

Crisis Management

The Guardian Attitude of Management

Business success contains the seeds of its own destruction. The more successful you are, the more people want a chunk of your business and then another chunk and another until there is nothing left.¹

One of the prime responsibilities of a manager is to guard constantly against other people's attacks and to inculcate this guardian attitude in other people under his or her management. This was, probably, one of the most important lessons Andrew S. Grove, President and CEO of Intel Corporation learned from Intel's Pentium Flaw crisis in 1994.

The Crisis

1994 was a very special year for Intel. It was the year in which the company was ramping the Pentium processor into full-scale production. This was a major undertaking for Intel at that time. Everybody in the company was committed to it. Intel deployed heavy advertising in order to get the attention of computer buyers. Internally, the company geared up manufacturing plants at four different sites around the world. This project was called "Job 1" so that all employees knew where management's priorities laid².

On Tuesday morning, November 22, 1994 Andrew S. Grove while being at Stanford University's Business School, got a phone call from Intel's head of communications who wanted to talk to him urgently. She wanted to let him know that a CNN crew was on its way to Intel. They had heard about the floating-point flaw in the Pentium processor and they wanted to gather further information to blow up the story.

The Pentium problem first emerged when Thomas Nicely, a mathematics professor at Lynchburg College in Virginia, discovered that his three Pentium computers were producing erroneous results in calculations designed to identify prime numbers (a prime number is a whole number that can be divided only by 1 and itself, such as 2, 3, 5 or 7). Professor Nicely shared his finding on the Internet prompting near-hysteria among computer scientists. Intel's employees had found a string of comments on the Internet forum where people interested in

¹ Andrew S. Grove, *Only The Paranoid Survive*, Currency--Doubleday, 1996, p. 3

² *ibid.*, p. 12

Intel products congregate. The comments were under headings like *"Bug in the Pentium FPU"* (FPU stands for Floating Point Unit, and is the part of the chip that does the heavy-duty math).

Intel was already familiar with this problem, having encountered it several months earlier. It was due to a minor design error on the chip, which caused a rounding error in division once every nine billion times. When the company discovered the flaw, it mounted a major study to understand what *"once every nine billion times meant."* It found out it meant that an average spreadsheet user would run into the problem only once every 27,000 years of spreadsheet use³.

The Crisis Came to the Attention of the Press

Meanwhile, the Internet discussion came to the attention of the trade press and was described thoroughly and accurately in a front-page article in one of the trade weeklies. Within a very short time, the subject was picked up as a smaller item by other trade papers. Just a few days after Thanksgiving of 1994, every major newspaper started reporting the story with headlines ranging from *"Flaw Undermines Accuracy of Pentium Chips"* to *"The Pentium Proposition: To Buy or Not to Buy."* Television reporters camped outside Intel's headquarters. The Internet message had skyrocketed. Everyone in the United States keyed into this, and shortly followed other countries around the world.

To give you an idea of the extent of coverage the Pentium Flaw crisis was met with, I have chosen to present you some of the titles that abounded in the world's press:

- *"Pentium flawed, Intel admits."* - South China Morning Post, November 29, 1994.
- *"Intel should replace the 'Pentabug'."* - The Toronto Star, December 8, 1994.
- *"Chinese thaws and Pentium flaws."* - The Irish Times, December 12, 1994.
- *"IBM Stops Shipping PCs With Faulty Chip"* - Chicago Sun-Times, December 13, 1994
- *"IBM won't ship PCs with Pentium chips; Intel says firm's action is 'unwarranted'."* - Star Tribune (Minneapolis, MN), December 13, 1994.

³ *ibid.*, p. 12

- *"IBM stops selling computers with flawed Intel chip."* - The Boston Globe, December 13, 1994.
- *"IBM pulls Pentium plug; Claims rival's chip makes too many errors."* - The Gazette (Montreal), December 13, 1994.
- *"IBM pulls plug on Pentium shipments."* - The Guardian (London), December 13, 1994.
- *"Intel shares plunge on IBM worries over 'flawed' chip."* - The Independent (London), December 13, 1994.
- *"Article of faith challenged: The dispute over flaws in Intel's Pentium chip has alarmed the computer industry."* - Financial Times (London) December 14, 1994.
- *"Pentium Flaw Creates Confusion for PC Buyers."* - The New York Times, December 14, 1994.
- *"Chips are down at Intel as IBM pulls plug on flawed Pentiums."* - Sunday Times (London), December 18, 1994
- *"Volume of Pentium calls increasing; more reports of calculation errors surface."* - The Houston Chronicle, December 19, 1994.
- *"Intel Suffering From 'Chipwreck'."* - The San Francisco Chronicle, December 20, 1994.
- *"Intel commits great Pentium PC boo-boo"* - The Arizona Republic, December 21, 1994.
- *"Intel rushes to instruct users on replacing flawed Pentium chip."* - The Phoenix Gazette, December 21, 1994.
- *"Intel to Replace Chips; Firm Reverses Itself on Pentium Policy."* - The Washington Post, December 21, 1994.
- *"Intel's flawed Pentium / Intel puts chips on the table."* - USA Today, December 21, 1994.
- *"The real Pentium joke will be on the consumer."* - The San Diego Union-Tribune, December 27, 1994.
- *"Intel's misunderstanding of the market is what made a mountain out of a molehill."* - The Gazette (Montreal), December 28, 1994.
- *"Pentium fiasco: users faring better than Intel"* -Business Times (Singapore) January16, 1995
- *"Intel Earnings Decline 37% On Charge for Pentium Flaw."* - The New York Times, January 18, 1995.

