

## The Measurement Challenge

### **“An Evening with Doug Hubbard: The Failure of Risk Management: Why it's \*Still\* Broken and How to Fix It”**

This past September, I was lucky enough to help host the event “An Evening with Doug Hubbard: The Failure of Risk Management: Why it's \*Still\* Broken and How to Fix It”. The event was centered around Doug Hubbard, well known as the inventor of the Applied Information Economics (A.I.E.) and author of several groundbreaking books on cybersecurity. Fans of quantitative risk technique and measurement (yes, we're out there) were treated to a preview of the second edition to Doug's groundbreaking book “The Failure of Risk Management: Why it's Broken and How to Fix It”.

It was a packed event, with over 200 people in attendance in downtown San Francisco. People of all backgrounds and fields came out, making for quite an eventful evening! The event was split into two separate parts, the first being a preview of Doug's upcoming book, followed by a game called “The Measurement Challenge”.

To start the event, Richard Seiersen, Hubbard's “How to Measure Anything in Cybersecurity Risk” co-author, treated the audience with a few takes of risk measurement challenges he's overcome during his many years in the field. It was a wonderful, albeit short, discussion before he then presented the main speaker of the evening, Doug Hubbard.

### **So What is “The Failure of Risk Management” about?**

Hubbard then took the stage and gave the audience a quick preview of his new book. Much has happened in the world of forecasting and risk management since the first edition: the Fukushima Daiichi Nuclear Disaster in 2011, the Deepwater Horizon Offshore Oil Spill in 2019 and multiple large data breaches (Equifax, Anthem, Target).

### **What is the Measurement Challenge?**

A pervasive problem in business is the belief that some things, especially something seemingly intangible, cannot be measured. Doug Hubbard believes, however, that anything can be measured. Based on this idea, Doug created a game that he likes to do when he speaks at an event, called the measurement challenge. This was by far the most anticipated part of the event. In essence, the measurement challenge is a game where Doug will take questions, concepts, items, or ideas that someone thinks is immeasurable, and will show how to measure them. This is something that Hubbard does on a fairly regular basis at conferences, on his website, and also in his two books on measurement.

When all the participants came into the event that evening, the measurement challenge was briefly explained to them, and they were given a piece of paper. They were asked to write down one thing that they thought wasn't measurable, and to turn them back in. A lot of the answers we got were great! A few were more concrete that actually have been measured before, such as measuring the number of jelly beans in a jar. To which there are mathematical equations on how to do this. But the most interesting ones were things that are intangible, and which is of course, the subject of Hubbard's two books.

He states that measuring the intangible things requires a clear definition of what it is you're trying to measure. But when Doug says anything can be measure, he literally means anything. He essentially provides a framework for critical thinking about

measurement in order to tackle some of these harder problems.

According to Doug's website on measuring intangibles:

*"1. If it matters, it can be observed or detected.*

*2. If it can be detected, then we can detect it as an amount or in a range of possible amounts.*

*3. If it can be detected as a range of possible amounts, we can measure it."*

I took all the entries and tallied them up, removed/combined duplicates, and put it up on an online voting system for all the participants to vote on. The participants went to a web page on their smartphones where they were able to vote on one of the three questions that they wanted answered. There were a diverse number of excellent questions given, however in the interest of time I picked three questions, knowing that we would most likely only have time for two. I wanted to give plenty of time to really delve into the concepts of measurement and how to decompose some of these questions.

Some interesting questions that weren't picked:

- Number of alien civilizations in the universe
- The effectiveness of various company training programs
- The value of being a better calibrated estimator
- How much does my daughter love me?

### ***Challenge #1: How much does my dog love me?***

How much does my dog love me. This was by far the number one question asked. It was also a question that was asked by my coworker, Melanie Masterson. I thought that this would be an excellent question, as it combined many other questions that people had asked of the same theme. There were many questions on love, hate and other emotions. How do I know my daughter loves me? How much does my spouse love me? How can I measure the love between a married couple? How much does my boss hate me? If you can figure out how to measure love, you would also know how to hate. So taking that general theme, "How much does my dog love me?", was a really good first measurement challenge.

I read the question to Doug, and the first thing he did was to look at it, somewhat quizzically. He then asked the person who had asked the question to raise their hand. The person raised their hand and Doug asked a counter question. He asked, "What do you mean by love?" Most people in the audience, including the person who'd asked the question, were unsure how to answer. Doug then started to explain how to solve this problem.

He explained that love itself is not tangible. It has many different definitions based on who you are, your cultural differences, your age, your gender, and many other factors. The definition of love also varies by the object of which you are forming the question around. So, for example, the definition of love from my dog is different from my definition of love from my child. So Doug wants to know, what do you mean by love from your dog, please define. This was where the most interesting conversation started to happen.

People around the event started throwing out ideas of what it means for a dog to love you. It could mean affection manifesting in observable behaviors, such as when you come home from work and your dog is happy to see you and jumps up on you. It could also mean when your dog cuddles with you in bed after a long day at work. Perhaps the dog is

a service animal and is trained to save your life or to assist you throughout your day. That could also be a form of love. So Doug gathered all of these answers and then he asked another question, “why do you care if your dog loves you?”. This was the point, I think, where the idea of measuring love started to come into focus for many of the people in the audience. If you're able to clearly define what love is in a particular context and you're also able to articulate why you personally care, you can start to develop measurements. Why do I care if my dog jumps up on me when I get home after work? Does that makes me feel good? If my dog sleeps with me in my bed and keeps me warm, do I derive some type of happiness from that? If the dog is a service animal and is trained to save your life, you would obviously get a lot of value from a dog providing a service, so in that instance I would imagine you would care about that form of love a great deal. We would then have the definition and a framework to start thinking about why we care, and we could then start to define what the units of measurement is.

