CHAPTER ONE

1

Change Is Inevitable, Growth Is Optional

CHARLES DICKENS MAY HAVE been the first supply chain industry analyst. Back in the 1800s, he wrote: "It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair. . . ." Sound like another day in the life of a supply chain professional? Nowhere in industry is there a profession that has so much volatility, variability, and certain uncertainty. And nowhere in a company is an organizational structure (you may say function) that has as many levers on free cash flow, return on invested capital, and shareholder value. Quite simply, if you can't ship it, you can't bill it. Create, Market, and Sell all you want; but if you can't Source, Make, and Deliver it, it will never be capital or revenue to Invest, Measure, and Value. And the total cost it delivers (landed) determines its profitability.

And, as Dickens's novel is titled *A Tale of Two Cities*, so, too, we can call the supply chain a tale of two cities; cities that we can call "Leaders" and "Laggards" with a channel of doubters between them. For nearly 25 years, I have been leading most of my presentations with a graphic of industry benchmarks (see Figure 1.1). Don't worry about the date. It doesn't matter. While I ask my friends at APQC to refresh the data each year, even though the raw numbers may vary a bit, the gap between top, median, and bottom percentiles has remained the same. "Best-in-class" companies outperform their *median* competitors with more than a 50 percent cost advantage! And the gap between the Leaders and Laggards is even more significant.

Why is it that despite advances in performance improvement methodologies, tools, technologies, and education, lagging and even median performers haven't been able to close the gap on supply chain costs? As we will see in later chapters, the gap among other metrics can be close. But, in the total cost metric, there remains a

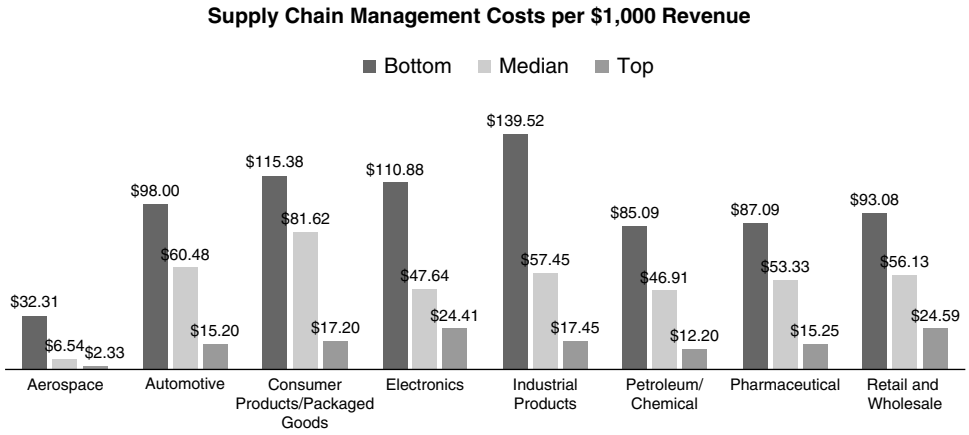

FIGURE 1.1 Superior Supply Chain Performance Has Long Been a Source of Competitive Advantage

significant gap—a gap that has been sustained for more than 25 years. It begins with supply chain complexity and trade-offs. To excel in total, one must be excellent in total. There are too many cost trade-offs between time, mode, distance, speed, service, and other attributes of the supply chain (to name a few) that to excel in all requires a high level of integration, education, systems, and commitment that most companies have not been willing or able to make. Companies that are unwilling to transform their operations to adopt best practices and adapt to a changing marketplace will continue to inhabit the city of Laggards.

Throughout this book, we'll explore why that is, but, if companies think it's size, cost, or level of financial investment, they are wrong. Working again with APQC (they maintain extensive open standards research on industry metrics and benchmark data), we have not been able to find any correlation between performance and revenue or investment. Companies of all sizes, level of investment, and industries have been able to achieve high performance results sustainable over time by continuous improvement and best practices adoption. And, similarly, companies with what appear to be brand and financial equity populate the median and even the Laggards' metrics. So why is this? Why does such a gap exist?

The good news about being considered an industry visionary is that you can use the same slides for 25 years and they will still be current. The bad news is that many companies' operations processes and systems have not progressed significantly in those same 25 years despite the fact that they have probably invested millions in enterprise applications (i.e., enterprise resource planning, or ERP) and systems integration. And it's not that the world hasn't changed in that time; *au contraire*, the world has seen more change in the past 25 years than in the past 250 years. It just seems that organizational paradigms (i.e., culture) are defined in such a way that it is very difficult to move an organization, let alone transform it, without real leadership from the head office.

Well, it doesn't have to be that way. And while I'd like to think the executives at the top are reading this to drive their organizations forward, this is a road map for everyone in the organization. While it really helps to have transformation driven from the top, we cannot necessarily wait for or expect that every senior executive will be driven toward operations excellence or necessarily understand what it is. *You*, regardless of your rank in the company, can garner top management commitment more easily than you think, and in the coming pages we will explore not only how, but why.

GLOBALIZATION CHANGES THE GAME

Globalization is not only changing the competitive landscape but also the way companies will compete and collaborate with one another. Yes, collaborate. For, if we don't collaborate to eliminate waste across all dimensions, the twenty-first century may be the beginning of the last millennium. From new product development, commercialization, marketing, and sales to how you plan, source, make, and deliver your products in a sustainable manner, to capital acquisition and deployment, cost structure and performance, all functions of the organization contribute to increasing shareholder value.

