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Y2K: Leadership in an Emergent Crisis
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Abstract

The Year 2000 crisis is often called the crisis that never happened. In this paper we will look at what made it a real crisis, share perceptions of the history of how crisis management and fear forced leaders all over the world to recognize and deal with this issue effectively. In a world facing rising fears over similar problems such as global warming and rising international terrorism it becomes increasingly important to reflect on emergent leadership and their role in handling crises of this nature.

Y2K: Leadership in an Emergent Crisis

Crisis Led = Chaos Averted

Many think of Y2K as the crisis that never happened. There was no overwhelming collapse of any industry. No companies failed. No airplanes fell out of the sky. The US Special Committee on the Year 2000 Technology Problem called it a “crisis averted.” Was it then not a crisis? If it was a crisis, where were its leaders and what can we learn from them?

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It was a crisis, but one of a different sort than what we experienced with the loss of the the space shuttles or 9/11. We can learn things from the leadership that emerged to preventing Y2K from decaying into the type of crisis Shrivastava describes where leaders deal with a “barrage of urgent, unexpected and unpleasant events, allowing little time to organize or plan appropriate responses” (Nathan, 2000, p.12-6; Shrivastava, 1987). Its leaders dealt with Y2K as what he called a, “a low probability, high consequence event that is capable of threatening organizational legitimacy, profitability and viability.” For the leaders it was “an unstable time or state of affairs in which a decisive change is impending.” (Fink, 1986)

Looking for a way to explain what made Y2K a crisis I found Wernsman’s set of parameters that describe a crisis and the situation that had to be dealt with:

1. Event of major importance – computer systems
 - Proximity – Every person not totally isolated from technology was touched in some way by the threat.
 - Magnitude – The world-wide cost probably exceeded \$600 billion.
 - Impact – The infrastructure threat was to all levels of our society from the federal government to the individual.
 - Prominence – Nearly every person in the US new what Y2K was about and was able to talk about it.
2. High public visibility – Y2K was the subject of congressional committees, a special government taskforce, industrial watchdog committees, regulatory agencies, and national and international media.
3. High risk for organization – At one time it was feared that as many as 20% of all businesses would fail.
4. Unpredictable – Nobody really was sure what the ultimate impact would be, only what the risks were. (Wernsman, 2003).

Pauchant and Mitroff said that a situation is a crisis if it meets two conditions:

1. The whole system or organization must be affected or physically disturbed in its entirety.

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2. It threatens basic assumptions and a system's existential core -- members of that system need to be challenged to the point where they are forced either to realize the faulty foundation of these assumptions or develop defense mechanisms against these assumptions (Pauchant & Mitroff, 1992).

In the case of Y2K, the whole computing technology system was affected (Bergeon & de Jager, 1997, , 1999). Every programmer, systems analyst, product designer and technology manager was involved to various degrees. The primary assumptions destroyed were that we, as a nation, were not dependent on computing technology and that attention to that technology was not mission critical.

Umansky lists eight universal characteristics of a crisis:

1. Surprise – Organizations were typically surprised by the problem's complexity and scope. Most were surprised that few people were doing anything about it.
2. Insufficient information – The scope of the problem was known to only a few.
3. Escalating flow of events – What started out as a minor problem dealt with by programmers ultimately became boardroom concerns. Ultimately it was recognized that there were 35 separate aspects to the issue.
4. Loss of control – The capability to control and manage the problem ended at the door to the computer room. What others did (e.g., software vendors, suppliers, customers), when they did it, was up to them.
5. Intense scrutiny from outside – The government, bank, shareholder, and customer scrutiny probably exceeded national media coverage.

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6. Siege mentality – IT organizations were faced with an inescapable “deadline” business failure and/or loss of jobs if they failed.
7. Panic – In the closing weeks of 1999 many experienced growing concerns because they were not sure what would happen.
8. Short term focus – While the Y2K crisis emerged over the course of many years it did not become everyone’s focus until 1998 and it was over at 12:01am on January 1, 2000. (Umansky, 1994)

Hopefully I’ve justified the right to talk about Y2K as a crisis. I want to turn your attention to the leadership that emerged as the Y2K crisis progressed through the stages of crisis, and how these various leaders were involved in dealing with the risks. In describing these stages the widely overlapping dates are indicative of the experience of different industries and governments domestically and internationally.

How did leaders deal with these risks?

Stage 1 Pre-Crisis: Prior to 1994

Fink and others say there are only four stages of a crisis. Izett contends there is a fifth that is perhaps limited to emergent crisis. He describes a “Pre-Crisis” stage that occurs prior to the event or the knowledge of its circumstances (Izett, 2003). There were precursors of the problem that signaled Y2K’s circumstances and impact but these were either ignored or discounted. My own view is that the pre-crisis stage is one in which erosion, degradation or degeneration are either ignored or deemed to unimportant to be of concern.