Replacement Policy

At that time, Intel had adopted a dual approach in its replacement policy. The replacement policy was based on Intel's assessment of the problem. People whose use pattern suggested they might do a lot of calculations got their chips replaced. For other users Intel was trying to reassure them by walking them through the company's studies and analyses of the problem. At the end of November 1994 and during the first week of December, this dual approach seemed to work well.

On Monday, December 19, Intel changed its replacement policy. The company decided to replace anybody's part who wanted it replaced, whether they were doing statistical analysis or playing computer games. Within the next days, Intel built up a major organization practically from scratch to deal with the situation. The company had not been in the consumer business in any big way before, so dealing with consumer questions was not something they had ever had to do.

After December 19, Intel found itself in a situation of systematically overseeing the business of replacing people's chips by hundreds of thousands. The company developed a logistics system to track these hundreds of thousands of chips coming and going, and created a service network to handle physical replacement for people who did not want to do it themselves.

IBM Stops Shipments of all Pentium-Based Computers

The Pentium-Flaw problem reached a climax for Intel on Monday, December 12, 1994. That day IBM decided to stop shipments of all the Pentium-based computers. At that time, IBM has been one of the most important players in the PC industry. So, their action got a lot of attention. IBM's reaction to the Pentium-Flaw problem caused confusion and anxiety among people.

As if buying a personal computer hadn't been complicated enough, news came that one of the hottest products on the market -- the powerful Pentium computer chip -- was found by IBM Corp. to be so flawed that it halted shipments of machines using the chip. For retailers and computer manufacturers, the timing could not be worse, as the crunch holiday season reached its peak. And the computer world was reeling as IBM and Pentium-maker Intel Corp. squared off in a battle of the high-tech titans. *"You have two of the most powerful and significant (computer) players in a very public war,"* said industry analyst Drew

Peck of Cowen & Co. *"This has reached a new level, and is likely to spiral out of control."*⁴

Intel, which had spent hundreds of millions of dollars developing the top-of-the-line microprocessor - the *"brain"* that powers PCs - called IBM's decision *"unwarranted"* and reiterated its position that people who use Pentium-based computers at home and in the office were extremely unlikely to encounter problems.

Still, the news that IBM was backing away from the Pentium could only be a red flag for PC shoppers in the key Christmas selling season. For computer stores, this was do-or-die time. About 40 percent of computer sales to consumers occurred that month, reported a forecast by Link Resources, a New York research firm.

The War of Statements

Intel said the likelihood of a Pentium user encountering an error was only once in 27,000 years and that off-the-shelf software was not affected.

But, in its statement, IBM said tests conducted by its research division indicated that while Intel's descriptions of the flaw are technically accurate, there were many customer situations in which the risk of error might be significantly higher. Based on the tests, IBM said, Pentium customers using common spreadsheet programs could encounter errors as often as once every 24 days. *"We've conducted our own tests and concluded that the risk of error is significantly higher than previously thought and warrants today's actions,"* said Rick Thoman, IBM senior vice-president in charge of the company's PC business. In a statement that seemed certain to strike fear into the hearts of corporate computer users, IBM said: *"For a customer with 500 Pentium-based PCs, this could result in as many as 20 mistakes a day."*⁵

As the leading supplier of microprocessors, Intel had much at stake. IBM, in contrast, had little to lose. Pentium PCs accounted for only about 5 per cent of its PC sales. What is more, IBM was planning to launch PCs based on its own rival PowerPC microprocessors.

⁴ Della de Lafuente, *IBM Stops Shipping PCs With Faulty Chip*, Chicago Sun-Times, December 13, 1994, p. 47

⁵ Louise Kehoe, *Article of faith challenged: The dispute over flaws in Intel's Pentium chip has alarmed the computer industry*, Financial Times (London), December 14, 1994, p. 16

Some retailers said that IBM's announcement might be politically motivated because IBM's new PowerPC chip, developed with Apple Computer and Motorola Inc., would compete with Intel's Pentium chip. John Jones Jr., who followed IBM for Salomon Brothers, said Monday, December 12's announcement was in line with IBM's *"typical strategy of full disclosure"* to customers⁶. IBM's William Pulleyblank, director of mathematical sciences at IBM's research division, which studied the chance for Pentium errors said, *"Certainly, there are some applications, such as playing a game, where even if there is an error it won't affect your life particularly. But we're saying we do not want to impose any sort of judgment on our customers but let them make their own decisions."*⁷

"IBM is working hard to prove there is a difference in which company you do business with," said Richard Zwetchkenbaum, an industry analyst with International Data Corp. in Framingham. *"They're saying, 'we're not just out to make a buck. We're going to stand behind the products we ship.' I think the watchword at IBM is it doesn't matter whose name is inside, it's IBM outside."*⁸

In reply to IBM's move, Intel president and chief executive Andrew S. Grove shot back that, *"You can always contrive situations that force this error. In other words, if you know where a meteor will land, you can go there and get hit."* Later, Grove said, *"this is probably a very important moment in Intel history as we evolve into a consumer company. I wish it was a little less painful."*

IBM said that it shared preliminary results of its tests with Intel. However, Andy Grove said that Intel first learnt of IBM's decision to halt shipments via news wire services on Monday morning, December 12, 1994 and that IBM refused to supply Intel with details of its tests.