The last question Doug asked was, “what do you already know about this measurement problem?”. In the context of the previous two questions he'd posed, the answers started to be really clear on how would could measure them. If your idea of love from your dog is when it greets you when you come home, you can measure how many times the dog greets you, or some other activity that is directly observable. In that instance, you could find the frequency and height at which the dog jumps when it sees you. That's a measurement. What about if it's a service animal that's trained to provide a service and help you through your daily life? What would I see or observe, that would tell me that the dog is doing its job? Is it a number of activities per day that that the dog is able to complete successfully? Would it be passing certain training milestones successfully so that you would know that the dog can save your life when it's needed? If those are what your definitions of love are for this animal falls within those parameters, it should be fairly easy to build measurements around what you can observe.

### **Challenge #2: Measuring reputation damage resulting from a cyber incident**

The next question chosen was measuring reputation damage from a cyber incident. This was by far one of the most popular questions that was asked, partially due to the fact that there were a lot of cyber risk analysts and people from the F.A.I.R. institute that were invited to the event. I think that this is an interesting topic, because some people would consider this to be an open and shut case. That this is been measured many times by many people and therefore is fairly common knowledge of how to do this. However, this is an ongoing debate. You'll always come across risk managers who proudly explain that reputation damage simply cannot be measured for various reasons. That the tools don't exist, or that it's too intangible, or that it's as possible to forecast all the different touch points of a business losing its reputation.

Doug was able to answer this topic, and provided a lot of clarity around his thought process as to how to approach this problem. Just like the first question, he asked the person that posed this problem to raise their hand and he asked a series of counter questions. “What do you mean by reputation in the context of your company, and in the context of a cyber incident of our database?”. This was a little bit harder for people to wrap their heads around. Doug wasn't getting as many answers back as he was with the “How much does my dog love me” question. He then asked a couple more probing questions. He asked what could you observe that would tell you that have good reputation? As a counter question to that, he asked what could you observe that would tell you that you have a bad reputation?

Framing it in the form of observable things started to pull answers out of the audience.

One person chimed in saying that if they had a good reputation and customers trusted them, one indicator could be that their sales might increase. Another person added that an indicator of a bad reputation would be a sharp decrease in sales. One case in point was the significant market share drop that Tylenol experienced in the 1980's. Somebody was putting poison in their medication, and although it wasn't Tylenol's fault, their reputation suffered because of it.

Once they started to frame the question more, the audience chimed in with many other indicators that would demonstrate reputation. One individual stated that another indicator of reputation would be that they could observe a drop in stock price, which would be a measurement of shareholder trust/satisfaction. Another stated that a medium to long term change the company's ability to raise debt might be charged a higher interest rate by credit. Many more examples like this, and even more sector specific examples, were given by the audience. By the end of this exercise for this question, the audience was convinced that reputation could indeed be measured, as well as many other intangibles.

### **What was the Take Away?**

So you readers may be asking yourself, how can I do this myself? The basic tools and framework for doing this exercise isn't hard to do once you understand what question you want to answer and whether you're able to frame it appropriately. Doug has broken the process down into several steps that you can easily follow.

The first step is to ask yourself what it is that you mean by  $x$ , with  $x$  being the object you are trying to measure. This is so you can clearly define what it is you're measuring. This is often the first roadblock to measuring something intangible. The person trying to perform the measurement often hasn't clearly defined what it is they're trying to measure. The second step is to answer why you care about the question you're asking, and what you would do with the information that you are trying to observe? What is driving you to want the answer? How will this information benefit you? Framing your original question in this way will help you clearly see the next steps of developing a measurement. If you find yourself stuck on the first two steps, then you can move to the third, and final step, which is to break the problem down into something observable. What would I be able to observe? In the instances mentioned earlier, could you record the number of times your dog greets you when you arrive home, and how high they jump upon greeting you? Could you calculate the overall sales increases or decreases because of your question? If you're able to break down the problem into observable data, then you can find the measurement you're looking for. One of Doug's other books, "How to Measure Anything: Finding the Value of 'Intangibles' in Business, Third Edition", contains more exercises that can further help you decompose the problem. These steps, however, can help you do the basic measurements of a problem with ease.

It was great getting the opportunity to listen to Doug Hubbard's discussion as well as a preview of his new book. Everyone in the audience had a great time trying to stump Doug with measurement challenges, even if it proved to be futile. When he says anything can be measure, he really does mean anything, and you can do it as well! I highly recommend adding "[How to Measure Anything: Finding the Value of 'Intangibles' in Business, Third Edition](#)" to your bookshelf, as well as "[How to Measure Anything in Cybersecurity Risk](#)" and "[The Failure of Risk Management: Why It's Broken and How to Fix It](#)" if you are in the cyber security field. They are invaluable to the field and amazing reads! Be sure to check out the links listed down below for more information!

- Doug Hubbard's Amazon Page: <https://www.amazon.com/Douglas-W.->

[Hubbard/e/B001JSJHIS/ref=sr\\_ntt\\_srch\\_lnk\\_1?qid=1544813866 HYPERLINK "#"& HYPERLINK "#"sr=8-1](#)

- Measurement Challenge on Doug Hubbard's website:  
<https://www.hubbardresearch.com/the-measurement-challenge/> or  
<https://www.hubbardresearch.com/challenge-me/>