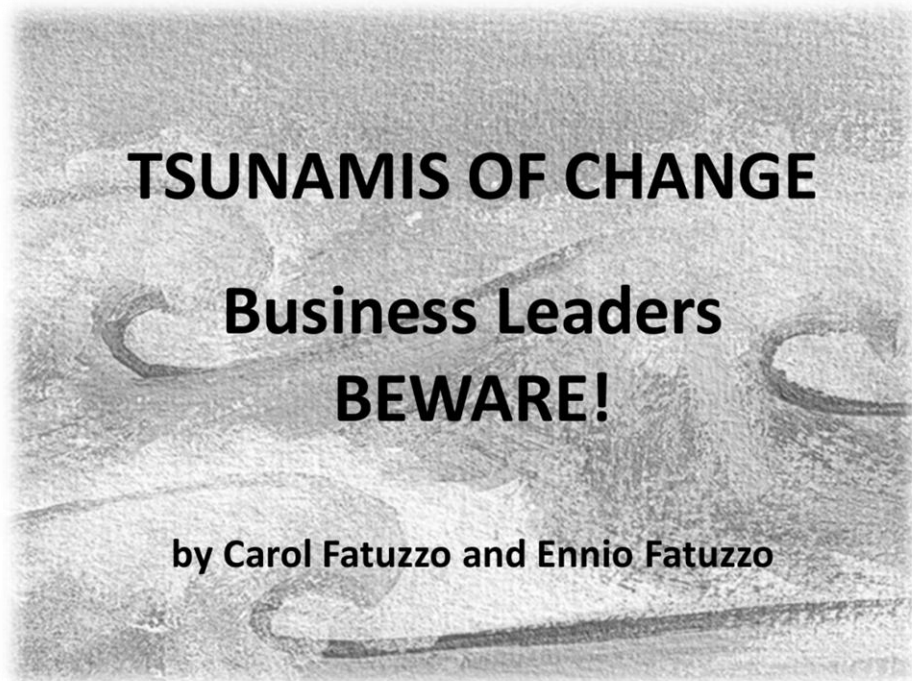




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## TSUNAMIS OF CHANGE Business Leaders BEWARE!

By Carol Fatuzzo and Ennio Fatuzzo

*“Whatever happened to Baldwin Locomotive? In 1917 it was one of the 100 largest corporations in America. But its executives insisted there would never be a replacement for the steam locomotive, and the business died when the diesel came along. Nothing is permanent in big business except change.” (Newcomb, P., “No one is safe,” Forbes, July 13, 1987)*

And sometimes good just isn't good enough. Once, a sleek sailing ship called the “Cutty Sark” was the ruler of the seas. But her dominance lasted only a short time. Whatever happened?

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*And  
sometimes  
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enough.*  
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The Cutty Sark was a three-masted clipper ship with the most advanced design of the times (1869). She was built to prove that sailing ships were superior in speed and reliability to the newly developed steam-powered ships – especially on the important tea-trade route between China and

England. And indeed, the Cutty Sark did outperform all steam ships of that time, at least for a while.

Unfortunately for the Cutty Sark, after only four years of operations, it was caught in the “Economic Panic of 1873” and the long depression that followed. Furthermore, during this same time period, the new steam ship technology kept improving, while sailing ships such as the Cutty Sark and their “old” technology did not change much. Soon steamships could travel at faster speeds than sailing ships and their performance did not

depend on weather patterns and wind velocity. Thus sailing ships were eventually completely outclassed and ended up in maritime museums or were scrapped altogether<sup>1</sup>.

This is just one example of how an emerging “disruptive” technology can impact a business based on old technology, especially when other events, such as a recession, occur at the same time. And, as is often the case, users of the old technology initially didn't even realize they needed to defend themselves against the new advances. Once they did, it was too late.