Before I began my business and research career, I was a theology and English teacher. As an English major in college, one of the first things I learned was the definition of research: *"To steal from one is plagiarism; to steal from many is research!"* As an industry researcher, I have been "stealing" practices, best and worst, from many sources, colleagues, and companies that I have engaged throughout the years, heard present at numerous industry conferences, attended executive programs, and occasionally shared war stories over a beer. Of course, I will acknowledge their contribution to my research base accordingly.

What's interesting, though, is how few people have connected the dots over the years. When I was at Digital Equipment Corporation (DEC), I had the opportunity to work with Peter Senge, author of *The Fifth Discipline: The Art and Practice of The Learning Organization*,[1] and his colleagues at Innovation Associates (founded by Charlie Kiefer), especially Michael Goodman and Bill Latshaw. At DEC, we were developing the "Digital Logistics Architecture." We were using Senge's teaching in system dynamics and utilizing the Beer Game to teach the conundrums of supply chain. That project brought us all together. More about the Beer Game in Chapter 3.

It was while working with Senge and his colleagues that systems thinking really began to have an impact on the analysis of all of the industry practices I was "stealing." It's not necessarily the practices, advances, and changes individually that bring revelation and transformation. It's how all of the end-to-end activities, *as a system*, impact behavior. Change is a dynamic system of people, processes, and technology impacted by organizational structure and activity (see Figure 1.2).

That is where the impact of books like Thomas Friedman's *The World Is Flat* is realized.[2] It's not the individual impact of the 10 "flatteners" that Thomas Friedman speaks about in his book; it's the dynamic convergence of those flatteners that changes

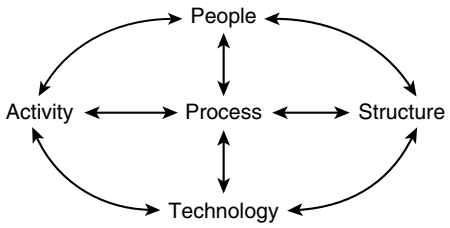

FIGURE 1.2 The Dynamics of Change

the world. What's important about his work is that several billion new consumers and tens of thousands of new businesses are entering the global commerce consumption *and* competitive markets.

All of those new consumers and competitors have real-time global communication and commerce capabilities at very low cost—*virtually!* New software applications that leverage limitless computing power, what (Gordon) Moore's Law (Intel, early 1990s) states: "Every 18 months computing power doubles and its price drops in half," is being developed more rapidly and inexpensively due to open source code collaboration, business process management, cloud technology deployment, and business process management software tools. And it's a challenge to the electronics supply chain . . . computers have a shorter shelf life than a gallon of milk!

Communicating on a global basis is as common as talking across the fence to your neighbor; as Bill Gates in the early 1990s said, "We'll have infinite bandwidth in a decade's time." What he didn't forecast is how inexpensive it would be. I communicate with colleagues all over the world *virtually* for free using Skype. Using "telepresence" technology from companies such as Cisco and Polycom, I recently sat "across" the table in a client meeting in Decatur, Illinois, and from colleagues in London, England, *virtually*. Toss in the fact that it can all be done through your personal communication device (including all commercial broadcasts), wirelessly, and anywhere, anytime, and well, yes, Tom Friedman, the world is not only flat but always on and in HD 3D. It won't be long before "telepresence" is holographic; thank you, Princess Leia.

However, of great importance to you is not only the emergence of a flat world paradigm changing the playing field; it's changing the game and how your company will compete in the twenty-first century. Companies are unlocking the value of their supply chains, outsourcing more and more noncore processes (not just for cost but for flexibility and agility), deploying more of their sales and marketing operations as well as production to the geographic point of the most profitable response, and leaning themselves into rapidly adapting, customer-responsive global competitors that see your business as their lunch. Innovation is the breakfast of champions, market leadership is for dinner, and dessert is increased shareholder value. Apple, for example, traditionally tops Gartner's Top 25 Supply Chains list, and they outsource just about all of their supply chain operations' execution capability.

PARADIGMS DRIVE ORGANIZATIONAL BEHAVIOR AND CULTURE

Transforming your organizational paradigm to a customer-responsive smart supply network (see accompanying "The Smart Supply Network") is the new strategic imperative for competing in the years ahead. While we hear of some successes, the major challenges to implementation are managing change and leveraging technology to empower your people to capitalize on the opportunities that a new world economy creates. Companies must adapt and tech-enable their business processes to the new global playing field to create game-changing strategies for market leadership against new and fierce global competitors, or be voted off the island. And it doesn't have to cost millions or require an army of consultants and integrators. You have the capability within your own company. Why not "unleash the hounds"?

Everett Rogers, in his 1962 book *The Diffusion of Innovations* (which has been widely adapted), suggests that the degree to which an innovation (something perceived as new or a change) is perceived (by its opponents) as being better than the idea it supersedes has a direct impact on the likelihood of adoption.[3] What that really means is "no pain, no gain." Change isn't easy. It's hard work. People aren't likely to accept a change to their comfort zone unless the innovation is perceived as being vastly better than the status quo.

One of my good friends and professional colleagues is Rick Blasgen. We first met when he was a planner at Nabisco and I was at Information Resources (IRI). Blasgen is now the CEO of the Council of Supply Chain Management Professionals (CSCMP), which was called the Council of Logistics Management (CLM) when I joined. At the 1997 CLM Annual Global Conference in Chicago, Blasgen presented on supply chain management at Nabisco.

