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Creative Destruction

Change is a fact of life. The world is changing faster than ever before, and the challenges of tomorrow will almost certainly be different from and more demanding than those of today. While no one can say precisely what these challenges will be or how to prepare for them, some things are pretty obvious from our recent history. This book describes the nature of these challenges and a strategy that will help you to address them.

CORPORATE CHURN

The first new phenomenon that is obvious from our recent history is corporate churn. Industry leaders always fail, and sometimes they fail surprisingly quickly. Consider, for example, what has happened to the largest and most successful U.S. businesses. In the 24 years from 1956 to 1980, 24 firms dropped off the Fortune 500 list *every year*. However, in the 24 years from 1982 to 2006, that rate increased to 40 firms *every year* [Economist 2009]. That comes to 960 seemingly successful firms switching from being winners to being losers in 24 years.

Joseph Schumpeter studied the reasons for corporate churn and, in 1942, published a book called *Capitalism, Socialism and Democracy* [Schumpeter 1942]. In this book, he explains why organizations grow, prosper, and die. He called this concept “creative destruction.” While his ideas were not well accepted at

the time, they are now widely recognized as perceptive and pre-scient. He describes why economies are in constant flux in the following way:

The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumer goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates.

Schumpeter's work also suggests why market leaders are so often surprised by their newer and more agile competitors. It is because the rules of the game keep changing.

As soon as quality competition and sales effort are admitted into the sacred precincts of (economic) theory, the price variable is ousted from its dominant position.

While Schumpeter's ideas sound reasonable and are now widely accepted, he does not say where these giant-killing new competitors come from. Just who are they and why are they able to topple large and established businesses?

Just as they have in the past, the challengers to industry leaders will come from unexpected quarters. These newcomers will be entrepreneurs who have found some innovative new way to make themselves unique. This has been true in a great many industries, and as indicated by the relative vigor and productivity of small businesses, it is likely to remain true in the future. The innovative advantages of small businesses are indicated by the fact that in the United States, small businesses produce many more new jobs and grow much faster in percentage terms than their larger competitors.

Consider, for example, a recent Small Business Administration study [Terleckyj 1999]. Over a three-year period, new and small

companies accounted for only 25% of employment but for 39% of job growth. This means that, on average, small businesses grew nearly 60% faster per capita than their larger competitors. Clearly, being a small business has had some pretty significant advantages. In Chapter 2, we discuss how small businesses operate and examine some of the reasons for their superior performance.

Change is the name of the game for modern industry. Those organizations that do not recognize and plan for the often obvious future trends of their industries will almost certainly be replaced, and it could happen very quickly.

KNOWLEDGE WORK

Assuming that Schumpeter was correct and that the rules of the game are continuously changing, a high priority for executives should be identifying those changes that will impact their businesses. Once these changes have been identified, executives and senior managers can better judge how and when to make the adjustments needed to capitalize upon them. The key challenge, of course, is determining what these future changes are likely to be and how to take advantage of them before your competitors do.

Peter Drucker devoted much thought to the analysis of corporate management. More than 50 years ago, in his 1957 book *Landmarks of Tomorrow*, he outlined the key challenges he saw for future managers and executives [Drucker 1957]. He concluded that learning how to manage knowledge work would be the key management challenge of the next century. He described knowledge work as work that is done in the workers' heads instead of with their hands. He concluded that knowledge work would soon be the most critical and the highest-valued form of labor. Later, in his book *The Age of Discontinuity* [Drucker 1969], Drucker wrote:

To make knowledge work productive will be the greatest management task of this century, just as to make manual labor productive was the great management task of the last century.

More recently, in an article in the *Harvard Business Review* [Drucker 1997], he also said:

The productivity of knowledge workers will not be the only competitive factor in the world economy. It is, however, likely to become the decisive factor, at least for most industries in developed countries.

Drucker was the premier management thinker of the twentieth century, and it behooves us to take his views seriously. This book, in fact, does just that. It starts from the premise that knowledge work is the work of the future, and that the organizations that first recognize and capitalize on this fact will be the industrial leaders of tomorrow. Ask yourself this question: "If Drucker and Schumpeter were right, what should I do to capitalize on the opportunities of the knowledge-working age?"

This book answers that question.

THE URGENCY OF CHANGE

As is clear, both from Schumpeter's and Drucker's views and from the current rate of industrial churn, change is a fact of competitive life. Furthermore, the rate of change is accelerating. While this is not particularly surprising, what is surprising is how often changes have come as surprises, even to very successful firms. Many of these surprises, however, happened not because the new ideas were unknown in advance to the leading firms. In fact, many of these companies actually *invented* the new methods that ultimately destroyed them.

Eastman Kodak still survives, and it invented many of the technologies in modern digital photography. Eastman Kodak, however, is not a market leader in digital photography. Similarly, Texas Instruments invented many of the methods used in developing and manufacturing integrated circuits, but TI no longer leads the semiconductor industry. The reason organizations are often surprised by technologies they already know is that they refuse to accept the implications of what they know.