The leaders who we would eventually owe so much to did nothing – these were the business and government software managers. They operated in a paradigm that accepted software problems as part of the background noise and work for the least experienced or least inconvenienced. Leaders focused on development and cared little about maintenance. The date problem was caused by a sort of ennui about what existed and was only concerned about what was needed next and how fast it could be delivered.

Software failures occurred, but these incidents were treated as simple “breakage” or software “bugs.” Financial institutions (banks and insurers) were among the first to experience software problems with long-term products that require dealing with dates later than 1999. Fixes were made as problems halted systems, and technicians fixed only

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what broke. The causes were attributed to obsolescence and encouraged thinking about replacement systems.

Some technical people anticipated a future impact, but their actions were limited by their authority to respond. Some expanded date fields and acquired more data storage capacity. Some modified date routines and recommended using them in future development. Curiously, nobody was tasked with looking at dates as an issue. Therefore, nobody was alerted to the pervasiveness of dates. The feeling was that it was a future problem to be dealt with when necessary. Internal programming staff and software developers continued to build applications using date processing that would fail when year 2000 arrived.

There was no upper management or public awareness of the approaching issue. Managers of the non-IT departments that used the software were not told about the problems because making changes were performed as “maintenance” – a catchall under which minor changes, technical enhancements and breakage were dealt with. Problem escalation was limited to the technical department. Many senior IT managers were unaware of problems occurring because of they could be quickly remedied.

Stage 2 Warning: 1993 - 1997

In Fink’s prodromal or warning stage the system becomes alerted to a problem. Warnings are more evident but usually no action is taken until the crisis moves to the next stage. (Fink, 1986) There are indications that an event or circumstance may, or could, cause a significant impact to the organization, and behaviors tend to be proactive (Izett, 2003)

Problem incidents increased, but few who recognized the span and depth of the issue were listened to. There was a lack of attention to what Seeger and Ulmer call the “ethical imperatives” of the situation. (Seeger & Ulmer, 2001, p. 369-76) Managers, an increasing number of which were not technology knowledgeable, still failed to look at the causes and were quick to assign blame. Not surprisingly, the technologists got it for incompetence and short-sightedness. The instruction was often, “You created the problem. You fix it.” The programmers were told to work it out as they went.

Leadership evolved outside of the software development system as service firms started to build Y2K offerings. I believe the first individual to assume Y2K leadership appeared at this time. His name is Larry Martin and headed a struggling software services firm called Data Dimensions, Inc. in southern California. In 1992 the company was asked to assist a health care provider perform a massive conversion of patient numbering for a healthcare provider, and “by the way” could you also expand the date fields and make sure the date processing worked for year 2000? It took little work to discovered an agonizingly complex situation that ultimately resulted in work for fifteen people for the next eight years.

Larry, an associate, got me involved, and at his instigation I was soon writing a bi-monthly information bulletin called the Millennium Journal as an advertising instrument.

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Each issue focused on one aspect of the date problem. The Journals were sent to major corporate and governmental IT organization leaders' desks. Our initial distribution was limited to the several 100 deemed to be potential clients. Most were just passed on to technical staff members without being read, but later we started getting requests for multiple copies for multiple managers in the organizations. By 1995 the distribution had hit 14,000.

On August 20, 1995 another Y2K leader emerged, Peter de Jager when an article he wrote about the date crisis appeared in a trade publication called Computerworld. Peter (a change consultant, public speaker and former programmer) had become appalled by the level of inactivity. He took up the banner and made informing the public about the Y2K issue his personal crusade. He was the person who started calling the problem "Y2K", and was initiator of the Y2K website that became so popular as an information resource and online forum.

Knowledge of the problem began expanding exponentially. Larry had early adopted a strategy that because we knew more about the problem that sharing knowledge was our strength. Between Peter and the Millennium Journal, the complexity issues were now public knowledge. Toward the end of this stage another group of leaders with an even stronger communication ability appeared –major hardware vendors. IBM issued a white paper to all their clients. Unisys made a video and sent it to all theirs. Senior managers everywhere were now asking for information from their technical staff. All the government organizations had now been put on notice.

By the end of 1995 Data Dimensions had made progress and counted a number of major companies as clients. They had also internationally franchised my most important contribution – a methodology for dealing with the issue. Based on the methodology and work up to that time Data Dimensions was able to issue a surprising cost estimates to customers and an estimate that the world-wide cost would be \$600 billion. A number of IT leaders, concerned about budget impact, were forced to weigh alternatives and escalate the problem to the top. Some leaders presented the Y2K as the opportunity needed to replace out-dated systems introducing a surge in software acquisition and development.

