

A new planning paradigm: Economic Consequences of a Pandemic

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Introduction

At the time of this writing H5N1, known as Avian Flu, is spreading throughout Asia with one of the highest mortality rates of any flu virus of the previous century. Even the Influenza (Spanish Flu) of 1918 did not have as high a morbidity and mortality rate as H5N1 (Avian Flu). We are seeing almost daily some revelation from the World Health Organization (WHO) or Centers for Disease Control (CDC) or the popular media.

I recently wrote an article on the parallels that can be drawn between the impact of Hurricane Katrina and the aftermath of a manmade 'dirty bomb' attack (<http://www.continuitycentral.com/feature0247.htm>). Viruses mutate in order to adapt. It is the nature of a virus to survive and mutating is a virus' defense mechanism against manmade antibiotics. When H5N1 mutates to allow human to human transmission the stage will be set for a global pandemic.

In the aftermath of Hurricanes Katrina and Rita, New Orleans has been reeling from the devastation. In spite of significant warnings ahead of time, the city, the State of Louisiana and the Federal Government were overwhelmed by the impact of the direct hit by Katrina and the cascade effect of the rains from Hurricane Rita. Katrina, a category 4 hurricane, rendered effective allocation of resources and rapid response totally ineffective. Hurricane Rita's rains re-flooded an already devastated city.

The consequences of a rapid spread of H5N1 from a continuity planning perspective cannot be overlooked. If hurricanes Katrina and Rita put the people of New Orleans and the Gulf Coast in a fight for their very survival, what would a pandemic do?

Why is so much attention being paid to H5N1?

At present the transmission of H5N1 has been limited to animal/human transmission. This has limited the number of people who have become infected by the virus. Mortimer B. Zuckerman writes in the New York Daily News on 20 June, 2005, in his article entitled, "A Nightmare Scenario – H5N1 Pandemic" the following excerpt:

Should we sound the alarm for a worldwide epidemic that might not occur? There is no choice with the avian flu emerging from Asia. Should it adapt to be able to be transmitted from human to human, international health experts warn, bird flu could spark a global pandemic, infecting as much of a quarter of the world's population and killing as many as 180 million to 360 million people - at least seven times the number of AIDS deaths, all within a matter of weeks.

This is utterly different from ordinary flu, which kills between 1 million and 2 million people worldwide in a typical year. In the worst previous catastrophic pandemic, in 1918, more than 20 million died from the Spanish Flu. That's more than the number of people who died from the Black Death in the Middle Ages, and more people killed in 24 weeks than AIDS killed in 24 years.

There are three elements to a pandemic. First, a virus emerges from the pool of animal life that has never infected human beings, meaning no person has antibodies to fight it. Second, the virus has to make us seriously ill. Third, the virus must be capable of moving swiftly from human to human through coughing, sneezing or just a handshake.

For avian flu, the first two elements are already with us. Well over half the people who have contracted it have died. The question now is whether the virus will meet the third condition: mutating so that it can spread rapidly from human to human.

Table 1 reflects the latest statistics on H5N1 as of April 2005. The forecast, issued by the World Health Organization that accompanies the statistics reads:

The outbreak in Asia is not expected to diminish significantly in the short term. It is likely that H5N1 infection among birds has become endemic to the region and that human infections will continue to occur. So far, no sustained human-to-human transmission of the H5N1 virus has been identified, and no evidence for genetic re-assortment between human and avian influenza virus genes has been found.

Bird flu by the numbers

Number of human cases of H5N1 since January 2004:	88
Number of human deaths:	51
Number of suspected human-to-human transmissions:	2
Since December 2004 number of countries affected:	12
Number of countries with human fatalities:	3
Estimated number of international airline passengers per year:	1.6 billion
Types of antivirals that may be effective against bird flu:	2
Number of known bird flu types:	15
Number that can be fatal to humans:	1
Number of global dead in a best case pandemic scenario according to WHO:	2 – 7 million
Estimated global deaths during 1918-19 Spanish Flu:	40 - 50 million

Source: World Health Organization

It should be noted that the types of antiviral drugs that may be effective against H5N1 (bird flu) may have been diminished since April as the result of giving Tamiflu, one of the antiviral drugs, to infected birds in Asia. This should be of concern, as Tamiflu is being stockpiled by many countries as their first line of defense against H5N1.

