

Learning to Recognize and React to Disaster: The CI/Wargame Approach to Strategic Management

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Business results are dominated by “Black Swans” (low-probability/high-impact events) both positive and negative. Black Swans cannot be predicted although they look predictable in retrospect. This paper focuses on the negative Black swans, the disasters. Since disasters cannot be predicted the ability to quickly recognize and react to them is the key. This paper recommends the processural strategic paradigm as the correct approach to strategic management in the face of disasters. Specifically, it is recommended that top management improve their ability to recognize and react to disasters by playing wargames designed to incorporate what is learned via competitive intelligence (CI). The wargames represent situations that could, but not necessarily will, happen; they are not intended to be accurate forecasts. This recommendation is called the “CI/Wargame Approach.”

The Nature of Disasters and the Correct Approach to Strategic Management

Just as money is the root of all evil, risk is the root of all irony. For example, credit default swaps, designed to reduce risks, increased them to a point that the world's financial system nearly collapsed (Hirsch, 2008). More irony: the Wharton School of Business' book on decision making recommended a new risk management paradigm emerging in the complex electric power trading environment (Hoch & Kunreuther, 2001). What paradigm? The one pioneered by Enron...a corporation that was bankrupt almost before that book hit the bookstores.

When most people think of risk management they think of insuring against foreseeable risks like auto accidents or fire. This thinking instills a false sense of security; we are not able to insure against the real disasters (the ones that could destroy us) because we will never see them coming. A host of authors, including this one (Huffman, 2004), agree that real disasters are simply unpredictable. For example, De Geus (1997) recalls how Shell's “United Planning Machinery” was dead wrong precisely at the three points in time when the oil company faced disaster.

Disasters in this context are equivalent to the negative “Black Swans” described in Taleb (2007). Black Swans are defined as low probability/high impact events that are impossible to predict because they come from outside the realm of regular expectations. Black Swans can be both positive and negative (winning the lottery is a positive Black Swan). A particularly insidious characteristic of the negative Black Swan is it will seem to have been predictable in retrospect. Every armchair quarterback “knows” what should have been done to avoid a disaster after the fact.

What is the correct approach to strategic management given the nature of Black Swans? Van der Heijden (2005) describes three competing schools of thought in strategic management: the rationalist, evolutionary, and processural paradigms. The rationalist paradigm is incompatible with the nature of negative Black Swans because it attempts to “predict and control” the future. This paradigm assumes a stable business environment that no longer exists.

Both the evolutionary and processural paradigms reject the belief that managers can improve their corporation's chances of survival by predicting the future and then crafting the right strategy to meet it. The evolutionary paradigm is completely pessimistic in regard to management; it not only denies management's ability to forecast disasters, but even recommends that they do not attempt any centralized reaction to them once they happen. This paradigm suggests that strategies must be left to evolve by themselves as businesses adapt to their environment; strategies are not to be developed by top management, but evolve as many employees at various levels muddle through. The processural paradigm is slightly less pessimistic; while it agrees that the right strategy cannot be developed before it is needed, it nevertheless emphasizes that centrally-directed (top management) tactical moves can be effective in handling disasters as long as the decision makers are engaged in ongoing perception, thinking, and action.

Van der Heijden recommends “scenario planning” (a balanced approach to strategic management compatible with all three schools of thought) as the best way to manage strategy. In contrast, the CI/wargame approach recommended here focuses exclusively on the processural paradigm. Only that paradigm strikes the proper balance between what can and cannot be done. It recognizes that managers can recognize and react to disasters, but cannot predict them. That paradigm emphasizes the importance of focusing management's attention on negative Black Swans because business results will be determined almost exclusively by how the business responds to them. Taleb (2007) hammers this point too; he notes, for example, that half of the returns in the U.S. stock market over the last 50 years can be explained by only the 10 most extreme days!

Since disasters cannot be predicted, businesses will either survive or fail not on how they plan and act, but on how they recognize and react. The CI/Wargame approach to be described and recommended here was designed to help top decision makers: 1) recognize disasters early, 2) formulate the correct reaction, and 3) implement that react while there is still time. The next two sections will make the case for the CI/Wargame approach by giving more details about why disasters cannot be predicted and about the resulting need to be able to recognize and react to them quickly. After that, the CI/Wargame approach will be described by looking at wargaming in general, the two component parts of CI/Wargaming (competitive intelligence and wargaming), and finally how the CI/Wargame approach compares and contrasts with scenario planning.