For example, IBM management knew very well that the personal computer was coming and that it would be big business. They also knew that programming was an increasingly important part of the computer business. However, because IBM never put these two facts together, the company literally gave the PC programming business to Microsoft. Within a few years, Microsoft jumped from being a small start-up to being a major corporation with a market value even greater than that of the once-mighty IBM.

IBM management's lack of vision probably can be attributed to the fact that its executives and senior managers had long thought of programming as an expense. Until 1968, IBM had always given its software and systems engineering services to its customers as a part of its hardware support. Even 13 years later, when IBM introduced the PC in August 1981, its executives could not visualize software as a potentially profitable business opportunity. Today, IBM's software and systems engineering services generate more revenue and are more profitable than its hardware businesses. In fact, only a few years ago, IBM actually spun off its printer and disk drive hardware businesses. Old attitudes are hard to change, and IBM management's outdated attitudes were nearly fatal for the company.

The problem in large corporations is not a lack of vision; it is a lack of courage—the courage to recognize that the world is

changing. Leaders must recognize that the things that made them successful in the past are not likely to be the things that will keep them successful in the future. The question, of course, is: "What will make organizations successful in the future?" The answer is that nobody really knows, and those who say that they do will almost certainly be proven wrong. What we do know, however, is that the problems that both large and small businesses will soon face will be different from those of today, and they will principally concern management. We also know that these problems will likely be of two types.

The first type of future problem concerns questions of scale. Small businesses typically grow faster and are more dynamic than larger ones, at least in part because they are not burdened by the problems of size. The question, then, is how a business can grow and be successful without being choked by its own size. Businesses have long faced this problem, but with the Internet and the new flexibility of the "flat world," these size problems are now quite different from what they were just a few years ago [Friedman 2005]. For example, in the past, the big issue was numbers of people and spans of control. Today, while we still have the span-of-control issue, the scale problems also include managing geographically distributed groups, mixed cultures, and heterogeneous technical teams. Clearly, mastering the problems of size in this increasingly complex environment will be more challenging and more important than ever before.

The second set of future problems has been with us for some time but has largely been confined to the specialized field of software. These problems concern knowledge work and knowledge workers. As Drucker pointed out, knowledge work is work that is done in the workers' heads rather than with their hands. While we have long had knowledge workers, traditionally there have been only a few of them on most projects. The vast bulk of

the work has been done by technicians and less skilled laborers or factory hands. Today, most technical work looks more like software engineering, where the workers make creative decisions and produce work products on computers. Knowledge work is the key to the future, and those who master this discipline will be the industry leaders of the twenty-first century.

The fact that knowledge work requires a new management strategy and style is obvious from the history of the software business. Software projects have always been hard to manage, and few software groups, even today, can consistently deliver quality products on committed schedules or for anywhere near their planned costs. Software development was the first technology to involve large-scale knowledge work, and while software work has always been a management problem, traditionally it has involved only a small part of most businesses.

As knowledge work becomes pervasive, new corporate management strategies will be needed. Software and other forms of knowledge work are becoming increasingly important as they involve a greater proportion of business operations and more executives and senior managers recognize that software is now the controlling element of their operations. Software controls production schedules, optimizes prices, manages costs, and calculates profits. When new business strategies are implemented, software is the gating element, and when products are late, the software work is usually furthest behind schedule. In almost all areas of modern science and industry, products are developed with methods that look very much like software development. Just about all future systems and product development work will have to be managed as knowledge work. As noted in the next chapter, many aspects of the corporate world could benefit by being managed with these methods today.

The methods described in this book are designed for knowledge work and knowledge workers. These same methods will

also help you to address other key issues, including those of size. The next example shows how the new knowledge-management methods can help executives and senior managers manage their businesses.

THE SOFTTEK STORY

Blanca Treviño is CEO of Softtek, a Mexican company with headquarters in Monterrey. Softtek is the largest independent IT service provider in Latin America with almost 6,000 employees and offices in 13 countries. The company was founded in 1982 and grew steadily until 2000 when Ms. Treviño became the CEO. Since then, the corporate growth rate has exceeded 30% per year. Softtek has long operated in North and South America and Europe, but it recently opened operations in five more countries: Venezuela, Chile, Paraguay, England, and China.

From the outset, Softtek focused on quality as a key market-discriminator. It was one of the first Latin American companies to implement the Software Engineering Institute's (SEI's) software development practices and was assessed at CMMI¹ level 3 in 2000. In 2004, Softtek's development groups achieved the SEI's coveted level 5 rating, the highest CMMI level. While this was an important achievement, it was not unique to Softtek. In fact, many of its competitors had also achieved the same high rating. To compete and be successful, the Softtek managers had to maintain their quality rating and also devise some new way to provide their customers with unique products and services.

Ms. Treviño knew that Softtek had to be unique to stay competitive and continue to grow. Trying to compete on price alone would be a losing game because, although Mexican labor costs

1. CMMI, Capability Maturity Model Integration, is an evaluation method and model devised and supported by the SEI to rate the process capability of technical organizations.

were below those in the United States, Canada, and Europe, companies from India and China had an even lower cost structure. She therefore established a corporate goal of being the highest-quality software provider in Latin America and among the best in the world. Her objective was to offer such high-quality products and to provide such predictable and responsive services that Softtek's customers would make it their preferred supplier.