### DISRUPTIVE CHANGE

The sagas of the Cutty Sark and Baldwin Locomotive (see the quote at the beginning of the article) are “ancient” history, but there are many more contemporary examples of the birth of new industries and the deaths of others as a result of sudden waves of change in the business environment. These disruptive changes may be the result of new technology, but other factors such as economic downturns or episodes of war can create the spark that ignites the wave. And sometimes, as in the Cutty Sark example, external forces such as recession and the advent of a new innovation are so interwoven that their relative consequences cannot be easily separated.

As an example, consider Federal Express (now FedEx), a company born during a recession. Federal Express was founded by Fred Smith in Arkansas in 1971 and was moved to Memphis, Tenn., in 1973. This was the time when the oil crisis hit the U.S. economy, and businesses were under very strong pressure just for survival. That same year, Federal Express started offering to deliver packages overnight – an innovative new service that brought the company sizable success due to the recession-created need for electronic parts to be delivered rapidly to keep important businesses alive<sup>2</sup>. Through disruptive innovation, Federal Express created not only a growth business but also a new market. Was this success because of the environment brought about by the recession or in spite of it? It's difficult to say.

The automobile provides an example of interwoven innovations that combined to create an entire new industry. The invention of the automobile at the beginning of the 20<sup>th</sup> century was not enough, alone, to create great success. The gasoline-powered engine had been invented in Europe, and it was Karl Benz and Gottlieb Daimler of Germany who incorporated it into the first automobile. However, it was the Ford Motor Company that developed the vision for "assembly line production". Ford designed a car and built a factory based on this new concept. And in 1908, this factory produced the Model T Ford – a car much cheaper to build than any other, which made it the world's first "affordable" car. This "revolutionary" car was affordable even in the depressed economy that resulted from the Panic of 1907. Ford's manufacturing-based innovation quickly led to the birth of the modern automobile industry, the death of the "horse and buggy" era, and the rise to industry leadership of the Ford Motor Company, at least for a number of years. And all of this happened in spite of, or perhaps partly because of, the Panic of 1907<sup>3</sup>.

Then from cars came fast food. No name is quite as synonymous with food convenience and mega-success as "McDonald's". The first McDonald's was a drive-in restaurant opened in the midst of World War II (1940) by two

brothers (Richard and Maurice McDonald). Typical of the time, people drove to this restaurant but stayed in their cars to order and eat food delivered to them by "carhops." The brothers were successful with their drive-in but wanted more. And they were successful.

The McDonalds revolutionized the restaurant industry based on a **combination** of "new-to-the -world" concepts: assembly-line food preparation using unskilled workers instead of short-order cooks, a limited menu with items that could be prepared ahead of time, disposable "dinnerware" for serving food (paper and plastic), and self-service (i.e., customers had to stand in line for their food). This combination of concepts, which they called the "Speedee Service System", allowed the brothers to produce large quantities of food at low prices (less than half that of competing restaurants) and to serve it fast. This low price was important because the Second World War had rendered many families short of cash. In addition, the brothers positioned hamburgers as the food of choice for kids, instead of promoting them just as cheap fare. The first "McDonald's Restaurant" based on these innovations opened in 1948, as the economy was slowly recovering from the War, and was a huge success<sup>4</sup>. This was the beginning of the fast-food revolution that ultimately led to dramatic global success for McDonald's and the creation of an entirely new industry that continues to have far-reaching effects on the world's economy, health and social norms. Again, a combination of

*... a combination of innovations and external forces resulted in a giant wave of change.*

innovations and external forces resulted in a giant wave of change.

**What do the above examples have in common?**

The Cutty Sark, FedEx, Ford, and McDonald’s are but a few examples of how sudden and disruptive innovations and changes in the business environment can have a dramatic impact that reaches far beyond one company or one industry. We call disruptions such as these “**Business Tsunamis.**” Just like tsunamis in the ocean, Business Tsunamis are powerful waves of change that irreversibly alter the business

*Business Tsunamis are powerful waves of change that irreversibly alter the business landscape.*

landscape. These Tsunamis range from “global” waves caused by external forces such as economic downturns to more focused waves caused by the invention of a new technology, a new marketing concept, or some other disruptive innovation. But whatever their causes, these giant disruptive waves can create new companies and industries, provide dramatic growth for existing companies, or lead to the demise of a company or an entire business segment.

