CHAPTER 1

Emergence of a New Managerial Style

> . . . a time of turbulence is also one of great opportunity for those who can understand, accept, and exploit the new realities. It is above all a time for leadership.
>
> Peter F. Drucker[1]

Mexican cement manufacturer CEMEX and European toy manufacturer LEGO use social media tools to invite product and service innovations from employees, of course, but also from customers. In the case of LEGO, management pays royalties to ideas turned into products. IBM managers have employees who report directly to them scattered across the world, no longer down the hall, and so expect their workers to take charge of their own time and get things done without constant managerial intervention. Traffic managers in London, Singapore, and Stockholm use massive quantities of data that are collected automatically by sensors to model optimized ways to improve traffic flows, in some instances, several times a day. Marketing managers at Ford Motor Company, Canadian retail bank, TD Bank, and now many insurance companies host online communities of customers

The Essential Manager: How to Thrive in the Global Information Jungle, First Edition. James W. Cortada.

who tell them how products and services are performing, even how to make a better hamburger (Red Robin Restaurants), and expect employees to train and mentor each other. Increasingly, the power and work of "management" has diffused further to employees and especially to customers far beyond what had begun as a trend in the 1990s. When looked at as a whole, we see that a new style of management has emerged.

Something strange has been going on quietly, unseen, hardly recognized. Stand on a busy street in any city in the world—and I really mean *any* city—and one can notice that almost everyone over the age of 12 and under the age of 35 or so, and many clearly over that age, are either plugged into some device (such as an Apple iPod) or radio, are carrying in one hand a mobile phone, or are texting on their "smart" phone. Look for the phenomenon; it is there. Go back in time just 10–15 years and you would have seen a few people with headsets listening to music. Walk into a conference room at any major corporation—and I really mean *any* large or mid-sized company or government agency—and you will notice the same behavior of people clutching mobile phones if they are under the age of 35 and doing a quick check for messages or peeking at Facebook. Other colleagues walk into the room with iPads that they skim during the meeting, rarely devoting 100% of their attention to what is happening, while those over the age of 50–55 will drag in their ancient laptops or one of those thin ones from Apple and quickly sit down and start working on e-mail. Only the host of the meeting will drop her two or three pieces of hardware on the table and quickly move to a Powerpoint presentation that will provide structure to the meeting. Fifteen years earlier, similar type of meeting would have been conducted with Powerpoint, and everyone might have had a laptop open, doing e-mail of course, but probably without access to wireless Internet, and the manager chairing the meeting would undoubtedly have been a man.

Incrementally, the signs of change were all around us—from the physical appearance of mobile phones and tablet computers to women

attaining senior positions. All these changes in work practices happened incrementally, one tiny step at a time slowly over time, so almost hidden. These are tips of icebergs, however, because far more changed in the practice of management. Success in a managerial profession has long depended on understanding the craft of leadership and management, mastering the technical skills and knowledge of such work, and for the most successful, the art of success. This book is about how these three things are followed today, suggesting how they will be done during the professional lives of all those individuals clutching mobile phones, routinely dividing their attention between the Powerpoint presentations and the wealth of interesting contents pouring into their digital devices off of social media sites. In fact, many of these individuals work for organizations that are becoming social media sites themselves; these include municipalities that provide services online to consumers in every major city of the world, and in future to consumers in most towns and villages too, and companies that sell digital content, transfer information from organizations to people for free or fee, or operate almost virtually.

A personal story. In the 1980s, when I first entered the ranks of management at IBM, a secretary worked for me, I had an office, and had access to e-mail on a heavy terminal on my desk. After several promotions, gone was the secretary (I then shared an "administrative assistant" who was a man), gone too was my physical office (although I could borrow an empty one anywhere in the world), while I had a laptop connected to IBM's e-mail system, the Internet on a dialup line, and increasingly to large databases of business records and consulting materials. Fast forward to the early 2000s, and yet through two more promotions (defined as fancier titles, stock options, and bigger salaries), my manager lived in Amsterdam, I in Madison, Wisconsin; gone was the administrative assistant, although I could lean on one to help me if needed who worked in Boston, Massachusetts, while her backup was in Amsterdam; and my staff was scattered all over the world. In the 1980s,

I physically saw my manager every day; in the 1990s probably once in a month; while in the 2000s once in a year and only because we felt we should, but did not know really why anymore. I moved from being told how to do my job, and getting appraised on both the way I worked and the results obtained, to results obtained. Over a period of years, I incrementally had to evolve from a person able to operate in a hierarchical organization taking and giving orders for the most mundane activities to weaving networks of alliances and teams that functioned on their own as self-directed individuals and clusters of people willing to collaborate as long as it made sense to them. No managerial revolution was there at IBM—IBM was far too conservative for that—rather we underwent a continuous process of many evolutions, just as our customers did in all industries around the world, often at roughly the same time and pace.

While evolutions are often nearly invisible, if they are continuous, they ultimately accumulate into enough changes that will seem revolutionary in hindsight. The revolutions are obvious to see unfold, such as the introduction of the smart phone or a change in a government regulation, but the evolutions come at us quietly, slowly, incrementally, and so are not so evident. This book describes some of these evolutions, demonstrates how to spot them, and suggests answers to the most basic question, "So, now what do I do?"

HOW THIS BOOK AND CHAPTERS ARE ORGANIZED AND WHY

The fundamental purpose of this book is to help you to know the happenings around you as a manager, or as an aspiring one. The reason to do this comes from the fact that managers are today not as broadly aware of their circumstances as they need to be. Their education is often too narrow, they normally know just what they need to in order to perform their current jobs, and they remain too ill-equipped to transform into agile, entrepreneurial leaders, which is what the world of business is demonstrating is required more today than in previous decades. The

need for agility and innovation is being forced on managers because the global economy is continuing to integrate, which means you will have more competitors with different business models to contend with and more technological and scientific advances and changes that will force you to work in different ways. You have no choice but to respond to those realities. The help you get is often inadequate or simply wrong. The books that managers read are too often focused on a single issue presented as the next "silver bullet" that will solve all their problems, from long tails to analytics, from "bings" to emulating nineteenth-century generals. So many commentators take an article they published in a business journal and develop it into a book that adds more case studies but not more insight.

Much of that behavior has to be seen for what it normally is: close to near nonsense and it has to stop. Management is a serious business that affects the life and lives of billions of people, the environment of the earth, even perhaps the survival of our species. Management is not an ad hoc or amateur activity. This book respects the growing professionalization of managerial practices, its complexity, and the seriousness with which all workers need to devote to it.

An operating assumption here is that everyone working today has some managerial responsibilities, regardless of title, because that is the way work is routinely done. Like the observer on the sidewalk, things change around us. First, those people clutching their mobile phones are not just embracing technologies—that is not so important—what they are doing is living in a more intensely connected world from which they willingly do not escape as their parents could, and in which they must devote ever less time to any one issue or problem as multiple people crash into their mental spaces. Second, armed with perspectives on what is happening, and all through this book, suggestions are made about how to deal with these changes. But, this is not a cookbook or a highly prescriptive list of "to dos." There is too much going on for that to work; rather, we have to be agile intellectually and physically able to work in different places, time zones, cultures, and business environments. These forms of flexibility are of considerable value, indeed for many decades. So understanding these and making such capabilities a way of life becomes an important objective. But, much will be offered in the way of telling lessons and actions to build on. We are talking about a style of working in today's and, more importantly, tomorrow's business world.

This style of working is not hubris and hype, but this is a serious business because your competitors are coming at you literally from countries you did not think about half a dozen years ago and from industries that did not exist a decade earlier. For example, many competitors to American companies in consumer goods in the 1960s and 1970s operated out of Japan; in the 1980s and 1990s, increasingly out of China and Eastern Europe; and in the early 2000s from the Philippines and Thailand. In case of software business, competitors were from India and China. But today, Vietnam and Indonesia have become the major contributors of consumer goods. That coming and going of international competitors will continue, forcing us to understand who they are and their values. In turn, then, we will need to craft new ways of doing business and of finding customers even in those countries.

To succeed, managers need to be aware of more issues and changes that are underway. They need to think more creatively, not just look at more data (but they need to do that too). They will need to experiment more with business models, terms and conditions, new technologies, and different products and services delivered in innovative ways. They will need to engage with new types of organizations too. The good news is, however, that there is much help on the way, from computer software for modeling situations and options with mountains of data and information, and a large body of managerial practices which business school professors have now spent several generations codifying in convenient ways. The bad news is we are now applying these assistive tools and insights in the ongoing development of our managers insufficiently. But let us be realistic.

A manager still needs the core skills that have evolved into the set of practices widely deployed over the past half century: process management expertise, strong project management practices, reliance on data and spreadsheets, being facile with mobile computing, and an ability to network within their organizations and with clients and industry colleagues in rather fluid circumstances. Their MBA degree would have taught them the basic "facts" of their profession—a good start to be sure—but it was only a start in their education on teaming, corporate politics, use of social media in marketing and product development, life in a supply chain, managing personnel without violating laws or "best practices," and so forth. Add in the evolutions discussed in this book, and we can see there is much yet to be done, a great deal to learn, and to keep doing constantly.