One of the major barriers to Nabisco's supply chain transformation, he said, was that the "company was mired in a successful way of doing business. . . . "

Think about that. Your first reaction is to say, "Don't fix it if it ain't broke." Status quo, especially successful status quo, creates a comfort zone that is difficult to change. But, as the market around the company changes, as Blasgen pointed out in his presentation, if the company is not adaptive to change, its success can be fleeting.

The reality is that the *organization* creates the comfort zone, and it's called *culture*. The first step in any transformation or even a project initiative is to understand the culture. Transforming operations means transforming the culture. It's also the hardest thing for people to communicate. Visiting hundreds of companies over the years and asking people to describe their culture, I get hundreds of blank stares first, followed by deep thought, followed by some glib description of emotional attributes like *enthusiastic, regimented, highly disciplined, hierarchical,* and so on. It varies from "we have a culture of continuous improvement," "pursuit of excellence," to simply "it's like the Wild West."

Years ago at another CLM Annual Global Conference, the keynote speaker was Joel Arthur Barker and he was promoting his book, *Future Edge*.[4] My takeaway from his talk, which has stuck with me for many years, was that people live in paradigms. He defined a paradigm as "a set of rules (written or unwritten) that does two things: (1) it establishes or defines boundaries; and, (2) it tells you how to behave inside the

THE SMART SUPPLY NETWORK

What if everyone in your supply chain is connected in real time? What if every shipping unit is "labeled" with electronic AutoID (automatic identification) and RFID (radio frequency identification)? What if every transport container is GPS (global positioning system) enabled and can be monitored and tracked?

Every person in the network has the capability to share his or her local expert knowledge to manage and respond to change at any time and anywhere. As change occurs, perhaps a promotion or sales initiative, congestion around a major highway, severe weather, or other disruption or variable, ("oops, they bought the other company's product this time") the impact (considering all variables and aggregations) of the change is communicated across the network.

If the change is outside preset limits for material flow, cost, time, or other performance criteria, each person responsible for that variance is notified of how conditions at other locations (nodes) will or might directly affect them, and what operational adjustments need to be made to ensure timely response to the customer's request/order.

Upon notification, the person has graphical information with event drill-down capability to locate, utilize, and communicate the information needed to respond profitably to the change. The presence of everyone impacted is displayed so that live communications and collaboration are initiated to ensure compliance in response to the change. Information to support the necessary decisions is shared and displayed in multiple dimensions across any media anywhere in the world in real time. Data are collected from the transmissions of the RFID and GPS (telematics) devices located on all materials, containers, and transport resources throughout the network.

Everyone and every system in the network is guided by a measurable plan to keep the business on track and synchronized to respond to actual demand to achieve strategic business goals and create shareholder value. And it's not just for one company but for all the participants collaborating in the network.

Customers, suppliers, and outsourced service partners participate directly in the decision-making process and share in the value to extend the effectiveness of the organization and improve service and responsiveness while managing variability and uncertainty. Schedules, resources, and capacity, including labor, materials, machines, distribution, and capital, are synchronized to respond to demand with maximum effective agility across the enterprise and channel, leading to optimal response and maximum value creation for the network as a whole. Not possible, you say? *Business as usual has been canceled . . . Welcome to supply chain management in the twenty-first century and the Smart Supply Network. Are you, your people, and your systems up to the challenge?* ■

boundaries in order to be successful." This simple definition has helped me with assessing and understanding the culture of a company. Company culture establishes the rules of behavior inside the company. Culture is the company's paradigm.

Companies create operating paradigms through their policies, procedures, and culture. At the end of the day, a "culture" is a "paradigm." We all live in paradigms of some sort, both in our business lives and our personal lives. If your behavior is within the rules or boundaries of the culture, then you will ultimately be successful (for the most part) within the company. The culture largely determines the perception people will have of the new idea or innovation that is being presented to them. If it is within the

boundaries, the likelihood of adoption is great. If it's outside the boundaries and is perceived as potentially disruptive or a challenge to the culture, it will be resisted.

The greatest resistance to change is the result of past success. The biggest factor in not moving forward is comfort with the status quo, and the best offense to combat change is its inherent lack of "proof" or evidence of success in the market. It's the reason that for more than 25 years the cost gap between Leaders and their median competitors has not changed. Figure 1.3 is the "Perfect Order" benchmark provided by APQC. Perfect orders are a measure of total supply chain performance and service. Across industries the gap between Leaders and their median competitors are relatively close, certainly closer than the cost gap.

The median competitors are executing as *efficiently* as the Leaders, but the Leaders are executing more *effectively* at a lower total cost! That's the difference between Leaders, the median, and the Laggards. Leaders have learned how to assess and leverage change as an opportunity, not a threat. They look for innovation and will risk failure for a greater reward. They work to win!

I remember a story (whether it's true or not, I don't know) about the former chairman of IBM, Thomas Watson, Jr. According to the lore my IBMer friends related to me, one of his direct reports made a decision costing the company around $200 million. As Watson called the executive in for a discussion to explain his actions, most of his colleagues expected him to come out of the meeting with his "pink slip." Instead, he came out of the meeting with a promotion. When asked why he didn't fire the executive, Watson responded, "Fire him? I just spent $200 million to educate him." Transformational cultures are learning cultures. If the company culture is not transformational, neither will be its performance.