It should also be noted, that of those who have become ill with H5N1, approximately half (50%) have died. The eventual mutation of H5N1 virus into a form that can be transmitted easily from human to human has experts around the world worried due to the high mortality rate. When this mutation occurs, the current worst case forecast is for a worldwide pandemic even worse than the Spanish Flu. Note that Table 1 provides an estimate of the global deaths that resulted from the Spanish Flu at 40 – 50 million. Recent worst case scenario figures for a H5N1 are in the range of 180 – 360 million. Table 1 give a “best case” scenario figure of 2 – 7 million deaths worldwide. Please take note, the figures are for deaths, not those who get infected and are able to survive. An H5N1 pandemic could affect between 20 – 50% of the total world population.

If H5N1 has a mortality rate even half of its current rate, estimates of the deaths worldwide will range from 40,000,000 to 100,000,000. Even more important experts are predicting that the morbidity rate will be around 33% of the population. In the United States, current medical facilities would be overwhelmed having to support over 80 million sick individuals.

But the World Health Organization issues these warnings all the time

Why should we as business continuity planners be concerned? The World Health Organization (WHO) issues many warnings, for example a recent WHO advisory stated:

The World Health Organization has warned of the rapid spread of an atypical strain of pneumonia which appears to be resistant to conventional treatments. Reports of the illness have been received from Canada, China, Hong Kong Special Administrative Region of China, Indonesia, Philippines, Singapore, Thailand, and Viet Nam. Businesses should be aware of the risk to staff, especially those that have recently traveled to any of the affected countries. The new disease could be the cause of a global pandemic.

A recent Reuters story entitled, “Bird flu ‘resistant to main drug’”, reveals that H5N1 is showing resistance to Tamiflu. The Lancet carried an article entitled, “H5N1 influenza pandemic: contingency plans” (*The Lancet* 2005; 366:533-534 DOI: 10.1016/S0140-6736(05)67080-8) written by Dr.’s **Kenneth WT Tsang**, University Department of Medicine, University of Hong Kong, Queen Mary Hospital, Pokfulam, Hong Kong SAR, China, **Philip Eng**, Department of Respiratory and Critical Care Medicine, Singapore General Hospital, Republic of Singapore, **CK Liam**, Department of Medicine, University of Malaya Medical Centre, Kuala Lumpur, Malaysia, **Young-soo Shim and Wah K Lam**, Department of Internal Medicine, Seoul National University College of Medicine, Korea, is highlighted below:

The current epidemic of the highly pathogenic H5N1 strain of avian influenza, with a mortality of 58%, appears relentless in Asia, particularly in Vietnam and Thailand.¹ Although inefficient, there is some evidence of human-to-human transmission for the H5N1 virus.² A possible catastrophic pandemic could, therefore, emerge should re-assortment of viral antigens occur resulting in a highly infectious strain of H5N1. Influenza pandemics in 1917–18, 1957–58, and 1968–69 have already caused approximately 15, 4, and 0.75 million deaths worldwide, respectively.

A vaccine for H5N1 will not be available in the foreseeable months. Even if pharmaceutical manufacturing begins soon after an outbreak, there would not be a sufficient supply for the countries most in need—ie, the Asian nations. Antiviral drugs are consequently the only specific treatment, pending availability of effective vaccines.

Governments and health agencies should also consider planning for clinical trials, for instance a combination of both neuraminidase inhibitors, with or without other potential novel drugs, such as short-interfering RNAs and interferon.³ These trials, if initiated at the early stages of a pandemic, could provide useful information for further patient and outbreak management in later stages. The geographic location of vaccine manufacturers in developed countries would also delay poorer Asian nations from obtaining the updated influenza vaccine. Perhaps vaccine and neuraminidase inhibitor manufacturing activities should also begin in Asia to deal with such deficiencies. The ethics of maintaining drug patents in a potential worldwide catastrophe is questionable. Epidemiological modelling suggests that influenza is more infectious than severe acute respiratory syndrome, and that severe acute respiratory syndrome infection control measures might not be adequate for a pandemic of influenza.¹² There will, therefore, be an overwhelming strain on health-care workers and hospitals in an H5N1 pandemic, and staff could be rapidly demoralised

and degenerate into deserters, if colleagues develop hospital-acquired H5N1 infection, especially if not given adequate intensive-care unit treatment.¹⁸ Protection of core personnel should also be planned to underpin recovery in the aftermath, when many key players in health care and governmental institutions would have perished.