The strategy for accomplishing the purpose of this book is straightforward. In the six chapters provided, you will be exposed to those issues that, to be blunt about it, in my opinion, are affecting your success the most. That opinion is based on the decades of my work experience at IBM and across over a dozen industries and countries, in mentoring start-up companies, and the research done on these critical issues. I have handled these issues the same way as important management gurus have, such as Peter Drucker and Alfred D. Chandler, Jr. If you have heard of Peter Drucker, and more importantly, read his work on the craft of management, then you know I am going to expose you to the context—most specifically historical context—and also to the profound role of various technologies on work, management, and society. We cannot ignore the power of information technologies, including but not limited to the Internet, social media, or our smart phones. The use of information technologies is as important to our lives as the deployment of electricity in the workplace was to a generation of managers over a century ago. Both are infrastructures that fundamentally changed how people worked and played. Welcome to your world. This chapter discusses some, but not all, of the new ways of management, quickly "netting out" the "big picture."

Chapter 2 addresses the ever thickening information ecosystem that physically and practically surrounds us and defines our work. Chapter 3 expands the conversation from an individual to the larger world of global industries because industries are large worlds of their own. Each industry affects our work in many ways today. If this book had been written in the 1980s or early 1990s, this chapter would only have been relevant to senior executives, but with global supply chains and competition from everywhere, its content is crucial to most employees and entrepreneurs. Chapter 4 defines who you work for, what that kind of organization looks like, and tones down the rhetoric to remind us of what is not changing yet. Your success is measured by how successful you are in that organizational environment, so understanding some emerging basics is as essential as eating and breathing. Chapter 5, similar to Chapter 3, takes us into a broader landscape of the global economy as it evolves because your work, industry, and company thrive or fail in large part by actions out of your control. The business jungle is growing new plants and new animals are thriving on these. Finally, Chapter 6 pulls together the various insights and recommendations made throughout this book.

This book is short on purpose because most readers do not have the time or the willingness to cover a large topic in detail. We live in a world where the "elevator pitch" is essential, required, and when presented properly, actually useful. To write a short book meant picking topics that seemed important and spending fewer or more pages again based on what seemed relevant. For example, this chapter may strike the reader as too long on history and some points dragging on beyond what is needed; trust me, it is shorter than the subject deserves. But, the reader does not need to take my word for it; there is a short list of important publications at the back of the book that can be read, which fills the gaps of interest to you and that can serve as a correction to my emphasizing one point more than another.

Chapter 1 more specifically focuses on those views, tools, and practices of management that are most influential in shaping the activities and prospects of current and future management. The fundamental idea is that the way a manager works has been and continues to transform into substantive ways. To describe that fundamental transformation, several features of those changes are discussed. Key conversations include the following: thinking in terms of systems and processes because that is the way work flows in an organization are structured today; the roles of simulations, models, and the attraction of numeric data are introduced for similar reasons and these are discussed again in future chapters in more detail; migratory habits of the modern manager since very few will ever spend their entire careers working in one or two enterprises, so there are important implications for individuals on how best to work; how the new style of management is applied at work; and a conclusion with a recap of key implications and suggestions.

My text will appear quite simple to those who want depth, detailed case studies, and intriguing ways of doing work. But there is danger with complexity, of course, and we have too much around us as it is. Clarity of thinking often calls for simpler statements. There is an old U.S. Navy advice to seamen and officers, which has proven of enormous use for decades, "Keep it simple, stupid." Had bankers crafting complex derivative real estate products in the early 2000s followed that admonition, the Great Recession probably would not have occurred. Complex mathematics in this instance confused even CEOs of large American banks. In the 1990s, Enron operated like a bank instead as an energy firm, which had a century of experience in its industry and called for more command-and-control managerial practices that relied heavily

on well-defined processes. The rollout of the U.S. government's healthcare enrollment system in late 2013 proved to be an unmitigated disaster to say the least, probably because the implementers failed to focus on getting right the three or four critical requirements that over two generations of software developers had learned were essential: adequate testing, rollout of pieces of the application and not everything at once, having adequate amounts of computing power to handle the volumes, and single focal point for all decisions regarding what functions and policies to implement. Instead, as in the other cases, management became victim to complexity. Complexity remains a continuing threat to the success of managers, as it has been for generations. As these recent cases remind us, there are basic managerial behaviors that the business school professors and historians remind us to be important, but too often these behaviors are forgotten by senior executives or are simply not learned by new managers. So, your first lesson is do not assume management even knows the basics of sound practices and fear complexity, yet remain open to changes that can be understood and explained simply.

A DOSE OF HISTORICAL PERSPECTIVE

When Peter Drucker published *Management* in 1974, no woman was the CEO of a *Fortune* 100 company. In the first year of the twenty-first century, several and 11% of all senior executives in these companies were women. By 2013, women served as the CEOs of some of the world's iconic companies: IBM, Yahoo!, HP, and Xerox to mention a few. Glass ceilings had been quietly shattered over the past two decades as women worked their way up corporate ladders and along the way changed the gender and ethnic demographics of management in the industrialized economies. Other transformations had slowly occurred. For example, on average, senior executives had been to school longer, more graduated with MBA degrees compared to earlier period, and were younger. They were reaching senior ranks (e.g., CEO, COO, Sr. VP, VP) in their early 50s, 4 years faster, than the earlier generation.[2] Professors and consultants documented the expanded professionalization of this younger set of management over the past quarter century, while other observers were complaining that not enough "evidence based" managerial practices had permeated the managerial caste.[3] To

add to the churn and change, surveys as recently as 2012 still called out the global concern of senior management that their organizations found it difficult to develop rapidly enough skills within their firms needed with which to thrive, because employee skills were not aligned sufficiently with the needs of a corporation.[4] But Drucker found similar issues as well, most specifically the lament of management at the lack of sufficient skills among employees and managers, in general, echoing the concerns of the 1960s and 1970s.

Other things were changing at the same time as corporations went global and the economic fortunes of nations were in transition. As transformations were underway in global economic realities, management's work too evolved, extending a process that had started over a century ago with the creation of the modern corporation so aptly described by historian Alfred D. Chandler, Jr., as run by a new "mandarin class" of managers.[5] In a nutshell, what occurred over the past 30 years has been nothing less than the evolution of myriad managerial practices that emerged into a new *style* of management's work, as yet unnamed, but because of the profound role of computers in that transformation, it is sufficient for one to begin to view it as possibly a digital, networked, or connected age to label this style of work. But today's experts shy away from naming their views as digital. At 2013's Global Peter Drucker Forum, different concepts dominated. Georg Kapsch criticized the ineffectiveness of line organizations, while Don Tapscott wanted the audience to think about new organizational models. Charles Handy did too. The need for innovation remains, so driving fear out and constraining exuberant cost cutting are needed, replacing them with actions that encourage "creative confidence," to use the words of Tim Brown, CEO of IDEO. Managers have to stop being "zombies" (Umair Haque, Director, Havas Media Labs).[6] While self-organizing workplaces require IT and competing around the world does too, these and so many other management experts have got it right: it was never about computing alone, it was about organizing to address opportunities and squelch problems.

The process of shaping a modern manager has been impressively pervasive, extending beyond the confines of *Fortune* 100 or 1000 firms to include many who moved from those companies to other enterprises and government agencies, graduates of MBA programs around the world, book and magazine writers, and participants in professional associations, all of whom embraced most of the concepts described in the

following discussion. Their process of transformation led to new practices created in complete awareness of the work of each other. Book and magazine writers who discussed new managerial techniques came from corporations where they practiced these skills or possibly acquired some of them during their MBA programs. Business school professors learned managerial techniques from their managers and students. Corporate management assimilated insights and lessons from their associations and from the literature they read on modern management methods. Associations too learned from managers, consultants, and professors. If the emerging style of management can be described as virtuous, then the roles of these sources of diffusion constitute such a circle.

An early observation to keep in mind is that managerial practices of the early twenty-first century are being shaped by a set of attitudes (call them beliefs if you will) and a predilection for using tools (software and practices in particular) that were not convenient or even available a generation ago. This book will discuss some of the most important of these with an eye to addressing complexity and the continuing need for innovation.

In several ways, how contemporary managers and executives think and work are the basis for arguing that a new form of managerial style has arrived which is now shaping the features of the manager belonging to the twenty-first century. First, they think tactically in terms of "systems" and "processes." Second, they rely extensively on data to inform their decisions, and especially on numerically rich results of modeling and simulations, today fashionably called Big Data. They measure the increasing amounts of activities and ideas drawn from sensors on machinery to leading indicators of economic trends. Third, they develop core skills that they take from one firm to another, as they change jobs more frequently than prior generations of managers. Executives and managers often think of their work as international and themselves as members of a transnational class of workers, reaffirming Richard Florida's idea of the "creative class" or as global business leaders. Fourth, they are comfortable working in flattened organizations with fewer levels of management than in the past, weaving networks of contacts and team members to accomplish goals. These four trends have been unfolding for over two decades, so the young manager can turn into more experienced ones for "war stories" and insights relevant to their immediate jobs to understand how best to leverage these as context must remain one of the most sought-after bodies of knowledge by all managers and executives.