ASSESSING YOUR COMPANY'S CULTURE

So how do you assess a culture to determine how it can evolve to be transformational? One of the more practical approaches to assessing a culture that I have found useful over the years has been a hybrid of Abraham Maslow's "Hierarchy of Needs"

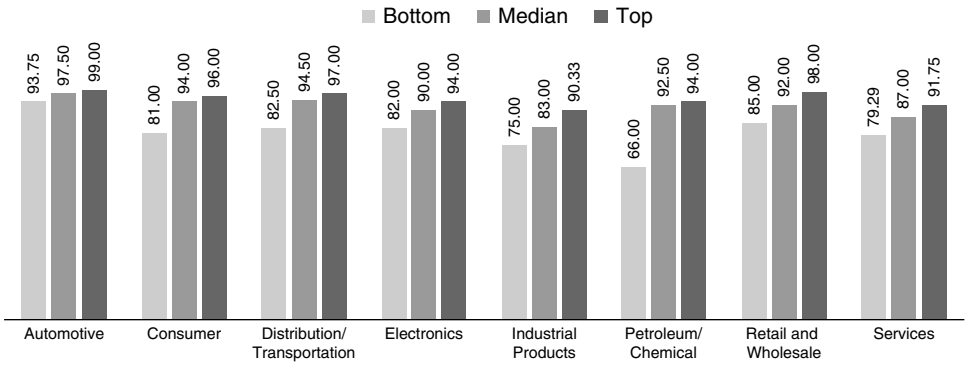

FIGURE 1.3 Perfect Order Performance

from his article "A Theory of Human Motivation" and French and Raven's "The Bases of Social Power."

I have adapted the concepts over the years to be my 5 Ss of transformational (cultural and managerial) maturity matrix (see Figure 1.4). The matrix can be used to assess relatively rapidly where a company's culture is in transformational maturity and what the likely managerial attitudes and response will be to change.

By the way, ever notice how every industry pundit has a "maturity model" of some kind? Well, I am no different, except unlike most pundits' maturity models that never have anyone at the highest level (so that they can have a never-ending series of consulting engagements) my highest level is not only achievable, but it's also the level I have found most leaders to be at. Senge calls it a "Learning Organization." In my model, it's Maslow's self-actualization level.

Horizontally, the table represents French and Raven's bases of power: referent, expert, legitimate, reward, and coercive. Vertically, the table represents Maslow's needs: self-actualization, self-esteem, social, security, and survival. How much time and detail you spend on the analysis is up to you. In my experience, you can assess overall culture pretty rapidly from interviews and observations across various functions in the organization. On a scale of 1 to 10 with 10 being the strongest or more frequently observed influence or behavior in the organization, you rate your assessment of the organization across the various dimensions and total them. In this example (Figure 1.4), I have rated what I have observed to be a very common state of cultural or transformational maturity. Social, with a value of 35, is the best descriptor of the state of the culture for this organization.

Assessing this successful company, as with most organizations, legitimate power, or the respect for authority or responsible management level is the strongest power base observed. For the most part, people feel they belong to the organization and are part of the team, but they are also not necessarily out for a lot of recognition or desire to stand out. Professional development programs are not aggressively encouraged or provided, nor are people requesting them.

People are generally appreciated for their specific areas of expertise or competency and there is a healthy respect, especially among peers, for one another when it comes to looking for someone to lead a project or initiative. But projects tend to be initiated due to an operational need or problem rather than because of piloting or testing a new idea, technology, or approach.

Ranking on scale of 1–10; 10 being strongest influence

French & Raven/ Maslow	Referent Power	Expert Power	Legitimate Power	Reward Power	Coercive Power	Total
Self-Actualization	3	7	10	2	1	23
Self-Esteem	3	7	10	4	2	26
Social	7	7	10	7	4	35
Security	5	5	10	8	6	34
Survival	2	5	10	5	7	29

FIGURE 1.4 The 5 Ss of Transformational Maturity Matrix

Management routinely applauds success and there may be evidence of incentives in the form of bonuses or the suggestion box, but it's more archetypal than as a formal program or process. People are generally comfortable that if they work toward achievement of their objectives and reach acceptable levels of performance, they will continue in the company's employ, and they are generally satisfied that their overall compensation is competitive and fairly applied throughout the company. There does not seem to be much adversity or coercion (fear) in the company. The status quo is acceptable. There are a few go-getters and people seeking to move up the ladder, but initiatives tend to be evolutionary versus revolutionary or disruptive. Sound familiar?

When I interview and observe people in a company, I look for how open people are. Are they forthcoming with information? Is their body language relaxed? Are they listening and probing? Asking questions? Or are they closed, restrained? Is everything about cost? Is there a fear of saying the wrong thing or volunteering information? Is the organizational structure command and control? Is everything governed by policy and procedure? Do you see what I mean? I used to learn a lot about an organization, back in the day when I smoked, because I would head to the break room for a smoke with the troops. You can learn a lot from just listening to the break room chatter and throwing in a question or two.

For example, necessity is the mother of invention. We were on a project and having a hard time figuring out why line fill was down, but there was plenty of inventory and on-time ship was great. Through the interview process we couldn't figure out why line fill was so off the mark. I took a break for a smoke with the boys and nonchalantly asked them what they were working on. Innocently I found out that they were staging trailers (prebuilding loads) to match with orders as they came in . . . kind of a "no-no" from at least an accounting perspective. When we dug a little deeper—well, as I mentioned, if you can't ship it, you can't bill it. More supply chain managers get fired for not shipping against orders and meeting revenue than anything.