Gardener Harris of the New York Times writes in his article of October 7, 2005:

A plan developed by the Bush administration to deal with any possible outbreak of pandemic flu shows that the United States is woefully unprepared for what could become the worst disaster in the nation's history.

A draft of the final plan, which has been years in the making and is expected to be released later this month, says a large outbreak that began in Asia would be likely, because of modern travel patterns, to reach the United States within "a few months or even weeks."

If such an outbreak occurred, hospitals would become overwhelmed, riots would engulf vaccination clinics, and even power and food would be in short supply, according to the plan, which was obtained by The New York Times.

The 381-page plan calls for quarantine and travel restrictions but concedes that such measures "are unlikely to delay introduction of pandemic disease into the U.S. by more than a month or two."

The plan's 10 supplements suggest specific ways that local and state governments should prepare now for an eventual pandemic by, for instance, drafting legal documents that would justify quarantines. Written by health officials, the plan does yet address responses by the military or other governmental departments.

Pandemic – Business Continuity Planners what are you doing?

We, as business continuity planners seem to be wary of addressing the issue of a pandemic as a viable scenario for planning. I recently did a tabletop simulation for a client and a presentation on pandemics at a business continuity summit for another client. The tabletop participants reflected on the experience and uniformly expressed to me that the tabletop was one of the most stressful and frustrating experiences that they had participated in. The business continuity summit attendees and many of the speakers who followed me, continued to comment on the material presented, stressing that they needed to rethink their plans. Participants in both events expressed the hope that a pandemic would not materialize.

Pandemics cause major economic losses due to absenteeism. Experts predict that during a pandemic up to 30% of the global workforce could either be off work due to sickness or stay away due to fear. Absence levels at the expected rates would cause severe problems.

The economic impact of H5N1 will be felt around the world. The impact will initially appear in two primary aspects of business. The first will be the availability of the workforce, the second and more unique impact will be in the market place.

Helen Branswell of the Canadian Press wrote on August 17, 2005 in her article entitled, "Flu pandemic could trigger second Great Depression, brokerage warns clients":

A major Canadian brokerage firm has added its voice to those warning of the potential global impact of an influenza pandemic, suggesting it could trigger a crisis similar to that of the Great Depression.

Real estate values would be slashed, bankruptcies would soar and the insurance industry would be decimated, a newly released investor guide on avian influenza warns clients of BMO Nesbitt Burns.

"It's quite analogous to the Great Depression in many ways, although obviously caused by very different reasons," co-author Sherry Cooper, chief economist of the firm and executive vice-president of the BMO Financial Group, said in an interview Tuesday.

"We won't have 30-per-cent unemployment because frankly, many people will die. And there will be excess demand for labour and yet, at the same time, it will absolutely crunch the economy worldwide."

A leading voice for pandemic preparedness said the report is evidence the financial and business sectors - which have been slow to twig to the implications of a flu pandemic - are finally realizing why public health and infectious disease experts have been sounding the alarm.

"I think that this particular report really signifies the first time that anyone from within the financial world, when looking at this issue, kind of had one of those 'Oh my God' moments," said Michael Osterholm, director of the Center for Infectious Disease Research and Policy at the University of Minnesota.

"The financial world is finally waking up to the fact that this could be the boulder in the gear of the global economy," he said, suggesting a pandemic could trigger an implosion of international trade unlike anything seen in modern history.

"All the other catastrophes we've had in the world in recent years at the very most put screen doors on our borders. This would seal shut a six-inch steel door," Osterholm said.

Cooper, a highly influential figure in the Canadian financial sector, wrote the report with Donald Coxe, a global portfolio strategist for BMO Financial Group.

They warn investors the economic fallout out of a pandemic would inflict pain across sectors and around the globe.

