PART

I

Are You Decision Fit?

CHAPTER

1

Decision Environment

Introduction

The question, "What were you thinking?" has been popularized by Dr. Phil McGraw of the *Dr. Phil Show*. Show participants are often challenged with this specific question in an attempt to explain how they arrived at a mental state so bizarre that they're willing to appear on national television to serve as a dramatic and negative learning example to millions of viewers. We witness it all: eating disorders, sexual misconduct, addictions, violence, corporate misconduct, dishonesty, deception, you name it. And in every case the decisions leading to these notorious outcomes were deliberately selected by the perpetrators when more beneficial alternatives were available. So what were these people thinking when they made these decisions?

Even though Dr. Phil almost always raises this critical question, he rarely receives an answer from his guests. In most cases his query remains unanswered. Consequently viewers fail to learn from the flawed thinking and inappropriate choices that led to the conditions on exhibit.

This book is about becoming skillful enough that sound decision making becomes so second nature that the appropriate judgment basis is selected and confidently and proficiently applied. In short, it's about becoming "decision fit." That is, being qualified and skilled in all aspects of making decisions, ranging from low to high significance as well as those with differing degrees of relevant information uncertainty.

I have become highly decision aware and notice flawed decisions almost every day. When this happens, I often think, "What was he

or she thinking?" And, "Why wasn't a more appropriate decision process applied?"

My very bright friend John had a successful year and decided to treat his wife to a new SUV. As he drove it past me on his return from the dealership I immediately thought, "What is he thinking?" I had just read in *Consumer Reports* that the vehicle he selected was on the magazine's "The Worst of the Worst" list, which included the worst reliability record of all vehicles. As might be expected, over the next several months the vehicle was in the shop being repaired more than it was being enjoyed by John's wife. At one point John exclaimed, "One more fault and I am invoking the California Lemon Law!"

The Lemon Law requires that if the manufacturer, or its representative such as an authorized dealer, is unable to service or repair a new motor vehicle to meet the terms of an express written warranty after a reasonable number of repair attempts, the manufacturer is required to replace the vehicle or return the purchase price to the lessee or buyer.

My avocation of building and renovating homes prompts me to observe what others are doing in construction. Recently I watched two very large and heavy homes being built on the surface of extremely soft, highly compressible fill without piers driven to bedrock to stabilize them. It is well known by the residents of this community that settling will surely occur, resulting in fractured foundations and tilted homes. So what were the designers, engineers, builders, and inspectors thinking? They saved less than 2 percent of the building cost by not incorporating the better solution of piers driven to bedrock as others in the same area have done. When these homes require re-leveling it will cost more than the amount saved and it will have to be done multiple times over the life of the structure. In addition, if these owners decide to market their home for sale, by law they must disclose to potential buyers the risk of settling and the associated re-leveling that is sure to deter some potential buyers.

Most people are familiar with the flawed launch decision of the *Challenger* space shuttle. The *Challenger* decision is referenced several times here because it is a famous, fully recorded, and well-analyzed decision that was made badly and caused seven astronauts to die. We can learn much from it.

It is traditional in the space business to prove that the predicted environmental launch conditions are safe (essentially benign) for a mission launch. Prelaunch discussions focus on the required margin of safety to permit a "Go for launch" decision. In the case of the *Challenger*, based on the Rodger's Commission Failure Report and the ABC reenactment derived from that report, the NASA/Thiokol discussions relative to the Thiokol Solid Rocket Boosters transitioned from "Will it be safe?" to "Can you prove that it will fail?" rather than having to prove the *Challenger* would not fail. What were the management personnel thinking when deciding it was okay to launch into untested environmental conditions against their experts' recommendations? There are opinions that the launch went ahead in order to get a higher performance rating (a financial perk) from NASA, which would be lower if they had changed the launch date for warmer temperatures.