Predicting the Future - Why Nobody Can (at Least When it Counts)

When Winston Churchill was asked to name one of the qualities a politician must possess, he replied, "The ability to foretell what is going to happen tomorrow, next week, next month, and next year - and to have the ability afterwards to explain why it didn't happen."

Walton (1986) notes that the great quality guru W. Edwards Deming was convinced that the most important things (including the future) are unknown and unknowable. When a business manager would ask him how long it might take for Americans to catch the Japanese, Deming would (rather impatiently) reply, "Do you think the Japanese are standing still?"

People are often surprised to discover that Deming saw the primary goal of business as mere survival. The quality guru who was endless optimistically about our ability to produce world-class products and about the worker's desire to do a good job, nevertheless pessimistically though that survival was a lofty enough goal for business. He was clearly well aware of disaster's potential.

There is no doubt that many incorrectly believe the future of a particular business or even the entire economy can be predicted with sufficient accuracy to more or less guarantee business success. Baumohl (2008) offers a book full of economic variables which (according to him) "can, if read correctly, provide timely insights on where the economy is headed..." Vaughan & Vaughan (2008), despite some dark language on pure risk, nevertheless state that the objective of risk management is "to guarantee that the organization is not prevented from achieving its other objectives by the losses that might arise out of pure risk." If risk management could really guarantee anything, then what explains the BP disaster in the Gulf?

We do use forecasting methods to predict a lot of things such as the demand for products in retail, or the weather at an airline. These predictions work fairly well as long as conditions do not change. That is, they work well only in the short run. These predictions are not much more than extrapolations of short-term trends. We can predict the number of gallons of milk that we will sell next week because we will probably have roughly the same number of customers and their buying habits probably will not change that quickly. It would be silly to project milk demand out a decade since any number of disasters could make nonsense of that forecast: our town could lose population due to a factory closing, the percentage of children in the population could change, etc.

Disasters can't be extrapolated since they don't happen on any regular basis...there is nothing to extrapolate. Furthermore, business disasters invariably involve human interactions which do not conform to a deterministic "physics paradigm." And finally, even if the physics paradigm did apply, a model that sufficiently captured all the interactions in business and economics (human and otherwise) would be so complex that it would defy mathematical tractability.

The physics paradigm refers to the deterministic approach to prediction that works in physics problems. It is possible to accurately predict the future position, velocity, and acceleration of an object using Newton's Laws of Motion, but it is impossible to predict the actions of humans in the market. Many authors contend that it was economists' pursuit of the high degree of forecast reliability they saw in hard sciences like physics that tempted them to apply the physics paradigm to the world of business and economics. But wishing economics was a hard science didn't make it one; Friedrich August von Hayek made this point very clear in his speech accepting the first Nobel Prize in economics in 1974.

Human interactions caused the BP well blowout in the Gulf. Human interactions caused the stock market to plummet on October 19, 1987. Economists have used the physics paradigm to describe human interaction in aggregate just as physicists use it to describe the motion of atomic particles in aggregate. The problem is that humans do whatever they please while atomic particles always follow the rules.

Statistical distributions may be useful to explain motion in a physics problem, but they are useless to explain human interaction. If the sum of human interactions that causes stock market movements were really normally distributed (as had previously been assumed), then that stock market drop in 1987 (a - 27 standard deviation movement) would be expected only once in 10^{160} days. Since the universe itself is only about 5 trillion days old (5 times 10^{12} days),

there are no words adequate to describe how unlikely that drop would have been (Jackwerth and Rubinstein, 1996)

Still, the optimist might say that prediction errors are due to overly simplistic assumptions such as assuming that stock market movements are normally distributed. He or she might say that the fault isn't the physics paradigm per se, but the simplifying assumptions or lack of detail in the prediction models. That might be true, but adding complexity to economic models quickly pushes them to intractability. For example, Ramo (2009) describes how complexity in a very simple but certainly deterministic system, Bak's sandpile, yields intractability once there are more than just a few grains of sand.

