler smart car (see Figure 6.3). The concept car, called Smart Forvision, was designed to demonstrate leading-edge technology for electromobility and debuted in 2011 at major automotive shows around the world. Rather than producing a concept car destined for production, the Daimler-BASF team used it as a laboratory and test bed.[22] It was intended to produce a viable concept that not only contributed to climate protection but also demonstrated the economic viability of electric cars. The team pioneered new technologies such as organic light emitting diodes (OLED) and transparent solar cells. New high-performance composite materials, special lightweight seating, infrared-reflective coating on transparent surfaces, and an integrated temperature management system led to better performance while reducing demands on batteries. This was a test bed filled with innovative, breakthrough technologies intended for use in future Daimler models.

FIGURE 6.3 The Daimler Smart Forvision Concept Car is a joint venture between BASF and Daimler intended as a laboratory and test bed for new electric vehicle technology.
Photo courtesy of BASF SE.

The Verbund principle helps to advance BASF's thinking as a unified company. Rapid, knowledge-driven decision making on enterprise-wide sustainability initiatives is also critically important for success. BASF sustainability governance brings this ability to the forefront of its sustainability initiatives. The governance model begins with an enterprise-wide sustainability council that includes the Sustainability Strategy and Relations Group, along with the heads of the operational, functional, and regional divisions of BASF. The council's chair is a member of the board of executive directors. The board has delegated decision-making authority to the council on all issues that are important to sustainability. However, the committee remains the direct responsibility of, and reports directly to, the board of executive directors. This ensures that accountability for sustainability is not lost in a delegation process, and visibility remains at the highest level of the organization. In addition, there are regional councils responsible for deploying enterprise-wise decisions regarding sustainability as well as ideation on regionally focused sustainability issues.

As with BMW Group, BASF sustainability governance employs direct "line of sight" responsibility, accountability, and tracking, from the board's strategy setting to direct implementation of initiatives. The unique composition of the sustainability council, the reporting relationship to the board, and the regional councils all ensure sustainability is integrated into every aspect of BASF initiatives.

Walmart: Leveraging the Value Chain as an Aggregator

The companies discussed so far have provided great examples of, and significant contributions to, organizational sustainability. Their strategy, principles, governance structures, and operating principles all demonstrate leadership in sustainability. However, these companies are all producers and manufacturers and, as such, share the associated characteristics and problems. Retail sales companies, particularly those that aggregate products from multiple suppliers (e.g., department stores, supermarkets, etc.), face different challenges. These companies have a unique opportunity to mobilize a long and complex supply chain as well. One of the largest aggregators in the world, Walmart, has taken on this challenge. In earlier chapters, we mentioned that Walmart set itself some very lofty sustainability goals, and we highlighted the collaborative achievements that resulted. However, Walmart's efforts in rallying its supply chain are among the most remarkable initiatives in the sustainability measurement.

Most people are aware that Walmart is one of the largest companies in the world. Over 100,000 suppliers provide products for Walmart's shelves and web services. In 2012, the three operating segments posted cumulative revenues of approximately US$444 billion. Walmart serves more than 200 million customers each day worldwide through 10,000 stores. Its Arkansas-born founder, Sam Walton, has been hailed as a model of individual entrepreneurship. Over its 50-year history, Walmart has proven

to be an innovator and revolutionary in all areas of business. However, the company has also been repeatedly scrutinized for various personnel practices and activities that have not reflected favorably on its brand. In the last seven years, Walmart has begun to significantly alter its image by stepping up its work toward sustainability in an effort that could revolutionize sustainability measurement.

In Chapters 2 and 4, we highlighted Walmart initiatives aimed at making the company a more sustainable organization. As stated in Chapter 2, this began with the 2005 announcement of a three-pronged approach to improvement. A key milestone occurred in February 2007, when then-president and CEO Lee Scott announced the new enterprise-wide sustainability initiative, called Sustainability 360. Essentially, Sustainability 360 looked at all aspects of the Walmart value chain to determine the best opportunities for enhancing sustainability. "Sustainability 360 takes in our entire company—our customer base, our supplier base, our associates, the products on our shelves, the communities we serve," said Scott. "And we believe every business can look at sustainability in this way. In fact, in light of current environmental trends, we believe they will and soon."[23]

This was a bold message. As usual, there were plenty of cynics. Immediately, some observers called it "greenwashing," and many were skeptical. Yet some applauded the initiative. If any company had the wherewithal to launch a globally integrated sustainability program, it was Walmart. As it turned out, Walmart's leadership had done a lot more than draw up targets. Over the next two years, Walmart quickly became the biggest retailer of organic milk and the biggest buyer of organic cotton in the world. Walmart began working with suppliers to find ways to cut down on packaging and energy costs. The company opened two "green," energy-efficient supercenters. As these projects developed, even the harshest critics acknowledged there was more going on than greenwashing. But Walmart wasn't done yet. In his 2007 speech in London, Scott said:

> Just think about this: What if we worked with our suppliers to take nonrenewable energy off our shelves and out of the lives of our customers? We could create metrics and share best practices so our suppliers could make products that rely less and less on carbon-based energy.[24]

This was one of the most far-reaching sustainability coalitions announced to date, leveraging Walmart's role as an aggregator and retailer of finished goods to make significant improvements throughout its value chain. Then, in July 2009, Scott announced that Walmart was funding the creation of The Sustainability Consortium (TSC), a new organization that would provide scientific research in support of a new sustainability index, led by the University of Arkansas and Arizona State University.[25]

At the time of the launch, TSC focused on food, beverages, and agriculture. Coca-Cola was one of the first to join. However, the intent was always to include all consumer-goods producers, manufacturers, and other large aggregators. Consumer-goods companies Procter & Gamble, General Mills, Tyson, and Unilever, among others, soon became partners, and competing retailers including Costco, Target, and Kroger were invited to join. Here's how Scott described the sweeping scope of the initiative:

> Our first action will apply to all suppliers who work with us through global procurement, who are domestic importers, or who are manufacturers of Sam's Club or Walmart private brands. We will require these suppliers to demonstrate that their factories meet specific environmental, social and quality standards. We have already started doing this, and we hope to extend the requirement to all the suppliers I mentioned within the next three to five years.
>
> Second, we will only work with suppliers who maintain our standards throughout our relationship. So we will make certification and compliance part of our supplier agreements and ask suppliers to report to us regularly. Any supplier that fails to keep its word will be required to take prompt and serious action. If a supplier fails to improve and fix the problem, we will stop working with that supplier.

> Third, we will favor—and in some cases even pay more—for suppliers that meet our standards and share our commitment to quality and sustainability. Paying more in the short term for quality will mean paying less in the long term as a company. Higher quality products will mean better value, fewer problems, fewer returns and greater trust with our customers. Saving people money is a commitment to our customers throughout the life of the product.[26]

To some extent, the announcement and creation of TSC set up expectations that all products would have labels indicating their carbon footprint and recycled content by now. Critics have attacked Walmart for not fulfilling that expectation. However, at the Global Milestone meeting in September 2012, Walmart announced that it was ahead of schedule in the pursuit of the sustainability index, now called the Live Better Scorecard. According to the company, buyers for 100 product categories had already received scorecards, while buyers for another 300 categories of products will receive them by the end of 2013.

This is a long and complicated process, one that challenges scientists, business professionals, and suppliers alike. However, it is a breakthrough approach for large-scale aggregators, motivating producers, suppliers, and manufacturers to initiate and invest in the changes necessary to build a sustainable future. Whether or not Walmart has met the original TSC goals, the writing is on the wall for its 100,000 suppliers: get with the environmental program soon, or you won't be on our shelves. It is a sign of the future. When trying to interpret this action, companies must recognize that, no matter how big or small they are, their organizations are in a value chain that may serve a company like Walmart.

Chapter Summary

The companies discussed in this chapter represent only a small sample of the thousands of companies that are waking up to the need for change. In the companies we studied and interviewed, we saw groups in many differ-

ent industry sectors, across many countries, representing small and large organizations alike. However, their strategies and deployments seem to share common characteristics:

1. *Risk "radar."* These organizations possess the ability and corporate competence to identify critical risks that could either damage or enhance their success. This capability goes beyond traditional financial risks and includes risks from social, environmental, and ethical practices.
2. *Clearly defined sustainability strategies, which are integrated into the long-term company strategy.* Usually the long-term organizational strategy embraces sustainability in their values and in their goal setting.
3. *Deliberate deployment of sustainability initiatives.* Most of these companies employ some form of balanced scorecard to ensure that initiatives are driven by the strategy and that progress can be assessed with clear measures and metrics.
4. *Clear accountability and transparency.* Coca-Cola, BMW, and Walmart reported progress against mileposts or goals at all levels in the organization, and most organizations reported them through publicly available annual reports, either through their normal annual report or through guidelines from the GRI.
5. *Assessing the sustainability of the supply and value chains.* The successful transformations occur in companies that recognize their sustainability responsibility throughout their value and supply chains. Accountability in the supply chains, compliance to supplier codes of behavior and conduct, enforcement of all proprietary sustainability requirements, and leveraging the power of being the "owner" of the chain were all approaches used by the companies we studied.
6. *Collaborative approaches to solving industrywide sustainability challenges.* In nearly all cases, the companies were willing to partner with universities, NGOs, and even competitors to solve industrywide sustainability problems. They recognized that there were some

problems that were too large for one company to tackle, no matter how large the company.

7. *Governance models that are responsive, accountable, and informed.* In all cases, the companies recognize that informed decision making regarding sustainability initiatives is critical to success. This meant that decision makers were connected to strategy and responsible for execution. You never have to go looking for a decision in these organizations!