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The Art and Science of High-Stakes Decisions

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How can anyone make rational decisions in a world where knowledge is limited, time is pressing, and deep thought is often unattainable. Some decisions are more difficult than others and yet we make these decisions in the same way easy decisions are made.

We have difficulty contemplating and taking protective actions towards low probability, high stakes threats. It almost seems perverse when you consider we are least prepared to make the decisions that matter most.

Sure we can pick between the store brand of peanut butter and the Kraft label and we can no doubt surf the internet with relative ease, yet life seems to offer few opportunities to prepare for decisions where the consequences of a poor decision are catastrophic. If we pick the wrong type of peanut butter, we are generally not penalized too harshly. If we fail to purchase flood insurance, on the other hand, we can be financially and emotionally wiped out.

Shortly after the planes crashed into the towers in Manhattan some well known academics got together to [discuss](#) how skilled people were at making choices involving low and ambiguous probability of a high-stakes loss.

High-stakes decisions involve two distinctive properties: 1) existence of a possible large loss (financial or emotional) and 2) the costs to reverse a decisions once made are high. More importantly, these professors wanted to determine if prescriptive guidelines for improving decision making process could be created in an effort to help make better decisions.

Whether we're buying something at the grocery store or making a decision to purchase earthquake insurance, we operate in the same way. The presence of potentially catastrophic costs of errors does little to reduce our reliance on heuristics (or rules of thumb). Such heuristics serve us well on a daily basis. For simple decisions, not only are heuristics generally right but the costs of errors are small, such as being caught without an umbrella or regretting not picking up the Kraft peanut butter after discovering the store band doesn't taste as you remember. However, in high-stakes decisions, heuristics can often be a poor method of forecasting.

In order to make better high-stakes decisions we need a better foundation in psychology and why we generally make poor decisions.

Poor understanding of probability.

Several studies show that people either utilize probability information insufficiently when it is made available to them, or ignore it all together. In one [study](#), 78% of subjects failed to seek out probability information when evaluating between several risky managerial decisions.

In the context of high-stakes decisions the probability of an event causing loss may seem sufficiently low that organizations and individuals consider them not worth worry about. In doing so, they effectively treat the probability of something as zero or close to it.

An excessive focus on short time horizons.

Many high-stakes decisions are not obvious to the decision-maker. In part, this is because people tend to focus on the immediate consequences and not the long-term consequences.

A CEO near retirement has incentives to skimp on insurance to report slightly higher profits before leaving (shareholders are unaware of the increased risk and appreciate the increased profits). Governments tend to under-invest in less visible things like infrastructure because they have short election cycles. The long-term consequences of short term thinking can be disastrous.

The focus on short term decision making is one of the most widely-documented failings of human decision making. People have difficulty considering the future consequences of current actions over long periods of time. Garrett Hardin, author of [Filters against Folly](#), suggests we look at things through three filters (literacy, numeracy, and ecology). In ecology, the key question is "[and then what?](#)" And then what helps us avoid a focus solely on the short-term.

Excessive attention to what's available.

Decisions requiring difficult trade-offs between attributes or entailing ambiguity as to what a right answer looks like, often leads people to resolve choices by focusing on the information most easily brought to mind. Sometimes things can be difficult to bring to mind.

Constant exposure to low-risk events without realization, leads to us being [less concerned](#) than we probability would warrant (it makes these events less available) and "proves" our past decisions to ignore low-risk events were right.

People refuse to buy flood insurance even when it is heavily subsidized and priced far below an actuarially fair value. Kunreuther et. al. (1993) [suggests](#) underreaction to threats of flooding may arise from "*the inability of individuals to conceptualize floods that have never occurred... Men on flood plains appear to be very much prisoners of their experience... Recently experienced floods appear to set an upward bound to the size of loss with which managers believe they ought to be concerned.*" Paradoxically, we feel more secure even as the "risk" may have increased.

Distortions under stress.

Most high-stakes decisions will be made under perceived (or real) stress. A large number of empirical studies find that stress focuses decision-makers on a selective set of cues when evaluating options and leads to greater reliance on simplifying heuristics. When we're stressed, we're less likely to think things through.

Over-reliance on social norm.

Most individuals have little experience with high-stakes decisions and are highly uncertain about how to resolve them (procedural uncertainty). In such cases—and combined with stress—the natural course of action is to mimic the behavior of others or follow established social norms. This is based on the psychological desire to fail conventionally.

The tendency to prefer the status-quo.

What happens when people are presented with difficult choices and no obvious right answer? We tend to prefer making not decision at all—that is, we choose the norm.

In high-stakes decisions many options are better than the status-quo and we must make trade-offs. Yet, when faced with decisions that involve life-and-death trade-offs, people frequently remark "I'd rather not think about it."

Failures to learn.

Although individuals and organizations are eager to derive intelligence from experience, the **inferences stemming** from that eagerness are often misguided. The problems lie partly in errors in how people think, but even more so in properties of experience that confound learning from it. Experience may possibly be the best teacher, but it is not a particularly good teacher.

As an illustration, one **study** finds that participants in an earthquake simulation tended to over-invest in mitigation that was normatively ineffective but under-invest when it is normatively effective. The reason was misinterpretation of feedback; when mitigation was ineffective, respondents attributed the persistence of damage to the fact that they had not invested enough. by contrast, when it was effective, they attributed the absence of damage to a belief that earthquakes posed limited damage risk.

Gresham's Law of Decision making

Over time, bad decisions will tend to drive out good decisions in an organization.

Improving

What can you do to improve your decision-making? A few things: 1) learn more about **judgment and decision making**; 2) encourage decision makers to see events through alternative frames, such as gains versus losses and changes in the status-quo; 3) adjust the time frame of decisions—while the probability of an earthquake at your plant may be 1/100 in any given year, the probability over the 25 year life of the plant will be 1/5; and 4) read Farnam Street!