The "sandpile effect" states that there is no way to determine whether a single grain of sand added to a sandpile will trigger an avalanche or have no apparent effect whatsoever. Thus prediction methods cannot even distinguish between two polar opposite events. Sandpile complexity quickly gets to the point that "nothing in the history of physics or mathematics could tell you what was going to happen next." Since nobody would seriously argue that human interactions are more deterministic than the motion of grains of sand in the sandpile the conclusion is simple enough. Business disasters cannot be predicted, period.

Recognizing a Disaster and Formulating the Correct Reaction

Since disaster cannot be predicted, it is important that businesses quickly recognize and react to them. Recognition guides action. One is to "feed a cold and starve a fever" so if the diagnosis is a cold then the prescription is feeding. But recognition can be difficult because completely different disasters can have the same symptoms...the same "presenting problem" (the initial definition of an unfolding disaster). For example, several completely different disasters might be defined as "rapidly falling sales." The actual disaster, as might later be discovered would more accurately be defined as "the arrival of a strong new competitor", "the introduction of a new product", "a slip in product quality", etc.

Incorrect recognition leads to incorrect reaction; therefore it is vitally important to get recognition right. Business must learn to recognize disasters. Learning takes place in a "learning loop" (described by Van der Heijden, 2005). The loop begins with experience, which is followed by reflection (in which mental models may change), which is followed by the formation of theories which are tested by new experiences...and the loop continues for another cycle.

To learn to recognize and react to disaster requires learning from disasters. In this case the experience at the beginning of each learning loop is a disaster which may be real, simulated, or vicarious. Real experience comes from having "been there and done that." Simulated experience comes from having been involved in simulations such as scenario planning or wargames (the experience recommended here). Vicarious experience comes from having absorbed another's experience (by reading a report or studying history).

Hayward (1997) said that one of the keys to Churchill's leadership was his "historical imagination." That is, Churchill always knew what to do during WWII because he had previous real and previous vicarious experience with nearly every type of problem he faced. He knew what would work because he knew what had worked. He had previous real experience from having served in government at the highest levels including a stint as First Lord of the Admiralty in WWI; this is the sort of extremely costly-to-obtain experience that very few people have, and cannot practically be provided by trainers. Churchill had previous vicarious experience from his extensive study of history. In fact, if Churchill not been such a great statesman, he would have been remembered as one of the world's greatest historians (his 1953 Nobel Prize in Literature is a testament to that fact).

Those who lack an historical imagination will have trouble both in recognizing a disaster and reacting to it. Prechter (2009) demonstrates the incorrect reactions of those lacking historical imagination in an exercise in which he offers his students a deal with the devil in which they receive a perfect prediction of the news one day in advance. The student in this exercise doesn't have to worry about properly recognizing the disaster; he/she need only come up with the right reaction.

All that Prechter's devil demands in return is that any reaction the student takes on the ill-gotten news must remain in place for just one day. This is clearly a very generous offer. After all, Churchill was never given the news before it happened, had to properly recognize disasters himself, had to devise and execute a reaction, and his reactions certainly locked him into much more than 24-hour commitments. Despite these disadvantages, Churchill succeeded while the students failed miserably.

Business decision makers are generally not as prepared as Churchill was to deal with disasters. They are unlikely to have had either the real or the vicarious experience with disaster that Churchill had. Since disasters are uncommon, it is unlikely that business people would have learned from their own real experience with a WWI when faced with a WWII. Since most business people are not business historians it is also unlikely that they would have read enough history to be able to recall an analogous situation to the disaster they are presently battling.

Since business decision makers will probably not have the previous real or vicarious experience to recognize and react to a disaster, it is important that they be given simulated experiences. While these simulated experiences will help them recognize and form a reaction to a disaster, there is still no guarantee that they will actually react. That fact is considered next.

Failure to React

People do not always react even when they know they must. A graphic example of a failure to react can be found in Night, Elie Wiesel's account of his life as a prisoner in Auschwitz and Buchenwald concentration camps (Wiesel, 1972). Wiesel's story begins with a clear warning delivered by a foreign Jew, Moishe the Beadle. Moishe lived in Wiesel's village until he and all other foreign Jews had been rounded up by the Hungarian police. These foreign Jews were taken to Poland where the Gestapo had them dig their own graves before machine gunning them all. Moishe was left for dead, but miraculously survived and returned to Wiesel's village around the end of 1942. He told everyone of the horror he had survived thus warning them of their impending doom.