THINKING IN TERMS OF SYSTEMS AND PROCESSES

As far back as the 1940s, army and navy officers in North America, Western Europe, and the Soviet Union had thought of battlefield tactics and military and economic strategies increasingly as integrated sets of activities. As technologies in communications, computing, and weapons systems became more integrated during the Cold War period in the subsequent three decades following the end of World War II in 1945, the notion of systems increasingly provided an international view for officers and their staffs. By the 1960s, they had already created software to simulate war fighting practices and strategies. Historians of the evolution toward a systems approach to warfare talked about a "closed world" view of fighting in which a battlefield or national war fighting strategy appeared almost as if a self-contained view of even an alternative reality, much like we experience with interactive video games.[7] The same occurred with national economic development when, for example, Japan and South Korea developed economies that contained within them all the elements of success they needed, exporting to the West their products and not relying on other countries to do their work.[8] That notion of a "closed world" has extended to the present; the mindset now is often called Network Centric Operations (NCO) or Network Centric Warfare (NCW), in warfare, but it applies also to scientific research, global and national economic development, and to much corporate strategy work.[9] It is a collective attitude that the world can be viewed as a collection of identifiable systems and processes, all of which can increasingly be shaped, managed, and indeed controlled.

That systems approach to planning and managing many complex events spilled over into the practices of private sector management. Initially called operations research, later the work attracted the language of the world of computer experts, *systems* being one of them. To a technologist, a system consists of all the various machines, wires, and software needed to make all the devices do the work assigned to them. Beginning in the 1950s and extending through the 1980s, many of the *components* of a *system* had to be *configured* together into compatible *systems* or *applications*. Today, the functions of various independent units are often *housed*, that is to say, installed in or *under the covers*[10] of a single machine, such as those elements necessary to make a laptop connect to a network; 30 years ago, those elements—known as modems—were in the size of small copiers. The italicized words above

began as phrases used by computer experts, programmers, and *systems analysts,* but, by the 1980s, were seeping silently into mainstream language and thinking, the basis of a nescient, if primitive, world view of management.[11] Today, they are common vocabulary and a way of seeing how one does work.

Looking at work as a collection of organized steps dates back to the dawn of the twentieth century, often seen as part of the Taylorism in management thinking of that time, when the activities of individuals were linked to that of machines and the order of tasks that needed to be done repeatedly, such as the work of people on an automobile assembly line. Afterward, J. Edwards Deming, Joseph Juran, and other like-minded thinkers in the 1950s and later argued that work should be seen as collections of related processes. They introduced myriad statistical methods that could be used to measure the performance of a process and to identify mathematically and numerically what could be improved. By the late 1970s, Japanese managers had demonstrated the power of viewing work through process lenses, continuous improvement (*kaizen*), and peer populated work teams that did planning, strategy development, and execution (*hoshin kanri*). Their concepts spread rapidly through the Western world. Therein was born the "quality movement" of the 1980s, which management around the world embraced so thoroughly and quickly that, like systems thinking, people forgot were new ways of doing work.[12]

By the early 1990s, a more radical form of process management emerged in the West known as "process reengineering."[13] This thinking advocated replacement of incremental improvements of processes—the original strategy advocated for decades by J. Edwards Deming and Joseph Juran, among others—with radical redesign of how work flowed in an enterprise. In exchange for such an approach, one could eliminate budgetary and other forms of administrative or work in an organization, reduce the number of employees needed, delete unnecessary tasks, and so forth. In fact, such reengineering often led to the elimination of between 10 and 30% of the cost of people and other assets, but also contributed to the erosion of employee loyalty to a firm and to sharp declines in their morale.[14] Reengineering came as close as any managerial activity to sparking a "revolution" in business as one could find in recent decades.

One by-product of taking a process-centric view of work was that managers changed fundamentally the way they viewed activities. They looked methodically at the role of people, information, tools, and IT, and how they interacted with each other. Managers began thinking in

terms of linked steps, left to right so to speak on a chart, extending these in formal and well-defined ways beyond their corporate boundaries into the operations of suppliers and business partners at one end of the spectrum and at the other end, into those of distributors, sales, services, and even customers. Into such processes, they embedded many of the statistical practices of Total Quality Movement, originally espoused by Deming and Juran. Often, data collection and analysis involved the use of digital and analogue sensing devices, and then software to do the mathematics and presentation of results. The language of process management, which originated in the quality management world as with systems, seeped into the mainstream of managerial lexicon and thinking. Today, such process terms as *attribute*, *base line*, *cycle time*, *benchmarking*, *change management*, *decision point*, *fishbone diagrams*, and *six sigma* (to mention a few) are commonly used by managers and their employees.[15] One rarely finds anyone who does not think of his or her work as parts of systems and processes. Much managerial training is, thus, tied to providing them with the tools used to implement those two notions. This approach includes reinforcing initiatives designed to sustain that way of thinking, especially by corporate education centers and, increasingly, even in academic business administration courses.[16]

Applying these useful ways of working requires managers to do three things well. First, they must learn the formal language, ideas, and tasks of what one does for a living. Those normally have been consolidated into structured, documented, and published descriptions. It is a body of knowledge that must be mastered, just as one must learn accounting, for example. For the most part, this body of knowledge is what one is exposed to in business school and industry training seminars.

Second, recognize that these bodies of knowledge and practices have their passionate devotees in every organization who promote their use too much, or not enough, and for various reasons; management needs to recognize the motives and consequences of such behaviors and their intents. Examples abound. There are those who advocate too much automation of decision-making (the artificial intelligence devotees), or of pushing customers to websites to get their problems fixed when what they really want is a conversation with a human (telephone company "help" desks), or those who want to cut budgets to make their profit targets to such an extent that they weaken the firm's ability to innovate or grow (as some IT vendors are doing). I liken this second task as almost understanding a new form of corporate politics, but also as the basis for

much of today's managerial ideology, one that has evolved from being fads to accepted sound business practices.

Third, these practices have built into them an assumption that managers must continue to base their decisions more on measureable data and facts (think context and business realities) than just on experience or "gut feel" (more elegantly called tacit knowledge) because prior experience may be outdated, no longer a reflection of today's circumstances, particularly if they have been changing slowly and invisibly as I argue throughout this book. Steve Jobs of Apple Computer famously would argue that he paid less attention to what customer feedback sessions generated or the comments of marketing experts and instead went with his gut feel of what consumers wanted. In the process, he developed iTunes, iPods, iPhones, and iPads, making his company one of the largest in the world in less than one decade. Was he an exception? Google and eBay were created on the basis of tacit knowledge too; instinctively we know that was recently the case with Facebook and Twitter.[17]

SIMULATIONS, MODELING, AND THE ATTRACTION OF NUMERIC DATA

All of this thinking about systems and processes lead us to the issues of information, facts, data, as supporting infrastructure for these two notions, and to their role in the work of managers. The most popular uses (*applications* in the nomenclature of computing) of PCs in the first decade of their availability (1970s–1980s) were spreadsheet software products. As many as three thousand software *packages* of this class appeared. Managers began using these tools to create models of cash flows, to track and model changes in the performance of processes, and to ask the ultimate simulation question, "What if?" by altering numerical variables. By the late 1980s, word processors rivaled spreadsheets in popularity. Not until the 1990s was e-mail, a contender for most popular use of these small systems. Given the mindset of management that had developed before the arrival of PCs—largely thinking in terms of systems and closed worlds—use of spreadsheet software was a natural evolution in the deployment of IT. By the end of the 1990s, it had become very difficult to imagine a manager not using spreadsheet software to plan budgets, sales revenues, profit margins, to bid on consulting work, or to track progress of a project. There probably has not been a single

MBA student graduated from any university in the world since the start of the 1990s not familiar with spreadsheet software. Indeed, in many MBA programs in North America since the late 1980s, owning a PC or laptop was a formal requirement for participating in a curriculum. As managers integrated these tools into their daily work, they increasingly relied on numerical calculations with which to make basic managerial decisions regarding budgets, proposals, allocation of resources, and scheduling of work—all activities of management prior to the arrival of the PC were either done manually, and thus often sparingly, or with a less data-intensive technique of on the "back of a napkin."

