

WORRYING ABOUT THE WRONG THINGS

by **Michael Mah**, Senior Consultant, Cutter Consortium

Mad cow disease, bird flu, airplane accidents, E. coli outbreaks, and shark attacks. I don't often get the chance to read *Time* magazine, but a cover story entitled, "Things That We Often Worry About (But Really Shouldn't)" caught my eye this week at an airport magazine stand. I was on my way to brief a CEO and his board of directors, and a topic for discussion was the things that people worry about when outsourcing.

Being a self-described "metrics guy," I found myself fascinated with statistics cited in the article that showed barely a handful of annual fatalities occurring from things like Mad Cow and shark attacks. However, I was really surprised to discover that nearly 4,000 deaths occur annually from things like choking. Would you believe that another 1,500 or so deaths occur by falling down stairs, and about 600 people a year die by falling out of bed? What -- are these beds perched at the edge of a cliff?

According to the article, the problem is with our *perceived* assessment of risk (perception is also a problem with project risks). The reason for this comes from the fact that we live in a modern world, with what is essentially a pre-historic brain. Although we don't have to deal with saber-toothed tigers or mastadons these days, the amygdala -- a pear-shaped clump of tissue above the brain stem -- reacts quickly to perceived threats as though tigers are indeed in our midst, setting off the fight-or-flight response that triggers the release of adrenaline and other hormones into the bloodstream. Because the upper region of the brain that sorts out dangers more rationally is slower to react, our fears tend to dominate our experience compared to the more rational response from places like the cerebral cortex. Psychologists point out that since our perception of risk is more tightly connected to our emotions -- a primary emotion being fear -- most of us are stuck on that system instead of relying on rational thought to gauge risk.

What does this have to do with software?

On several projects that I've recently consulted upon, it amazed me that more than a few management teams would glaze over when I described risk assessment on high-pressure software projects. I discovered that even though on the outside, people seemed to talk about project risk rationally, their behaviors tended to be more irrational when it came to things like project behaviors in the face of overaggressive deadlines. People would still commit to impossible deadlines with off-the-charts scope, and cycles of stress and conflict both within teams and between companies would spiral out of control. It was enough to make a trained mediator like me pull my hair out in powerless despair (at times).

In his book, *Blink*, author Malcolm Gladwell talks about how people think without thinking, and about how choices are made in what seems like the blink of an eye. These choices are often not as simple as they seem, and he addresses why some people are brilliant decision makers, while others are consistently inept. How do our brains work when faced with difficult challenges?

One facet that Gladwell addresses is the role of the stress response (also discussed in the *Time* magazine research). Interviews with police officers reveal that in highly stressful situations, such as shootings, officers frequently describe common details that characterize these events. These include extreme visual clarity, tunnel vision, diminished sound, and a slowing down of time. Apparently, under extreme stress, the mind begins to drastically limit the amount of information we have to deal with. Put simply, things narrow down. In fact, research shows that there is an "optimal range," in which

stress improves performance. Examples of this include studies of the heart rates of archery and basketball champions like Ron Avery and Larry Bird, who managed to be "in the zone" during peak performance of their sport.

But most of us who are not Ron Avery or Larry Bird actually get *too aroused* under pressure, and here's where things break down. For many of us mere mortals, stress results in the forebrain shutting down, selectively amplifying some information while excluding other vital facts. Gladwell describes high-intensity, short-burst stress situations to make his point, such as high-speed car chases and 911 emergency calls. But in my experience, short-burst situations aren't the only ones where the cognitive brain becomes limited.

I believe that chronic, long-term stress, when project teams are under intense pressure to deliver highly complex, high-volume (e.g., scope/requirements) in what feels like an impossible time frame, creates the same effect. When you examine projects like these, including the aptly named "Death March" projects, we see the same breakdown of cognitive reasoning. Tension among stakeholders blows right past the "Optimal Friction" range, and before you know it, dynamics are set into motion that cause highly complex, tight deadline projects to fail. In my 20 years of practice as a consultant in this field, I have struggled to understand why the most unshakable metrics assessments and risk analyses would often be misunderstood or dismissed outright by otherwise brilliant people. Until recently, I made myself crazy with frustration in not being able to understand this phenomenon. Now I get it: it's because of our caveman brains, and modern research is finally explaining it to the masses after years of scientific analysis. The stress response -- complete with adrenaline hormones triggered by the amygdala, pituitary glands, and other fight-or-flight parts of our system -- shuts down the cognitive brain.

Simply knowing this can be very powerful stuff. I believe that understanding the existence of these dynamics means that our higher-order brains can find a way to do better than before. The *Time* article says that the higher reasoning that we've developed over millions of years offers us an opportunity to appreciate far more sophisticated and nuanced options available to us. Moreover, there is much more appreciation for ideas like "emotional intelligence" to exist inside the business world. In the old days, it was more often demanded that one should "check your feelings at the door." Today, we embrace the concept of understanding our feelings, and how they can either work for us or against us in the office and at home.

In the rational domain, I also believe that we have to endeavor to come up with hard, honest numbers when our projects demand them, and become the kind of thinkers that not only examine vital facts but take the time to understand them and make more intelligent decisions. How else can we choose wiser courses of actions and create better outcomes for our lives and for our work?

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