Despite the fact that the villagers hated the Nazis and expected the worst from them, they nevertheless "not only refused to believe his (Moishe's) tales, they refused to listen." Some even attacked him saying that he was telling a lie in search of sympathy. In the end most of the villagers died horribly in concentration camps when they had until the spring of 1944 (more than a year) to save themselves. And as Wiesel himself noted, "In those days it was still possible to buy emigration certificates to Palestine." Even more incredible: Moishe himself apparently remained in the village too! While Moishe's 'tales' might have been too unbelievable for the villagers to process, what could explain his own failure to react?

In late 2004 the U.S. House of Representatives Banking Committee met to discuss the results of bookkeeping problems at Freddie Mac and Fannie Mae. C SPAN 2 (nonpartisan and unedited) video confirms that committee members chose not only to ignore the explicit warnings of improprieties related to them by Armando Falcon, Director of the Office of the Federal Housing Enterprise Oversight (the Government's own regulator) but actually attacked and chastised him for reporting the bad news (C SPAN 2, 2004). One might argue that the Committee simply didn't believe Mr. Falcon, but what possible reason would he have had to lie especially when his report made his own agency look incompetent? And this is not an isolated case; what explains Congress' lack of reaction to a myriad of well-know ticking time bombs: Social Security, Medicare, Medicaid, etc.?

All these stories involve a failure to react. This isn't the sort of panic-driven paralysis one sees in "no pull" parachuting accidents. In those instances sky divers fail to pull their ripcords because they are temporarily unable to react to the flood of unnatural stimulation flowing into their brains (Leach & Griffith, 2008). That sort of paralysis doesn't last more than a few minutes, but the type of failure to react discussed here plays out over much longer periods of time.

Wack (1985a) observed this longer-running failure to react in at least two thirds of the decision makers at Shell. These managers failed to take appropriate measures to reduce refinery and distribution capacity when they were well aware that crude oil supplies would be falling. A second paper by Wack (1985b) mentioned four other major cases in other businesses noting that in each instance the managers "inappropriate behavior (their failure to react) extended over several months or even years..."

De Geus (1997) concluded that these failures resulted from "a crisis of perception rather than from poor strategic reasoning." De Geus outlined the work of neurobiologist David Ingvar on this issue. Ingvar found that humans are constantly and subconsciously making many alternative plans for the future. Billions of pieces of data fly by the typical business person every day so the subconscious mind must be selective, grabbing only those bits that will be useful for the alternative futures it is planning.

De Geus describe one example of this process which concerned a traveling business person who intends to take a car ferry from England to France. This person's subconscious mind locks onto a radio news report about a strike at the ferry port that others would have ignored. The traveler's subconscious immediately begins to build new plans for the future. It builds not one plan but several alternatives that provide "memories of the future" (possible courses of action that may later be useful to the conscious mind in dealing with the strike).

De Geus noted that companies are not hard-wired to produce these memories of the future. Therefore, Shell developed scenario planning to do for the organization what the subconscious mind does for the individual...explore alternative futures in order to build decision makers memories of the future. But scenario planning has failed to take decisions makers all the way around the learning loop. The decision makers had the simulated experiences and may have reflected upon them to some extent, but their existing mental models did not change. Thus they had not learned to form new theories and test their implications.

Although Wack (1985b) was optimistic about the power of scenario planning to change a manager's mental model,

even he offered some historical examples that called that optimism into question. In one especially worrisome case the majority of Shell executives still considered the supply of oil to be fairly reliable despite having been subjected to a scenario in which it was practically proven that the supplies would not remain reliable. What hope is there for learning in scenario planning when many scenarios will seem a lot less inevitable?

The wargame approach recommended here would seem to have more power to affect mental models and therefore get managers to recognize and react to disasters. It will be seen that the decision makers being trained would not be given an inevitability in a prepared scenario, but would have to discover it themselves in the wargame. People are more likely to believe something they discover for themselves; for example, it is one thing to be told that tic-tac-toe is unwinnable against an opponent who knows the trick, but it is quite another thing to discover that inevitability by playing the game.