Major banks and insurance companies setup Y2K teams as more and more systems started halting when they did "look forward" date processing operations. As the number of software failures increased indifferent attitude began to change. But, the response was agonizingly slow. As late as 1997, Leon Kappelman, University of North Texas, and James Cappel, of Central Michigan University, were still urging the Society of Information Managers that there was an ethical imperative and obligation to get busy.

Stage 3 Crisis: 1997 – 1999

The acute crisis stage or crisis point is agreed to be the point of no return. At this stage some damage has been done and the general public is aware of the situation. (Fink, 1986) Behaviors are reactive, and the event begins to cause significant impact on the system. (Izett, 2003)

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Y2K had come out of the closet. Y2K was recognized as a threat both domestically and internationally. The press documented an increasing number of failures in various governments' systems, and the private industry became aware of problems in automated teller machines and cash registers as well as their software.

The risks were no longer perceived as just financial. Failure of missile failsafe systems and nuclear power plant shutdowns were feared. Some worried that the transportation systems could fail disrupting food and fuel. Casual conversation often included the Y2K topic.

Government's role in leadership started when Britain's Parliament was the first to discuss the issue and organize a national response. In the US, congressional leaders Senator Bob Bennett of Utah and Christopher Dodd of Connecticut formed a committee that held hearings. (I'd like to think I had a hand in that because I had forwarded a draft of the first book Peter and I were writing to another senator, John Luger of Indiana, who passed it along to them.) The committee became instrumental in tracking remediation progress and initiating legislation making ours a national response. The president named a coordinator, John Koskinen, who headed the administration's remediation task force. John was a gallant spokesperson whose leadership I'll compare to Mayor Guiliani during the 9/11 crisis. Alan Greenspan and the Federal Reserve Bank issued with banking regulations mandating response and audits.

The response became multi-national as the World Bank and the International Monetary Fund began questioning other governments about organized national responses. As each of the government organizations learned the complexity of the problem those with regulatory responsibilities were motivated to develop regulations. FEMA became involved in local planning for service outages and food distribution. Government agencies at the state and local level started work on emergency response to new conditions caused by computer failures.

Leadership at all levels and all industries finally joined hands to participate in preventing what they now saw as an approaching disaster. Perhaps the crisis became real to everyone when the lawyers issued warnings for failure to comply and began advising their clients on risk mitigation. The first Y2K lawsuits were filed, and insurance companies revised their business policies to limit liability. When these things happened, domestic and international associations and societies took on roles in coordinating information and experiences to their members. Every publicly traded company was audited for Y2K compliance and most placed a statement of compliance in their annual reports.

Contingency and disaster recovery planning commenced for many that were not involved with fixing the problem. Television reports motivated a growing public concern, and there were reports of growing panic. By this time there was a complete understanding of the problem and there were spokespeople that the press could go to get the facts.

Fortunately, organizations starting late to respond could now call on a variety of companies for additional experienced resources. Some commercial software vendors announced marginal product retirements forcing companies to find replacements. Plans

to replace proprietary software with purchased packages were accelerated also lowering the cost of repair. Software developers modified existing tools and built new ones to automate some Y2K tasks. By the end of this stage there were nearly 400 tools available to assist.

Unique to Y2K was the amount of information sharing. The Internet was used widely for the first time to help resolve a major problem. Technical staff shared lessons learned and solutions on the Internet. Peter's Y2K website was attracting 100,000+ accesses per month. Progress reports were posted on corporate websites for both internal and external consumption.

Stage 4 Recovery: 1998 – 2000

The chronic crisis or recovery stage is seen as the clean-up phase in which behaviors are typically reactive. This is the point at which the acute stage of the crises has passed and organizations focus on a return to normal operations (Izett, 2003). Investigations and audits may be conducted, media interviews granted and explanations developed. For some this is a time for recovery, self-analysis, self-doubt and healing (Fink, 1986).

As the final congressional report said, Y2K “caused a heightened level of knowledge among executive-level managers as to the importance and vulnerabilities of information technology. Critical infrastructure protection and other IT issues now rank higher among the mission priorities of corporate and government executives.” (Special Committee on the Year 2000 Technology Problem, 2000)

With the whole system now involved in fixing or replacing their software, the concerns turned to other matters outside the computer room. Businesses and institutions looked at their operating risks. The software managers led in educating their business partners to the risks and getting them to look at potential problems with equipment, suppliers and customers.

Major organizations tested supplier readiness. Some large firms surveyed suppliers looking for reassurance of Y2K compliance as a stipulation for remaining a vendor. Government agencies such as NERC and the Coast Guard issued guidelines for public and private firms involved in utility, port, airport operations. Banking regulators required all banks to: 1) assess commercial loan customer readiness, and 2) prepare portfolio and operational risk management plans. The SEC required audits to include assessments of Y2K preparedness.