Since, at this company, most orders came in right at the end of the period and often exceeded the loading capacity at the warehouse, this enterprising management team, noting that many customers ordered full truckloads of certain products and also had pretty regular order patterns, scheduled loads to be built according to the patterns and parked in the yard. As orders came in, they matched them to the closest "fitting the order" loads and had the carrier "drop (the empty) and hook (the load)" so that they could ship the highest number of orders to make revenue. Since they weren't "picked and loaded to order," they often didn't match orders perfectly, resulting in poor line fill metrics. A couple of my colleagues picked up smoking (at least on projects) after that. I may not smoke anymore, but I still hang in the break room from time to time when I am on a project.

LEVELS OF CULTURAL MATURITY

There is also a lot of truth to the old notion of "managing by wandering around," coined by Thomas Peters and Robert Waterman in their book *In Search of Excellence,* based on an interview with then president of HP, John Young,[7] in 1980.

Let's look at some of the characteristics and power bases influencing cultural maturity.

Level 1: Survival

At the most basic level of culture is the need to survive. It may not be at Maslow's physiological level but, clearly, people want to be employed. They don't want to risk losing their job. They want a fair wage and to come to work without fear that they will be fired. Unions came to be based on these needs in the workplace. There are surprisingly a lot of companies that are on the day-to-day survival level, especially small- to midsized companies and relatively new companies. Many companies are being acquired or merging and jobs will be lost. It's not unusual for managers to be threatening to employees. If they don't perform at a certain level, they will be replaced. Costs drive behaviors. Every activity is evaluated on cost and efficiency.

Transformation, let alone innovation, will be tough when people are more concerned about maintaining their job than anything else. Why?

At this level, people are governed largely by fear. They're worried about making mistakes, worried about their jobs, worried about what will happen. Power within this level is primarily coercive, according to French and Raven, based on the employee's (used intentionally instead of associate) perception that the supervisor (used intentionally instead of manager) has the ability to mediate punishments for the employee. If you don't do what you're told, you will be fired. There is generally not a lot of discussion.

Note that in business, for the most part, nearly all levels of cultural maturity leverage "legitimate" power, according to French and Raven, based on the associate's perception that the manager has a legitimate right to prescribe behavior to the employee. While organizational authority is generally accepted by most employees, at survival level or in a union environment, it can be adversarial. The structure is generally vertically command and control, policies are strictly adhered to, and there is little room for creative response to problems. The usual means or motivation to change at this level is a burning platform. Competitive, financial, and/or customer pressures place the organization at the crossroads.

We are going to have to initiate a program of transformation that will have to begin with moving people to the next level or we will go out of business.

Level 2: Security

People need to have some sense of security in their workplace in order for any type of real process improvement or transformation to begin let alone be sustained. They want to have a reasonably stable employment, competitive wages and benefits, and to be respected for their contributions. This level is a management commitment level. Management has to begin moving away from the fear of coercive power to the exertion of reward power, according to French and Raven, based on the associate's perception that the manager has the ability to mediate rewards and/or recognition for the associate. With this level of cultural transformation maturity, management evolves away from coercion to encouragement. You don't have to change the incentive system

(though it may be helpful), but you have to mete out encouragement, congratulate or celebrate success, and in some way reward associates for exhibiting the behavior you want in your operations.

It's all about taking fear out of the equation and acknowledging positive outcomes. You want them to feel secure that if they perform their responsibilities well, they will be acknowledged; and, more importantly, employed. But it requires a commitment from management to initiate. Over the years I have seen everything from formal incentive systems and policies to pizza parties and coffee cards. But management must initiate the transformation.

Ever been to an industry conference or event? Sure you have. And at every event there are case-study presentations. It's an inexpensive way to gather information on industry challenges and practices. What does every case-study presentation have in common? C'mon, that's right; every case-study success begins and ends with "management commitment." Without management commitment, the speaker says, the project will not succeed. Well good news, bad news. First, the bad news. You probably have never heard any of those presenters tell you *how* to get management commitment. They just tell you how important it is. Now, the good news. As you progress through this book, you will learn how *you* can get management commitment. In fact, Chapter 7 is devoted to it. In the meantime, let me tell a story about why management commitment will eventually be necessary for transformation. You don't have to start with management commitment but you will have to win it at some point.

People's paradigms often get in the way of progress. Whether it is management or floor people, if people do not feel secure in their ability to embrace change and take a risk, the likelihood of any positive outcome is slim. For example, the editor in charge of business books for Prentice Hall in 1957 is supposed to have said this about the emergence of data processing: "I have traveled the length and breadth of this country and talked with the best people, and I can assure you that data processing is a fad that won't last out the year." There are lots of attributed "blunder" quotes about technology out there, like Tom Watson of IBM in 1943 saying there is "a world market for about five computers." Or, in March 1949, *Popular Mechanics* saying "Where a calculator on the ENIAC is equipped with 18,000 vacuum tubes and weighs 30 tons, computers in the future may have only 1,000 vacuum tubes and perhaps weigh $1^1/_2$ tons."

