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PERSONAL DEVELOPMENT
Unconscious Biases: An Actuarial Example

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In my lifetime, researchers have discovered quite a bit about how the human brain works. In particular, psychologists and behavioral economists have identified many unconscious biases that affect the way we respond and make decisions in business and in daily life. As business leaders, we should make an effort to be aware of these biases to help avoid faulty decisions. When we know we are susceptible to unconscious error, we may be able to pause and seek out data before jumping to conclusions. This article provides an example of this data-driven approach.

I've presented on this topic a few times at Society of Actuaries (SOA) and internal company meetings. Here's a scenario I give the audience:

> Picture a randomly selected financial services professional whom I'll call "Pat"—even though it's not me that I am talking about. Pat has been participating in a 360-degree feedback process at work. Here's a representative sample of comments from Pat's leaders and colleagues:
>
> - "Pat comes across as shy and introverted."
> - "Pat has a passion for detail."
> - "Very good with numbers; not that good with people."
>
> Is Pat more likely to be an accountant or an actuary?

Okay, which answer popped into your head? When I've given this presentation, about three-quarters of each actuarial audience chose "actuary." It would not surprise me to get the same or stronger result in a broader business audience.

However, according to the U.S. Bureau of Labor Statistics, there are approximately 60 times as many accountants[1] in the country as there are actuaries.[2] I said Pat was a randomly selected financial services professional, didn't I? So, even if all actuaries are such classic introverts, and only 10 percent of accountants are, Pat is still 6 times more likely to be an accountant than an actuary! Yet audiences strongly skew the other way.

Food for thought, no?

I borrowed and expanded upon an example developed by Tversky and Kahneman,[3] which illustrates the effect of at least two unconscious biases. The way I framed this scenario triggers the so-called "representativeness" and "availability" heuristics.[4]

My description of Pat is representative of the stereotype of the introverted actuary. We've all heard the jokes. This makes it easy for our brains to jump to a conclusion that is completely at odds with data-driven probabilities—without even thinking about accountants at all.

Similarly, the availability heuristic is our propensity to rely on immediate examples when forming quick judgments. Even though I specified that this Pat wasn't me, to an audience (or a reader) I'm a readily available example of an actuary, which only adds to the likelihood of going astray.

Now this leads to my second question: Is Pat more likely to be male or female? Note that I carefully avoided any pronouns when referring to Pat (shades of the old recurring "Saturday Night Live" sketch![5]). The usual audience response is that about three-fourths say male. Given the heuristics already mentioned, this should not surprise anyone. The result could well be different if a female "Pat" were the presenter.

But you might be surprised—as I was, naturally—to learn that, according to available U.S. Census statistics, a random Pat is actually three times more likely to be female than male. "Patricia" was the number two female name in the 1990 U.S. census,[6] with "Patrick" far behind at number 42 in the male listing.

The main point is that everyone experiences some unconscious bias when thinking of this randomly selected person—and almost nobody thinks any deeper about it before answering the questions. It takes mental effort to engage the higher-level cognitive processes, as Kahneman discusses extensively in his book. In the real world, actuaries should. The data is there. With increased awareness of unconscious mental biases, we can take steps to avoid faulty decisions from the snap judgments hardwired into our human brains.

Sometimes all it takes is to slow down and, as they say, think twice before responding to a business situation. Ask yourself, am I reacting too quickly based on limited information? Is there any data to better support a decision one way or the other? And if you ever come across a resume from an accountant named Pat, forget this article; evaluate her based on talent and experience rather than the example I've created! ∎

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ENDNOTES

1 Occupational Employment and Wages, May 2018: Accountants and Auditors. *Bureau of Labor Statistics*, last modified March 29, 2019, *https://www.bls.gov/oes/2018/may/oes132011.htm* (accessed Aug. 23, 2019). Accountants and Auditors: 1,259,930.

2 Occupational Employment and Wages, May 2018: Actuaries. *Bureau of Labor Statistics*, last modified March 29, 2019, *https://www.bls.gov/oes/2018/may/oes152011.htm* (accessed Aug. 23, 2019). Actuaries: 20,760.

3 Kahneman, Daniel. 2011. *Thinking, Fast and Slow*. New York: Farrar, Straus and Giroux.

4 A heuristic is a way our brains work quickly and unconsciously to make a judgment.

5 Pat (Saturday Night Live). *Wikipedia*, last updated Aug. 6, 2019, *https://en.wikipedia.org/wiki/Pat_(Saturday_Night_Live)* (accessed Aug. 23, 2019).

6 Frequently Occurring Surnames From Census 1990—Names File: Female First. *Census.gov*, *https://www2.census.gov/topics/genealogy/1990surnames/dist.female.first* (accessed Aug. 23, 2019).