What does each of these examples have in common? INTENTION. Yes, the specific causes of the Business Tsunamis described above were different. In the case of the Cutty Sark, the Tsunami was triggered by the advent of new technology: the steam engine. In the case of FedEx the tsunami was caused by an innovative service solution to the need, during the recession, to keep businesses alive by the very fast delivery of important components. In the case of automobiles, the Tsunami was caused by a manufacturing innovation: mass production. And for fast foods, the Tsunami was the result of applying a combination of service, marketing, and manufacturing innovations to an existing business. However, all of these disruptive

changes were **created intentionally by companies.** "Intentional" Business Tsunamis, such as these, are the most numerous kinds and are the primary focus of the remainder of this article. However, as we have illustrated, it is important to keep in mind that the other kinds of Business Tsunamis, such as those unleashed on the corporate environment by governments or by an economic downturns, often interact with those intentionally created to produce devastating and far-reaching effects. But whether intentionally created or brought about by powerful external forces, Business Tsunamis are radically changing the landscape of the 21<sup>st</sup> Century. They are truly giant waves of corporate destruction, but they are also waves of opportunity – for those who can successfully “ride” them through the uncharted waters of today’s chaotic world.

**BUSINESS TSUNAMIS**

Business Tsunami initiating events are diverse – many intentional, some not. But whatever the origin, Business Tsunamis are ticking time bombs. They are created by disruptive events – although not all disruptions create Business Tsunamis. However, once unleashed, Business Tsunamis often demolish the companies in their paths or even entire business segments – although sometimes a company escapes and survives. But Business Tsunamis also can create new companies and industries and provide dramatic growth for existing companies. But whatever the cause, not all Business Tsunamis have the same impact. What are the characteristics of Business Tsunamis that lead to these different outcomes?

**Waves of Life: The Friendly Tsunami**

Whether unleashed by a disruptive innovation or some other kind of landscape-altering change, a “friendly” Business Tsunami is one that gives birth to new companies and sometimes entire new industries that can coexist with the old. The friendly Tsunami has created a **unique business space** (no direct competition). Fast-food restaurants are an

excellent example of this. The Fast-Food Tsunami gave life to the McDonald's that we know today and eventually resulted in the births of many other fast-food companies. However the impact on existing restaurants was minor.

However, although creating friendly Tsunamis offers the potential for great success, it also presents large business risks for the companies responsible. One reason is that the kinds of disruptions involved often must be fueled by new marketing approaches if they are to become full-fledged Business Tsunamis. This is primarily because truly new markets usually address unrecognized needs. 3M's initial struggles but ultimate explosive success with Post-it Notes®, is an excellent example of this kind of challenge<sup>5</sup>. But there are many other examples of potentially disruptive innovations that never had significant impact. In other words, just creating something new, no matter how disruptive, is not enough to unleash a giant wave of change.

There is another major risk for friendly Tsunami creators. Once a friendly Tsunami is unleashed, it creates large opportunities that quickly become apparent to many potential competitors. This leads to intense conflict among companies (established and new) wanting to conquer this new market. The creator who is riding its friendly Tsunami toward success must beware. IBM (the established company) fighting with Apple (the Tsunami creator) and with other would-be Tsunami riders (Compaq, DEC) for the personal computer market is a good example of the dangers<sup>6</sup>.

***Waves of Death: The Killer Tsunami***

When Business Tsunamis radically change existing markets or create new industries **at the expense of existing ones**, they are what we call "killer" Tsunamis. Although the sudden impact of these killer Tsunamis can give birth to new

companies, many established companies die in their wakes and entire industries may disappear – sometimes slowly and painfully. The Cutty Sark story related at the beginning of this article is an early example of an existing industry that was radically changed by a killer Tsunami. The impact of airplanes on the U.S. market previously captive to railroads is another.