Airlines would be grounded, transport of goods would cease, the tourism and hospitality sectors would evaporate and the impact on exports would be devastating, Cooper wrote.

"This would trigger foreclosures and bankruptcies, credit restrictions and financial panic," she warned, suggesting investors reduce debt and risk in their portfolios to be on the safe side.

Absence of purchases due to illness and psychological reactions to a pandemic will present a new form of business impact that is currently not assessed as part of the traditional business impact assessment; and as such, it is not addressed in any business continuity, disaster, crisis management or recovery plans. Another area that has not been addressed in impact assessment or plans is the loss or restriction of a company's revenue. Traditional plans start with an assumption that the marketplace is still viable; a potentially false assumption. Traditional plans are designed to get an organization back into their market as quickly as possible – RTO, RPO and MTO come to mind (RTO = Recovery Time Objective, RPO = Recovery Point Objective, MTO = Maximum Tolerable Outage).

In the case of a pandemic markets may no longer be viable. If your market is materially impaired, a consequence is that the revenue that is derived from that market may be restricted and/or completely gone.

In another article, published on October 7, 2005 (NewsTarget.com) entitled, “Economic Shock Waves From Avian Influenza Spreading Faster than the Disease” the following is pointed out:

The Avian influenza crisis in Asia has already caused more than \$10 billion dollars in damage in the economies of the most-seriously affected countries, but this is just the tip of the iceberg compared with the possible global economic consequences of a human influenza pandemic according to a study, Thinking Ahead: The Business Significance of an Avian Influenza Pandemic, released today by Bio Economic Research Associates (bio-era™).

“According to the quantitative measures we developed for assigning relative economic risk exposure to infectious disease outbreaks for countries in Asia, Hong Kong and Singapore are especially vulnerable to the initial economic shock waves that would ensue from a pandemic,” said James Newcomb, Managing Director and principal author of the bio-era report. “However, the secondary impacts on other countries, especially China, could have far-reaching impacts for economies around the world, including the US,” he added.

Other key findings in the report include:

- ❑ Avian influenza is the latest in a series of major livestock disease outbreaks that have caused more than \$60 billion in economic damages worldwide over the past 15 years.
- ❑ Concerns about a possible influenza pandemic are already providing stimulus for increased spending and accelerated research and development efforts in some parts of the economy, ranging from custom microarray chips for rapid diagnostic testing to antiviral drugs.
- ❑ Governments around the world have recently made commitments totaling an estimated \$1.4 billion to stockpile oseltamivir (Tamiflu)—an antiviral drug produced by pharmaceutical giant Roche.
- ❑ Manufacturers of flu vaccines are gearing up for what may be an unprecedented global demand for a vaccine effective against H5N1 variants, but it is not known whether the vaccines being developed now would be effective against the influenza strains that might emerge.
- ❑ New “DNA vaccines” offer an alternative to conventional production technologies and could speed the vaccine industry’s ability to respond, but these technologies are not yet approved by FDA.

“We’ve been looking at how things might unfold under six very different but highly plausible scenarios for the evolution of the outbreak,” said Stephen Aldrich, President of bio-era. “In the process, we’ve made assessments of potential outbreak risk by country, the relative economic exposure by country — and how selected industries and companies are likely to be affected.”

We have not experienced this type of business problem in our lifetimes. The last generation to have to address such a widespread issue was that of our grandparents and parents during the Great Depression.

During the Great Depression the revenue component of the free enterprise system was significantly impaired. Just as important, today on a worldwide basis we do not have any leadership in business or government who has lived through the 1918 Spanish Flu Pandemic or the Great Depression and so that experience base is lost to us. Our best option, therefore, is to start to think about the possible problems we may have to confront and take steps to avoid or deal with them in our businesses. If we wait until the pandemic starts, it will be too late.

Even if a pandemic were mild, it is estimated that about a third of the world's population would fall sick over a period of months and millions would die. If the strain is virulent, the death toll could mount to several million, over a relatively short period. If we look at previous pandemics (Spanish Flu 1918 – 1919, Asian Flu 1957 – 1958, Hong Kong Flu 1968 – 1969) they generally run their course in 18 to 24 months. As an example, the economic consequences could be staggering; SARS wreaked economic devastation on affected cities and countries in a relatively short period.