Numbers have never been more popular with managers earlier than they are today. No compelling case for an action seems possible without quantifying the case for or against an initiative. Use of adjectives is diminishing in the language of business managers. The hunt is on for greater precision and the authority that seems to come only from numbers, not words. Only advertising and media relations people remain enthusiastic users of adjectives; but then ask a media expert about what is newsworthy and they will tell you data, survey results, numbers. A lawyer–author even wrote a book about thinking in numbers, calling it "the new way to be smart."[18] Analytics became the new buzz term in the early 2000s. The widely read consultant Tom Davenport defines it as "the extensive use of data, statistical and quantitative analysis, explanatory and predicting models, and fact-based management to drive decisions and actions."[19] To be sure, to sell books he has to announce it as "new," but we know that the process of relying on numerical data as being more "precise" or "scientific" or "unbiased" had its history in process management and, before that, operations research, accounting, and finance dating back to the nineteenth century.[20]

The most extreme case of the use of numbers close to the world of management involves economists who began embracing econometric methods following World War I, although not fully applying the notion of numerically, statistically, and mathematically intensive work until the 1960s. By the end of the century, it had sadly become nearly impossible to read much of their literature without a good grasp of calculus and statistics. Yet their work is important to managers, particularly for those who want to understand how their industry is structured and works or for those who want to learn about how a national economy functions, particularly if they are thinking of outsourcing work to firms in another country or to sell goods and services outside one's own nation.[21]

Many reasons led to so many people becoming so reliant on numeric data, but clearly on any short list of causes has to be computers, which made it easy to collect, analyze, and present numerical information in many ways. When use of computers was combined with new knowledge regarding mathematics and statistics in general, IT made it nearly impossible to ignore such classes of information as statistics and numbers in general. Analytical software continues to evolve. Data storage in computers to house vast quantities of data is continuing to expand, while simultaneously dropping in cost. More software tools keep appearing that can make decisions on the behalf of managers based on large volumes of facts (read, numbers). Such software tools also alert managers to situations in which they have to intervene to make a decision. Enormous progress has—and continues—to be made in the development and use of software to predict new circumstances (again modeling, reliance on statistics, and probability), ensuring, in particular, that those managers who were risk-averse will continue to use such tools. In short, they no longer are the preserve of brokers, bankers, and insurance companies.[22]

While the power of analytics and simulations will continue to attract even further use as software tools appear tailored to many industries and managerial areas of concern, there are cautions to keep in mind. First, an aspiring manager must come to understand specifically what simulation tools exist for their area of responsibility and become facile in their use, or in the commissioning of their use. The tools are practical, they work, and provide insight. But, second, do not kill the adjective in the process. Circumstances exist that cannot be quantified, such as political realities affecting the ability of a company to function in China, for example, or in Russia. This is all about the power of understanding context, actually seeking it out when it is not presented in the normal course of conversation about a decision or an issue. Asking what are the situations affecting a proposed action, why these are important, and how to deal with them to take leverage a circumstance or avoid a threat, have to be asked. Regional cultures remain important because the world is just not as flat as we are told so often. A manager can observe when these steps are not taken: the American firm Google runs into problems in China but not in the United States, the Italian automotive manufacturer Fiat runs into problems when it tries to merge with a competitor in another country (as it tried to in the United States), and so on. Context and culture are not described in numerical terms, so Americans are

frustrated with Indian bureaucracy, German managers with French and Spanish labor laws, and the list goes on.

Balancing numbers and adjectives requires diversity of workers, or at least people who show up in conference rooms. This is not an issue of having men versus women, old and young, white and black managers. This is about diversity of opinions, education, and experiences. It is increasingly obvious that there had better be people in the room who have lived or grown up in other cultures; do not let everyone in the conference room be either an engineer or an MBA; include "numbers people" but also folks with a humanities education, yes even an English major on occasion. Include in a conference call assessing a situation or proposing an action, a variety of people, to be sure, but also remember that culture plays a role even in the way the meetings are held. I have personally found, for example, that Americans are generally not shy in talking on a conference call to a group of strangers, but Asians often play a quieter role, while too many Europeans will wait for the senior person on the call to lead the dialogue. I admit these are generalizations, but I make them to point out that managers need to form opinions about how people behave in a diverse workforce so that they can insure actions are taken to force participation and extraction of information from them relevant to the discussion at hand.

To continue the horrible generalizations, the problem exists everywhere. So, for a specific but often existing example, if I participate in a meeting in South Korea, where I am the only American, and I have white hair, invariably the most senior Korean in the room and I will have a two-way dialogue while everyone else will remain silent, even though they represent the next tier of management or experts working in the same department as the senior Korean. That manager, I contend, is not leveraging the knowledge of his staff, even though they have provided him with numbers and even biographical data about my company and I. Nor can I benefit from the perspectives and knowledge of his staff. Moral of the story is do not just rely on simulations and spreadsheets, as good as they are.

MIGRATORY HABITS OF THE MODERN MANAGER

From meetings in conference rooms in other countries to jobs in different cities and industries represent additional realities of today's managers. Workers in their 20s are not the only gypsies in the world,

nor are they the only people looking for the ideal job. By the early 1980s, it had become evident in the United States, and later in Europe, that turnover of managers in large corporations was beginning to pick up; small enterprises had long experienced this loss of people as almost the norm.[23] By the 1990s, economists and business school professors were looking at the trend more closely than before, not just because it was taking place in the United States, which had one of the most fluid labor markets in the world, but also in other large corporations managed out of Europe and parts of East Asia. One of the first experts to study the phenomenon in modern times was Peter Cappelli and his colleagues. They concluded that workforces were undergoing fundamental transformations in their relationships with their employers. As corporations began to downsize and outsource work, they destroyed the implied compact between management and labor that essentially had promised lifetime employment in exchange for absolute loyalty and dedication to the interests of the firm. The primary reason for the change was obvious: pressure on management to improve productivity, that is to say, to protect and enhance sources of revenue and profit. The added perception that firms should be flexible in what products and services they offered also motivated this fundamental change in worker–manager relations.[24] It may have largely started in the United States, but with the near meltdown of Japan's economy in the 1990s, even the Japanese began breaking their long-standing compact of full employment and lifelong commitment to one firm, as happened recently at Sony, among others.

Managers, of course, were not immune to this new gale of change. All through the 1990s and early 2000s, companies hollowed out their middle manager ranks, forcing many individuals to find employment elsewhere, or not. That process destroyed management's lifelong sense of loyalty to the firm that had hired them right out of school. A decade later (early 2000s), Cappelli was still looking at the labor issue, only this time more specifically at management. He documented the increasingly global flattening of organizations, a story told by many observers; but in Cappelli's case, he also observed that there had been about a 25% decline in the amount of time a senior executive spent in his or her current firm in the early 2000s when compared to 1980. Turnover in smaller companies continued as well. In *Fortune* 100 companies, he found that only 45% of senior executives had spent their entire careers in their firms, as compared to 53% in 1980. Younger companies had even more turnover of management at all levels. Wholesale trade and

financial industries experienced some of the greatest organizational (structural), technological, and marketing churn, and so had the greatest amount of turnover as managers moved from one company to another in their climbing up the ever-shorter corporate ladder. Conversely, industries with the least of these three kinds of changes provided the fewest opportunities for advancement, although stagnant economic performance led to outsourcing and layoffs among managers. The most relatively stagnant industries included computers, retail, manufacturing, automotive, and paper manufacturing.

The consequences of such macro changes in industries could have been predicted. First, managers were willing to move from one firm to another, taking with them their experience, knowledge, and internal information to a potential competitor, or simply for the purpose of getting a better job. Second, such migratory behavior reinforced stockholders' impatience with long-term business strategies, favoring instead short-term results and, in the case of managers, more immediate rewards for their shorter term performance. As Cappelli's data demonstrates, managers were spending less time in a particular job before either being promoted or filling an opening or that they took themselves by simply going to work at another firm when they felt ready to take on a different responsibility. Career paths increasingly varied too. For example, an executive with profit and loss (P&L) responsibility at a US$10 million firm could take the same job at a similar, but larger, company of US$100 million and make more money. Also acquiring skills needed by one industry from another became another common practice. In the 1980s, as utility companies became more customer focused, they hired call center managers from telephone companies. In the early 2000s, firms eager to establish a presence in China or India recruited managers from other firms and industries with necessary experiences or they hired very young Indian or Chinese managers and promoted them rapidly to general managers. Today, this practice involves experts in social media practices.

In addition to the structural conditions that had dramatically reduced loyalty to one's firm was the growing skill base of managers. By the end of the century, most managers had at least an undergraduate education, while higher percentages of middle and senior management in advanced economies (i.e., large and multinational firms) also had formal training in business, usually MBA degrees, despite the continuing flow of complaints about the lack of practical skills not being taught by business schools.[25] Additional skills were acquired "on the job." Right into the

new century, some of the fastest career paths were financial, which required more of the formal training one received in an academic setting than in the workplace.

Sociologist Richard Florida has documented the migratory practices of many classes of highly skilled workers, such as programmers, movie animators, and creators of video games, but also of management. Simply put, workers move quickly from one industry to another and most noticeably from one country to another, facilitated by globalized networks of contacts, telecommunications that permitted movement of digitally-based creations, and the attraction of physical locations, like New Zealand or warm climates.[26] Research on migrations of workers puts additional hard data to the matter with the result that one can say with reasonable confidence that over 200 million workers around the world are routinely employed in countries other than those of their nationality. Furthermore, in interviews with public officials responsible for providing these individuals with services, pensions, and healthcare, they expected these numbers to increase over the foreseeable future.[27] In short, managers were moving around the world with a great number of other workers. It was not uncommon for these managers to feel quite international: bilingual or more in many cases, normally with a good command of the English language, and often with an advanced degree in business administration or in a technical subject, such as engineering or software design. There is no plausible reason to believe that this trend will diminish since the global economy continues to grow, expanding even in previously less developed areas such as Sub-Saharan Africa, parts of Latin America, and Central and Eastern Europe.