When a company uses a disruptive innovation to create a killer Tsunami, the altered business landscape is characterized by intense competition and conflict. The Tsunami creator has a new "weapon" that gives it an advantage in the fight for market share. Other companies that rapidly change and either incorporate this new weapon in their arsenal or develop a better weapon will have a chance to survive and perhaps win. Those that don't will die. And those that use this new weapon first have the advantage – or do they? Creating and/or unleashing a killer Tsunami does not guarantee success in riding that giant wave of destruction and opportunity. In other words, although a disruptive innovation may be used to create a Business Tsunami, benefiting from that Tsunami

requires effectively applying a number of operational business skills. Just think about the unfolding battle to ride the E-Reader Tsunami<sup>7</sup>. The contestants: E Ink, the inventor of the enabling technology; iRex and Sony, the early market entrants; Amazon, the Tsunami creator; and Barnes and Noble and others, the would-be Tsunami riders. And the winner(s)? Will it be one of the early players, the Tsunami creator, or a later entrant? Will there be more than one winner? Only time will tell.

***Waves of Opportunity and Destruction***

In the end, the ultimate outcome of the impact of a Business Tsunami (whether friendly or killer) is a new equilibrium between the companies that have been born and those that

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***BUSINESS TSUNAMIS***  
*Waves of Life*  
*Waves of Death*  
*Waves of Opportunity*  
*Waves of Destruction*

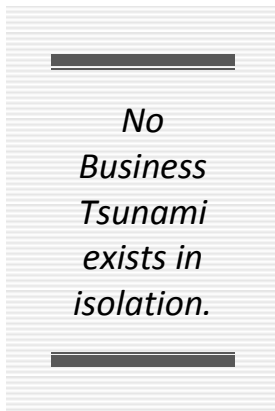

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have survived – the companies that have successfully ridden the wave of change. Those that have fallen from the wave or never saw it coming have become extinct and are soon forgotten. But BEWARE! This equilibrium isn't stable. Today, with increasing frequency, there are embryonic Business Tsunamis waiting to be unleashed. And these Tsunamis are likely to be more powerful than in the past, increasing the risks and opportunities for all companies in their paths.

What is giving rise to this increased instability? Increasing global interdependency, and the complexity and dynamic nature of today's business environment are part of the answer.

### INTERDEPENDENCY IN THE BUSINESS WORLD

Although the causes and impacts vary, Business Tsunamis all have one thing in common: **No Business Tsunami exists in isolation.**



Business Tsunamis all start with disruptions, but they would fade away unnoticed if the business environment around them were not radically changed. In addition, when intentional, these purposeful disruptions often are created from a combination of new ideas and innovations

that are translated from one industry to another. Without this diversity and connectivity in the corporate environment, the disruptive waves of change would be smaller and less frequent. So, to better understand Business Tsunamis (and eventually to cope with them) it is important to look at corporate interdependency in greater depth.

The business world is an interconnected environment where aggregates of companies interact with each other – sometimes in conflict, sometimes cooperatively. These companies relate to each other in many different ways – as

customers, competitors, suppliers, complementors, and technology developers<sup>8</sup>. We call this interwoven society of companies the “**Corporate Ecosystem**” because of its similarities with ecosystems in the natural world. Of course, it is obvious that this parallel isn't exact if one looks at the details of the business world. It would be pointless to look for similarities between an elephant or a fish and an actual corporation. However, by using examples from the animal world, one can begin to appreciate the **complexity of interactions** among real-world corporations.

Picture the great diversity in the animal kingdom: the rich variety of species and the interactions and dependence among all the species. And this diversity is not limited to morphological differences. It also includes the behavioral traits that dictate how species interact with their environment and each other to survive. This diversity can afford certain species a distinct advantage in a given region of the world, thereby forming, within each geographic area, a different variety of biological ecosystems. Each ecosystem is populated by a number of species coexisting and interacting. Corporate Ecosystems are not much different. There are a multitude of industries, many companies operating within each industry, and complex interactions among industries and companies. And, in the business world, geological, cultural, and political differences have given rise to unique concentrations of businesses - Corporate Ecosystems.