The Health and Human Services Department plan outlines a worst-case scenario where more than 1.9 million Americans would die and 8.5 million would be hospitalized with costs exceeding \$450 billion.

Current Forecasts – Business Continuity Planners where can you add value?

We often use the phrase “value added” when we promote business continuity planning. We say that we “add value” to an organization by preparing it to respond and recover from incidents. At this time I think that we can earn our keep, so to speak, by providing that “value added” service that we speak of. Current forecasts predict that the H5N1 pandemic will spread around the world in a historically short period of time. One expert stated that if this pandemic is identified on the west coast of the United States it will spread across the country in a week. When SARS spread from China just a couple of years ago, it was in 5 countries in 3 days and in 24 countries in 3 months. Time to react will be virtually non-existent. And if we are to earn our merit as business continuity planners, we need to react now! The companies that survive this extraordinary disaster when it occurs will have heeded the words of Sun Tzu centuries ago, “Victorious warriors win first and then go to war, while defeated warriors go to war first and then seek to win.” Planning today will prove to be the only viable strategy to ensure a company’s “victory”.

What If...?

What if the pandemic does not materialize? Do we have the proverbial “egg on our face”? In the event that this pandemic does not materialize, your planning will not be lost. Most of it will be transferable. There will be future pandemics (and they occur approximately every 30 – 40 years) and to the ever present threat of terrorist attacks using chemical/biological/nerve agents. Business survivability in the face disasters is imperative to the economic strength of the world community.

We as continuity planners have an obligation to be forward thinking and to see what others choose not to recognize until it is upon them.

Steps to take...Now

The ability to effectively respond to and manage the consequences of an event in a timely manner is essential to ensure an organization's survivability in today's fast paced business environment. With the emergence of new threats, such as cyber-terrorism and bio-terrorism; and the increasing exposure of companies to traditional threats such as, fraud, systems failure, fire, explosions, spills, natural disasters, etc. an "*integrated*" approach to Business Continuity Planning is essential. The "*integrated*" approach, as presented in this article, is based on the concept of graceful degradation and agile restoration. "*Graceful degradation*" refers to the ability of an organization to identify the event, classify it into a level of severity, determine its consequences, establish minimal stable functionality, devolve to the most robust less functional configuration available and to begin to direct initial efforts for rapid restoration of services in a timely fashion.

Several steps can be taken to prepare your organization. First, put in place an effective surveillance program; meaning, expand your business impact assessment activities. In my article, "*Futureproofing*" - the Process of Active Analysis" written in 2003, I recommended that we rethink the business impact assessment process:

Traditional analysis such as that performed at the initiation of the business continuity plan development is recognized as necessary to develop a baseline of information. However, it should also be recognized as having certain limitations:

- *Pre-Event - Best guess as to what could occur*
- *Static - Best guess based on available facts and models*

Traditional analysis creates undecidability due to the inability to predict all behavior in a dynamic environment. Therefore one should adopt an *Active Analysis* methodology, such as that developed by Logical Management Systems, Corp. (LMS). LMS' methodology is based on the U.S. Military's "Joint Special Operations Targeting and Mission Planning Procedures" (JP 3-05.5 10 august 1993). It is detailed herein.

The advantages that can be realized by adopting this methodology and maintaining an active analysis process are:

- *Uses Static Analysis as a basis*
- *Touchpoint complexity factors*
- *Dynamic - based on creating a mosaic*
- *Time Factors (Time Critical, Time Sensitive and Time Dependent) act as drivers*

Termed "*Futureproofing*" by LMS the active analysis process is designed to create a mosaic that enhances decision making by identifying behavior patterns in a dynamic environment.

Active analysis can be subdivided into three categories of possible threats/occurrences that could befall an organization. Dr. Ian Mitroff refers to the three categories as Natural Accidents, Normal Accidents and

Abnormal Accidents. I have renamed them and to differentiate the three aspects of each. That is, the threat, the actual occurrence and the consequence of the occurrence.