Years later, on the international scene, the world became convinced that Iraq possessed weapons of mass destruction (WMD; nuclear, chemical, and/or biological weapons). Multiple inspection teams failed to find WMD evidence but the senior decision makers were convinced of their existence because of a lone informant (code-named "Curveball") and the expectation that the WMDs would eventually be located. Based on no hard evidence from multiple inspection teams, but very strong intuition and the word of the single informant, the Iraq War was approved. As we are now aware, no evidence of WMD was ever found and the informant has since confessed to fabricating the story. So, what were the decision makers thinking?

The investigation into the destruction of the Fukushima nuclear power plant subsequent to the March 2011 Japanese earthquake-caused tsunami has revealed that the design engineers elected to ignore worst case earthquake and tsunami predictions and instead adopted much less severe conditions as their driving design environment. As a result, reactor clustering and reduced plant fortification were accepted as satisfactory. The outcome of these flawed decisions will be felt for years.

The business section of our newspapers occasionally cites instances of corporate executives back-dating stock options without proper financial disclosure or puffing up the financial appearance of their companies to inflate company performance and therefore their stock prices. Since these are violations of both the law and business ethics, what were these executives thinking when they ordered these improper actions?

The previous examples illustrate how pervasive flawed decision making is within our society and how it can lead to significant negative and often permanent consequences. It is done at the individual level, the family level, the corporate level, and the national level. The reason it's so common is that, like the critical skill of parenting, decision-making skills are typically not taught in our formative years. Hence, we learn it by osmosis and by trial and error, unless we deliberately add it to our skill set through specialized elective study.

In practice, snap judgment is sometimes applied to critical decisions. This happened in the decision to land the *Columbia* shuttle even though NASA knew a large piece of insulation probably struck the wing on launch and that they could have taken damage assessment photographs while in flight. Responsible foam engineer experts requested to investigate possible damage to the wing after viewing video clips that showed the probable foam impact with the shuttle wing leading edge. However, the suspect damage was quickly proclaimed by a NASA executive, known for snap decisions, to be merely a routine maintenance problem to be repaired

after landing. She declined to support the expert's request to gather confirming data that was available by requesting damage assessment photographs to be taken from a photographic satellite operated by another government agency. Her intuition and the supporting intuition of other NASA officials, without specific foam expertise, was that the lightweight foam would disintegrate on impact with the rigid structure of the orbiter and would not cause damage. The *Columbia* disintegrated on reentry when atmospheric gasses penetrated the damaged wing, causing complete structural failure. Subsequent simulation tests proved that lightweight foam impacting the wing at high velocity would and did shatter the leading edge of the wing, a counterintuitive outcome. *Intuition is risky when the laws of physics rule and the stakes are high.*

Teenagers often make critical quality-of-life choices without realizing what they've done. Major decisions like dropping out of school or using illegal drugs are often based on emotion or peer pressure without considering the potential consequences to their future. Many teenage decisions are permanent, irrevocable, and can affect quality of life forever. Teen pregnancy, illegal drug use, Internet postings, and gang membership are examples.

Important decisions deserve appropriate analysis. But what is appropriate?

Sometimes analysis paralyzes simple choices, as when a waiter must revisit a dinner group multiple times because one person is unable to make a simple meal selection. Conversely, sometimes snap decisions are made without proper consideration of the seriousness of potential outcomes. We were led to believe that the Iraq people would greet our troops with flowers. They didn't. There should be sufficient decision analysis to provide confidence that the correct decision is being addressed, that the relevant facts are available, and that the correct judgment basis will be applied using a credible process.

We need to train ourselves to be able to gauge the significance of decisions and assess their consequences. Once a decision is properly

defined and categorized then the appropriate analyses and judgment basis can be decided and applied.

This book addresses common misunderstandings and flaws prevalent in decision making and provides clarity, vocabulary, and decision processes that can guide you and your teams to better decisions. After becoming "decision fit" you will become acutely aware of sound decision making and you will have a new appreciation for those who know how to make good decisions. You will also become tuned in to poor decision making and you may feel sufficiently empowered to intervene and guide others when appropriate.