"Microprocessors have quite clearly become a part of every person's life, a very high profile consumer item and that has raised the level of expectation forever," said Andy S. Grove. *"This incident and the exposure it has received globally will have a lasting impact on the design, verification and manufacturing of microprocessors - everybody's microprocessors. The Pentium is the most tested - and I believe the best - microprocessor that has ever been manufactured in the world,"* Mr. Grove claimed. *"But there is no such thing as a perfect*

⁶ Della de Lafuente, *IBM Stops Shipping PCs With Faulty Chip*, Chicago Sun-Times, December 13, 1994, p. 47

⁷ Aaron Zitner, *IBM stops selling computers with flawed Intel chip*, The Boston Globe, December 13, 1994, p. 1

⁸ *ibid.*, p. 1

microprocessor. It is almost impossible to ensure that there is no tiny flaw in chips of this level of complexity, which contain more than 3 million transistors on a tiny square of silicon. This is probably a very important moment in Intel history as we continue to evolve into a consumer technology company. The company is learning some painful lessons about how to deal with the concerns of the buying public," Intel's CEO acknowledged⁹.

William Kahan of the University of California at Berkeley, one of the nation's experts on computer mathematics, expressed skepticism about Intel's contentions that the error would only occur in extremely rare instances. *"These kinds of statistics have to cause some wonderment," he said. "They are based on assertions about the probability of events whose probability we don't know."¹⁰*

The Frustrated Public

Scare and perturbation were the dominant feelings among Intel's people. Intel's employees had to face their friends and families who gave them strange looks about the situation the company had found itself in. The company's employees, who were used to hear nothing but positive remarks when they said they were working for Intel, in December 1994 were hearing depreciating jokes like *"What do you get when you cross a mathematician with a Pentium? A mad scientist."* And *"How many Pentium designers does it take to change a light bulb? Answer - 1.945029994047, but that's close enough for non technical people."* Both the continuity and the intension of that kind of remarks had severely stroke employees' spirits. They felt that they were under siege-under unrelenting bombardment.

In the wake of Intel Corporation's vacillating response to the Pentium's mathematical disabilities, users seem to be faring better than the chipmaker. Regardless of the variety of jokes on Intel's Pentium flawed chip, one point was made almost universally by most Pentium users: their confidence in Intel had been severely shaken. Damage to consumers' confidence in Intel indicated that alternate chip vendors were being considered in a new light.

- Should a buyer wait until Intel ships Pentium chips with the bug removed?

⁹ Della de Lafuente, *IBM Stops Shipping PCs With Faulty Chip*, Chicago Sun-Times, December 13, 1994, p. 47

¹⁰ John Markoff, *Flaw Undermines Accuracy of Pentium Chips*, The New York Times, November 24, 1994, sec. D, p. 1

- Should a customer instead had bought a machine using a fast 486-series chip, the previous generation of Intel chip, which ran most software applications nearly as rapidly as the Pentium did?
- Should a buyer had taken Intel's word that the problem occurred so infrequently as to be irrelevant?
- Or should a prudent buyer had played it safe and bought a Macintosh from Apple Computer Inc., the only PC manufacturer that did not use Intel chips at all?

The controversy created a crisis of confidence for the computer industry that could have had lasting effects. The ubiquitous microprocessor chip was not only the *'engine'* in most of computers. It, also, controlled a myriad of equipment ranging from car engines and aircraft controls to medical equipment and weapon systems. Scientists at the Brookhaven National Laboratory on Long Island got wrong answers in calculating the impact of colliding subatomic particles. Lorraine Junge, a senior member of the technical staff of The Aerospace Corp. of El Segundo, Calif., said *"I don't care if it's a billion years. We cannot tell our customer, the American military, that there may be a problem with the work we are doing."*¹¹

Aside from the Pentium users' telephone calls to Intel, the company faced a number of lawsuits: Product liability lawsuits were filed against the company, as well as two suits from shareholders. Florida Attorney General Robert A. Butterworth asked Intel to turn over its information on the Pentium chip and to explain how it intended to address consumer concerns, saying that many businesses, schools, state agencies and individuals had bought computers containing the chip. Deputy Attorney General Pete Antonacci added: *"It's coercive and unnecessary. They have to stop acting like a rinky-dink two-person operation in a garage and start acting like the major corporation they are."*¹²

A significant sign of rising concern was an announcement by Gartner Group, a high-technology consulting firm based in Stamford, Conn., that advised many Fortune 500 companies, recommending that its clients delayed purchases of Pentium-equipped computers.

¹¹ Laurie Flynn, *Volume of Pentium calls increasing; More reports of calculation errors surface*, The Houston Chronicle, December 19, 1994, p. 1

¹² *ibid.*, p. 1

Forces that Magnified the Pentium's FPU Flaw

What had happened? What was different at that time for Intel? Two big long-term forces created the conditions in which a tiny flaw in Intel Pentium's FPU mushroomed into half a billion dollars' worth of damage in less than six weeks.