- **Natural Threats/Occurrences/Consequences** consisting of such things as drought, floods, tornadoes, earthquakes, fires and other naturally occurring phenomena.
- **Normal Threats/Occurrences/Consequences** consisting of such things as Economic Disasters, such as:
 - Recessions
 - Stock Market Downturns
 - Rating Agency Downgrade, etc.Personnel Disasters, such as:
 - Strikes
 - Workplace Violence
 - Vandalism
 - Employee Fraud, etc.Physical Disasters, such as:
 - Industrial Accidents
 - Supply Chain
 - Value Chain
 - Product Failure
 - Fires
 - Environmental
 - Health & Safety
- **Abnormal Threats/Occurrences/Consequences** consisting of Criminal Disasters, such as:
 - Product Tampering
 - Terrorism
 - Kidnapping & Hostages, etc.Information Disasters, such as:
 - Theft of Proprietary Information
 - Hacking, Data Tampering
 - Cyber Attacks, etc.Reputation Disasters, such as:
 - Rumors
 - Regulatory Issues
 - Litigation
 - Product Liability
 - Media Investigations
 - Internet Reputation, etc.

Please note Abnormal Threats/Occurrences/Consequences are becoming more of the norm than abnormal as we see the normalization of threats such as hacking and data tampering.

Five key assumptions were used as a basis to for the developmental framework of the "*Futureproofing*" methodology. These are:

- **Assumption # 1:** The modern business organization represents a complex system operating within multiple networks

- **Assumption # 2:** There are many layers of complexity within an organization and its "Value Chain"
- **Assumption # 3:** Due to complexity, active analysis of the potential consequences of disruptive events is critical
- **Assumption # 4:** Actions in response to disruptive events needs to be coordinated
- **Assumption # 5:** Resources and skill sets are key issues

Based on the above assumptions and the results of the baseline analysis (static analysis) one realizes that the timely identification, classification, communication and response, management and recovery from a disruptive event are critical. As depicted in the graphic on the next page over time uncertainty will decrease, as will available options for response and recovery.

This is contrasted with increasing numbers of issues and higher and higher costs associated with response and recovery efforts. As such, an organization should seek to continually analyze situations so as to develop a clear picture of the current state of the business system network. Referred to as "Data Fusion - *Constructing a Mosaic*" by LMS; this is a process of getting enough bits and pieces of information in place in order to transform seeming chaos into recognizable patterns upon which decisions can be made.

Second, recognize that you cannot depend on public authorities (read this as government at all levels) to be there for your organization. They will have too many issues to deal with and they will also be impacted by the pandemic – remember that 30% of the population could be affected; that means that civil authorities are just as susceptible to contracting the disease. Your organization and its "value chain" must its own comprehensive plan for dealing with the business consequences of a pandemic. Rethink the basis on which you developed your plan – talk to the risk management and strategic planning personnel in your organization and find out what they are looking at with regard to business expansion, contraction, risk mitigation, etc. They should be very conversant as a result of the recent hurricanes, earthquakes, tsunami and general competitive forces in the economy. Revise your business continuity plan. Develop the ability, as an organization, to sequence back your operations while ensuring that your business system and its network ("value chain") can maintain level of functionality while operating at reduced capability. When your business system and its network reaches the state of minimum functionality, the organization can begin to conduct a campaign of "agile restoration" until it achieves a state of full functionality and a return to normal operations.

If you do the first step, putting in place an effective surveillance system, you will develop "detectors and indicators of change" metrics that can be employed to facilitate the constant analysis of the state of the business system and its complex "value chain" network. The "detectors and indicators of change" provide the early warning basis for event classification at the lowest (least severe) levels.

Third, train, drill, exercise. All the planning in the world is never going to be effective unless it can be implemented. One key to implementation is having a trained organization. That means that we have to train not only the primary position holders in our organization, but we have to train the secondary and even a third level within the organization.

If Only We Had Known...A New Paradigm for Planning Strategists

In my latest book, “Integrated Business Continuity Planning: Maintaining Resilience in Uncertain Times” I asked:

“Is Business Continuity integrated into your business operations as a way of doing business; or is Business Continuity an adjunct to the business that you are involved in?”

As you ponder this question, you need to reconsider the value proposition offered by having an integrated approach to business continuity.