What are we to make of this migratory behavior since it cannot be stopped, and one can easily argue that it provides new blood into many enterprises? If one is a senior executive, the firm needs to decide whether to implement policies and practices that retain managers, recruitment processes that can replace them, or that encourage some rate of turnover, channeled to control costs and to enhance the managerial horsepower of specific divisions or lines of business. Strategy and values intermix. If costs need to drop sharply, loyalty to employees suffers as work is moved about or people replaced with less expensive ones. If tacit knowledge is less valued in the workforce then the strategy has possibilities. On the other hand, if deep knowledge and skills are required, then loyalty to employees is imperative, as is needed, for example, with researchers in highly complex industries, but less so in

retail firms where specific bodies of knowledge can be rented from advertising and marketing agencies and shop floor workers employed quickly when needed.

Companies change their values as their business circumstances evolve. IBM as late as the 1980s strongly held to the notion that employees were to be hired for life and periodically retrained to deal with new realities. After a disastrous period from the late 1980s to the mid-1990s, the firm did a 180-degree and now hired and fired to meet short-term needs. Regardless of how a reader may feel about this change, it was arrived at rationally, made by IBM's new CEO, Louis Gerstner, and while historians have yet to weigh in on that decision, the turnaround that he managed proved to be a resounding success. In 2013, GE and a number of other large American corporations fundamentally changed the nature of employee health plans, essentially reducing the amount of coverage, getting out of the business of providing such coverage, and forcing employees and their retirees to find their own insurance using health exchanges. Employees perceived this change as significant as the elimination of pensions. The point is, changes occur, and managers make (or implement) them. So, changes encourage, or motivate, people to come and go.

For the individual manager, if eager to move on, it is about beefing up their resumes with relevant work experiences and skills so that they can sell themselves to the next organization. But, I would argue that the same strategy of beefing up one's resume is needed just to stay in the current organization, even in the same job. Either approach requires managers to also become students of career management by focusing on the strong and weak areas of others, discuss career options inside and outside their current firm on a regular basis, and if confident, to test the waters by applying for other jobs. The core issue to resolve is what does an individual want to be good at, what do they want to be known for, and what do they want professionally. Answering these questions is essential as opposed to the more traditional approach of accepting the career ladder conventional in their current firm or believed in their industry. Whatever is done, it will occur in an environment where moving around within and outside a firm, and within and outside one's industry or home company is now considered normal, even competitive.

What is absolutely new since the mid-2000s is the requirement for managers to create their personal brand. We will discuss this further later in this book, but for the time being the lesson to pull out of the last

several pages is that you have to decide what you want to be good at, create the expertise, gain the experience, and make sure everyone knows what it is. That is nearly a full time job since daily work feeds hard evidence into that brand.

HOW THE NEW STYLE IS APPLIED AT WORK

There are some broad general patterns observable which give us a view into the future of managerial practices. We can begin with the ever-growing use of information to illustrate the process at work, because some characteristics of data continue to change in ways that encourage greater use of facts in the daily work of management and their employees. Simply stated, it continues to become ever cheaper to collect data about the world that managers can use. This is caused by automation of data collection (e.g., use of scanners and measuring instrumentation), better software to transport information to computers and then to process and analyze the data, and cheaper digital storage devices. The nature of data is also changing, from the tables of ordered numbers of old to more heterogeneous collections of current information presented in graphical and other visual formats. The ugly side of this trend, however, is that as the volume and scale of digitally stored information expand so too does the difficulty in extracting meaning from it. In turn, that situation leads to further use of software tools to simulate, analyze, and present results.

Computer scientists conducting research on database management tools and techniques understand perfectly well the continuing need to have new ways of identifying significant changes, exposing patterns, and discovering relationships. For trends, managers want to understand what is changing from what they knew before; for pattern analysis, it is to describe realities against some template or worldview; and for the discovery of relationships that make clearer combinations of parts and wholes, much as is occurring in the study of informatics and biology. In all three instances, management and their employees have to use structured and unstructured data.

It seems that to make things more complex, data also has to be more verbose. The amount of useful information available over the Internet, for example, is almost beyond reasonable comprehension. This circumstance means managers must spend more time finding, organizing, and studying data, then putting it in forms useful to them and their staffs by

doing "data measurement," what MIT economist Erik Brynjolfsson once called "the modern equivalent of the microscope."[28] It is why so many computer scientists at places such as IBM or at the School of Informatics at Indiana University, to mention just two, are developing or conducting research on text mining and database management tools to aid people in their hunt for trends, patterns, and relationships. It has been a process of organizing data underway since the 1950s and which shows no signs of slowing. It would be hard to find another research topic that has been as consistently active as this one; it is also one of the least publicized of all.[29]

Even the way management looks increasingly at the process by which technology or information is gathered and used has come under the umbrella of formal, structural schema. Figure 1.1 is an example drawn from the work of a group of computer scientists which displays a model of a technology landscape. This figure documents the development of specific technologies over a year-long period, and attempts to define a trajectory for the development of other technologies, in this case within the rapidly transforming world of biotechnology and pharmaceuticals. We do not need to go into a detailed analysis of the model, simply to call out the fact that modeling, even of the tools management uses, is now part of the new style of how managers think of their world, closed or open.

Any manager familiar with process reengineering and the techniques of Deming or Juran rely on fishbone diagrams, which they often use to describe the relationships of one data or factor to others. In the days before the use of Powerpoint slides and rigorous engineering-style techniques, a manager might have done a similar analysis of causal effects as an *ad hoc* exercise of applying George Herbert's old poem, "for want of a nail the shoe is lost, for want of a shoe the horse is lost, for want of a horse the rider is lost."

Business professor Andrew McAfee argued correctly that a feature of the modern manager is that he or she has to have the skills with which to control and use information technology in the effective support of their organization's capabilities. He, like so many others, called out the fact that management spends more on IT today per employee than in earlier times. Although thinking largely of the United States, his findings hold true for companies all over the world. There are more IT things one can acquire, for example, making the shopping experience more complex: "It's hard for executives to figure out what all those

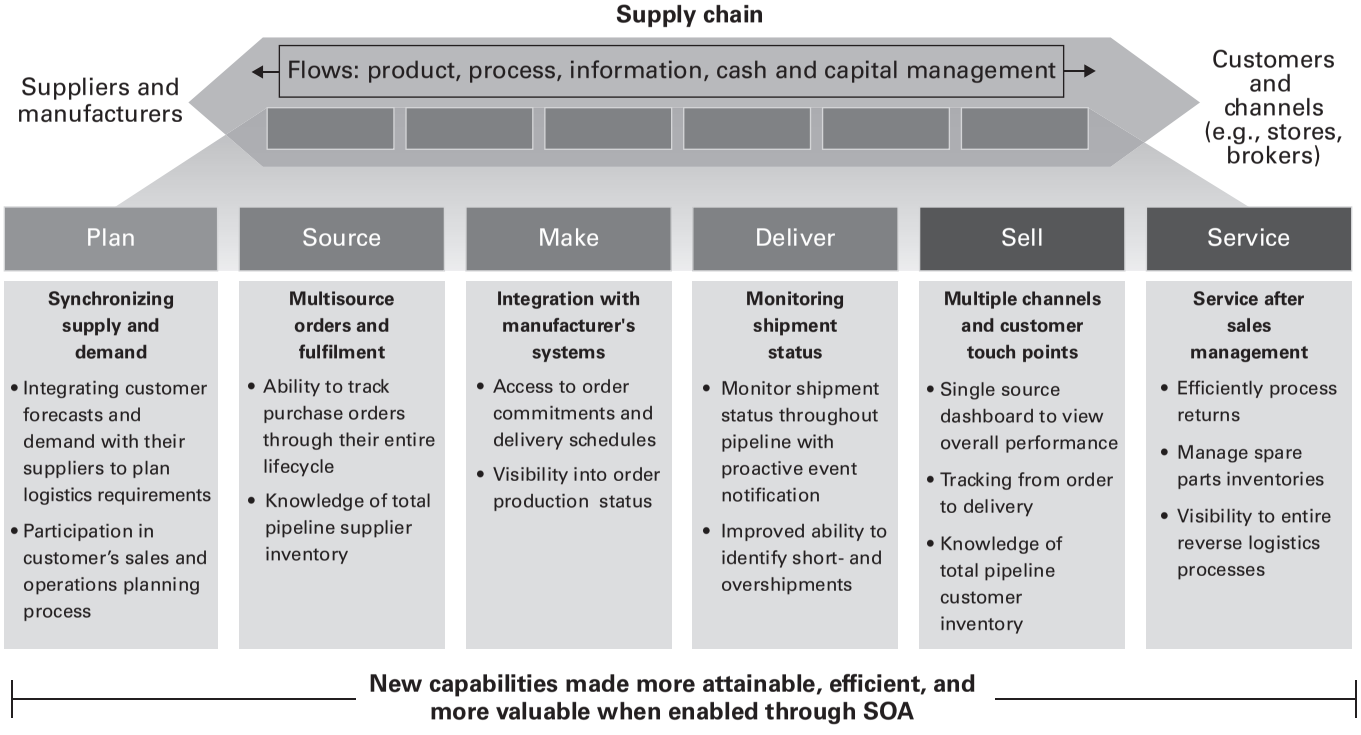

Figure 1.1 Model of a supply chain.

systems, applications, and acronyms do, let alone decide which ones they should purchase and how to successfully adopt them."[30] It is a complaint heard since the birth of the computer over a half century ago. But, then it was voiced at conferences and in offices, rarely in print, but now it is discussed as a measure of the increasing importance of the issue.