The first was Intel's attempt to change people's perceptions on the company's products. The company had introduced a major marketing campaign -- the "*Intel Inside*" program --, which was the biggest campaign the industry had seen since the Pentium-crisis time. The campaign's aim was to suggest the computer user that the microprocessor that is inside his or her computer is the computer. Research ran by Intel by 1994 showed that the "*Intel Inside*" logo had become one of the most recognized logos in consumer merchandizing, up there with names like Coca-Cola and Nike. So when problems developed with the company's flagship microprocessor, the "*Intel Inside*" campaign pointed the users directly back to the company¹³.

The second factor that contributed to the Pentium-crisis was Intel's size. Over the years, the company had become the world's biggest microprocessor manufacturer. It had become gigantic in the eyes of computer buyers¹⁴.

Given the gradual nature of these factors, which over time added up to very large change, the old business rules no longer worked for Intel. New rules prevailed. The trouble was that not only the company's management did not realize that the rules had changed, but also they did not know what new rules they had to abide by.

Forces that Affect Business

Professor Michael Porter (C. Roland Christensen Professor of Business Administration at Harvard Business School) describes the forces that determine the competitive well being of a business. These are:

1. The company's existing competitors.
2. The company's suppliers.
3. The company's customers.
4. The company's potential competitors.

¹³ Andrew S. Grove, *Only The Paranoid Survive*, Currency--Doubleday, 1996, p. 18

¹⁴ *ibid.*, p. 19

5. The possibility that your company's product or service can be built or delivered in a different way; this is called "substitution."

Recent modifications of the theory about the forces that affect competition in business add a sixth force: the company's complementors. Complementors are other businesses from whom customers buy complementary products¹⁵.

The collective strength of these forces determines the ultimate profit potential of an industry. The crucial strengths and weaknesses from a strategic standpoint are the company's posture vis-à-vis the underlying causes of each force¹⁶.

Strategy formulation from the perspective of crisis management and communication requires that the crisis managers and corporate communicators devise a plan of action that includes:

- Positioning the organization through appropriate information management so that the organization's capabilities provide the best defence against the crisis.
- Influencing the balance of competitive forces through strategic moves before, during, and after the crisis so that the organization's positioning does not damage in a crisis.
- Anticipating shifts in the factors underlying the competitive forces and responding to them with the hope of exploiting them.

Strategic Inflection Point

"Strategic Inflection Point" is a time in a lifetime of a business when its fundamentals are about to change. A change in the fundamentals of a business is the consequence of a change in the forces affecting the business according to Professor Michael Porter.

How do you know that a set of circumstances is a *"Strategic Inflection Point"*? Most of the time, recognition takes place in stages.

- First, there is a troubling sense that something is different.
- After a while, there is a growing dissonance between what your company thinks it is doing and what is actually happening inside the bowels of the organization.

¹⁵ *ibid.*, pp. 27-29

¹⁶ Michael E. Porter, *On Competition*, Harvard Business School Publishing, 1998, pp. 21-39

- Next, a new framework, a new set of understandings, a new set of actions emerges. That usually triggers a new set of corporate statements, often by a new set of senior managers.

Given the amorphous nature of a "*Strategic Inflection Point*," how do you know the right moment to take appropriate action? According to Andrew S. Grove, unfortunately, you do not. But, on the other hand, you cannot wait until you know. You have to take action while your company is still healthy. That means acting when not everything is known. Which, further means that you will have to rely on your instinct and personal judgment, even though you believe in the scientific approach of management¹⁷.

Lessons Learned from the Pentium Crisis about the Importance of Strategic Communication

Most "*Strategic Inflection Points*," instead of coming with a bang (*signal*), approach on a little cat feet (*noise*). How do you know whether a change in the factors that affect your business is a signal or a noise? There is no other way to find out, but strategic communication¹⁸.

1. Figure out who your key competitor is, and find out through communication if your key competitor is about to change.
2. In an analogous fashion, find out if your key complementor is about to change.
3. Find out what the people around you in the organization perceive. Although they can come from anywhere in the company, Cassandras are usually in the middle management. They usually know more about an upcoming change than the senior management because they spend too much time "outdoors" where the winds of change blow. Because they are in the front lines of the company Cassandras also feel more vulnerable to danger than do senior managers in their more or less bolstered corporate headquarters. Factoring the news from the periphery is an important contribution to the process of sorting out a signal from a noise.
4. The more important tool in identifying a particular development as a strategic inflection point is a broad and intensive debate. This debate should involve technical discussions, marketing discussions, and considerations of strategic repercussions. The more complex the issues are the more levels of management should be involved because people from

¹⁷ Andrew S. Grove, *Only The Paranoid Survive*, Currency--Doubleday, 1996, p. 35

¹⁸ *ibid.*, pp. 101-120

different levels of management bring completely different points of view and expertise to the table. All sides cannot prevail in the debate, but all opinions have value in shaping the right answer.