Many equipment manufactures and engineers examined equipment for embedded processors. Equipment vendors tested their products and released their findings. Many provided upgrades for current products and issued notices to customers concerning equipment no longer manufactured.

Risk mitigation preparations geared up. Critical supplies were stocked up. Travel plans were curtailed and backup communication capabilities inaugurated. Many organizations acquired generators and implemented additional security arrangements.

Stage 5 Post Crisis: 2000

The final stage is called post-crisis or crisis resolution. The crisis passes and the system returns to normal routine operations, but where things are different (Fink, 1986). Izett sees behaviors as reactive at first, then shifting to proactive again. During this time there is often evaluation of effects of the crises on, and repair to, the system. (Izett, 2003)

While the technologists sighed with relief, and celebrated. Leaders aptly applauded their efforts and tried to determine if all the attention and effort had been justified. Post-mortems indicated that they were.

There were hundreds of software failures that briefly interrupted activities over the course of the first couple of months following the Dec.31, 1999 deadline. Repairs were handled by technical staff or vendors expeditiously. These failure were characteristic of the first warning events. Only a small percentage of problems reached public awareness. There was a lot of denial that any problems occurred in spite of press reports to the contrary.

Visionary leaders had not stopped with just fixing date processing. They used the infrastructure threat to assess a broad possibility of threat and develop far reaching plans and actually tested them. Many enjoyed substantial benefits from the Y2K crisis. Technologically, Y2K provided an impetus to the adoption of new technologies and new ways of writing programs. Senator Bennett included the following statement in February 28, 2000 press release.

“Alan Greenspan has been quoted as saying that in American industry at large, the effect of the Y2K remediation activity has caused American businessmen and women to understand their vulnerability and dependability on computers in a way that they had never understood before and that the investment of bringing everything up to the highest possible level is an investment that will pay significant financial dividends for the economy in the years ahead.” (Bennett, 2000)

Y2K preparations had significant affect on national disaster preparations:

- Existing emergency management systems were tested;
- Attention was given to emergency preparedness at individual and organizational levels;
- Disaster plans were revised and updated in many local communities and states;
- Relationships between various Federal Response Plan (FRP) agencies improved;

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- The infrastructure failure reporting system is adopted by FEMA and several states; and
- Emergency services improved their capability to function during major emergencies and disasters.

Many businesses now had crisis management plans that dealt with interruption of business risks related to computer failure, electrical systems failures, social disorder, and acts of crime or sabotage. Weatherford, of the National Association of Insurance Commissioners, reported that they used their Y2K Disaster Planning and Business Continuation Plan as their starting point in responding to 9/11 (Weatherford, 2002, p. 64).

Summary

Y2K shared many the characteristics of a sudden crisis. For many leaders the crisis was treated as an opportunity and many benefited from changes in the way their organizations worked and viewed technologies role. That we did not see Y2K manifest itself as a sudden crisis was due to many good things coming together as needed:

- Leadership evolved from opportunity and accountability.
- By the time the media became aware of the problem it was well understood and many were prepared to explain it and how it could be resolved.
- Tools and support resources were available when they were most needed.
- A holistic approach was taken to solve the problem.
- Both industry and government took responsibility handling it with confidence and urgency.
- Regulatory agencies and trade groups took the initiative in motivating action and providing guidelines.

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- Multi-national companies took leadership reducing global economic risk.
- Legal and economic risks were recognized in time to mobilize the reluctant.

Emergent crises are important because we are beginning to encounter them more often. Some we have to deal with at a corporate level. We see such an emergent crisis in Nike becoming a target of activism against sweatshop labor conditions; and at McDonald's and Starbucks becoming subjects of international angst concerning government policy. We can see broader crises that affect many currently in the warning stage such as the recent blackout that drew national attention to our eroding power transmission infrastructure. Preparing for emergent crises requires visionary leadership that takes the time to recognize an approaching crisis, leaders sensitive to systemic issues, leaders with a willingness to prepare for the unthinkable, and leaders that prepare their organizations to deal with the unexpected calmly and with confidence.

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Narrative Bio: For over 30 years, Richard – as manager, director, and executive leadership consultant – has been involved in change projects that have altered corporate management technology, organization behavior and the work environment. His work experience includes banking, public utility and transportation, automobile manufacturing, pharmaceutical (research and manufacturing) and telecommunications. He is presently working on a book about managing the enterprise as a system. He has spoken internationally, and authored two books and numerous journal articles on Y2K crisis management. He holds degrees in General Management (BS - Wayne State University) and Whole Systems Design (MA - Antioch University), and is a certified Organization Systems Renewal Consultant.

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