For me, though, the Prentice Hall editor's quote has always been significant in that it was published in 1957. What's the significance of 1957? (Not Sputnik, though that's significant, too.) Nineteen fifty-seven is the year that Jay Forrester, the MIT Sloan School of Management professor and pioneer in computer engineering, was completing his research on the impact of change to a multi-echelon supply chain, leading to his publication of "Industrial Dynamics: A Major Breakthrough for Decision Makers," in which he wrote:

> Management is on the verge of a major breakthrough in understanding how industrial company success depends on the interaction between the flows of information, materials, money, manpower, and capital equipment. The way these five flow systems interlock to amplify one another and to cause change

and fluctuation will form a basis for anticipating the effects of decisions, policies, organizational forms, and investment choices.

Professor Forrester's work on the breakthrough in management decision making enabled by data processing led to the development of the field of system dynamics. One of his colleagues was Peter Senge. As I mentioned earlier, while I was at DEC, we were working both internally and externally on the development of a logistics architecture that would internally guide our logistics strategy and operations and externally enable us to lead our customers to achieve operations excellence. In addition, it would be the guide for us to recruit partners into our logistics (*supply chain* was not a prominent term at the time) solution ecosystem. As part of that project, we were working with Innovation Associates and Peter Senge.

So here it is, 1957, and we have the editor of Prentice Hall business books saying data processing is a fad and won't last the year, and Professor Forrester writing that it's about to cause a major breakthrough in business decision making. Two very different paradigms, and depending which way you go will determine which city you will live in . . . Leaders or Laggards. Well, it's at the first Systems Thinking in Action conference in Cambridge that I have the opportunity to meet Professor Forrester. Senge invited him to be the keynote speaker, and I listened with fascination as he spoke about the evolution of the field in the 30-some years that had passed since his *HBR* article was published.

Of course, when it came time for the Q&A, I had to ask the professor why, after some 30 years, so few business professors had embraced the principles of system dynamics and weren't teaching it as a methodology for understanding the dynamics of logistics and ultimately organizational behavior and decision making.

He responded quite quickly and simply said, "We just have to wait for people to die."

Holy cow! I was flabbergasted. We have to wait for people to die? Well, as you can imagine, we were in the big tent and follow-up questions were not permitted. But I had to meet the professor and ask him to explain. Fortunately, Senge invited me to a more private session later that day, and I was able to ask the professor for an explanation.

The professor explained to me that Max Planck, the pioneering German physicist, said in 1936, "An important innovation rarely makes its way by winning over its opponents. . . . What does happen is that its opponents gradually die." Professor Forrester went on to explain that academics all have their theories and hypotheses on business, and their prominence is dependent upon the adoption of their teaching over their peers' teachings. And academics have tenure, so there is little to lose by not adopting a peer's hypotheses . . . So, he said, "We just have to wait for the opposing academics to die and hope that my students take their place."

This was one of the biggest learning experiences I had in organizational behavior, not to mention academic politics. Unless you can develop a plan that addresses the culture of the "as is," identifies how the changes you are proposing in the "to be" will impact the perception of gain over pain to the "as is" culture, and put forth a plan to

communicate the perceived gain, you may have to wait until people die before the transformation will be able to proceed!

Simply put, you have to be able to tell management and peers alike that they will be significantly better off with the transformation than they are without it. Senge calls it building a shared vision. Yes, it's tough. But it's not insurmountable and *you* don't have to die trying. You just need to convince the company it may die if it doesn't transform.

So, now you know why, in every case study, people will tell you the most important success factor in any transformation is executive sponsorship and commitment. If the "to be" factors are not in the paradigm of senior management, it's unlikely to be instituted into the culture of the company and unlikely to succeed. It is the single most critical barrier to change in an organization. In Chapter 7, we'll look in detail at just how we can communicate that to senior management as a component of their paradigm. Why? Because in this millennium, we just can't wait for management to die. Until they buy in, however, if people are not secure in their ability to adopt the changes that the transformation will bring, they are unlikely to mature to the next level.

Level 3: Social

As we develop our transformation strategy, we will have to begin instituting changes to the culture to promote more of a team strategy (i.e., transforming from the notion of "supervisors and employees" to "managers and associates" and self-managed work teams). It isn't easy. There may be years of conditioning to the old culture to overcome but, until people become comfortable with speaking to one another, opening up to the process, and looking for support, transformation is just too big a bite to swallow. It's really hard work to make these changes, especially within the context of operations that have been around for a while.

Take, for example, the case of Procter & Gamble's implementation of high-performance work systems (HPWS) at their manufacturing plants worldwide. I will be referring to experiences I have had with Procter and Gamble (P&G) people (P&Gers) over the years, as P&G is probably one of, if not the most, transformational and innovative companies I have ever observed. They are always moving their organization forward with an aggressive pursuit of excellence and competition.

Okay, that said, let's look at the case. It was at the second Systems Thinking in Action conference held at the Mount Washington Hotel, Bretton Woods, New Hampshire, hosted by Pegasus Communications. One of the invited speakers was Charlie Eberle, retired former head of P&G worldwide manufacturing, conducting a session on the implementation of HPWS at their facilities worldwide. Eberle spent about 45 minutes detailing their journey and timeline for the implementation.

At the end of the presentation, I added up the timeline and asked a simple question: "Charlie, excuse me for asking, but you've just detailed the superior performance gains that you made at each facility that you implemented HPWS at, yet, when I look at the timeline, why did it take 15 years to implement at all of P&G's plants worldwide?"

Eberle responded almost immediately, "Because it took me 15 years to be promoted to vice president of worldwide manufacturing!" and, he added, "Quite frankly, when I got to my office in Cincinnati, overlooking the river, I didn't want to do it either."