Now McAfee could publish about the issue in the prestigious *Harvard Business Review*. So, one could not dismiss the lament as some peevish carping. He urged management to look at the installation of IT as part of the process of changing organizations, because of the extensive use of IT, a message relatively new and an admonition relevant to the modern manager. To close out his discussion, McAfee advocates looking at IT as one of the following three types:

- IT executes more efficiently a task than it was possible before (e.g., using word processors, spreadsheets, computer-aided design software, simulation tools).
- It enhances communications among people and organizations (e.g., e-mail, instant messaging, blogs) as these improve collaboration and team work—clearly a cultural and organizational issue involving the style by which management wants to work.
- "Enterprise IT" is used to support and is part of an enterprise's key process (e.g., supply chain management, cloud computing, customer relationship management, EDI).[31]

Observe the managerial style and values at work. He explores the role and importance of simulations, insights, teaming, collaborations, the hunt for value, and not just simply efficiencies—all hallmarks of today's managerial ethos, the contemporary interest in effective (some call best) practices.

Not all is necessarily well, or constant, in this view of managerial practices. The most influential commentators on the role of business opining in the last several decades were strongly in agreement that management was, and is, a profession. From Chandler to Drucker on the academic side, or from Alfred P. Sloan to Jack Welch in management, all spoke about the profession. But, at the same time, there has been an undercurrent of a different sort that aspires to make business practices and management more scientific. Professors in business schools are accused of sacrificing the teaching of practical ways of management in

favor of rigorous arcane scientific research on irrelevant issues,[32] while others speak, for example, about "the new *science* of sales force productivity" (my italicization).[33] In the latter case, the rising popularity of data handling tools encourages this thinking: "the data, tools, and analytics that companies are increasingly using to improve their sales forces will not only help top performers shine, but they will also help drive sales force laggards to the middle of the curve."[34] For any reader who has managed a sales force, the message is only partly true as the greater skills needed are the ones recognized decades earlier: leadership, vision, personal communications, sense of urgency, and decision-making with imperfect data. Yet science is fashionable, when in fact, much of what has been described in this chapter is the adoption by management of tools more similar to those of the engineer than to the scientist.[35] The truth is we have much to learn about human behavior and business before we can characterize management as a science.

Yet, increasingly, both sets of practices—engineering and scientific—are directed toward personal and enterprise-wide skills essential to the successful operation of a modern firm; specifically, toward the increased ability of a company to be agile in a variety of ways. Managerial and institutional agility calls for the capability to come up with new products, services, and contractual terms and conditions that meet various market requirements, and to push back competition. Speed in developing and deploying these represent yet other forms of personal and institutional agility.[36] Changing or upgrading internal organizational and personal skills, tools, and technologies is also another way of looking at the whole concept of agility. All of these manifest themselves in the daily work of managers who go about changing (improving) processes, developing new offerings and products, and acquiring, or disposing, of new customers and business partners. In recent years, surveys have suggested that in addition to these forms of agility are others emerging at least as important, such as the ability to redesign how organizations are created, or, how one shapes successful mergers and acquisitions.[37] We devote a whole chapter later to the issue of building today's effective organizations.

Research is increasingly being conducted on the skills needed by managers to operate in these more agile environments. For example, one group at the Sloan Management School identified a set of managerial practices that resonated with experienced managers to such an extent that they are worth summarizing. The ability to articulate a quantifiable

business case for such forms of agility as changing organizations and IT, or to optimize core competencies and business modularity (plug-and-play structures), is essential and most closely resemble the skills others have identified over the past century. However, across all of these forms of agility, structured project management skills are essential. In fact, no other body of formal operational skills has become such an integral part of a manager's tool kit over the past 20 years as has project management.

One cannot imagine a manager today aspiring to be a leader with demonstrated results who does not use formal project management skills to one degree or another. These are normally learned in one of four ways: as part of formal education in business and engineering schools at universities, through professional training by employers or industry associations, being a business process consultant, or by implementing processes, normally in collaboration with a services consultancy expert in these techniques. My personal experience would suggest that the third one—on-the-job-training—is the most widely used.[38] So, if insufficiently experienced in the use of project management skills, move into either a job or a project where one picks those up or hire a consultancy to fix an existing process of yours and get involved in the effort.

Another set of skills needed relates to the realities that today's—and tomorrow's managers—need is the ability to be facile in their management of IT. Specifically across all manner of agility, knowing how to create IT architectures, run IT steering committees, integrate IT into processes, set goals and measures of performance relevant to IT, manage funding for such projects, and work comfortably in the establishment of institution-wide standards are now essential core skills, especially for those most responsible for implementing changes in an enterprise or government agency. These skills apply specifically to middle and senior management. This too is a large corpus of tactical skills and managerial practices that are actually even more complex and voluminous than project management. So, while explaining the "how to" details would consume many books, and thus we cannot discuss these here, understanding the context in which they are applied is the subject of Chapter 4 in this book. Again, the purpose is to make a manager aware of a large body of skills, knowledge, and experiences that they must acquire to be successful in the years to come.

After extensively interviewing management around the world, one highly respected business research team reiterated the importance of having well-executed managerial practices involving the creation and

operation of processes, establishing guiding principles for enterprise architectures, and general oversight of daily operations. The newest component of the modern manager's skill set is that of enterprise architectures. Put in simple terms, these issues are about change management in an organization. As a rough rule of thumb, the larger the enterprise, the more important one needs such skills. It is an area of management that today is the subject of extensive research by business school professors, economists, business think tanks, consultants, and commentary by senior officials and executives. In the secular vernacular, it is one of "the hot topics" of the day and for good reason. What is new is the combination of creating new organizations within a company in response to changing circumstances using process and project management skills and that leverage new forms of IT, such as the use of social media, market intelligence, and global organizations (either within a company or conjoined to others, such as suppliers and customers).[39]

There is a related change in the way work is done which expands continuously as part of this emerging style of management. It involves the growth in collaboration at ever-lower levels of the enterprise, often called teaming. But it is more than peer workers being told to go solve a problem, work together, and be collectively held accountable for their results. That paradigm of teaming has now been around for several decades. Rather, the emerging changes involves increasing numbers of organizations participating in a teaming activity, increases in authority to bring about substantive changes, or to get the daily work done involving receiving something from another department or firm, performing an action, and then forwarding their *outputs* (another IT term in management's vocabulary) on to another group (team) of people inside or outside their organization. There is, as a result, a massive increase in the requirement for building consensus and implementing collaborative behaviors. At one time that might have been the responsibility of higher level managers negotiating protocols between departments or divisions, senior leaders in universities, or elected public officials, but now this occurs at all levels of management. Employees too are expected to exercise authority and influence, and that skill requires building relationships, presenting one's case well, being socially affable, and networking well across an enterprise. In short, at all levels of an enterprise, polished behavior and acceptance of a considerable amount of personal responsibility is required, even when authority is not formally granted to an individual.

Case studies might make for interesting reading but may not necessarily be useful on this point because each individual has a unique situation. Management success has always depended on a few people saying "I know how to fix this problem" and then they go ahead and form a group of friends, volunteers, or employees that go do something. And they stick with it until resolved, making sure they communicate up and down the organization to keep everyone happy and to increasingly get the resources they need. One example helps, however. At one point, Volkswagen decided to stop manufacturing Beetle that had been the iconic product of the firm for decades, largely because it was impossible to manufacture cost-effectively and they had to meet various regulatory requirements. So it was dropped from the product line. A group of VW engineers decided to secretly design a modern version of the car, eventually got a member of the board of the firm to find financial assistance for further work, and eventually brought the new design to senior leadership, with appropriate pre-selling of the ideas, of course, and got approval for the manufacture of what is now the current Beetle. It became a highly successful product! Success came from personal commitment, good design skills, excellent communication and political skills too, and a willingness to work nights and weekends on something important.[40] Most efforts are not so dramatic, but they share the same requirements of commitment, energy, and effective workmanship.

Weaving webs out of seemingly nothing in some instances is often a good analogy of what is called for in all manner of management. Even generals have a difficult time ordering people to do things. U.S. Secretary of Defense Donald H. Rumsfeld in the early 2000s faced stiff resistance at all levels of his department when he tried to implement (read, dictate, or force) fundamental reforms; even sergeants and junior officers fought fundamental cultural changes.[41] The CEO at even highly disciplined IBM has to persuade 450,000 employees to do her bidding, because many could consider ignoring her wishes largely because they live in such a large ecosystem (IBM) that she cannot arbitrarily command and control everyone. So, her effectiveness is highly dependent on how well she exercises leadership through the hierarchy, of course, but also by leveraging the corporation's culture, its style. This reality takes us back to a point made by Drucker, but which must be executed so extensively today all up and down any corporate organization. Ordering change is no longer the normally effective style of modern management. Indeed, it may take longer to get something done that way than to take

the time to "sell" employees on an approach. While almost every recently published management book argues that young employees must be persuaded to do things and that Boomer employees remain loyal to organizations and work hard, the fact is most employees of any age want to be persuaded, want to understand why they are being asked to do something, and want more elbow room to get their work done than might have been the case for any age employee as recently as the mid-1990s.