5. Form a mental image of what your company should look like when you get through a crisis. This image not only needs to be clear enough for you to visualize it, but it also has to be crisp enough so that you can communicate it simply to your tired and confused staff. Capture the essence of the company and the focus of its business. Define what the company will be, and this can only be done if you define what the company will not be after a crisis.
6. Exploit the communications means of information technology. Incoming emails is a great opportunity to be exposed to ideas, thoughts, biases and preferences of a large number of people. What used to be referred to as "management by walking around" has to a large extent been supplemented by letting your fingers do the walking on our computer keyboard. Communicating strategic change in an interactive, exposed fashion is not easy. But it is absolutely necessary.

The Delay of the 820-Chipset

Intel has learned its lesson from the Pentium Flaw crisis in 1994. On September 27, 1999, Intel Corp. confirmed it was delaying the release of its Intel 820-chip set, saying it must resolve "*platform validation*" issues before shipping the product. Intel said the problem may result in memory errors.

The 820-chip set includes the technology for Rambus-based memory, which offers performance eight times faster than today's typical memory chips. People familiar with the matter expected the chip sets would not be ready until November 1999. It was unclear, however, whether Intel would also be forced to delay the planned October '99 launch of its higher speed microprocessors running at 733 megahertz. In tests of the chip set, Intel experienced memory errors when specific configurations of the chip set were run under heavy strain. Intel decided to delay the introduction while it works to identify the causes of the errors. PC makers were informed of the delay.

The delay could have fuelled demand for a lower-cost rival chip set and memory technology, dubbed PC-133, supported by Taiwan's Via Technologies Ltd. Micron Electronics Inc., a Nampa, Idaho, PC maker, which planned to release new computers with the PC-133 technology.

A Dell spokesman said the Round Rock, Texas, PC maker cancelled Monday's, September 27, 1999 planned rollout of new PCs and workstations after testing found undisclosed problems with the Intel chip set. *"Our engineers detected the problem early and we let them [Intel] know. They went back and did similar testing. They eventually decided not to introduce the chipset,"* spokesman Jon Weisblatt said. He declined to describe the flaw other than to say, *"They weren't going to pass the quality standards that our customers wanted."*

The Role of Intel's Public Relations Professionals

Intel's crisis of the Pentium Flaw in 1994 was a major technological crisis for the corporation.

- It was a crisis because it brought Intel into disrepute and had the potential to imperil the organization's future profitability, growth, and possibly, survival.
- It was a technological crisis because it was attributed to a defective hi-tech product, the Pentium microprocessor.

According to Charles Perrow¹⁹, a management expert on technologies, there are two features of modern technology that make it risky:

- The complexity of technological components, systems and subsystems.
- The tight coupling of these components, systems and subsystems in a way that a possible malfunctioning in one system or subsystem could trigger undesirable reactions in the entire interrelated system.

Intel could have avoided the Pentium Flaw crisis in 1994 if the role of Intel's Public Relations professionals had been multi-dimensional. For Harold Burson, Chairman of Burson-Marsteller, the PR people should²⁰:

- Serve as **sensors of social change** (like *"radar professionals"*)
 - They must be objective, analytical, and have a strong sense of reality.
 - They must keep the attention of an organization's management focused on the problem.
- Serve as **corporate conscience**.

¹⁹ Otto Lerbinger, *The Crisis Manager -- Facing Risk and Responsibility*, Lawrence Erlbaum Associates Publishers 1997, p. 11.

²⁰ Harold Burson, *The Role of the Public Relations Professional*, Published in Current Media -- A Publication of News USA, Fall 1996

- Serve as **corporate communicators**
 - Internally and externally
 - Their primary function as business communicators is to bring about understanding
- Serve as **corporate monitors**
 - They need to constantly monitoring the corporate policies and programs to make sure that they do, indeed, match public expectations.

The Characteristics of the Crisis

A crisis threatens high priority values of an organization. Intel's Pentium Flaw in 1994 set at stake corporate values such as:

- Organizational reputation
 - People awareness of the company
 - Favorable attitude toward the company
 - Positive attributes associated with the company
- The achievement of central goals of the organization
 - Profits
 - Growth
 - Survival

The Institute of Crisis Management defines a crisis as a significant disruption which stimulates extensive news media coverage and public scrutiny and disrupts the organization's normal business activities²¹.

According to Otto Lerbinger²², Professor of Crisis Management and Corporate Public Affairs (College of Communication in Boston University), the erosion of a company's reputation is the greatest danger in a crisis. Because a crisis endangers an organization's reputation, public relations professionals are always involved in crisis management.

- They provide information to the media with an eye toward how the reputation of the troubled organization will be affected.

²¹ Robert B. Irvine & Dan P. Millar, Ph.D., *Crisis Management & Communication -- How to Gain and Maintain Control*, International Association of Business Communicators 1998, p. 2

²² Otto Lerbinger, *The Crisis Manager -- Facing Risk and Responsibility*, Lawrence Erlbaum Associates Publishers 1997, pp. 6-16

- They also know the importance of communicating with all the stakeholders of an organization (stockholders, employees, government officials, local community, suppliers, dealers, others)
- They help devise strategies to enable an organization to repair its reputation.

Intel's Pentium Flaw crisis in 1994 had all three characteristics of a crisis:

Suddenness

When the crisis occurred it appeared to arise suddenly even though antecedent signs were present.

- A pattern of crisis might be that one of an unforeseen and sudden fact that erupts out of the blue.
- Another pattern of crisis might be that one of a build-up over time fact until a threshold is reached -- the cumulative pattern of the slowly reached crisis threshold.