Eberle went on to explain that implementing HPWS was not that easy. It was transformational and required a different cultural mind-set (paradigm) than existed at most P&G plants. HPWS empowered people and changed the supervisory relationship. Employees became "associates" or "technicians" and participated in self-managed work teams with interchangeable roles that were responsible for improving the processes, operational decision making, and so on.

So while it was great for new P&G facilities, "greenfield implementations," none of the preceding VPs of worldwide manufacturing wanted to endure the pain of retrofitting the existing plants. While the performance and productivity of the HPWS plants was far superior to the existing plants, the existing plants were already performing at a significant advantage over competitive benchmarks. The bottom line was that the gain did not exceed the pain of worldwide implementation.

Eberle said he at first didn't want to do it either. He said he took a fishing trip with Peter Senge, and together they decided that "it was the right thing to do." As he was promoted into the position, he embarked on the journey of worldwide implementation. And, as the last facility was finally converted, he retired. It was a great presentation and one that would be formative in my thinking and communicating both the challenge and the opportunity of implementing a change within an organization. If the organization cannot get beyond a culture of survival or security and into at least professional "social" interaction, transformation will be difficult at best.

BUILDING A CASE FOR CHANGE

Generally, the most practical method of engaging people at this level is introducing process mapping, modeling, and other visualization techniques to the organization. It is the quickest way to begin defining what the "as is" business environment and processes are. In Chapter 4, we'll introduce in more depth the various mapping techniques and how to bring the organization into line and engage it. For now, why is process mapping so important?

Visualization techniques are great ways to direct people to gather information and data about their workplace in a nonthreatening manner. We map out the steps of the processes and gather data about the behavior and performance of those processes. We keep it objective and simply map out the way activities are organized and performed to achieve our objectives.

Process mapping is also a great way to communicate process behavior. People respond to graphical depictions. Most modeling techniques have "levels of detail" so that processes can be communicated at a very high level to senior management and at a very detailed level for operational execution. Most important, people can sit back and observe how activities contribute to the success of the operation or may inhibit or constrain the operation.

The most beneficial outcome of process mapping is that it takes the people out of the process. It objectifies the process. It's not the people who are good or bad; it's the process. Once you have people working together as a team, defining processes, activities, metrics, and so forth and gathering the data to support their maps, you have enabled more

interaction and created a "social" culture conducive to analysis and change. The people don't need fixing; the process needs fixing. At this point, the need for improvement or change almost becomes self-evident and companies begin to exhibit the evolution to the next level of cultural maturity—the self-esteem level.

Level 4: Self-Esteem

As process improvements begin to take hold, successes occur and, generally, as I alluded to earlier, those successes should be celebrated and/or rewarded. For many companies, it doesn't have to be a heavy investment or formal incentive compensation plan. It can take the form of a team pizza party or luncheon or even passing out coffee cards. As associates observe the successes and recognition that goes with it, they also want to become involved. They begin seeking means to experience higher levels of self-esteem and personal worth. They also begin to acknowledge the value of their colleagues' contributions and teamwork. Expert and Referent power bases become more the norm than even Legitimate power. People become more team-oriented and self-managed. Coercive power is almost nonexistent, while Reward power is more a result than a lever.

While it is important to implement professional development programs early in a transformational initiative, it is within the maturity of the organization from social to self-esteem that it is most critical. And it is one of the key levers to maturing the organization to self-actualization. A professional development program with key courses, internal or external, that supports the company's transformation gets people on the same page, talking the same language and builds relationships. Team learning, as Senge refers to it, becomes routine.

Level 5: Self-Actualization

This is the highest level of transformational culture maturity, and there are very few organizations that exhibit consistent self-awareness and personal and professional growth behaviors within their culture. At this level, the people in the organization, of course, recognize the formal structure and legitimate assignments of responsibility and management.

Legitimate power, however, is exerted more as a guide than a mandate and people feel empowered to do the right things, constantly looking for ways to improve themselves and the organization. Change is an opportunity to be exploited. People are re-inventors of the status quo and most interested in reaching their full potential. Leaders emerge and are rewarded with recognition. Self-esteem within the organization can be seen everywhere.

When you meet people from organizations at this level, you almost feel they are arrogant, but they're not. They're competitors and winners and self-aware and self-confident. They are also probably from top universities, were top in their classes, leaders in academics, and often in sports and extracurricular activities. Why? Because companies at this stage of maturity inhabit Leader City, they have the funding to generally build from within and "restock" by recruiting the top talent in the world. They are market leaders, highly recognized in their industries, and they continuously invest in their people, processes, and technology. The best and the brightest *want* to work for

them. They take risks and look to the future relentlessly pursuing every innovation they can. They are, in Senge's terms, a "learning organization." Their greatest fear is being left behind, losing their leadership position, being taken by surprise. This is the learning culture that is the objective of transformation and it is why transformation is considered a journey . . . There is no end and the journey is as long as the time that has passed since you started.

PARADIGMS CAN ENCOURAGE OR CONSTRAIN INNOVATION

When I was at DEC and began working with Peter Senge and Innovation Associates, I enrolled in one of their workshop programs, Leadership & Mastery, that I think became part of the inspiration for Senge's book. The course was taught by Senge and was held in the executive education center at Babson College. I'll refer to some of the experiences and learnings from this program throughout the book; however, it was during the program that I learned about P&G's transformation and how it was being implemented, and subsequently this was reinforced in my conversations with Charlie Eberle at Bretton Woods and with other P&Gers whom I met at industry committee meetings and events throughout the years.