I offer the following definitions for the purpose of this article and as a basis for developing an “*integrated*” approach to continuity:

***Crisis:** “A disruptive event that is amplified, elevated and magnified.”*

***Business Continuity:** “All initiatives taken to assure the survival, growth and resilience of the enterprise.”*

Executives have an obligation to their stakeholders to assure that everything that can reasonably be done to protect the business and ensure its competitiveness in the marketplace is done. Unless executives rethink the relationship between how they do business (strategy, competitive intelligence, etc.) and the way they currently address business continuity (managing disruptive events, security, etc.), the imbalance between “security” and competitiveness will not be resolved. Therefore, businesses must rethink their recovery strategies to be able to deal with and survive pandemics. This is a whole new paradigm for planning strategists.

The table below is a look into the proverbial “crystal ball” at what could be some of the possible outcomes when the pandemic strikes.

Economic Effect of a Pandemic – Business Continuity Planning Analysis			
Segment	Short-term Effect	Long-term Effect	Analysis
Commercial Real Estate	Demands for office space will potentially decline in affected areas. Suburban areas may see an increase in demand due to businesses relocating from areas that have been quarantined.	Fixed costs for businesses holding leases will remain the same, even in the face of declining occupancy and declining revenue.	Presidential Executive Order: Amendment to E.O. 13295 Relating to Certain Influenza Viruses and Quarantinable Communicable Diseases Subsection C added: <u>“(c) Influenza caused by novel or reemergent influenza viruses that are causing, or have the potential to cause, a pandemic.”</u>

Economic Effect of a Pandemic – Business Continuity Planning Analysis (continued)

Economic Effect of a Pandemic – Business Continuity Planning Analysis			
Utilities (Electric, Gas and other infrastructure power supplies)	Potential loss of worldwide workforce could see system degradation due to lessened ability to respond to normal maintenance and emergency situations.	Loss of expertise within the workforce could result in a permanent destabilization of the energy sector, leaving it more susceptible to disruption than at present.	Utilities in general, need greater business continuity assistance due to the lack infrastructure being replaced. Integrated grid systems are susceptible to disruptions that can cascade throughout a system quickly.
Energy Industry (Oil & Gas)	Potential loss of employees worldwide due to pandemic could cause inability to meet demands resulting in higher prices for energy and related products.	Potential long-term demands may not reach current levels as a result of loss of life worldwide. Fixed costs for businesses would remain the same regardless of utilization or demand.	Worldwide refining capacity is currently under pressure. A pandemic could see facilities forced to shutdown either by quarantine or due to lack of workforce. Dependence on information systems to operate facilities, pipelines, etc. creates security vulnerabilities for this industry.
Communications Industry (Voice, Data and other information systems, etc.)	Potential increase in demand due to pandemic causing more people to work remotely, greater need for information, greater need to communicate with others. Potential loss of worldwide workforce due to pandemic.	Fixed costs remain unchanged regardless of demand. Due to potential loss of workforce, system reliability may be impaired.	Heavy dependence on information systems for operations creates security vulnerabilities for this industry. Loss of skilled workforce creates potential system vulnerabilities.
Banking & Finance	Potential demands for cash can outstrip the amount of cash in circulation. Credit and Debit systems (cards) use could decline as a result of pandemic. Volume based businesses could see a decline in revenue (i.e., SARS created decline in volume for many car companies). Potential for significant short term disruption to economies worldwide.	Potentially having to live in a cash society (i.e., earthquake aftermath) could create continued high levels of demand for cash. Potential for inflation remains high. Businesses impacted due to loss of workforce and falling revenue. Markets worldwide could see significant declines that will last for long periods. Potential for long term disruption to economies worldwide.	Heavy concentration in large metropolitan areas, dependence on information systems for operations, low reserves of cash could create vulnerabilities. Loss of workforce due to pandemic could create inability to function effectively.
Transportation	Pandemic could be the single most devastating event for this sector ever. Quarantine, flight restrictions, lack of workforce, inability to ship goods to markets, lack of security of Intermodal systems could create havoc with businesses and consumers. Shortages would occur immediately (i.e., hurricane effects)	Air, land, sea transport potentially effected in such a way that they never recover. Cargo security will be a high profile area. Port, distribution and staging areas will receive heightened scrutiny due to the high potential for transmission of virus tainted produce at these touchpoints.	Quarantine could have devastating effects. Difficult to ensure security, information systems are vulnerable. Human resource issues will be ongoing concern.
Water Supply Systems	Potential loss of worldwide workforce could see system degradation due to lessened ability to respond to normal maintenance and emergency situations.	Loss of expertise within the workforce could result in a permanent destabilization of the energy sector, leaving it more susceptible to disruption than at present. Water systems would remain highly vulnerable due to a lack of security resources.	Water systems need greater business continuity assistance due to the lack infrastructure being replaced. Potential loss of workforce has long term impact on water systems resulting in degradation to service.
Emergency Services	Potential loss of worldwide workforce could see system degradation as demand for service would escalate to unprecedented levels. Hospitals worldwide could not manage the amount of patients. Possible collapse of medical systems worldwide. Lack of antiviral drugs would have immediate impact. Police, fire and other services could be severely impacted due to loss of workforce at a time when demand escalates.	Potential loss of worldwide workforce could see system degraded for a long period even in the aftermath of the pandemic. Demand for general services would be impacted. Hospitals worldwide would take long periods to recover. Possible long term collapse of medical systems and healthcare worldwide. Lack of antiviral drugs would have long term impact. Police, fire and other services would be short of employees for long period.	Degradation of Emergency Services combined with degradation Transportation could present significant infrastructure concerns for continuity planning efforts. Possible return to late 19 th century medical services capabilities due to loss of skilled workforce. Significant regional and local impacts for continuity planning.