Uncertainty

The crisis dealt with uncertainties, and, sometimes, with unknowns. Especially when an organization's environment is complex, managers might have difficulty in obtaining sufficient information about environmental factors and in predicting external changes.

In the Pentium Flaw crisis measuring uncertainty was difficult, but some attempts to predict the likelihood of certain kinds of repercussions were made by estimating statistical probabilities. Such reckoning, however, carried the danger that Intel's managers would give low-probability events insufficient attention.

Time compression

The seeming suddenness of the Pentium Flaw crisis amid great uncertainty aggravated already difficult decision-making with the urgent need to make decisions rapidly, lest the situation further deteriorated.

Contingency Planning

Among other things, Intel's Pentium Flaw crisis in 1994 indicated that the organization had no contingency plan for such a crisis. No matter how paradoxical it might sound, the world's biggest manufacturer of microprocessors had not planned any contingencies in the event of a technological crisis of the magnitude of the Pentium Flaw.

The overall purpose of a contingency plan is to recognize and address as many uncertainties and risks as possible so that management can maintain control over its affairs when a crisis strikes.

The necessary steps in contingency planning are²³:

1. Anticipation of what might happen.
2. Research for preventive and preparatory measures.
3. Drafting of appropriate responses to those situations most likely to occur or whose impact is greatest.

In the pre-crisis phase of crisis management there are seven essential components and steps of contingency planning²⁴.

1st. Identify all potential contingencies and areas of vulnerability

Specific vulnerabilities:

- A planning team representing all divisions of a company should meet and begin identifying every possible disaster or other crisis event that could occur.
- Organizational resources should be examined. Talk to people in your organization about "worst case scenarios," and prepare a list of the most likely crises that could occur in the company's various areas of operation.
- The organization should talk with local government officials and agencies, opinion leaders, trade associations, and other companies in the industry for information on past crises.
- The crisis management professionals should prioritize crises by level of severity: minor, serious, and major.

²³ *ibid.*, pp. 19-29

²⁴ *ibid.*, pp. 19-29

General vulnerabilities:

- Companies such as Intel, which is the most visible and prominent in an industry, are seen as "*public corporations.*" As is well known, big companies are the most likely targets of government and social action groups and receive the most media attention.

2nd. Establish crisis thresholds and assign crisis alert responsibility.

Specific individuals should be designated who have the responsibility to alert a crisis management team when specific thresholds are reached.

3rd. Organize and train a crisis management team and establish crisis communication center.

The core members of the crisis management team should be:

- The CEO or other senior operating officer
- The senior public relations or communications officer (CCO)
- The general counsel
- The head of the affected operating company
- The CFO
- The director of security
- The director of environmental affairs
- The director of engineering
- The director of human resources
- The director of marketing

Establish a crisis control & communication center -- "*war room*" -- that meets the necessary physical and equipment requirements.

Make the entire organization aware of the functions and relationships of the crisis management team and its various task forces

Train in media relations those to be asked questions by the media

Run crisis simulation drills

4th. Obtain in advance approvals for contingency plan measures from the governmental authorities.

5th. List and prioritize publics that must be informed.

The list should be reviewed from a crisis perspective and include:

- Those who must immediately be notified in order to protect life and property
- Those who should be informed as soon as the emergency allows (employees not at the crisis location, suppliers, distributors etc)

6th. Prepare a crisis media list and background press materials.

- Maintain an up-to-date list of media relevant to the company and industry listing every newspaper, radio, TV station etc.
- Background material on
 1. Physical plant
 2. Key personnel
 3. Products & Services
 4. Vital statistical data should be prepared, constantly updated, and readied for immediate distribution.
- Keep a list of experts -- "*high credibility persons*" -- and others whom the media can consult for technical details and for verification of various kinds of data.
- Prepare a list of space and equipment needs for the crisis and communication control center for use by the news media.

7th. Designate and train spokespersons.

A roster of persons who are likely to be called upon as spokespersons during a crisis should be prepared and trained to deal with the news media. For any given situation, the status of the spokesperson should match the seriousness of the situation (a local manager is inappropriate for a situation with national implications.)

In fact, contingency planning deals with answering in advance precisely and concisely crisis preparedness questions such as²⁵:

- What kind of management notification system do we have in place if a crisis occurs?
- What is our corporate emergency response plan?
- What internal problems or other vulnerabilities do we have that could be damaging to our business in a crisis situation?
- Who could be our spokesperson(s) in a crisis situation?
- How much information would we give out if we had a crisis?
- How would we contact our management and employees so they could hear from us before learning about the crisis in the news media?
- What crisis situations had similar organizations in the past?

Crisis Management & Communication

The elements of an effective crisis response are²⁶:

- Operational
- Management
- Communication

In effective crisis management the organizational response to a crisis is characterized by the integration and coordination of all the above three elements.

Silence by an affected organization works against it because the media and the public believe it has something to hide. Moreover, the first hours or minutes -- in fast-moving crises -- after a crisis event are of critical importance if an organization is to gain control over the reporting of the event.