Just as different animal species are in equilibrium with each other in the animal kingdom, the different “species” (companies) in each Corporate Ecosystem are in equilibrium with each other. New companies are born, they develop and grow, they compete with or help each other, and they die or become “food” for other companies. In this way, diversity, conflict, and evolution are interwoven. But in a Corporate Ecosystem, as in natural ones, this equilibrium is not completely stable. There always is slow evolution which produces gradual change and leads to the eventual disappearance of some species (companies). This “slow death”

is called background extinction. But the types of changes leading to this gradual demise of companies are not disruptive enough to cause Business Tsunamis so will not be considered here.

More radical events do occur in natural ecosystems. Sudden disruptive changes can unleash powerful forces causing “mass extinction” of numerous species in relatively short time periods. The mass extinction of dinosaurs and many other species that happened 65 million years ago is the best-known example. The probable cause of this mass extinction was the combination of two disruptive events: the impact of a meteor in Mexico that caused earthquakes, tsunamis, forest fires, and more generally a complete change of the environment; and a series of climate-changing volcanic eruptions<sup>9</sup>. A new environment was created by this cascade of disruptive changes, and this new environment fostered new life that ultimately led to mankind – a species that probably would not have developed in the ecosystem of the dinosaurs.

Similarly, in Corporate Ecosystems, occasionally a disruptive event occurs that brings radical change. Sometimes these disruptive changes are the result of specific company actions, sometimes not – such as during a recession. But whatever the cause, when they happen, Corporate Ecosystems operate by the same fundamental principle as natural ecosystems: Species (companies) co-existing within an ecosystem will act in their own self-interest. One species will attack another when they are both competing for the same scarce resources.

## THE CHANGING BUSINESS ENVIRONMENT

In the bigger picture, Business Tsunamis within Corporate Ecosystems have existed for centuries. But recently, the overall business environment that influences the growth and character of Business Tsunamis has changed, and it will continue to change in the future. Additionally the **rate of change is accelerating**,

fueled by new discoveries and exponential advances in technology.

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technology.*

In this dynamic business environment, the importance of intellectual property, the intensity of global competition, and the negative consequences of wrong decisions are all increasing. At the same time, new science-based methodologies and tools for business management are being developed. All of these factors are combining to make today’s Business Tsunamis more frequent and more dangerous than those of the past, but they also are providing new capabilities that can enable leaders to ride these disruptive waves of change.

### **The Pace of Business**

Fueled by continuing technology advances, today’s world is very different than the one of just a few decades ago. Using satellite transmission, communication is instant, whether it is through television or the Internet. Rapid and relatively low-cost transportation is available using jumbo jets. Personal computers are pervasive. These advances and more have resulted in immediate access to information and the ability to quickly reach almost any part of the world – catalysts for creating societies that have a rapidly increasing pace of life.

The pace of business has increased due to this global “interconnectivity,” and will **continue to increase** as new technology-assisted methods are devised to perform the functions that make a business operate. For example, suppose the right kind of information was available to make good business decisions with twice the speed of

today's decision-making process. Corporations could more quickly and effectively revise strategies, start essential research and development (R&D) programs, make major investments, and implement successful marketing plans. Say the pace of R&D was increased through the use of artificial intelligence applied to analysis of data collected over the Internet, saving months or even years in the development of products. Suppose new manufacturing equipment was delivered in half the time it takes today and was immediately operational because of advanced computer-based design, prototyping, and testing capabilities and of delivery by air. All of these things and more are becoming possible, and each advance increases the pace of business. This has made *speed* a strong competitive



advantage, but it is more than that. It is now a key to survival of the corporate "species." The 21st century belongs to those companies that can adapt to this rapidly increasing pace of change.