Economic Effect of a Pandemic – Business Continuity Planning Analysis (continued)

Economic Effect of a Pandemic – Business Continuity Planning Analysis			
Continuity of Government	Potential collapse of governmental control worldwide. Use of military by governments worldwide to maintain order could result in negative effects. Loss of workforce could create inability to implement current pandemic plans. Possible inability to protect population and infrastructure.	Demands for action will grow; lack of antiviral medication could have major negative impact. Potential chaos with targeting of government facilities for disruption. Worldwide tensions as scarce resources are in demand and loss of population leave governments vulnerable.	Disruption of government could happen, although it is difficult to foresee a total collapse. Governments worldwide would be under tremendous stress. From a continuity planning perspective, the need for collaboration would never be greater. Government could invoke orders to force business cooperation (i.e., U.S. Presidential Executive Orders)

Conclusion: Seize the Initiative - It Makes Sense

A Chinese proverb states that "*Opportunity is always present in the midst of crisis.*" Every crisis carries two elements, danger and opportunity. No matter the difficulty of the circumstances, no matter how dangerous the situation... at the heart of each crisis lays a tremendous opportunity. Great blessings lie ahead for the one who knows the secret of finding the opportunity within each crisis.

Today business leaders have the responsibility to protect their organizations by facilitating continuity planning and preparedness efforts. Using their status as "leaders," senior management and board members can and must deliver the message that survivability depends on being able to find the opportunity within the crisis.

Market research indicates that only a small portion (5%) of businesses today have a viable plan, but virtually 100% now realize they are at risk. Seizing the initiative and getting involved in all the phases of crisis management can mitigate or prevent major losses. Just being able to identify the legal pitfalls for the organization of conducting a crisis management audit: can have positive results.

We cannot merely think about the plannable or plan for the unthinkable, but we must learn to think about the unplannable. Business continuity planning must be overlapping in time, corrective in purpose complimentary in effect.

About the Author

Geary W. Sikich is the author of "*It Can't Happen Here: All Hazards Crisis Management Planning*," "*Emergency Management Planning Handbook*" available in English and Spanish-language versions and, "*Integrated Business Continuity: Maintaining Resilience in Uncertain Times*," www.Amazon.com and over 150 published articles. Mr. Sikich is the founder and a principal with Logical Management Systems, Corp. (www.logicalmanagement.com). He has extensive experience in management consulting in a variety of fields and consults on a regular basis with companies worldwide on continuity and crisis management issues. He has a Bachelor of Science degree in criminology from Indiana State University and Master of Education in counseling and guidance from the University of Texas, El Paso.

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