The CI/Wargame Approach

The CI/wargame training recommended here consists of three steps: First, competitive intelligence (CI) is used to find out all that can ethically and legally be discovered about the company's competitive situation. Second, several future scenarios are developed which incorporate what the company knows about itself, and what it learns about its competitive situation from CI. These scenarios are like those used in aircraft simulators; they describe situations that could happen but are not intended to be accurate predictions of the future. We do not worry about whether or not one scenario is more likely than another to actually happen. Third, managers (especially top management) practice their decision making in wargames based on these scenarios. Playing these wargames prepares management to quickly recognize disaster, formulate the correct reaction, and react.

Wargaming in General

Business wargaming generally involves a role-playing simulation in which teams representing various business stakeholders compete over a series of rounds in which they execute moves and countermoves within the context of a given scenario. This paper will not get into the mechanics of business wargaming, but Kurtz (2003) provides an excellent description of that level of detail.

Watson (2008) describes three uses for business wargaming. It can be used to understand changes in the business environment, to facilitate strategic planning, and to find previously undetected threats. None of these three uses exactly fit the purpose here, but the final one comes closest. In CI/wargaming the purpose is not just to find previously undetected (and therefore already existing) threats, but to train managers to find both present and future threats and to react to them. The distinction is significant; first, detection without reaction isn't enough and second CI/wargaming is valuable even if no threats currently exist since threats are like busses...there is always another one coming.

Kurtz, also, describes the uses of business wargaming, but he does it in terms of "hard" and "soft" deliverables. This author is skeptical the ability to achieve the hard deliverables which represent an immediately obvious bang for the buck. Hard deliverables can be documented at its (the wargame's) conclusion in an 'after action report'. These are things such as the identification of events or trends that could occur, the probability of their occurrence, and specific steps that could be taken to deal with them.

CI/wargames are exclusively oriented towards Kurtz's soft deliverables. The intention is (as he puts it) to change the participants' hearts and minds. Other authors, such as Chussil (2007), mention another soft deliverable: a common language. The CI/wargame approach is successful if managers become able to detect and react to disasters, and part of reacting to the disaster will necessarily entail having the common language to be able to describe it to others.

Competitive Intelligence in Wargaming

Wikipedia defines Competitive Intelligence broadly as the action of defining, gathering, analyzing, and distributing intelligence about products, customers, competitors and any aspect of the environment needed to support managers in making strategic decisions for an organization. In CI/Wargaming, the purpose of CI is to provide information for designing plausible future scenarios for wargaming. In other words, CI is being not used to support strategic decisions directly, but to support them indirectly by building scenarios that can be used to develop managers' historical imaginations.

SCIP (the Society of Competitive Intelligence Professionals) defines CI as the legal and ethical collection and analysis of information regarding the capabilities, vulnerabilities, and intentions of business competitors. Most definitions of CI consist of elements from these two definitions. The definitions stress analysis (which makes CI different from the mere dissemination of information done by libraries and information centers). The definitions also

stress that the purpose of the analysis is to provide a perspective aimed at keeping the business competitive. Both goals are in keeping with the way CI is used here.

It is generally recommended that CI task should be built around Porter's 5 Forces model and guided by a specific question. The 5 Forces Model provides a generic checklist of environmental factors for the CI professional to research: competitors, potential new entrants, suppliers, customers, and substitute products.

The purpose of the specific question is to focus the investigation. While the CI literature and the CI expert this author interviewed both insist that CI must be focused by a question, both also stress that the question should not be such that answering it is tantamount to giving a recommendation for action. Both CI and military professionals agree that those who gather and analyze intelligence should not recommend actions. The feeling is that when CI professionals intend to recommend a course of action, they will be blinded to any new intelligence that argues against their recommendation once they have identified it. As Jeffson (1998) notes, this does not mean those in intelligence should operate 'in the blind' in regards to future operations, but it does mean that they should never be given the task of providing support for a particular action.

CI practitioners and military intelligence people both emphasize creativity, often referring to their work as an art. Ramo (2009) notes that Spymaster Aharon Farkash, one of the few heads of Israeli military intelligence to serve his full term, succeeded because of his creative use of information that would not normally be regarded of military importance. Farkash tried to look at problems from the both the inside and the outside and to consider qualitative as well as quantitative data. He thought that old approaches to intelligence which consisted primarily of quantitative data viewed from the outside (satellite photos, GNP, etc.), caused analysts to focus too much on what they could measure and not enough on what they could not. Farkash found value in unusual bits of information such as whether or not people were out shopping in Beirut; he reasoned that if his enemy was shopping that was a pretty good indication that their economy was doing well, that they were fairly happy, and thus less likely to launch an unprovoked attack.