Scholars and management experts have yet to explain adequately causes for today's renewal of leadership and collaboration as exercised, but one can be identified and that is the power of teams working within processes that may, or may not, be fully aligned with how enterprises are organized.[42] Essentially, all parts of an enterprise have undergone the process of the most important and expensive or labor intensive work of being systematized and put into defined processes. From product development through manufacturing and distribution, the notion of supply chains has become common fair. In fact, today, of all the collections of non-accounting/financial work, the supply chain is probably the most structured, organized, and process-centric. Figure 1.1 illustrates a high-level contemporary model of a supply chain. Similar models could be exhibited to illustrate that all departments within an enterprise have such views of their work. Note that in Figure 1.1, supply chains are routinely seen to extend outside a corporation's boundaries, a point made earlier in this chapter, but worth repeating because where a firm begins and ends has become increasingly fuzzy since the late 1980s. What is subtle, yet clear, is that once managers begin looking at their organizations to see work through this near-Newtonian lens (*machina*), that is to say, as if parts making up the greater whole (firm), it is not such a leap in logic to see them measuring the cost of doing the work of pieces of the chain themselves and comparing those expenses to what some other firm might be able to do. So the whole notion of "plug-and-play" logically next becomes a reasonable view to take of how to put together a business or to optimize current or desired work.[43]

As management began viewing work this way, it became more possible to expect that the tasks within a process could increasingly be standardized and, thus, be eligible for comparison to those of other firms. This examination, routinely called benchmarking by the 1980s, reinforced the notion of commoditization of many work tasks. Such thinking (and practices) was buttressed further by the growing

availability of software in support of a supply chain that once created, caused a user to do things in a certain way, and that way being similar to those of many other firms that installed the same software. Financial and human resource planning tools, normally called ERP (Enterprise Resource Planning) became one of the most widely installed software tools in the 1990s that were not part of the Internet. Customer Resource Management (CRM) packages emerged as another similar cluster of software products that began standardization of this class of activity and led to some commoditization of sales work in the early 2000s. Marketing and strategy groups also used CRM packages. The same occurred in finance, accounting, tax administration, and human resource management. While media around the world has long focused on various "computer revolutions" that happen, medium- and large-sized companies were quietly going about disciplining great swaths of their work, using ERP, CRM, and other software. They spent billions of dollars to organize work so extensively that one has to go back to the 1910s–1930s to find a period of comparable structuring of tasks.[44] At that earlier time, it was to leverage the new thinking about mass production and Taylorist organization of firms, assets, work, and people.

The issues related to how the new style of management functions lead quickly to several key actions that senior management should foster in their organizations (both public and private), and that managers at all levels personally should embrace and learn to do. They essentially boil down to three criteria and are as follows:

- Understand the power of agility, learn to use how to implement it in all that you do, and then measure results.
- Treat all work as projects embedded in processes. That means formal planning, setting targets, measuring results, and doing post-project reviews to learn from these.
- Collaborate using more than just teaming and good social behavior, such as social media tools and processes (particularly crowd sourcing methods) and the enormous variety of analytical software tools now so convenient to use.

When you see managers work in these three ways, you know the emerging *style* of management is being practiced.

IMPLICATIONS FOR MANAGEMENT

If you are an executive or manager, or aspire to be one someday, recognize that the profession of management continues to evolve, to acquire new bodies of practices, and to be complicated by myriad issues of globalization, localization, and the rapid transformation of business conditions and evolving forms of public administration. Every profession in modern times has undergone periods of rapid transformation, and it appears management has entered one of those periods. Peter Drucker codified much of what was accepted as sound managerial practices, largely in the 1970s and 1980s, yet since then new findings and circumstances have, in effect, added to his collection. For managers that means more things to take into consideration, additional skills to acquire, new directions to take their departments, agencies, enterprises, governments, industries, and in the case of emerging economies, whole nations.

But, let us sum up a key point made in this chapter. The new style of management that the managers will live with in the next decade or more has already arrived. For those who seek new revelations, or revolutions, my apologies, but the main lines of development are apparent, and only individual events, shocks to a business routine practices if you will, are unpredictable and will have positive and negative effects. 9/11 and the Great Recession were shocks, but even such major events did not fundamentally alter the new style of management that began earlier. To be sure, they slowed or expanded trade, regulatory activities, for example, or have little or no effect on some practices, such as the use of mobile communications, cloud computing, and greater reliance on "big data" analytics. But, there are qualitative changes underway, so let us summarize the most obvious ones:

- More topics and situations to stay current about than even a decade ago
- Greater collaboration with customers, colleagues, and suppliers, which will become even more the case
- Important shifts in the use of computing with more analytics, cloud computing, ubiquitous sensors, and data collection
- Probably less work in large organizations and more work in smaller enterprises, leading to a more complex and diverse career than forecasters thought even a decade ago

- Greater need for personal brands, hence less personal ties to one enterprise's identity
- Massively larger markets to work with as over a billion new members of the middle class has started spending, and another billion babies will be born in the next decade
- Africa, all of Latin America, and today's poor half of Asia have started competing well against your company
- Evolutionary changes occur in how the new generation of political leaders run China and possibly continued dysfunction in Indian public administration in a nation that will have close to a half billion members of the middle class
- As much as one-third or more of Africa finally comes "online" as more than just a horribly mismanaged, dangerous, and poor part of the world that is only valuable for raw materials or as a chaotic market in which to sell energy and to be supplied with the world's charitable largesse.

So, while this book will read as if very little has changed, do not be fooled. As our list suggests, the evolutions as opposed to the revolutions, will continue, creating daily angst for many managers. But the trajectory of their profession is clearly visible. The key to one's success is tied closely to understanding as many of its characteristics as is possible to identify.

Because of this changing agenda, the rest of this book introduces managers to a number of issues that they should take into consideration for them to succeed at their work. It is why we turn next to address the fundamental role of information and its technologies—computing and communications—followed by a discussion about the enormous role of industries in combination with technologies. With those notions clearly present in one's thinking, we then turn our attention to the management of organizations—what most managers spend almost all their time on—set within this broader context of technologies and global industries. Then the reader is exposed to emerging economic and business realities in which their actions, the role of technologies, and the functions of whole industries can be better understood. While suggestions and questions to consider are raised in each chapter, a series of recommendations and implications are offered throughout and in Chapter 6.

Management is continuing to become more professional, more complex, fact-based, and subtle. It is being buffeted by the enormous churn of

international economic development in the period of human history that is more *turbulent* (Peter Drucker's word) by the long-term political events following the end of the Cold War and more immediately by the consequences of the Great Recession and the transformation of Asian economies. As one becomes a more senior manager, the more they will need to understand and participate in the shaping of whole industries, national economies, and possibly the fate of the human race. That expanding set of duties exceeds what was required of them in earlier decades. The connected world is no longer a concept; it is a rapidly emerging reality. The rest of this book is aimed at identifying what management will need to know and do. So, the first piece of advice to management is "learn widely about what is going on in your industry and the world at large, and get in the habit of studying your profession in an organized and routine way."

Prior experiences are no longer adequate; in fact, they might mislead you. The features of changes already underway indicate that the future has already arrived to a certain extent, because trends unfold slower than specific events at different speeds from one industry to another, and from one nation to another. Individual events create the sense of chaos and uncertainty that leads managers to want forecasts, but broad trends provide a certain amount of certainty about what needs to be done. That is the power of sound appreciation of some history, embracing an historical perspective of what has happened and is unfolding, understanding the evolution and use of technologies, grounding in some basic economics, and equipped with a healthy supply of skepticism about the wisdom of business fads. This advise is complicated by the fact that the art of management continues to move toward the profession of management, a profession based more on sound principles of proven policies and tasks, informed by deeper insights about the minds of humans, use of myriad technologies (not just IT), and evolving economics and public administration that should be both understood and be taken seriously. Truth and insight lie all around us, the challenge is to separate it from fad and fantasy. Every reader will look back some day and be shocked at the amount of change they experienced, but a lesson to take away is that they will experience thousands of evolutions and possibly no revolutions.

Since managers operate in complex commercial ecosystems called enterprises that are not monolithic but more like cities with communities of interest, routinely made up of information worlds and, it is to that environment that we turn to in Chapter 2.