### **Technology Advances**

In many of today's technology areas, change isn't just rapid. Advances are being made at **exponentially increasing rates**. New computer-based technologies with the ever more rapidly increasing processor speeds and hard-disk capacities are clear examples. Progress in the biological sciences and genetics provides other examples. There are many causes contributing to this "technology explosion:" more immediate access to more complete data, more researchers as laboratories become more global, and new technology that enables the

development of even newer technology (to list a few). Whatever the causes, many of these advances or combinations of advances have the potential to cause Business Tsunamis. As a result, technology-based Business Tsunamis will increase at an exponential rate in the future. And the future is now.

But advances in technology do not necessarily create Business Tsunamis. Technology advances can have significant impact in many different ways. For example, technology **evolution** (not disruption) occurring at a faster and faster rate can dramatically change a business environment. This often catches business leaders by surprise. These are the leaders who are used to planning competitive moves and forecasting the timing of incremental changes to their businesses based on the assumption that the current rate of technology change will continue. Soon they find themselves swallowed by a swelling wave of change rather than riding that wave. They are behind competition, and their products and services obsolete. They have forgotten that the rate of change itself is rapidly increasing.

### **Intellectual Property**

As technology advances on many fronts, more and more businesses are turning into increasingly "high-tech" operations. In this new kind of environment, intellectual property considerations have increased importance and must be factored into not only product-related decisions but also total business decisions. But what makes patents or other forms of intellectual property so much more important in these technology-rich environments?

The answer is related to the increasing pace of change. When technology is the basis for products and/or for basic business operations, patents can nurture and protect the business, can help create and sustain a Business Tsunami, or can block it. For example, where would Microsoft be today without patents? Although no kind of intellectual property will protect its holder from competition forever, in a business environment where speed is a key



success factor, patents can be effective weapons for **slowing down** the competition.

But to have patents (unless one acquires them) one must be **first** in the race for new technology. This consideration forces businesses to look for ways to hasten technology development. So as the race for patents intensifies, it increases the rate of technological advances which in turn increases the potential for Business Tsunamis – an ever increasing spiral.

**Global Competition**

As in the wild, competition continues to become more and more aggressive in Corporate Ecosystems as they are increasingly populated by species chasing after growth and profits in shorter time frames. Because of these demands, companies are scrambling to outperform their competitors – to invent better products, to produce them more quickly, to market them more efficiently, and to meet the high-quality levels customers expect.

However staying ahead is more difficult than it ever has been. With access to new technology, a **global** Corporate Ecosystem is quickly becoming a reality. All of a sudden, many more species (companies) are in the race for survival. And these species have developed in their own unique ecosystems (countries or regions), giving rise to business practices and goals that are different. So, when one of these species attacks outside of its own ecosystem, its “victims” often do not have the defenses or the experience to protect themselves. Thus the attacker quickly becomes the dominant species. When Ford led the automobile revolution, there was no thought about Japan. However today, car manufacturers beware! Japan is in the driver’s seat. But who will it be tomorrow – Korea, China, or ...? Globalization is changing the business landscape forever. And these changes,

often technology enabled, are happening with ever increasing speed.

**Risk**

Today, the risk of creating or entering new markets is much more substantial than in the past. This is partly due to the developing global economy mentioned above. This globalization can significantly increase potential market sizes, creating extremely attractive new business opportunities. As a result, more companies around the world are likely to be pursuing the same specific opportunity at the same time. Therefore, the risk of failure for any single company is higher than in the past. And a company’s probability of winning is significantly lower than in the days when it might have been a “lone pioneer”. In the global Corporate Ecosystem, there will not be many “lone pioneers.” However there will be a few and if they survive they will be winners.

Pursuing today’s larger opportunities also requires greater resources to be successful. This

results in the financial risk being much higher, sometimes high enough to place the entire company at risk. If the project fails, for whatever reason, that failure is costly. In the past, this type of risk could be minimized by under-resourcing a project. Of course this slowed progress, but it often didn’t matter. However in today’s faster-paced and more competitive business world, such an approach almost certainly will create a significant competitive disadvantage. This, in turn, will greatly increase the probability of a costly failure in the marketplace.