CI practitioners also emphasize that their discipline is an ethical and legal business practice (in contrast to industrial espionage). Their Code of Ethics requires compliance with all applicable laws, domestic and international; it also requires the accurate disclosure of all relevant information, including one's identity and organization, prior to all interviews.

CI's use of legal means and publically available information does not prevent it from producing analysis that one might think could only be obtained by espionage. Most managers would be shocked to learn what a clever competitor can find out about them from their publically-available filings with governmental agencies. Johnson (2010) provides a cookbook formula for legally spying on a competitor's private aircraft with the help of government agencies and private data firms. This author verified Johnson's formula in obtaining tail numbers, serial numbers, and model names of 13 private aircraft owned by 3M Corporation. The author also confirmed that it is possible to listen in on air traffic control centers and use other legal sources to find the current location, altitude, and speed of aircraft under air traffic control.

The author interviewed a former employee of a Fortune 100 firm who had been its only full-time CI employee for many years, and was surprised at the level of detailed knowledge that employee had legally collected concerning his company's competitors. The employee related how his company had completely figured out the competitive strategy of a particular competitor, and how it had been possible to accurately predict how it would behave under nearly any hypothetical circumstance.

In CI/Wargaming, CI is used to design wargames which are to be used to train top decision makers just airplane simulators are used to train pilots. Training on wargames and aircraft simulators both require the simulator itself (the physical model of the environment) and a particular mission/scenario to be explored. CI is used to design both the competitive environment and scenarios to be used in wargames. The scenario-based planning used at Shell also uses information about the environment to develop scenarios, but it is unclear if the information is gathered by methods that amount to CI. Other differences and similarities between CI/Wargaming and scenario-based planning are discussed in the next two sections.

Similarities between CI/Wargaming and Scenario-Based Planning

Wargaming in CI/Wargaming is similar in some respects to the work done in scenario-based planning at Shell Oil as described in Van der Heijden (2005). Shell planners had initially hoped to develop scenarios that accurately predicted the future. They soon discovered that predicting the future wasn't possible, but found that there was still value in the scenarios as "stories to explore." CI/Wargaming likewise rejects the notion that the future can be predicted and also finds value in scenarios as stories to explore.

Shell found that the scenarios were helping them to: develop projects and make decisions that were more robust under a variety of possible futures, do more thorough thinking about the future (specifically about what causes oil

prices to change), and more quickly recognize and react to what was happening. The final benefit (quick recognition and reaction) is the one stressed in CI/wargaming.

Scenarios in scenario-based planning and wargaming both combine the predictable or “predetermined elements” and unpredictable “uncertainties.” In both cases all scenarios contain the same predetermined elements while the unpredictable uncertainties vary from one scenario to the next. Using the aircraft simulator analogy, the simulator itself represents the predetermined elements; it is constructed and programmed to react in exactly the same way the real aircraft would to any control action taken by the pilot or any environmental condition provided by the scenario. The simulator itself doesn’t change from one training scenario to the next.

Again, using the aircraft simulator analogy, an uncertainty would be something unpredictable like an engine failure on takeoff. Each scenario would present its own unique uncertainties, and should represent something that could conceivably happen. However, prediction isn’t the goal and just as the training scenarios in aircraft simulators are unlikely to exactly match the actual disaster a pilot eventually faces, so to scenarios in both wargames and scenario-based planning are unlikely to exactly match anything that actually ends up happening. That said, if the scenario is sufficiently well done, dealing with it will be useful in building the manager’s historical imagination and his or her ability to recognize and handle real world disasters.

For example, despite the fact that US Airways Captain Sullenberger must have had a great deal of previous actual and simulated learning prior to the disaster he faced during Flight 1549, he had never experienced the exact circumstances he faced on that flight. Still his training and experience had formed his historical imagination allowing him to quickly recognize the disaster he faced and execute the proper reaction.

Several authors have expressed opinions about the qualities scenarios should and should not have. These qualities would be desired in either scenario-based planning or wargaming. For example, the scenarios must:

- Cause a broad and intensive debate involving technical issues and strategic repercussions.
- Be relevant to the company in question.
- Provoke surprise and even emotion responses ... they should be disturbing.
- Not be sold as exact predictions.
- Be done with top operating managers as participants.