If a single decision-fit person had been part of the *Challenger* launch decision group it's likely he or she would have brought to the team's attention that they'd thoughtlessly jumped from expert-based judgment, to fact-based, to doctrine-based, to intuition-based decision judgment. And then tragically they succumbed to a pressure-based decision in order to justify their overriding objective: to launch no matter what the conditions. No one on either the NASA or Thiokol decision teams recognized their journey down this slippery slope that led to the ultimate disaster, the death of seven astronauts.

Decisions Shape Your Future

We face and make decisions from the time we are born. While we get parental guidance for a period of time it's not long before we're making decisions on our own: the food we like or dislike, whether to cry or not, to smile or not, and what toys we like. While we don't understand how we make these decisions they represent our first on-the-job training.

Without formal decision training we enter the preteen years, where we begin to make decisions crucially significant for our future: decisions about friends, interests, styles, hobbies, sports, music, passions, religion. Some of the decision outcomes will be part of our

lives forever. Subconsciously, we make decisions relative to our relationship with our parents, our credibility, and our personality. Yet when we make these life-influencing decisions we make them without understanding the method we are applying, or the possible consequences. We would do well to train preteens in decision making to prepare them for these life-shaping choices.

Rarely do teenagers realize the critical importance of the decisions made during this phase of their lives. It's a time when parental and peer pressure is greatest, and seldom is peer pressure in the best interests of the teen's long-term potential. Teenagers will decide whether to stay in or drop out of school, do their best or just get by, join a gang, use illegal drugs, engage in sexual activity, seek further education, join a fraternity, and a host of other potentially life-shaping decisions. Millions of young people, without knowledgeable adults to help, face these decisions when they're often ill-equipped to make them. Unfortunately, mentoring adults (if available) may be equally unskilled in decision making. This deficiency often leads to flawed judgment and poor selections.

My wife volunteers and mentors youth at the Boys and Girls Club of America. Her work often involves facilitating discussions between youth, parents, and high school counselors. It's not unusual for her to find that neither the youths nor their parents know what questions to pursue to gather the required information to make informed decisions about the aspects of pursuing higher education. The training of high school students in decision making should be a high priority for the directors of our education system.

Adult decisions span the range from the very personal to those that affect others, and we often make dozens daily. Unfortunately, we normally apply the same methods that we learned "on-the-job" as teenagers, leading to decisions that are incorrectly valued and poorly expressed. This is often followed by improper basis of judgment and an incorrectly applied judgment process almost invariably leading to flawed choices. It is always surprising to me that thousands of people

purchase products that have been condemned by both rating organizations and by the product users that post their negative experiences on the Web. Why would anyone frequent a one-star restaurant with unsanitary ratings?

We should all accept the personal responsibility to become decision fit and capable of reliably making good decisions.

Many of us are familiar with the embarrassing decision outcomes of the Edsel automobile, the "new" Coke, Betamax, and the fiber optic glut of the last decade. All of these were products of decision making that failed to validate the market and confirm both the need and the customer demand before committing to full-scale deployment. As you might expect, countless other products have similar tales of failing to meet promised expectations.

Business and technical environments are faced with a myriad of decisions. As a chief systems engineer I was responsible for decisions regarding requirements, concepts, specifications, verification, validation, qualification, and deployment. Restaurant owners must decide on location, ambiance, menu, pricing, suppliers, staffing, and so forth. Physicians must decide on the seriousness of symptoms, tests required, treatment required, prescriptions and doses, emergency actions, and more. A common factor of most business decisions is that they must be defensible to oversight by management, partners, funding organizations, customers, and government agencies that have the power of critical review and audit. Not all judgment bases can stand up to critical assessment. A decision-fit person will know how to succeed in an oversight audit.