To achieve her corporate goal, Ms. Treviño knew that Softtek had to make some significant changes to both maintain and improve the productivity and quality of its engineering work and to differentiate itself from the competition. She therefore had her technical groups introduce the method the SEI had developed for knowledge work, the Team Software Process (TSP). The success of the TSP in improving engineering performance, coupled with Softtek's "near-shore" advantages in the U.S. marketplace, has enabled the company to attract a growing volume of profitable business and to expand its IT services business rapidly.

THE SOFTTEK EXPERIENCE

Starting in 2007, Softtek has been introducing the methods described in this book. The company's early TSP pilot projects were highly manageable, its people had more rewarding and satisfying work lives, and its customers were increasingly satisfied. In those parts of the business that used these new methods, Softtek improved its project performance, enhanced its product offerings, and improved its employees' quality of work life. It also improved profitability and accelerated corporate growth.

Project Performance

The new TSP knowledge-working methods also helped Softtek's technical teams improve their record of on-time and within-cost development performance. One large global financial institution

even challenged Softtek to become its highest-performing software supplier in Latin America. After introducing the methods described in this book, and for almost a full year to date, Softtek's development teams have not missed any of this customer's quality or on-time delivery goals. This performance has earned them their customer's highest rating as a services provider, and for the next year, Softtek became that customer's IT services vendor with the highest proportion of the customer's business. In fact, the customer has even asked its other software vendors to consider using the TSP methods described in this book.

Product Offering

While Softtek had previously had an excellent record of delivering products on schedule and within contracted costs, its development performance has recently improved to such an extent that it can offer more development contracts on a fixed-price basis. This convinced many clients to move from a cost-plus to a managed-services delivery model for their projects. The customers are happy to have a more predictable cost structure, and Softtek has a higher-valued set of customer contracts. While some of this improvement was due to improved project management, a major part was a direct result of Ms. Treviño's drive for superior quality.

Product quality became so predictable and Softtek's products had so few defects that the company decided to offer quality guarantees. In selected cases, Softtek even included quality warranties in development contracts and promised to refund the customer's money for every defect found in customer acceptance testing or use. Initially, Softtek set its warranty budget at one-tenth of what such a warranty would have cost the company historically, but with its TSP teams, its costs have typically run well below that. While Softtek did make a few refunds, the custom-

ers liked the guarantees, and Softtek's competitors were unable to match them without losing money. To date, the guaranteed Softtek products have had so few defects that the company has decided to offer quality guarantees on a more regular basis.

People

With the TSP methods, the developers' quality of work life has greatly improved. Now, instead of suffering through all-nighters during final test, the developers can balance their workload and recover from schedule problems without impacting their projects. They are now home for dinner nearly every night, and they can take scheduled vacations without fear of unanticipated project crises.

This work-life improvement also has had important company benefits. For the TSP teams, turnover has decreased to one-quarter the turnover rate of non-TSP teams, and the company is better able to retain its most experienced and productive talent. This maintains team stability, saves recruiting costs, and improves the company's return on its personnel investment. With its improved corporate image and reputation, particularly among students, Softtek also finds it easier to recruit and retain the best engineering talent.

WHAT NEXT?

Judging by the abominable history of the software industry, Softtek's accomplishments might seem extraordinary. But the fact is, in any other industry this level of performance would earn only a passing grade. Just delivering quality products on schedule and within planned costs is what product developers are paid to do. For software work, however, this is a significant achievement, and it is one that all businesses must soon learn to achieve with all types of knowledge work.

As you read this book, remember that the problems you face in the future will be different from and more challenging than those you face today. Chapter 2 describes the issues of managing organizations as they grow. It also discusses small businesses, bureaucracy, and the problems of managing and controlling a growing business. Chapter 3 gives an overview of knowledge work, how the knowledge-working teams of the future will work, and the issues those teams must address to be successful. Starting with Chapter 4, we describe how to change your organization to better utilize your knowledge-working people and to capitalize on the enormous potential opportunities of the knowledge-working economy.

SUMMARY AND CONCLUSIONS

This chapter describes why even very successful organizations face an urgent need to change, why these changes must be a high priority, and the issues to be addressed in making the changes. The chapter makes four principal points:

1. The corporate leaders of today are not likely to be the leaders of tomorrow because of the accelerating pace of industrial change, a phenomenon that Joseph Schumpeter called “creative destruction.”
2. As Schumpeter also pointed out, the rules of successful competition are changing, and the things that made today’s businesses successful are not the things that will make businesses successful in the future.
3. Businesses face two principal challenges in making the management changes that will allow them to remain competitive in the marketplace. The first challenge is managing the problems of size; this problem is discussed more fully in Chapter 2.

4. The second challenge is making knowledge work productive. As Peter Drucker said, this will be the decisive factor for future success. This topic is discussed further in Chapter 3, and the balance of this book outlines a strategy for addressing the challenges of managing knowledge work and knowledge workers.

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