Dissimilarities Between CI/Wargaming and Scenario-Based Planning

Despite the similarities just described, the wargaming recommended here is fundamentally different from Shell’s scenario-based planning in that in the Shell-model the scenario is presented in its entirety before decision makers do their training while the scenario is only slowly revealed in CI/Wargaming. The Shell approach is equivalent to telling the test pilot that the upcoming exercise will involve a dead-stick landing. In that case operating managers train by making strategies, developing plans, or devising projects with the complete scenario in mind.

In CI/wargaming decision makers must struggle to recognize the situation while they simultaneously attempt to make decisions. Since they do not know the nature of the scenario, it will be much harder for them to make strategies, develop plans, or devise projects.

This difference in the way the scenario is revealed implies a difference in the role of those facilitating the simulation. Wargaming is analogous to the work done by the test pilots in finding the right way to fly. The simulator operator subjects the test pilot to the scenario, but does not give hints as to what is happening and certainly does not presume to give hints as to how to deal with it. Flight simulator operators and wargame facilitators are not equipped to teach test pilots and decision makers respectively how to recognize and react to problems. The test pilot will recognize a problem by the instrument readings, the feel of the aircraft, his/her historical imagination, etc. Likewise the decision maker will recognize the problem by the information flowing from the simulation and his/her historical imagination.

In contrast, those facilitating the scenario-based planning begin by telling the decision makers all about the scenario. Since decision makers often have the ego of test pilots, they will most likely have trouble accepting the scenario’s inevitabilities if they are simply given to them. In order to believe in them they must discover them for themselves. The main difference between the scenario planning at Shell and the CI/Wargame approach is that in the wargame approach players must discover inevitabilities for themselves.

Aircraft simulators can be used to explore a scenario for the first time and to discover a way to deal with it, or they can be used to teach methods for flying and dealing with scenarios that others have discovered. Both scenario-base planning and wargaming are for exploring scenarios for the first time; both are for “test pilots.” But that said, the type of the exploration is very different.

In the Apollo 13 disaster, an earth-based simulator was used to discover the correct way to boot up systems in

the real command module out in space. The procedure developed by trial-and-error in safety on earth was radioed to the actual spacecraft where the astronauts had to get it right the first time. The type of exploration done by the earth-based test pilots in that disaster is similar to exploration done in scenario planning: a completed scenario is presented to business managers who then work out a course of action for dealing with it.

In contrast, CI/wargaming is more like the more hectic type of exploration that was done by the Apollo 13 astronauts out in space. They had to find a way to handle the spacecraft after the explosion. They weren't sure exactly what they were dealing with when they were developing their theories and reacting on the fly. They had to learn as the events happened.

Scenario-based planning has its benefits. Shell executives learned to craft solutions tailor-made to handle all aspects of the scenarios they are exploring. The problem is that the executives are not trained to recognize a growing disaster or to react to it as it plays out. Also, as mentioned earlier, this may explain the fact that many Shell executives did not have their mental models changed; they didn't believe the inevitabilities imbedded in the scenario because they hadn't discovered them for themselves.

Shell executives under their scenario-based planning are like football coaches who have watched game videos of their next competitor. In the actual game the coaches will be quicker than they would have been to recognize what the competitor is trying to do (assuming the competitor doesn't make any fundamental strategic changes), and can call the play they designed to deal with it. DeGeus (1988) said that the Shell managers trained in scenario-based planning were in fact quicker than their untrained competitors at recognizing a particular situation, but the actual situations they recognized might have been atypically easy to recognize because they happened to resemble the scenarios the managers had trained on; the managers might not have been able to recognize or react to a disaster if it had been quite a bit different from the scenarios.

Although the proper application of competitive intelligence in CI/Wargaming is intended to yield scenarios which are plausible and therefore should have some chance of resembling what actually happens, there is always the possibility that a problem will come completely out of left field. Surely those who are trained by CI/Wargaming to formulate a response to an unknown situation would have an advantage over those who are used to having the entire problem laid out for them.

Corporate managers who play wargames should be quicker to properly recognize a disaster as it unfolds and better at inventing reactions under pressure. In short, wargaming would have all of the advantages of scenario-based training and leave the manager in a better position to deal with unforeseeable real world disasters.

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