NOTES

1 Peter F. Drucker, *Managing in Turbulent Times* (New York: Harper & Row, 1980): 5.
2 Peter Cappelli and Monika Hamori, "The New Road to the Top," *Harvard Business Review* 83, no. 1 (January 2005): 25–32.
3 Jeffrey Pfeffer and Robert I. Sutton, *Hard Facts, Half-Truths and Total Nonsense: Profiting from Evidence-Based Management* (Boston, MA: Harvard Business School Press, 2006): 3–28.
4 Reconfirmed through a global survey in 2007 of over 400 organizations in 40 countries, IBM Global Business Services, *Unlocking the DNA of the Adaptable Workforce: The Global Human Capital Study 2008* (Somers, NY: IBM Corporation, 2007) and in nearly a half dozen subsequent surveys conducted over the next several years, all available at http://www-935.ibm.com/services/us/gbs/bus/html/2008ghcs.html (last accessed September 15, 2013).
5 Alfred D. Chandler, Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, MA: Harvard University Press, 1977): 3, 8–9.
6 Steve Denning, "A New Center of Gravity for Management?," *Forbes*, November 18, 2013, available at http://www.forbes.com/sites/stevedenning/2013/11/18/a-new-center-of-gravity-for-management/ (last accessed December 15, 2013).
7 Described by Paul N. Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America* (Cambridge, MA: MIT Press, 1996).
8 As an example of continuing change, however, Japan and even China now are beginning to outsource fabrication and manufacturing work to other economies that have less expensive labor forces than even they do, most notably Vietnam, Philippines, and Indonesia.
9 The discussion is largely led by the U.S. military which, after China's, is the largest set of uniformed services in the world; David S. Alberts, John J. Garstka, and Frederick P. Stein, *Network Centric Warfare: Developing and Leveraging Information Superiority*, 2nd ed. (Washington, DC: U.S. Department of Defense, Command and Control Research Program, 2003).
10 The word covers refers to the metal shell of a computer within which are the components of the machine. Think of the cover as analogous to the metal outer body of an automobile.
11 The subject of language has been studied frequently regarding IT slang, but not the migration of such language into that of management in general. Management literature has largely ignored the issue, including those authors examining knowledge management and communities of practice.
12 Robert E. Cole, *Managing Quality Fads: How American Business Learned to Play the Quality Game* (New York: Oxford University Press, 1998); James W. Cortada, *21st Century Business: Managing and Working in the New Digital Economy* (Upper Saddle River, NJ: Financial Times/Prentice Hall, 2001): 51–134.
13 The phrase was created by James Champy and Michael Hammer, *Reengineering the Corporation: A Manifesto for Business* (New York: Harper, 1992).
14 Historians have yet to study the history of processes, reengineering, and the quality management movement, but for an early attempt at describing these, see Robert E.

Cole, *Managing Quality Fads: How American Business Learned to Play the Quality Game* (New York: Oxford University Press, 1999).

15 For a book-length description of these quality management terms, which have become so much part of modern management's vocabulary, James W. Cortada and John Woods, *McGraw-Hill Quality Terms and Concepts* (New York: McGraw-Hill, 1995).

16 There has long also existed disagreements about the nature of this training, Rakesh Khurana, *From Higher Aims to Hired Hands: The Social Transformation of American Business Schools and the Unfulfilled Promise of Management as a Profession* (Princeton, NJ: Princeton University Press, 2007).

17 On personal note, I belong to a group of about 100 experienced managers and entrepreneurs in Madison, Wisconsin, called the Merlin Group, which provides pro bono mentoring to startup entrepreneurs, most of whom are under the age of 40. The successful entrepreneurs invariably have arrived at what they want to do through tacit knowledge or "gut feel," both in terms of what they want to offer and the value proposition involved.

18 Ian Ayres, *Super Crunchers: Why Thinking-By-Numbers Is the New Way to Be Smart* (New York: Bantam, 2007).

19 Thomas H. Davenport and Jeanne G. Harris, *Competing on Analytics: The New Science of Winning* (Boston, MA: Harvard Business School Press, 2007): 7.

20 One of the earliest of the widely-used studies on process improvement and management was by Thomas H. Davenport, *Process Innovation: Reengineering Work through Information Technology* (Boston, MA: Harvard Business School Press, 1993).

21 In fact, there is now a growing backlash within the world of economics by some who argue they have all gone too far in the use of mathematics and elegant econometric models, drifting away from the reality of their field. For an example of the push back and the move to a more narrative view of economics, see Economics Nobel Laureate Douglas C. North, *Understanding the Process of Economic Change* (Princeton, NJ: Princeton University Press, 2005), especially pp. viii–x, 70–71.

22 Almost every industry has a trade association that publishes a magazine. These are often some of the best sources for new trends on the use of computing in one's industry, appearing as often as once a month. Another useful source is the IEEE Computer Society's flagship magazine, *Computer*, written by IT experts but accessible by non-computing managers.

23 Reasons vary, but usually larger firms could offer higher salaries, larger opportunities to increase income, medical and other benefits, and more job security.

24 Peter Cappelli et al., *Change at Work: How American Industry and Workers Are Coping with Corporate Restructuring and What Workers Must Do to Take Charge of Their Own Careers* (New York: Oxford University Press, 1997).

25 For a recent example of this kind of criticism, see Anne Fisher, "The Trouble With MBAs," *Fortune*, April 23, 2007, available at http://money.cnn.com/magazines/fortune/fortune_archive/2007/04/30/8405397/index.htm?cnn=yes (last accessed November 24, 2008).

26 Discussed in considerable detail in two books by Richard Florida, *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life* (New York: Basic Books, 2002) and *The Flight of the Creative Class: The New Global Competition for Talent* (New York: Harper Business, 2005).

27 Brian Lee-Archer, Chris Brailey, Marc Le Noir, and Oliver Ziehm, *For the Sake of the Global Economy: Social Protection for the Migrant Worker* (Somers, NY: IBM Corporation, 2007), available at http://www-935.ibm.com/services/us/index.wss/ibvstudy/gbs/a1028559?cntxt=a1005266 (last accessed November 7, 2011).
28 Quoted by Sue Halpern, "Are We Puppets in a Wired World?" *New York Review of Books*, November 7, available at http://www.nybooks.com/articles/archives/2013/nov/07/are-we-puppets-wired-world/ (last accessed December 19, 2013).
29 Eric Siegel, *Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die* (New York: John Wiley & Sons, 2013); Viktor Mayer-Schönberger and Kenneth Cukier, *Big Data: A Revolution That Will Transform How We Live, Work, and Think* (Boston, MA: Eamon Dolan/Houghton Mifflin Harcourt, 2013).
30 Andrew McAfee, "Mastering the Three Worlds of Information Technology," *Harvard Business Review* 84, no. 11 (November 2006): 141–142.
31 Ibid., 141–149.
32 For a recent criticism of training of business students and the narrowing of business professors' research agendas, see Rakesh Khurana, *From Higher Aims to Hired Hands: The Social Transformation of American Business Schools and the Unfulfilled Promise of Management as a Profession* (Princeton, NJ: Princeton University Press, 2007).
33 Dianne Ledingham, Marc Kovac, and Heidi Locke Simon, "The New Science of Sales Force Productivity," *Harvard Business Review* 84, no. 9 (September 2006): 124–133.
34 Ibid., 124.
35 Jeffrey Pfeffer and Robert I. Sutton, "Evidence-Based Management," *Harvard Business Review* 84, no. 1 (January 2006): 63–74.
36 The concept of business value derived from doing things more quickly has been understood since at least the 1980s. The classic practitioner's study on this theme, and that is as urgently relevant today as when published, is George Stalk, Jr. and Thomas M. Hout, *Competing Against Time* (New York: Free Press, 1990).
37 Ross, *Research Findings on IT and Business Agility*; IBM Global Business Services, *Expanding the Innovation Horizon: CEO Study 2006* (Somers, NY: IBM Corporation, 2006), available at http://www.ibm.com/services/us/gbs/bus/pdf/ceostudy.pdf (last accessed November 7, 2012).
38 I spent 20 years either participating in projects or applying formal project management methods inside of IBM and within several dozen organizations in various industries, as much teaching employees how to use such tools and methods as applying them to redesign and implement new business processes.
39 Ross, J. W., *Research Findings on IT and Business Agility,* unpublished white paper, circa 2006.
40 David Kiley, *Getting the Bugs Out: The Rise, Fall, and Comeback of the Volkswagen in America* (New York: John Wiley & Sons, 2001).
41 A problem shared by every one of his predecessors and so well described by the department's own senior historians, Roger R. Trask and Alfred Goldberg, *The Department of Defense 1947–1997: Organization and Leaders* (Washington, DC: U.S. Government Printing Office, 1997).

42 The issue has been with management for some time, Joseph L. Bower and Clark G. Gilbert, "How Managers' Everyday Decisions Create or Destroy Your Company's Strategy," *Harvard Business Review* 85, no. 2 (February 2007): 73–79.

43 Susanne Berger, *How We Compete: What Companies Around the World Are Doing to Make It in Today's Global Economy* (New York: Currency, 2005): 57–90.

44 One might think that the Y2K initiatives of the late 1990s would have been the driving force behind implementation of so many of these systems; however, installation of these began over a decade before Y2K remediation initiatives began in earnest. The earlier efforts had little to do with Y2K and were taken on because of the potential economic benefits they offered a firm.