Strategic thinking is an important part of crisis management and communication. Although the objective of crisis management and communication is to control damage to the organization's reputation, a supplementary objective is to use the occasion of media attention as an opportunity to publicize itself, that is, to tell the public about the organization's values, mission, and operation.

²⁵ Robert B. Irvine & Dan P. Millar, Ph.D., *Crisis Management & Communication -- How to Gain and Maintain Control*, International Association of Business Communicators 1998, pp. 18-19

²⁶ *ibid.*, pp. 14-16

When a crisis strikes, the occurrence of the strike should be confirmed, the crisis management team should be mobilized, and damage control efforts should be undertaken. The objective is to ameliorate the harm caused by the crisis event itself, and the secondary effects of the media coverage of the event. Public Relations' activities focus on media relations and the relationships with the organization's stakeholders.

According to professor Otto Lerbinger²⁷, the essential steps of crisis planning during the crisis phase of crisis management are:

1st. Ascertain and face up to the reality of a crisis.

Preliminary fact-finding is almost always necessary to ascertain the existence of a situation. Information must be verified by talking to any outsiders who are in knowledgeable position as well as relevant executives and technical people within the organization.

2nd. Activate crisis management team and alert top management.

- A 24-hour switchboard should be set up -- implementation of the contingency plan begins.
- Phone numbers contained in the crisis manual must be called according to the prearranged procedure of the contingency plan.
- Copy of the contingency plan should always be at hand of the crisis management team.

3rd. Designate crisis media center.

- Designate the central crisis media center.
- Designate the additional field media center (field press room) at the site of the crisis.
- Arrange for transportation and sleeping quarters for the media people towards and from the field press room if that is difficult to be accessed.
- List the equipment supplies and telecommunications connections required.
- List the members of the crisis management team to communicate with the public.

²⁷ *ibid.*, pp. 39-50

4th. Conduct necessary fact-finding.

Be ready to answer the 5-Ws:

- Who
- What
- When
- Where
- Why &
- How

Be ready to answer common questions such as:

- What happened, and what caused the crisis?
- How many casualties were incurred?
- What damage was caused to property and the surrounding environment?
- Do any public health and environmental danger exist?
- How are the rescue and relief operations proceeding?
- What consequences stem from the crisis?
- Who were the heroes and the culprits?
- What witness, experts, victims, others might be interviewed?

5th. Speak with a single voice.

The management should speak with a single voice even when more than one person is available as a spokesperson.

- Appoint spokesperson(s). The spokesperson(s) should be media savvy and comfortable in dealing with the media. The presence at the initial news conference of the organization's CEO is almost always mandatory, -- even when he/she is not the organization's spokesperson -- since he/she personifies the organization facing the crisis.
- An authoritative source of information must be available at the central media center all the time during the crisis -- when technical complexities exist, a technical expert may be appropriate.
- Backup persons should exist to support the primary spokesperson.
- All employees should be reminded that the media inquiries must be referred to the crisis media center.

6th. Quickly hold news conference and make disclosures to the media openly, honestly, and accurately.

- A news conference should be held as soon as possible.
- A media advisory should be issued notifying the media of the news conference (PR Newswire & Business Wire are helpful services to disseminate the advisory quickly.)
- Openness and honesty are essential to the organization's reputation.
- It might be necessary to counter the ingrained caution of legal advisors who are primarily concerned with the possibility of future litigation (crisis management must not be ruled by how the lawyers are going to argue lawsuits after an accident.)
- Give out as much information as you can. Do not interfere with the legitimate activities of journalists, but always escort them anywhere on the emergency site. Make positive efforts to provide assistance to the media.
- If unreasonable requests are made explain why they have to be turned down.
- Accuracy is important. Unconfirmed or speculative information should never be released. Keep, also, in mind that the organization has the right not to release confidential information.
- Communication must be prompt.
- The media should be monitored; if errors or inaccuracies are found in media statements, prompt action should be taken to correct them.

7th. Communicate directly with government, employees, customers, stockholders, and other key publics.

It is important to demonstrate cooperation with all local, national and -- when involved -- international safety authorities investigating the cause of the accident or the crisis event.

8th. Take appropriate remedial action.

9th. Keep a log.

A log must be kept of all the information received, procedures undertaken, and steps decided upon. Everyone involved in the crisis management should write down what he/she thinks and does. Log information is useful in evaluating how well the crisis was handled and in finding oversights and deficiencies.

Strategic Product Recall

The dual approach of Intel's replacement policy that was applied before December 19, 2000, was a major flaw in Intel's corporate performance. The Pentium Flaw crisis in 1994 revealed serious bugs in Intel Corporation, the behemoth of microprocessor manufacturing worldwide.

At that time, Intel was in the need of a strategy that cut across the company, addressing the implications of a recall for all relevant business functions.

Professors N. Craig Smith and Robert J. Thomas (McDonough School of Business at Georgetown University), and John H. Quelch (London Business School at London University) suggest a recall-management framework that could alleviate the bugs from corporate performance before, during and after crises such as Intel's Pentium Flaw in 1994²⁸.

Their proposition for strategic product recall considers four functional areas of corporate performance:

- Policy & Planning
- Product development
- Communications
- Logistics and Information Systems

The following tables describe concisely the strategic product recall framework.

	Before the crisis (readiness for recall)
Policy and Planning	Foster recognition of the importance of recall readiness.