As with most workshops, we began by introducing ourselves, our companies, and our roles. There were about 15 people, give or take, in the class. As we went around the room, there were probably 8 to 10 of the attendees who came from P&G. As I learned from the conversations among classmates, John G. Smale, P&G's CEO at the time, pretty much mandated that every P&G manager go through the Leadership & Mastery program. The reason, I was told, was that Smale, as I later learned, was one of those "management commitment" executives who not only embraced change but was an agent of change. Upon his passing, in November 2011, the memorials, testimonials, and obituaries all heralded him as the leader of P&G's global expansion and transformation. In the company memoriam to John Smale it is noted that Ed Artzt, Smale's successor as CEO, observed, "The one thing that distinguishes John's career as the leader of our company has been his remarkable record as an agent for change."

In speaking with my workshop colleagues and later with others, Smale wanted the company to create a vision for itself that would take it to market leadership, and he needed its people to be aligned and share in that vision and execute as a team to achieve it. I believe it was Smale who first led P&G on its transformational journey to self-actualization; and, it's been on the journey for more than 30 years, as it is a journey that knows no end. To get everyone on the same page, to get everyone working together, Smale leveraged professional training programs to move P&G's social maturity level to self-esteem and eventually to self-actualization. Every manager went through Leadership & Mastery and learned the principles of *The Fifth Discipline: The Art and Practice of the Learning Organization.*[8]

They learned systems thinking, personal mastery, and how to experience self-esteem; they learned to create a vision and how to build shared vision. More important, they were speaking the same language, engaging in team learning, and joining the journey. John

Smale's paradigm and commitment led to P&G's emergence as a market leader and best practices leader that can be a model for any company seeking a basis for transformation.

On the other hand, as we have seen from earlier blunder quotes, senior management paradigms can impede the growth or success of a company. Before joining DEC, I spent about 10 years with Burroughs Corporation, which merged with Sperry Corporation and became UNISYS. The leadership of the company was in the process of taking two $6 billion companies and turning them into a $4 billion company. My mentor at UNISYS had recently joined DEC, which was in the midst of a major transformation both internally and externally.

DEC's rapid growth was largely the result of founder Ken Olsen's breakthrough engineering leading to the introduction of the mini-computer, initially for process control, and later leveraging network technology for distributed computing. We were successfully selling and deploying our technology as departmental solutions with partners providing industry-specific applications, surrounding the mainframe's "glass house" and competing quite well against IBM and the mainframe BUNCH (Burroughs, Univac, NCR, Control Data, and Honeywell). In the field and in marketing, we were actually saying "the network is the system."

To make a long story short, field leadership's five-year transformation strategy of deploying distributed computing as industry solutions did not fit into Ken Olsen's paradigm. Olsen's attributed all-time best technology blunder quote in 1977 was "There is no reason for any individual to have a computer in their home." How many computers do you have in your home? More and more homes have more computers than people.

His paradigm (obsession) was to beat IBM by replacing the glass house, not surrounding and unplugging it. Being a hardware guy, he did build a computer powerful enough to replace the IBM mainframes. But he underestimated the software part and, as it was not plug compatible, most companies wouldn't pay the cost of converting all of their applications just to get a comparable box. The investment in R&D to develop it and production costs of the initial run drained DEC's cash reserves and led to the decline of the company and its subsequent purchase by Compaq, ironically one of the early successes in the personal computer market. Compaq, of course, was bought by Hewlett-Packard, DEC's West Coast counterpart and fiercest competitor at the time. In the ultimate irony, Olsen's Way became the HP Way.

The major learning is that we cannot afford to wait for old ways to die. We have to constantly be monitoring and moving our company's culture forward toward market goals, not personal paradigms. The paradigm has to be driven by market and process innovation encouraged through transformation to self-actualization.

At the end of the day, *change is inevitable; growth is optional.* Supply chain transformation is not an option. If you want to live in Leader City, it will be, as P&G has learned, a continuous journey, which from my early conversation with Charlie Eberle, leaders such as P&G embrace and institutionalize into their culture. It has no end. The fall from the top can occur at any time and, if you're not constantly scanning the horizon for change, it can take you by surprise.

The point of all of this is that as Nobel Prize and Oscar winner George Bernard Shaw said, "Progress is impossible without change; and those who cannot change their minds cannot change anything." If a transformation is to be successful, it will be as much a

cultural change project as it is a process improvement project and you will have to plan accordingly. It's why so many pundits speak of it as a journey. On the other hand, as P&G has demonstrated over the years, once the journey begins, it has no end. It's like planting an orchard. It takes time, effort, and investment to plant and cultivate the trees, but they will bear fruit for many, many years.

My initial experiences at DEC and with P&G led me to develop the techniques and tools for transformation that I later honed in a project at Colgate-Palmolive, working for supply chain technology providers and participating in various industry transformational initiatives such as Efficient Consumer Response (ECR) and Collaborative Planning, Forecasting, and Replenishment (CPFR®) as well as some forays into the DAMA project (Demand Activated Manufacturing Architecture) in apparel. Working as an industry analyst and being a member of the team that developed the SCOR® model and founded the Supply Chain Council, I have also had the opportunity to visit and live in both cities, Leaders and Laggards, and learn from both. Let's begin our journey with a look at the business.

NOTES

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