But not all companies want to create or enter new markets. Some are satisfied with their current business arena. In these cases, it is easy for a company to become a slave of its past and continually pursue business as it always did. But strategies and business methodologies that were once successful may not be applicable

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when the Corporate Ecosystem has changed significantly. Therefore, business leaders must recognize that there is increasing risk involved in attempting to manage their existing businesses as they have in the past. Why is this? In reaction to today's rapidly changing business world, stockholders are increasingly demanding higher and more consistent profits in shorter time frames. If companies don't produce these results, business leaders are likely to be replaced. This situation, along with the impact of globalization and the increasing pace of business, has changed the business "game". This increases the risk when managing existing businesses by using "old" methodologies. Ultimately, this "staying the course" when the business landscape is changing is the riskiest choice of all. Leaders who make this choice often find themselves in the path of a Business Tsunami. The outcome? Corporate death is the most likely.

A common thread involved with all of these increased risks in today's Corporate Ecosystems is "speed." Failure is not only connected to unsuccessful projects or making bad decisions. Frequently it is the result of making decisions too slowly or projects taking too long. In a highly competitive business environment that is rapidly changing, **a slow decision will always be a wrong decision** and being late to the market

*A slow decision will always be a wrong one, and being late to the market almost always assures failure.*

almost always assures failure. Just as in natural ecosystems, in Corporate Ecosystems the slow animal (company) will become food for the faster, more aggressive one. So to change and survive and then to ultimately win, management must make informed decisions and act quickly.

How should they do this? A more scientific approach and new computer simulation tools enabled by developing technology are some of the keys<sup>10</sup>.

#### IN THE PATH OF A TSUNAMI

Whatever happened to Allis-Chalmers? Fifty years ago, this farm equipment giant was one of America's 100 largest corporations. But the company closed its doors in the late 1980s. Its leaders had ignored the trend from small family farms to big agricultural enterprises – until it was too late<sup>11</sup>. And then there was Bethlehem Steel, an industry leading steel producer and shipbuilder whose final demise in the early years of this 21<sup>st</sup> century was the result of its inability to combat a combination of industry-changing factors: foreign competition, cheap labor, "mini-mill" manufacturing<sup>12</sup>. And now, what about companies like Kodak<sup>13</sup> or Motorola<sup>14</sup> or Blockbuster<sup>15</sup>? These and a growing number of other businesses are examples of previously healthy companies that are struggling as the result of sudden disruptive changes in their business environment – "**Business Tsunamis.**"

If there is a need for further evidence that Business Tsunamis are an integral part of business "normality" today, just start by looking at the "Fortune 500" list of 50 years ago<sup>16</sup>. Many of the companies on that list no longer exist – RCA, TWA, Studebaker, Woolworth's, Control Data Corporation, Polaroid Corporation, and the list goes on. Then consider current business statistics. Owners of businesses (small and large) file more than 200,000 bankruptcies annually, and that rate is increasing<sup>17</sup>. Many other companies just disappear – absorbed by a competitor or broken into small, unrecognizable pieces. Some of these "corporate deaths" were caused by internal issues or poor management, but many of the traditionally well-managed companies disappeared when they suddenly were attacked by new "species" of competitors born from Business Tsunamis and lost. These unfortunate companies were the ones that were in the paths of killer waves but didn't see them approaching. Suddenly they found their

Corporate Ecosystems shattered. Traditional management approaches and tools were inadequate for coping with the new situation, and corporate death was the result. Today, this has created a business climate where truly, **no company is safe.**



What can a company do today to avoid this fate? Both defensive (survive the Tsunami) and offensive (create and ride the Tsunami) approaches to business survival and success are usually necessary. But for business leaders in the disruptive 21<sup>st</sup> century, awareness and acceptance of the dangers and the opportunities are the first steps towards successfully **riding the tsunami of change.**

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