²⁸ N. Craig Smith, Robert J. Thomas and John A. Quelch, *A Strategic Approach to Managing Product Recalls*, in Harvard Business Review on Crisis Management, Harvard Business School Press -- The Harvard Business Review Paperback Series, 2000, pp. 61-86

Product Development	<p>Assign recall responsibility.</p> <p>Develop and review recall manuals.</p> <p>Promote Total Quality Management, product testing, and study of yesterday's products.</p> <p>Explicitly consider product safety and traceability in the new-product development.</p> <p>Take possibility of recalls into account during new-product development.</p>
Communications	<p>Identify recall stakeholders.</p> <p>Build organization's credibility in the eyes of stakeholders.</p> <p>Incorporate recall into corporate crisis-communication plan.</p>
Logistics and Information Systems	<p>Provide for rapid notification of product defects.</p> <p>Test product traceability.</p> <p>Design systems to handle recalls.</p> <p>Consider staging mock recall to test systems.</p>

	<p>During the crisis (sound recall management)</p>
Policy and Planning	<p>Establish recall response team and determine seriousness of recall.</p> <p>Decide type of recall and scale of response.</p> <p>Develop recall plan and build commitment of it.</p> <p>Plan product reintroduction.</p>
Product	<p>Determine cause of defect.</p>

Development	Determine adjustment offer, including product replacement. Fix design flaws responsible for defect.
Communications	Quickly communicate awareness of problem and company responses to stakeholders. Select media and design messages. Announce recall. Report recall progress. Trace product.
Logistics and Information Systems	Set up recall-management information systems and logistics.

	After the crisis (recognize recall management's success)
Policy and Planning	Design resolution plan to close effort. Complete and implement plan for product reintroduction. Audit recall. Congratulate recall response team and thank participants.
Product Development	Identify glitches in the development process that led to product defect. Monitor customer satisfaction with product replacement and reintroduced product.
Communications	Reassure customers and other stakeholders. Tell success stories.

Rebuild or augment brand franchise through advertising and promotions.

Logistics and
Information
Systems

Maintain recall logistics beyond recall.

Document recall notification procedures.

Identify possible improvements in recall logistics and information systems.

Crisis Management & Communication on the World Wide Web

Intel's employees had found a string of comments on the Internet forum where people interested in Intel products congregate. Not until professor Thomas Nicely shared on the Internet his finding about the erroneous results in calculations designed to identify prime numbers did the Pentium Flaw crisis crop up.

Communication on the World Wide Web was a key-element in Intel's Pentium Flaw crisis in 1994. Crisis management and communication is not what it used to be. The Internet has changed crisis management and communication much as it has changed communication and interaction among people.

Experts on Brands and Brand Equity professor David A. Aaker (Haas School of Business at the University of California, Berkeley) and Professor Erich Joachimsthaler (Darden School of Business at the University of Virginia) agree that despite the World Wide Web's relatively recent arrival on the consumer landscape, it has had a major impact on brands and brand building²⁹. In the digital age, the strong brands will be those that best utilize the Web as a building tool.

Compares to other media, the World Wide Web has unique characteristics. It is a prominent medium which transforms linear communication into interactive experience. The World Wide Web:

- Is interactive and involving
- Offers current, rich information that cannot be found anywhere else and
- Personalizes the experience of two-way communication.

²⁹ David A. Aaker and Erich Joachimsthaler, *Brand Leadership*, The Free Press, 2000, pp. 230-237

Professors Aaker and Joachimsthaler list six tools for building brands in the Web, which should be also considered as tools for crisis management and communication. These tools are:

tool	brand-building	crisis managment & communication
Website	It tailors the needs of a brand and the customer/brand relationship.	It tailors the needs of a brand and the customer/brand relationship by publicizing up-to-date information that pertains to a certain crisis. It might have the form of a "dedicated website."
Advertising & Sponsored content	It provides visibility and associations that stimulates people to click through a particular website.	It provides visibility and associations with allies in times of crisis. It also stimulates people to click through a particular website that is dedicated to crisis management and communication..
Intranet	It communicates the organization's identity within the organization and to brand-building partners.	It communicates the organization's crisis management strategy within the organization and to crisis-affected partners.
Customer Extranet	It links special categories of customers with the internal system of the company behind the brand.	It links special categories of customers and other stakeholder groups with the internal system of the company behind the brand. It provides special categories of stakeholders (investors, customers, etc)

		<p>with customized information that pertains to the repercussions of a certain crisis on their interests.</p>
<p>Web PR</p>	<p>It involves Web communication that is not controlled by the brand such as:</p> <ul style="list-style-type: none"> • personal home pages • news-groups • discussion-groups • chat-rooms. 	<p>It involves Web communication that is not controlled by the brand such as:</p> <ul style="list-style-type: none"> • personal home pages • news-groups • discussion-groups • chat-rooms. <p>which broadcast information that pertains to crisis management. Web PR is most effective when it combines with viral marketing.</p>
<p>E-mail</p>	<p>It is the ultimate personalized contact in the World Wide Web. It flows information from and to customers.</p>	<p>It is the ultimate personalized contact in the World Wide Web. It flows information from and to stakeholders. It keeps the organization that faces a crisis abreast of stakeholders' feedback.</p>

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